RUNDBRIEF

DER

GESELLSCHAFT FÜR ANGEWANDTE
MATHEMATIK UND MECHANIK

Herausgegeben vom

Sekretär der GAMM
V. Ulbricht, Dresden

Redaktion

M. Gründer, Dresden

2005 – Brief 1

Maple 9.5 enthält über 3500 Funktionen für symbolische und numerische Mathematik, Grafik, Ein- und Ausgabe, Programmierung und Kommunikation mit anderer Software.

Numerik und Symbolische Berechnungen

Maple 9.5 erweitert Art und Umfang der lösbaren Probleme erheblich und setzt damit die Tradition fort, mit gültigen Standards übereinstimmende Verfahren anzubieten, die höchste Genauigkeit und mächtige Löser vereinen. Vielfältige Neuerungen stellen sicher, dass Maple 9.5 mehr kann als je zuvor:

Verbesserungen bei Vereinfachung, Umwandlung und Kombination symbolischer Ausdrücke; Reihenentwicklungen; Ratgeber für mathematische Funktionen; Paket für symbolische Logik. Erstmals ist ein leistungsfähiges Paket für lokale Optimierung enthalten.

Echtes Wissens-Management

Maple 9.5 umfasst neue Werkzeuge und eine verbesserte Arbeitsumgebung, die es Ihnen erlaubt, nicht einfach nur Ihre Rechenergebnisse, sondern Ihr Wissen wirklich zu verwalten, zu bearbeiten und weiterzugeben. Mit seinem eingebauten Wörterbuch mathematischer und technischer Begriffe bietet Maple 9.5 den bequemen Zugriff auf wichtige Definitionen und Hintergrundinformationen.

Lehre und Forschung

Maple 9.5 bietet komfortable Werkzeuge, die Lehrenden dabei helfen, Kursmaterialien effektiv anzubieten und bei Studenten das Verständnis mathematischer und technischer Konzepte zu fördern. Das erweiterte Werkzeug-Menü erlaubt den Zugriff auf 40 interaktive Tutoren, die Sie auf mathematische Entdeckungsfahrten durch die ein- und mehrdimensionale Analysis und die lineare Algebra mitnehmen.

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RUNDBRIEF

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2005 – Brief 1

GAMM-Vorstandsrat

Editorial

Im vergangenen Jahr wurde zwischen der GAMM und der Society for Industrial and Applied Mathematics (SIAM) ein Reziprozitätsabkommen unterzeichnet, dessen Text im vorliegenden Rundbrief dargelegt wird. Hervorzuheben ist, dass dies das erste Abkommen ist, das die SIAM als weltweit tätige und große Gesellschaft mit einer anderen wissenschaftlichen Gesellschaft abschloss. Nunmehr steht die Aufgabe, die Vereinbarung mit Leben zu erfüllen. Ich bin überzeugt, dass zahlreiche Doppelmitgliedschaften initiiert und die Informationsplattform der SIAM in hervorragender Weise zur Verbreitung von Aktivitäten der GAMM genutzt werden können.

Zwei thematische Aktivitäten sind bereits abgesprochen:

- sechs GAMM-SIAM Spezial Sessions im Rahmen der gemeinsamen Tagung der AMS, DMV und ÖMG in Mainz, 16.-19.06.2005 sowie
- die Joint GAMM-SIAM Conference zur Angewandten linearen Algebra in Düsseldorf, 24.-27.07.2006.

Der GAMM-Vorstand ruft insbesondere die Fachausschüsse auf, weitere Initiativen folgen zu lassen.

In Kürze werden wir uns auf der Jahrestagung 2005 in Luxemburg treffen. Die zurzeit vorliegenden ca. 750 Anmeldungen sorgen, davon bin ich überzeugt, dafür, dass wir eine interessante Tagung erleben werden. Erstmals werden in Luxemburg Minisymposien durch Nachwuchswissenschaftler organisiert. Der Aufruf dazu hatte eine außerordentlich große Resonanz gefunden. Der Vorstand beschloss deshalb dieses Element des Tagungsrahmens fest zu etablieren und auszubauen. Den entsprechenden Aufruf für die Jahrestagung 2006 in Berlin enthält der vorliegende Rundbrief. Gleiches gilt auch für die Ausschreibung des Richard von Mises-Preises der GAMM 2006.

Abschließend möchte ich noch meiner Hoffnung auf eine recht zahlreiche Teilnahme an der Mitgliedervollversammlung am Mittwoch, den 30. März 2005, 11.30 Uhr, Ausdruck geben.

Volker Ulbricht
Sekretär der GAMM

Telefon: +49-(0)351-463-34285
Telefax: +49-(0)351-463-37061
E-Mail: ulbricht@mfk.mw.tu-dresden.de

Geschäftsstelle der GAMM e.V.

Technische Universität Dresden
Institut für Festkörpermechanik
01062 Dresden

Telefon: +49-(0)351-463-33448
Telefax: +49-(0)351-463-37061
E-Mail: GAMM@mailbox.tu-dresden.de

GAMM-Homepage: http://www.gamm-ev.de

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Editor-in-Chief and Founder:

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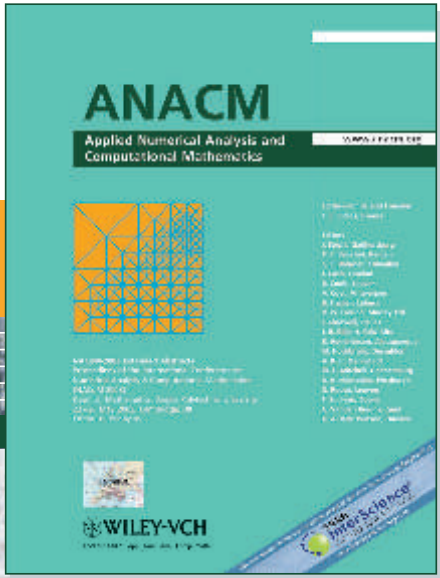

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Editorial Board:

A multidisciplinary journal devoted to all fields of numerical analysis and computational mathematics with a special focus on their applications in science and engineering.

Aims & Scope

The main aim of the journal is to publish:

- reviews, regular papers and letters in all areas of Numerical Analysis and Computational Mathematics
- conference proceedings, description and presentation of numerical software, book reviews, conference reviews, original exercises with solutions on Numerical Analysis and Computational Mathematics

Readership:

- Applied Mathematicians
- Computational Physicists, Biologists and Chemists
- Computational Engineers
- Computational Mathematicians
- Numerical Analysts

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Inhaltsverzeichnis

Reciprocity Agreement

between
The Society for Industrial and Applied Mathematics (SIAM)
and
Gesellschaft für Angewandte Mathematik und Mechanik (GAMM)
on
Reciprocal Membership

The Society for Industrial and Applied Mathematics (SIAM) and The Gesellschaft für Angewandte Mathematik und Mechanik (GAMM) agree to enter into a reciprocal membership agreement whereby individual members in one society are eligible for a discounted membership in the other.

Under this agreement:

1. Any member in good standing of GAMM whose primary place of employment is outside the U.S. and joins SIAM will be accepted as a SIAM reciprocity member upon receipt of the SIAM application form and dues payment. Any member in good standing of SIAM who wishes to join GAMM will be accepted as an affiliated (reciprocity) member upon receipt of the GAMM application form and dues payment.

2. The special dues rate for GAMM members joining SIAM under the reciprocal agreement will be 70% of the current rate for regular members. The special dues rate for SIAM members joining GAMM under the reciprocal agreement will be 70% of the current rate of regular membership in GAMM.

3. Reciprocity (affiliated) members receive all regular member services and benefits, with one possible exception: either society may restrict the voting privileges of reciprocity (affiliated) members, according to the rules and practices of that society.

4. This agreement is in effect until terminated by one of the societies. Termination notice must be provided six months before the start of the year when it takes effect in order to provide an orderly transition.

08.05.2004

James (Mac) Hyman
President
SIAM

08.05.2004

Friedrich Pfeiffer
President
GAMM

Ausschreibung des Richard von Mises-Preises der GAMM 2005

Seit dem Jahr 1989 verleiht die GAMM jährlich den

Richard von Mises-Preis

für hervorragende wissenschaftliche Leistungen auf dem Gebiet der Angewandten Mathematik und Mechanik. Traditionsgemäß erfolgt die Verleihung dieses Preises im Rahmen der Eröffnungsveranstaltung der Jahrestagung der GAMM.

Ausgezeichnet werden jüngere Wissenschaftler/-innen, deren Forschungsarbeiten wesentliche Fortschritte im Bereich der Angewandten Mathematik und Mechanik darstellen. Diese Arbeiten können zum Beispiel aus folgenden Gebieten kommen: Angewandte Analysis, Stochastik, Numerik, Mehrkörpersysteme, Festkörper- und Strömungsmechanik.

Vorschlagsberechtigt sind Hochschullehrer/-innen und Personen in entsprechenden Stellungen in der Forschung. Auch die Möglichkeit der eigenen Bewerbung ist gegeben. Vorschläge bzw. Bewerbungen sind an den Präsidenten der GAMM zu richten.

Für das Jahr 2006 ist der Einreichungstermin der **30. September 2005**.

Vorschläge bzw. Bewerbungen sollten ein Begründungsschreiben und folgende Unterlagen der Kandidatin / des Kandidaten enthalten: Lebenslauf, Publikationsliste, Kopien der wichtigsten Arbeiten (max. 4).

AUFRUF

Für die Jahrestagung 2006 in Berlin, 27. - 31. März, veranstaltet die GAMM wieder einen Wettbewerb

Nachwuchs-Minisymposien

Wie ein gewöhnliches Minisymposium soll sich auch ein Nachwuchs-Minisymposium auf ein spezifisches, aktuelles Forschungsthema konzentrieren. Es stehen zwei Stunden zur Verfügung mit vier bis sechs Vorträgen. Um ein Nachwuchs-Minisymposium bewerben sich zwei Organisatoren von zwei verschiedenen Institutionen. Wie alle Vortragenden sind sie höchstens 35 Jahre alt und noch nicht zum/zur („tenured") Professor/in ernannt. Die Vortragenden sollen auch mindestens zwei verschiedenen Institutionen angehören. Das Programmkomitee wird aus den eingegangenen Bewerbungen die Nachwuchs-Minisymposien auswählen.
Eine finanzielle Förderung der Teilnehmer ist nicht möglich.

Zeitplan:

bis 15. Mai 2005

Einreichung von Vorschlägen per e-mail (plain ASCII) an den Beauftragten für Nachwuchs-Minisymposien

Prof. Dr. Andreas Frommer, frommer@math.uni-wuppertal.de.

Die Bewerbung besteht aus einer einseitigen Zusammenfassung, den Titeln der einzelnen Vorträge sowie der Angabe von Geburtsdatum, derzeitiger Stellung und Institution für alle Organisatoren und Vortragende.

30. Juni 2005

Entscheidung über die Gewinner und Benachrichtigung aller Bewerber.

CALL

For its Annual Meeting 2006 in Berlin, March 27 – 31, GAMM is arranging a Competition

Young Researchers' Minisymposia

Like an ordinary minisymposium, a young researchers' minisymposium will focus on a specific, timely research subject. It will last two hours with four to six lectures. Two organisers from two different institutions will apply for a young researchers' minisymposium. As all other speakers they will be at most 35 years old and not yet hold a tenured professor's position. The speakers should also be affiliated to at least two different institutions. From the applications received, the programme committee will select the young researchers' minisymposia.
There is no financial support for the participants.

Schedule:

until May 15, 2005

Submission of proposals by e-mail (plain ASCII) to the officer for young researchers' minisymposia

Prof. Dr. Andreas Frommer, frommer@math.uni-wuppertal.de.

A proposal consists of a one page abstract, the titles of all lectures and information about the date of birth and the current position and affiliation of all organisers and speakers.

June 30, 2005

Decision about the winners and notification of all applicants.

Mitteilungen der GAMM - Fachausschüsse

FA: Mathematische Analyse nichtlinearer Gleichungen

Jahresbericht 2004

Dem Fachausschuss gehören derzeit an:

W.J. Beyn, Bielefeld
F. Colonius, Augsburg
B. Fiedler, Berlin
W. Jäger, Heidelberg
K. Kirchgässner, Stuttgart
P. Kloeden, Frankfurt
T. Küpper, Köln (Vorsitz)
H. Langer, Wien
W. Lauterborn, Darmstadt
H.A. Mallot, Tübingen
R. Mennicken, Regensburg
A. Mielke, Hannover
W. Möhring, Göttingen
K. Popp, Hannover
W. Schempp, Siegen
J. Scheurle, München
F.W. Schneider, Würzburg
R. Seydel, Köln
B. Silbermann, Chemnitz
H. Troger, TU Wien

Der Fachausschuss hat es sich zum Ziel gesetzt, nichtlineare Phänomene aus den verschiedensten Anwendungsgebieten der mathematischen oder numerischen Analyse zugänglich zu machen. Dies geschieht einerseits durch die Aktivitäten der Mitglieder bei der Organisation von Tagungen und andererseits durch ein jährliches Treffen, das sich stets einem aktuellen Thema widmet.

In diesem Jahr fand das traditionelle Treffen des Fachausschusses im Mathematischen Forschungsinstitut Oberwolfach vom 05.-07.11.2004 statt. Die Tagung befasste sich im Wesentlichen mit zwei Bereichen aus dem großen Feld der mathematischen Anwendungen in der Medizin:

- Modellierung neuronaler Netze,
- Modellierung des zerebralen Blutflusses.

Die Tagung eröffneten Fotios Giannakopoulos und Annette Gail mit Vorträgen ihres gemeinsamen Projektes. Fotios Giannakopoulos präsentierte ein mathematisches Modell für die Entwicklung von Aktivität in Neuronenpopulationen, welches die physiologischen Eigenschaften der Neuronen, wie z. B. zeitliche und räumliche Integration hereinkommender Signale, und schnelle und langsame postsynaptische Dynamik berücksichtigt. Annette Gail sprach im Anschluss über die Analyse dieses Modells und stellte die Mechanismen vor, die zu „bursting“ und „spiking“ in einem Neuronenmodell führen.

Von Christian Hauptmann wurden neue Kontrolltechniken für die Desynchronisierung neuronaler Aktivität vorgestellt, die er in Zusammenarbeit mit Oleksandr Popovych und Peter A. Tass entwickelt hat. Der Effekt der Anwendung kurzer Stimuli auf gekoppelte Phasen-oszillatoren mit time-delay wurde anschließend von Kevin Dolan dargelegt.

Valerii Krachkovsky untersuchte die Antworten der interagierenden, oszillierenden neuronalen Populationen auf Stimulation mit Computersimulationen, mathematischer Analyse der Modellgleichungen und MEG-Studien visuell erhaltener Antworten.

Silvia Daun stellte anschließend ein von ihr entwickeltes Modell des zerebralen Blutflusses vor. Mit diesem versucht man nun die Regulationsmechanismen der zerebralen Arterien zur Aufrechterhaltung des zerebralen Blutflusses und deren Wirkung auf die restlichen Variablen des Systems zu verstehen.

Im Einzelnen wurden folgende Vorträge gehalten:

Silvia Daun (Köln): *Modeling cerebral perfusion in patients with severe head injury*
Abstract: In this talk a mathematical model for simulating cerebral perfusion in patients with acute brain damage will be represented. The aim of the work was to describe the regulation mechanisms of cerebral blood flow for a better understanding of cerebral perfusion under these circumstances.

Kevin Dolan (Forschungszentrum Jülich): *Phase resetting and resynchronization in a system of coupled phase oscillators with delay*
Abstract: We study here the effects of applying short stimuli to a pair of coupled phase oscillators with time-delayed coupling. By varying both the delay in the coupling, and the time between which the two oscillators are stimulated, we are able to observe a rich variety of behaviours. Cross-trial analysis is used to evaluate these effects, including both traditional cross-trial averaging of the signals, and the newer methods of resetting and synchronization indexes, based on principles from nonlinear dynamics and phase-synchronization. This work has direct relevance to understanding certain synchronization behaviours of the visual cortex, and also serves as a first step towards understanding more complex systems, in which two coupled oscillatory processes receive different stimuli, and then both feed into a third oscillator.

Annette Gail (Köln): *Bursting in a model with delay for synchronised neurons*
Abstract: It is the intention of the talk to analyse the mechanisms that lead to bursting and spiking in a neuron model. The neuron model used within the talk describes the membrane potentials as well as the postsynaptic potentials of neurons. The neuron is modelled by a coupled nonlinear system of three differential equations with delay. It consists of a Fitz Hugh-Nagumo oscillator that is to be considered as an oscillation generator at the axon hillock of the neuron. Further, the model consists of a network equation that sums up all incoming signals and describes the synaptic properties of the neuron. The solutions of the neuron model display three different types of dynamics: stationary behaviour, bursting and spiking. Bursting is characterised by periodic oscillations that are separated by phases of quasi-stationary behaviour. Permanent oscillations however are called spiking. The different types of dynamics depend on the parameters of the neuron model. Bursting in the analysed model has been regarded up to now as a phenomenon that arises due to the interaction of different time scales within the model. Parameter values that lead to bursting and spiking were obtained empirically. It was the aim to find a connection between the appearance of bursting and spiking and the bifurcation properties of the neuron model. For this purpose the neuron model was analysed using different approaches. These were the analysis of the stability of the stationary solutions and the bifurcation behaviour of the model for finite, infinite and zero delay with analytical and numerical methods. The investigations resulted in criteria for the occurrence of bursting and spiking in dependence on the bifurcation properties.

Folios Giannakopoulos (RWTH Apache): *Complex activity patterns in neuron populations*
Abstract: A mathematical model for the generation of activity in neuron populations is presented. The model takes into account physiological properties of neurons like temporal and spatial integration of incoming signals, fast and slow post synaptic dynamics, time delays due to signal propagation along the cell appendices, and active membrane characteristics. Using methods from the bifurcation and singular perturbation theory and computer simulations we study the existence of complex activity patterns in populations of synchronized neurons.

Christian Hauptman (Forschungszentrum Jülich): *Effective desynchronizing deep brain stimulation based on a coordinated delayed feedback stimulation via several sites*
Abstract: In detailed simulations we present a coordinated delayed feedback stimulation as a particularly robust and mild technique for desynchronization. We feed back the measured and

band-pass filtered local filed potential via several or multiple sites with different delays, respectively. This yields a resounding desynchronization in a naturally demand-controlled way. Our novel approach is superior to previously developed techniques: It is robust against variations of system parameters, e.g., the mean firing rate. It does not require time-consuming calibration. And it prevents from intermittent resynchronization typically caused by all methods employing repetitive administration of shocks. We suggest our novel technique to be used for deep brain stimulation in patients suffering from neurological diseases with pathological synchronization, such as Parkinson's disease, essential tremor or epilepsy.

Valerii Krachkovsky (Forschungszentrum Jülich): *Model investigations about stereotypy of evoked potentials*
Abstract: Stimuli responses of interacting oscillating neuronal populations were by means of computer simulations, appropriate mathematical analysis of model equations and by means of MEG-studies of visual evoked responses investigated. It was found out that interacting cerebral rhythms react on stimuli not necessary in stereotypic way. They can switch from stimulus to stimulus from one to another response (say response clustering). Time delay between populations leads to characteristic rebound phenomena. All results were compared with experimental data. It was found out that standard signal analysis technique fails determination and investigation of highly coordinated long-lasting stimuli responses.

Oleksandr Popovych (Forschungszentrum Jülich): *New Control Techniques for Desynchronization of Neuronal Activity*
Abstract: In several neurological diseases like Parkinson's disease or essential tremor, clusters of neurons fire in a synchronized and intrinsically periodic manner causing a peripheral tremor. It is of a prime importance to desynchronize such clusters, which can lead to suppression of the disease symptoms. We propose a new method for desynchronization of ensembles of strongly synchronized interacting oscillators. We show that the stimulation input to the system in the form of delayed self feedback combined nonlinearly with instantaneous signal can have a desynchronizing effect on the oscillations. Depending on parameters and stimulations topology, different levels of desynchronization can be achieved and controlled. The proposed method represents a demand-controlled non-invasive technique for desynchronization. It manifests general robustness and works in a large domain in parameter space. This makes the method particularly attractive for deep brain stimulation.

Das nächste Fachausschuss-Treffen findet vom 04.-06. November 2005 statt und wird sich voraussichtlich mit dem Thema “Quantencomputing” befassen.

Tassilo Küpper, Köln

FA: Angewandte Stochastik und Optimierung

Jahresbericht 2004

Dem Fachausschuss gehören derzeit an:

G. Bertrand, Hamburg
H.G. Bock, Heidelberg
H.A. Eschenauer, Siegen
A. Griewank, Dresden
R. Henrion, Berlin
U. Herkenrath, Duisburg
H.-U. Küenle, Cottbus
P. Kloeden, Frankfurt
K. Marti, München (Vorsitz)
F. Pfeiffer, München
U. Rieder, Ulm
E. Sachs, Trier
G.I. Schueller, Innsbruck
V. Schulz, Trier
T. Vietor, Köln

Über die Tätigkeit des Fachausschusses im Berichtszeitraum 2004/2005 ist wie folgt zu berichten:

1. IFIP/IIASA/GAMM-Workshop on “Coping with Uncertainty”

Der zweite IFIP/IIASA/GAMM-Workshop über das Thema „Coping with Uncertainty (CwU)“ fand vom 13.-16.12.2004 wiederum am International Institute for Applied Systems Analysis (IIASA) in Laxenburg bei Wien statt. Wie beim ersten IFIP/IIASA/GAMM-Workshop über das Thema „Dynamic Stochastic Optimization“, der im März 2002 stattfand, stellte das IIASA auch diesmal wieder eine ganz hervorragende Infrastruktur für den Workshop zur Verfügung. Am Workshop mit ca. 45 Teilnehmern wurden 34 Vorträge über das Thema „Coping with Uncertainty“ gehalten. Weitere Informationen (Programm, Abstracts) stehen auf der Homepage: http://www.iiasa.ac.at/~marek/wrksp/cwu04 zur Verfügung. Ein Proceedingsband ist in Vorbereitung.

2. Gedächtniskolloquium für Prof. Dr. Dr.-Ing. e.h. Walter Schnell

Am 24. September 2004 fand an der Technischen Universität Darmstadt aus Anlass des 80. Geburtstags des inzwischen verstorbenen Prof. Dr. Dr.-Ing. e.h. Walter Schnell, Ehrendoktor der Universität Siegen, ein Gedächtniskolloquium statt. Aus diesem Grund war Prof. Dr.-Ing. Hans Eschenauer vom Forschungszentrum für Multidisziplinäre Analysen und Angewandte Systemoptimierung FOMAAS der Universität Siegen eingeladen, einen Fachvortrag unter dem Titel „Strukturverhalten und optimale Auslegung von Leichtbauweisen“ zu halten, der die drei Disziplinen „Mathematik, Mechanik, Leichtbau“ des Walter Schnell vorstellen sollte.

3. GAMM-Workshop über das Thema „Stochastische Modelle und Steuerung“

Der 6. GAMM-Workshop über „Stochastische Modelle und Steuerung“ wird vom 15.-18. April 2005 in Moritzburg (bei Dresden) stattfinden. Örtliche Tagungsleitung: Prof. V. Nollau, Dresden, Leitung des Programmkomitees: Prof. H.-U. Küenle, Cottbus. Im Mittelpunkt der Tagung stehen:

- Stochastische Optimierung
- Steuerprobleme für stochastische Prozesse in diskreter und stetiger Zeit
- Stochastische Spiele
- Stochastische Differentialgleichungen

Als besonderer Themenschwerpunkt ist geplant:
- Anwendungen in Technik und Finanzmathematik
Nähere Informationen findet man unter: http://www.math.tu-cottbus.de/INSTITUT/lssto/

Kurt Marti, München

FA: Dynamik und Regelungstheorie

Jahresbericht 2004

Dem Fachausschuss gehören derzeit an:

A. Ams, Freiberg
P. Benner, Chemnitz
E. Brommundt, Braunschweig
F. Colonius, Augsburg (Vorsitz)
H. Hahn, Kassel
B. Heimann, Hannover
U. Helmke, Würzburg
D. Hinrichsen, Bremen
H.W. Knobloch, Würzburg
E. Kreuzer, Hamburg
A. Kugi, Saarbrücken
R. März, Berlin
V. Mehrmann, Berlin
P.C. Müller, Wuppertal
G.P. Ostermeyer, Braunschweig
K. Popp, Hannover
D. Prätzel-Wolters, Kaiserslautern
K. Reinschke, Dresden
P. Rentrop, München
J. Scheurle, München
W. Schiehlen, Stuttgart
K. Schlacher, Linz (Stv. Vorsitz)
K.R. Schneider, Berlin
D. Söffker, Duisburg
H. Troger, Wien
W. Wedig, Karlsruhe

Zudem sind eine Reihe ständiger Gäste assoziiert, um unter anderem auch die Verbindungen zum Fachausschuss „Mathematische Analyse nichtlinearer Phänomene“ und zum VDI/VDE-GMA-Ausschuss 1.40 „Theoretische Verfahren der Regelungstechnik“ zu pflegen.

Die Kooperation mit dem genannten Ausschuss 1.40 der VDI/VDE Gesellschaft für Mess- und Automatisierungstechnik (GMA) hat sich bewährt und drückte sich erneut darin aus, dass ein gemeinsamer Workshop am 08. und 09. März 2004 in Kassel stattfand.

Ein weiteres Treffen des Fachausschusses fand am 25./26.10.2004 in Augsburg statt. Die Vorträge beider Veranstaltungen zeigten erneut die Spannweite der Interessengebiete des Ausschusses auf: Anwendungen und theoretische Ergebnisse aus den Bereichen der Schwingungstechnik, der Regelungs- und Kontrolltheorie stießen auf Interesse und rege Diskussion.

Ein Schwerpunkt der Ausschusstätigkeit bezieht sich auf die Untersuchung von Deskriptorsystemen, d. h., von dynamischen Systemen, die durch differential-algebraische Gleichungen beschrieben werden. Für diese Thematik wird vom 15. bis 18. März 2005 ein Workshop im Liborianum, Paderborn durchgeführt.

Auf der Sitzung am 25./26.10.2004 wurden Vorschläge für Hauptvortragende, Minisymposien und Sektionsleiter für das Programm-Komitee der GAMM-Jahrestagung 2006 erarbeitet.

Überdies wurden mit Wirkung zum 01.01.2005 Herr Colonius zum neuen FA-Vorsitzenden und Herr Schlacher zum stellvertretenden FA-Vorsitzenden gewählt. Herr Müller gibt zum 31.12.2004 nach über 10-jähriger Leitung den Vorsitz ab.

Weitere Informationen können vom Vorsitzenden erhalten werden.

Peter C. Müller, Wuppertal
mueller@srm.uni-wuppertal.de

Der Vorstandsrat dankt Herrn Prof. Peter C. Müller, Wuppertal, für seine langjährigen Aktivitäten bei der Führung des Fachausschusses Dynamik und Regelungstheorie recht herzlich und wünschen Herrn Colonius sowie Herrn Schlacher viel Erfolg bei der Leitung des Fachausschusses.

Volker Ulbricht

FA: Effiziente numerische Verfahren für partielle Differentialgleichungen

Jahresbericht 2004

Dem Fachausschuss gehören derzeit an:

K. Böhmer, Marburg
W. Hackbusch, Leipzig
T. Küpper, Köln
U. Langer, Linz
H.D. Mittelmann, Tempe, USA
R. Rannacher, Heidelberg
H.-G. Roos, Dresden
S. Sauter, Zürich (Vorsitz)
K. Stüben, St. Augustin
L. Tobiska, Magdeburg
U. Trottenberg, Köln
C. Witsch, Düsseldorf
G. Wittum, Heidelberg
H. Yserentant, Tübingen

Aktivitäten im Berichtszeitraum:

Winterschool on Hierarchical Matrices Leipzig, January 19-21, 2004
Organisatoren: W. Hackbusch, Leipzig

Numerical Mehtods for Non-Local Operators Leipzig, January 22-24, 2004
Organisatoren: W. Hackbusch, Leipzig

Conference on Self-Adaptive Methods for PDE Oberwolfach, March 21-27, 2004
Organisatoren: R. Rannacher, Heidelberg; E. Süli, Oxford; R. Verfürth, Bochum

3rd Zürich summer school: Fast algorithms for integral operators Zürich, September 6-10, 2004
Organisatoren: S. Sauter, Zürich; C. Schwab, Zürich

Ankündigungen:

Robust Fast Solvers, Leipzig, January 26-28, 2005
Organisatoren: W. Hackbusch, Leipzig

Workshop on Computational Methods for Multi-Dimensional Reactive Flows (COMREF 2005), Heidelberg, January 27-29, 2005
Organisatoren: R. Rannacher, M. Braack (Heidelberg)

Winterschool Leipzig, February 07-11, 2005
Organisatoren: W. Hackbusch, Leipzig

International Workshop on Reliable Methods of Mathemetical Modelling, Zürich,
July 06-08, 2005
Organisatoren: C. Carstensen, Berlin; S. Repin, St. Petersburg; S. Sauter, Zürich;
A. Smolianski, Zürich

Stefan A. Sauter, Zürich

FA: Biomechanik

Jahresbericht 2004

Der Fachausschuss hat sich am 28. Oktober 2003 in Stuttgart konstituiert.

Dem Fachausschuss gehören derzeit an:

S. Diebels, Saarbrücken
P. Eberhard, Stuttgart
W. Ehlers, Stuttgart (Vorsitz)
C. Hellmich, Wien
G. Holzapfel, Graz
R. Kienzler, Bremen
E. Kuhl, Kaiserslautern
B. Markert, Stuttgart
U. Nackenhorst, Hannover
S. Reese, Bochum
H. Ruder, Tübingen
K. Schweizerhof, Karlsruhe
U. Simon, Ulm
H.-J. Wilke, Ulm
P. Zysset, Wien
W. Winter, Erlangen

Ziele des Fachausschusses: Die Biomechanik ist ein international stark expandierendes Gebiet, das neben der Untersuchung des Bewegungsapparats zunehmend auch den Bereich der kontinuumsmechanischen und numerischen Durchdringung biologischen Gewebes (soft and hard tissues) erfasst. Grundsätzlich kann biologisches Gewebe als ein poröses Material aufgefasst werden, das mit seiner interstitiellen Flüssigkeit interagiert. Dabei sind auch elektrochemische Effekte sowie Fragen des Wachstums (modelling and remodelling) von Bedeutung.

Der Fachausschuss möchte das Interesse an biomechanischen Fragestellungen fördern und den Anschluss an die internationale Entwicklung sicherstellen. Angestrebt wird eine Zusammenarbeit von Ingenieuren und Mathematikern auf der einen Seite mit Biologen und Medizinern auf der anderen Seite.

Interessierte GAMM-Mitglieder seien herzlich zur Mitarbeit eingeladen.

Aktivitäten im Berichtszeitraum:

- Kick-off-meeting, Ulm, 19.-20. Februar 2004
  Organisatoren: W. Ehlers, B. Markert, H.-J. Wilke
- PorMed 2004 „2nd Workshop on Porous Media, Biomechanics and Related Fields", Freudenstadt-Lauterbad, 09.-12. März 2004
  Organisatoren: W. Ehlers, B. Markert
- IUTAM-Symposium "Mechanics of Biological Tissues", Graz, 27. Juni - 02. Juli 2004
  Organisatoren: G. A. Holzapfel, R. W. Ogden
- Minisymposium on Arterial Wall Mechanics at the 5th ESB (European Society of Biomechanics Conference), 's Hertogenbosch, 04.-07. Juli 2004
  Organisatoren: G. A. Holzapfel, F. van de Vosse
- Minisymposium on Multiphase Modelling at the 5th ESB (European Society of Biomechanics Conference), 's Hertogenbosch, 04.-07. Juli 2004
  Organisatoren: W. Ehlers, J. Huyghe
- Minisymposium on Biophysics, Biomechanics and Mechanobiology at the Workshop "Physical Aspects of Multiscale Modelling", Bled, 13.-15. September 2004
  Organisatoren: G. A. Holzapfel, H. von Holst
- 1st GAMM Seminar on „Biomechanics", Freudenstadt-Lauterbad, 24.-26. November 2004
  Organisatoren: W. Ehlers, B. Markert

Für das Jahr 2005 geplante Aktivitäten:

- PorMed 2005 "3rd Workshop on Porous Media, Biomechanics and Related Fields", Freudenstadt-Lauterbad, 15.-18. März 2005
  Organisatoren: W. Ehlers, B. Markert

- Minisymposium „Mechanics of Soft Tissues“, GAMM-Tagung 2005, Luxemburg, 28. März - 01. April 2005
  Organisatoren: W. Ehlers, K. Schweizerhof
- Regelmäßige Durchführung von GAMM-Seminaren über Themen der Biomechanik.

Aktuelle Informationen über die Ziele und die Aktivitäten des Fachausschusses können auf folgender Internet-Seite eingesehen werden:
www.mechbau.uni-stuttgart.de/ls2/gammFA-biomech

Wolfgang Ehlers, Stuttgart

FA: Rechnerarithmetik und Wissenschaftliches Rechnen

Jahresbericht 2004

Dem Fachausschuss gehören derzeit an:

G. Alefeld, Karlsruhe
G.F. Corliss, Milwaukee
T. Csendes, Szeged
A. Frommer, Wuppertal
G. Heindl, Wuppertal
J. Herzberger, Oldenburg
U. Jahn, Leipzig
E. Kaucher, Karlsruhe
R.B. Kearfott, Lafayette, Lousiana
W. Klein, München
V. Kreinovich, El Paso
W. Krämer, Wuppertal (Vorsitz)
U. Kulisch, Karlsruhe
S. Markov, Sofia
G. Mayer, Rostock
K.-M. Muller, Lyon
M. Plum, Karlsruhe
J. Rohn, Prag
S.M. Rump, Hamburg-Harburg
H. Schwandt, Berlin
W.V. Walter, Dresden
J. Wolff von Gudenberg, Würzburg
Shen Zuhe, Nanjing, China

Das wichtigste Ereignis des Jahres 2004 aus Sicht der Fachgruppe war sicherlich die internationale Fachtagung „SCAN 2004, GAMM-IMACS International Symposium on Scientific Computing, Computer Arithmetic and Validated Numerics“ an der Kyushu Universität in Fukuoka, Japan. Die örtliche Tagungsleitung lag bei Herrn Prof. Dr. Mitsuhiro Nakao. Die interessante Tagung war sehr gut besucht, hervorragend organisiert und ein großer Erfolg. Zählt man die Autoren im Book of Abstracts, so kommt man auf die stattliche Zahl von weit über 100. Insgesamt haben 96 Vorträge stattgefunden, davon 8 eingeladene Hauptvorträge.

An dieser Stelle nochmals einen ganz herzlichen Dank an alle, die mit der Ausrichtung und Organisation betraut waren.

Mit den Herren Professoren Alefeld, Csendes, Frommer, Krämer, Kreniovich, Kulisch, Mayer, Plum, Rump, Schwandt und Wolf von Gudenberg war ca. die Hälfte der Mitglieder der Fachgruppe in Japan mit einem Vortrag präsent. Von diesen in Fukuoka anwesenden Fachgruppenmitgliedern wurde auch nach eingehender Diskussion möglicher Tagungsorte für die SCAN 2006 einstimmig beschlossen, Herrn Professor Dr. Wolfram Luther von der Universität Duisburg-Essen mit der Ausrichtung der Tagung in Duisburg zu betrauen. Der genaue Termin (voraussichtlich September/Oktober 2006) wird noch bekannt gegeben. Im Hinblick auf die längerfristige Planung der SCAN Tagungen sei noch angemerkt, dass die anwesenden Fachgruppenmitglieder auch dafür votiert haben, die SCAN 2008 Tagung in den

USA auszurichten. Gespräche mit Herrn Professor Dr. Vladik Kreinovich, University of Texas, El Paso, sind sehr erfolgreich verlaufen.

Für diejenigen, die sich noch genauer, insbesondere über die Tagungsthemen bzw. das Tagungsprogramm der zurückliegenden SCAN 2004, informieren wollen, hier noch einmal die entsprechende Webadresse: http://scan2004.math.kyushu-u.ac.jp. Derzeit läuft der Begutachtungsprozess der für die Proceedings eingereichten Arbeiten. Die positiv referierten Arbeiten werden in einer speziellen Ausgabe der Zeitschrift „Journal of Computational and Applied Mathematics“ (Elsevier B.V.) veröffentlicht.

Walter Krämer, Wuppertal

FA: Analyse von Mikrostrukturen

Jahresbericht 2004

Der Fachausschuss hat sich in Hannover am 22.9.1998 konstituiert.
Dem Fachausschuss gehören derzeit an:

H.-D. Alber, Darmstadt
M. Berveiller, Metz (assoziiert)
C. Carstensen, Wien
A. DeSimone, Triest
K. Hackl, Bochum (Vorsitz)
C. Miehe, Stuttgart
A. Mielke, Stuttgart
S. Müller, Leipzig
J. Schröder, Essen
E. Stein, Hannover
P. Wriggers, Hannover

Information: http://www.am.bi.ruhr-uni-bochum.de/sonstiges/gamm-fa.html

Zielsetzung: Im Überlappungsgebiet von Mathematik, Physik, Ingenieur- und Materialwissenschaften sollen die mathematische Modellierung mikromechanischer Phänomene sowie deren Analysis und numerische Simulation gezielt gefördert werden. Die Wechselwirkung von Mechanismen auf unterschiedlichen Skalen erfordert eine tiefere Zusammenarbeit von Ingenieuren, Naturwissenschaftlern und Mathematikern, da einerseits die Modellierung nicht abgeschlossen ist und andererseits das Potential moderner mathematischer Methoden wie Homogenisierung und Relaxierung noch nicht angemessen in Anwendungen eingeht. Die Weiterentwicklung und Verfeinerung dieser mathematischen Methoden und ihre effiziente numerische Umsetzung sowie deren Vergleiche mit experimentellen Befunden sollen im neuen Fachausschuss durch koordinierte Forschungsplanung sowie durch Seminare und Tagungen vorangetrieben werden.

Interessierte GAMM-Mitglieder seien herzlich zur Mitarbeit aufgerufen.

Aktivitäten im Berichtszeitraum:
3rd GAMM Seminar on Microstructures, Universität Stuttgart 09. und 10. Januar 2004
Organisatoren: C. Miehe, M. Lambrecht, M. Becker, E. Gürses

GAMM Jahrestagung in Dresden:
Hauptvorträge:
A. DeSimone: Neue Materialien, insbesondere Relaxationsmethoden zur Erklärung von Mikrostruktur.
K. Hackl: Induced Microstructures in Solids - a Variational Approach.
Minisymposium:
Mikrostruktur von Materialien und Modellierung von Skalenübergängen. Organisatoren:
C. Miehe, S. Müller.
Geplante Aktivitäten in 2004:

4th GAMM Seminar on Microstructures
Conference Center of the Polish Academy of Sciences in Bedlewo (Polen) 14. bis 16. 01. 2005
Organisatoren: H.-D. Alber, P. Neff, P. Zhu, W. Zajaczkowski

Oberwolfach-Mini-Workshop
Analysis and computation of microstructures in finite plasticity
Organisatoren: S. Conti, K. Hackl

Klaus Hackl, Bochum

FA: Angewandte und Numerische Lineare Algebra

Jahresbericht 2004

Dem Fachausschuss gehören derzeit an:

B. Beckermann, Lille
P. Benner, Chemnitz
L. Blank, Regensburg
M. Bollhöfer, Berlin
A. Böttcher, Chemnitz
A. Bunse-Gerstner, Bremen
E. Catinas, Popoviciu
T. Damm, Braunschweig
L. Elsner, Bielefeld
O. Ernst, Freiberg
H. Faßbender, Braunschweig (Vorsitz)
B. Fischer, Lübeck
A. Frommer, Wuppertal
M. Gutknecht, Zürich
U. Helmke, Würzburg
M. Hochbruck, Düsseldorf
T. Huckle, München
A. Klawonn, Essen
D. Kressner, Berlin
J. Liesen, Berlin
J. Mayer, Karlsruhe
C. Mehl, Berlin
V. Mehrmann, Berlin
A. Meister, Kassel
J. Modersitzki, Lübeck
R. Nabben, Bielefeld
K. Neymeyr, Rostok
Y. Notay, Brussels
C. Popa, Constanta
D. Potts, Lübeck
K. Rost, Chemnitz
M. Rozloznik, Prague
S. Rump, Hamburg-Harburg
H. Schwetlick, Dresden
G. Starke, Hannover
G. Steidl, Mannheim
Z. Strakos, Prague
T. Szulc, Poznan
P.Tichy, Berlin
M. Tuma, Prague
U. Van Rienen, Rostock
K. Veselic, Hagen
H. Voß, Hamburg-Harburg
H. Wimmer, Würzburg
K. Zietak, Wroclaw

Der diesjährige Workshop der GAMM Fachgruppe Angewandte und Numerische Lineare Algebra fand unter dem Themenschwerpunkt *Linear Algebra in Systems and Control Theory* vom 12.-13.09.2003 im Arcadeon Conference Center der Fernuniversität Hagen statt. Der Workshop wurde von Heike Fassbender, TU Braunschweig und Volker Mehrmann, TU Berlin organisiert. Hauptvortragende waren Chris Beattie, Virgina Tech, USA, Ralph Byers, University of Kansas, USA und Diederich Hinrichsen, Universität Bremen. Neben diesen drei 45minütigen Vorträgen fanden 19-20minütige Vorträge statt. Insgesamt nahmen 52 Personen aus 15 Ländern an dem Workshop teil. Den Organisatoren sei für die geleistete Arbeit und der GAMM sei für die finanzielle Unterstützung gedankt.

Im Rahmen des Workshops fand am 02.07.2004 auch die diesjährige Mitgliederversammlung des Fachausschusses unter reger Beteiligung (25 Teilnehmer) statt.

Tagesordnungspunkte:

1. Bericht der Sprecherin über die Aktivitäten in 2004
2. Zukünftige Aktivitäten
3. Zukünftige Konferenzen
4. Zukunft der GAMM
5. Verschiedenes

1. Heike Faßbender berichtet über die Aktivitäten des Fachausschuss im vergangenen Jahr:

   Die Fachgruppe war auf der GAMM Jahrestagung in Dresden für das Minisymposium „Nonlinear Eigenvalue Problems“ organisiert von Heinrich Voss and Axel Ruhe verantwortlich. Unser Mitglied Zdenek Strakos hat einen Hauptvortrag „On numerical stability in large scale linear algebraic computations“ gehalten.

   Die Fachgruppe organisiert im Jahr 2006 (vom 26.-29.07.2006) in Zusammenarbeit mit der Partnerfachgruppe der SIAM und der International Linear Algebra Society die dreijährig stattfindende Tagung „Applied Linear Algebra“ an der Universität Düsseldorf. Die örtliche Organisationsleitung haben Frau Hochbruck, Düsseldorf und Herrn Frommer, Wuppertal übernommen. Frau Faßbender ist Mitglied des Organizing Committee.

   GAMM und SIAM kooperieren, um auf der gemeinsamen AMS-DMV-ÖMG Tagung in Mainz 2005 (16.-19. Juni) eine Reihe gemeinsamer Minisymposia anzubieten. Aus unserem Fachausschuss wurden Peter Benner „control theory“ und Heike Faßbender und Andreas Frommer „algebraic approaches to preconditioning“ eingeladen, derartige Minisymposia zu organisieren. Der Fachausschuss beschließt die Erstellung von ein oder zwei Themenheften der GAMM-Mitteilungen, um die Forschungsaktivitäten des Fachausschusses zu präsentieren. Die Sprecherin wird gebeten, alles weitere zu organisieren.

2. Das nächste Treffen des Fachausschuss wird 2005 in Dresden stattfinden. Lokaler Organisator ist Herr Schwetlick.

   Im Jahr 2006 findet die GAMM-Jahrestagung in Berlin und die SIAM Linear Algebra Conference in Düsseldorf statt. Es wird daher beschlossen, keine gesonderte Fachausschusstagung zu organisieren. Das jährliche Treffen des Fachausschusses wird während einer dieser beiden Tagungen organisiert werden.

   Vorschläge des Fachausschuss für die GAMM Jahrestagung in Berlin

   Vorschlag für Hauptvortrag: Nick Trefethen, Oxford zum Thema „Pseudospektren“ oder Jim Demmel, Berkeley zum Thema „Aktuelle Entwicklungen im Bereich LAPACK“

   Vorschlag für Minisymposia: „Iterative Methoden und Präkonditionierung“, Organisatoren: Oliver Ernst, Bergakademie Freiberg und Michele Benzi, Georgia Tech, USA und „Iterative Methoden für große und strukturierte Matrixprobleme“, Organisatoren: Daniel Kressner, TU Berlin und Diana Sima, KU Leuven, Belgien

   Leitung der Sektion Angewandte und Numerische Lineare Algebra: Reinhard Nabben, TU Berlin und Miroslav Tuma, Academy of Sciences of the Czech Republic

3. Volker Mehrmann berichtet über einige neue Entwicklungen innerhalb der GAMM, insbesondere über ein geplantes Reziprozitätsabkommen mit SIAM.

4. Es wird keine weitere Diskussion erwünscht.

Heike Faßbender, Braunschweig

Berichte

SCAN 2004

11th GAMM - IMACS International Symposium on Scientific Computing, Computer Arithmetic, and Validated Numerics

Fukuoka, Japan, October 04 - 08, 2004

The 11th GAMM - IMACS International Symposium on Scientific Computing, Computer Arithmetic, and Validated Numerics (SCAN) was held in Fukuoka, Japan, from October 4th to 8th, 2004, under the sponsorship of GAMM, IMACS, Japan SIAM, Mathematical Society of Japan and Faculty of Mathematics, Kyushu University.

Up to now the series of international SCAN symposia, which was held in Karlsruhe at first, have been organized in Europe. This is the first time for the conference held outside Europe, in Japan. The local organizing committee of SCAN2004 was constituted to prepare the conference hoping that it becomes a forum for the researchers of various fields in numerical validation to discuss many existing validation tools and approaches.

Scope: We received large number of abstracts from all over the world, beyond our expectation, in the topics of interests as follows:

Hardware and software support for validation tools; Theory, algorithms and arithmetic for numerical validation; Symbolic and algebraic methods in validated computation; Supercomputing and reliability; Dynamical systems and validation; Global optimization and validation; Programming tools for numerical validation; Computer aided proofs; Industrial and scientific applications of numerical validation

Participants and Talks: Actually, more than 80 contributed presentations were included in the final program as two parallel sessions and they were presented after the following 8 invited plenary lectures which were assigned to the first morning session on each day:

- Thomas C. Hales, Pittsuburgh, USA “Proving Theorems in Geometry by Computer”
- Masao Iri, Tokyo, Japan “Teruo Sunaga a Pioneer of Interval Arithmetic in Japan”
- Guenter Mayer, Rostock, Germany “On Regular and Singular Interval Systems”
- Shin'ichi Oishi, Tokyo, Japan “Recent Advances in Fast and Accurate Numerical Verification Methods for Problems of Linear Numerical Algebra”
- Knut Petras, Braunschweig, Germany “Validated Numerical Integration Progress and Challenges”
- Michael Plum, Karlsruhe, Germany “Enclosure Methods for Elliptic Partial Difierential Equations”
- Eric Walter, Paris, France “Guaranteed Nonlinear Parameter Identification in Knowledge-based Models”
- Nobito Yamamoto, Tokyo, Japan “Numerical Error Estimation with Guaranteed Accuracy for Finite Element Method”

Ultimately, the number of participants were over 120 from 19 countries. In addition to 8 invited talks, 83 contributed papers were presented during 4 days in the prosperous conditions.

Summary of conference: Concerning the conference place, the local organizing committee decided to use the Nishitetsu Grand Hotel which is a modern city hotel located just at the center of Fukuoka city. The attendees had a get-together in the evening on Monday, 4th

October, at Plaisir A which was the main hall in the hotel. They enjoyed the first meeting or meeting again with each other and also had a pleasant and meaningful time with discussions on their current researches. The lectures began from the morning of Tuesday, 5th October. The first plenary lecture in the conference was given by Professor Iri, on Professor Sunaga's profile and pioneering works in interval analysis. Late Professor Teruo Sunaga, known as one of the pioneer of interval analysis, spent 34 years from 1959 to 1993 at Kyushu University, Fukuoka, as a research associate, associate professor and full professor. He belonged to the Department of Mechanical Engineering, Faculty of Engineering. Unfortunately, he passed away in 1995 at the age of 65.

SCAN2004, therefore, was a commemorative conference for his research contribution in interval analysis as well as his very long and distinguished service in Kyushu University. The attendees could obtain his original paper, Theory of an "Interval Algebra and its Application to Numerical Analysis" appeared in RAAG memoirs in 1958, at the conference room and they seemed having a great interest in the contents of the paper. Next, Professor Mayer also gave a plenary lecture after Professor Iri and 31 contributed presentations were given in two parallel sessions.

On the next day, Wednesday, after two plenary lectures given by Professor Oishi and Professor Petras, the attendees enjoyed the excursion to the volcano ASO located in Kumamoto prefecture which is 100 km southern to Fukuoka. It is well-known that ASO has a somma, an old crater, with the largest diameter in the world. The highest peak in the outer mountain of Aso is at 936 meters above sea level. Unfortunately we could not reach the top of it because of a poisonous gas which had been spurted out during the late several days, but they could enjoy the beautiful views on a grand scale as well as the great marvels of an active volcano.

On Thursday, Professor Plum and Professor Yamamoto gave their invited lectures and 26 contributed papers were presented, though 2 presentations were canceled with regrets. In the evening of that day, we had a banquet in the same hotel. The awarding ceremony of Moore Prize took place during the party and Professor Hales was awarded honor for the prize from Professor Kreinovich. The attendees also had a pleasure to meet the wife of Late Professor Sunaga in the banquet, as well as they enjoyed nice speeches by Professors Alefeld, Alt, Kulisch and T. Yamamoto.

On Friday, the final day of the conference, two plenary lectures were presented by Professor Walter and Professor Hales, and also 26 contributed presentations. In the closing ceremony, it was announced that the next meeting will be held at Duisburg under the organization by Professor W. Luther, though the detailed schedule is not yet decided. All attendees promised to meet again there in 2006, and the conference was closed.

Proceedings: The refereed papers of conference proceedings will be published in 2005 in the special issue of Journal of Computational and Applied Mathematics by the publisher Elsevier, under the editorship of M.T. Nakao, G. Alefeld and S.M. Rump.

We have got messages from many attendees directly or by e-mail that the organization of the conference was really excellent not only scientific sense but also various kinds of arrangements such as location, meeting equipments, excursion, banquet, memorial conference bag, hospitality by the staff and so on. It is a great pleasure for all members of the organizing committee.

Finally, we would like to inform that this conference was finantially much supported by the fund of 21st COE (Center Of Excellence) Program of Kyushu University, entitled "Development of Dynamic Mathematics with High Functionality".

Mitsuhiro T. Nakao (Conference Chair) and Kaori Nagatou

Wissenschaftliche Veranstaltungen

IUTAM
International Union of Theoretical and Applied Mechanics

IUTAM Symposia 2005

May 23 - 27, 2005

IUTAM Symposium on Multiscale Modelling of Damage and Fracture Processes in Composite Materials
Kazimierz Dolny, Polen

Organization: IUTAM - International Union of Theoretical and Applied Mechanics
Symposium Chairman: Prof. T. Sadowski
IUTAM Representative on Scientific Committee: Prof. J. Salençon

June 27 - 30, 2005

IUTAM Symposium on Mechanical Behavior and Micro-mechanics of Nanostructured Materials
Beijing, China

Organization: IUTAM - International Union of Theoretical and Applied Mechanics
Symposium Chairman: Prof. Y. Bai
IUTAM Representative on Scientific Committee: Prof. L. B. Freund

July 04 - 08, 2005

IUTAM-IACM Symposium on Impact Biomechanics - From Fundamental Insights to Applications
Dublin, Ireland

Organization: IUTAM - International Union of Theoretical and Applied Mechanics and IACM - International Association for Computational Mechanics
Symposium Chairman: Dr. M. Gilchrist IUTAM Representative on Scientific Committee: Prof. D.H. van Campen

July 18 - 22, 2005

IUTAM Symposium on Vibration Control of Nonlinear Mechanisms and Structures
München, Germany

Organization: IUTAM - International Union of Theoretical and Applied Mechanics
Symposium Chairman: Prof. H. Ulbrich
IUTAM Representative on Scientific Committee: Prof. W. Schiehlen

October 04 - 07, 2005

IUTAM Symposium on Multiscale Problems in Multibody System Contacts
Stuttgart, Germany

Organization: IUTAM - International Union of Theoretical and Applied Mechanics
Symposium Chairman: Prof. P. Eberhard
IUTAM Representative on Scientific Committee: Prof. W. Schiehlen

October 26 - 29, 2005

IUTAM Symposium on Topological Design Optimization of Structures, Machines and Materials - Status and Perspectives
Aalborg and Lyngby, Denmark

Organization: IUTAM - International Union of Theoretical and Applied Mechanics
Symposium Chairman: Prof. M.P Bendsøe
Symposium Co-Chairman: Prof. O. Sigmund, Prof. N. Olhoff
IUTAM Representative on Scientific Committee: Prof. N. Olhoff

2005, *no exact dates available yet*

IUTAM Symposium on Flow Control with Mems
London, UK

Organization: IUTAM - International Union of Theoretical and Applied Mechanics
Symposium Chairman: Dr. J.F. Morrison
IUTAM Representative on Scientific Committee: Prof. C. Cercignani

2005, *no exact dates available yet*

IUTAM - CISM Summer School on Dispersion of Particles in Turbulent Flows
Udine, Italy

Organization: IUTAM - International Union of Theoretical and Applied Mechanics
Info: Prof. Alfredo Soldati, Udine, Italy; Prof. M. Reeks, Ispra (Va), Italy
Contact: Alfredo Soldati, soldati@uniud.it

IUTAM Symposia 2006

March 26 - 31, 2006

IUTAM Symposium on Interactions for Dispersed Systems in Newtonian and Viscoeleastic Fluids
Mexico, Mexico

Organization: International Union of Theoretical and Applied Mechanics
Symposium Chairman: Prof. G.M. Homsy
Symposium Co-Chairman: Dr. J.R. Zenit
IUTAM Representative on Scientific Committee: Prof. T. Kambe

June 11 - 15, 2006

IUTAM Symposium on Plasticity at the Micron Scale
Lyngby, Denmark

Organization: International Union of Theoretical and Applied Mechanics
Symposium Chairman: Prof. V. Tvergaard
IUTAM Representative on Scientific Committee: Prof. L.B. Freund

September 04 - 07, 2006

IUTAM Symposium on Discretization Methods for Evolving Discontinuities
Lyon, France
Organization: International Union of Theoretical and Applied Mechanics
Symposium Chairman: Prof. A. Combescure
Symposium Co-Chairman: Prof. T. Belytschko, Prof. R. de Borst
IUTAM Representative on Scientific Committee: Prof. N. Olhoff

September 11 - 14, 2006

IUTAM Symposium on Computational Physics and New Perspectives in Turbulence
Nagoya, Japan

Organization: International Union of Theoretical and Applied Mechanics
Symposium Chairman: Prof. Y. Kaneda
IUTAM Representative on Scientific Committee: Prof. R. Narasimha

September 18 - 22, 2006

IUTAM Symposium on Dynamics and Control of Nonlinear Systems with Uncertainty
Nanjing, China

Organization: International Union of Theoretical and Applied Mechanics
Symposium Chairman: Prof. H. Hu
Symposium Co-Chairman: Prof. E.J. Kreuzer
IUTAM Representative on Scientific Committee: Prof. W. Schiehlen

2006, no exact dates available yet

IUTAM Symposium on Hamiltonian Dynamics, Vortex Structures, Turbulence
Moscow, Russia

Organization: International Union of Theoretical and Applied Mechanics
Symposium Chairman: Prof. V.V. Kozlov
IUTAM Representative on Scientific Committee: Prof. H.K. Moffatt

2006, no exact dates available yet

IUTAM Symposium on Computational Contact Mechanics
Hannover, Germany

Organization: International Union of Theoretical and Applied Mechanics
Symposium Chairman: Prof. P. Wriggers
IUTAM Representative on Scientific Committee: Prof. J. Salençon

IUTAM Symposia 2007

April 23 - 28, 2007

IUTAM Symposium on Relation of Shell, Plate, Beam and 3D Models
Tbilisi, Georgia

Organization: International Union of Theoretical and Applied Mechanics
Symposium Chairman: Prof. G. Jaiani
IUTAM Representative on Scientific Committee: Prof. D.H. van Campen

June 25 - 29, 2007

IUTAM Symposium on Scaling in Solid Mechanics
Cardiff, UK

Organization: International Union of Theoretical and Applied Mechanics
Symposium Chairman: Prof. F.M. Borodich
IUTAM Representative on Scientific Committee: Prof. J. Engelbrecht

September 06 - 08, 2007

IUTAM Symposium on Advances in Micro- and Nanofluidics

Dresden, Germany

Organization: International Union on Theoretical and Applied Mechanics
Symposium Chairman: Prof. N.A. Adams
IUTAM Representative on Scientific Committee: Prof. C. Cercignani

2007, no exact dates available yet

IUTAM Symposium on Recent Advances in Multiphase Flows: Numerical and Experimental
Istanbul, Turkey

Organization: International Union of Theoretical and Applied Mechanics
Symposium Chairman: Prof. A. Acrivos
Symposium Co-Chairman: Prof. C.F. Delale
IUTAM Representative on Scientific Committee: Prof. L. van Wijngaarden

2007, no exact dates available yet

IUTAM Symposium on Unsteady Separated Flows and their Control
Corfu, Greece

Organization: International Union of Theoretical and Applied Mechanics
Symposium Chairman: Dr. M. Braza
Symposium Co-Chairman: Prof. K. Hourigan
IUTAM Representative on Scientific Committee: Prof. C. Cercignani

2007, no exact dates available yet

IUTAM Symposium on Swelling and Shrinking of Porous Materials: From Colloid Science to Poro-Mechanics
Petrópolis-RJ, Brazil

Organization: International Union of Theoretical and Applied Mechanics
Symposium Chairman: Prof. M.A. Murad
IUTAM Representative on Scientific Committee: Prof. D.H. van Campen

2007, no exact dates available yet

IUTAM Symposium on Fluid-Structure Interaction in Ocean Engineering
Hamburg-Harburg, Germany

Organization: International Union of Theoretical and Applied Mechanics
Symposium Chairman: Prof. E.J. Kreuzer
IUTAM Representative on Scientific Committee: Prof. N. Olhoff

2007, no exact dates available yet

IUTAM Symposium on Mechanical Properties of Cellular Materials
Cachan, France

Organization: International Union of Theoretical and Applied Mechanics
Symposium Chairman: Prof. H. Zhao
Symposium Co-Chairman: Prof. N.A. Fleck
IUTAM Representative on Scientific Committee: Prof. Z. Zheng

2007, no exact dates available yet

IUTAM Symposium on Multi-Scale Plasticity of Crystalline Materials
Eindhoven, Netherlands

Organization: International Union of Theoretical and Applied Mechanics
Symposium Chairman: Prof. M.G.D. Geers
Symposium Co-Chairman: Dr. E.P. Busso
IUTAM Representative on Scientific Committee: Prof. L.B. Freund

ECCOMAS

European Community on Computational Methods in Applied Sciences

ECCOMAS Themitic Conferences

May 25 - 28, 2005

Computational Methods for Coupled Problems in Science and Engineering
Santorini, Greece

Coupled Problems 2005 is one of the Thematic Conferences of the European Community on Computational Methods in Applied Sciences (ECCOMAS) and it has been promoted by the European Committee in Solids and Structural Mechanics (ECSSM) of ECCOMAS.

Topics
Mathematical formulation of multidisciplinary, multiphysics problems; Numerical methods for coupled problems: finite elements, finite volume, finite differences, meshless methods, etc.; Coupled solution strategies. Loose and strong coupling schemes; Distributed computing methods, Grid computing technologies; Optimum design in multi-disciplinary problems; Applications in science and engineering: thermomechanical problems, soil-structure-interaction, electro-magnetic-dynamic problems, aero-acoustic, geomechanics, etc.

Conference Secretariat
International Center for Numerical Methods in Engineering (CIMNE), Edificio C-1, Campus Norte UPC, C/Gran Capitan, s/n, 08034 Barcelona, Spain.

Tel: +34 93 401 74 41; Fax: +34 93 401 65 17
E-Mail: coupledproblems@cimne.upc. es
Web: http://congress.cimne.upc.es/coupledproblems

June 21 - 24, 2005

Computational Combustion
Lisbon, Portugal

Topics
Atomization and Sprays; Boilers and Furnaces; Chemical Kinetics; Detonation; Fires; Gas Turbine Combustors; Heterogeneous Combustion; Ignition; Industrial Applications; Internal Combustion Engines; Laminar Flames; Material Synthesis; Micro-Combustion; Microgravity; Parallel Computing; Pollutants; Propellants and Explosives; Radiative Transfer in Flames; Software for Combustion; Turbulent Flames; Two-Phase Flows.

Congress Secretariat
Mr. Carlos Monteiro
IDMEC - Instituto Superior Técnico, Av. Rovisco Pais, 1049-001 Lisboa, Portugal.

Tel: +351 21 8417186; Fax: +351 21 8475545
E-Mail: compcomb@navier.ist.utl.pt
Web: http://navier.ist.utl.pt/compcomb05

June 21 - 24, 2005

II International Conference on Advances in Computational Multibody Dynamics
Madrid, Spain

Topics
Real-time simulation and virtual reality applications; Optimization and sensitivity analysis; Flexible multibody dynamics; Contact and impact problems; Control and mechatronics; Biomechanics; Numerical and computational methods; Multidisciplinary applications; Micro and nano scale systems; Robots and walking machines; Vehicle dynamics; Aerospace technology; Software development; Education in multibody dynamics.

Conference Secretariat
Computational Mechanics Group, Mrs. Yolanda Cabrero
E.T.S. Ingenieros de Caminos, Canales y Puertos, Universidad Politécnica de Madrid, c/ Profesor Aranguren s/n

Tel: +34 91 3366760; Fax: +34 91 3365358
E-Mail: multibody2005@mecanica.upm.es
Web: http://www.mecanica.upm.es/Multibody2005

June 27 - 29, 2005

Computational Methods in Marine Engineering
Oslo, Norway

Topics
Ship hydrodynamics; Structural analysis of marine structures, Offshore structures; Sea-pipes and anchoring systems mechanics; Advances in numerical methods for marine engineering:
new finite element, finite difference, finite volume and boundary element methods, particle methods, meshless methods, etc.; Computational environmental mechanics in marine problems; Algorithms for multidisciplinary problems in marine engineering; Vortex induced vibrations, Slamming, Sloshing, Green water; Marine engineering applications; Fluid structure interaction.

Conference Secretariat
International Center for Numerical Methods in Engineering (CIMNE), Edificio C1, Campus Norte UPC, Gran Capitán s/n, 08034 Barcelona, Spain

Tel: +34 934017441; Fax +34 934016517
E-Mail: marine05@cimne.upc.es
Web: http://congress.cimne.upc.es/marine05

June 30 - July 02, 2005

International Symposium on Neural Networks and Soft Computing in Structural Engineering, NNSC-2005
Cracow, Poland

Increasing complexity of structures, prediction of their durability, design of new materials and many other structural problems affect the development of a new computational structures technology (CST). Neural networks, fuzzy logic and genetic algorithms constitute so-called soft computing (SC). It is a specialized computational method of artificial intelligence (AI) that is the most innovative part of CST. The neurocomputing, related to neural networks (NNs) plays a central role in SC. In recent

years NN&SC have been successfully applied to the simulation, identification and assessment analysis of many problems of structural engineering which where difficult or even unable to be analyzed by the conventional (called also hard or purely numerical) computing. The main goal of NNSC-2005 is to present and discuss current development of NN&SC and their applications to the analysis of different problems in various areas of structural engineering. New formulations and modifications of SC fitting well to the nature of considered engineering problems and separate applications of the SC constituents in direct and inverse analysis will be highly appreciated both in the frame of deterministic and stochastic or fuzzy analysis. This concerns first of all identification of structural and material parameters, data-dependent modelling of physical relations, updating of FE models and search of global optimum using gradientless SC methods in the analysis for large engineering systems. Special attention will be focused on joining different formulations, e.g. SC and hard computing or SC, and other computational methods of AI, to implement new, numerically efficient and robust hybrid systems and methods. The Seminar will be addressed to young researchers and engineers who are interested in specialized computational methods of AI and their applications in structural mechanics and engineering.

Topics
Applications of NN&SC in design and analysis of: civil engineering structures, infrastructures; mechanical and chemical, engineering structures; structure soil and structureenvironment interaction; earthquake engineering; biomedical structures; other fields of structural life engineering. NN&SC in structural mechanics, mechanics of materials, experimental mechanics. For the analysis of: simulation, identification, assessment and optimization reliability and long life prediction.

Deatlines
Submission of a two page abstract January 14, 2005
Acceptance of the paper and instructions for writing a full paper February: 25, 2005
Early payment: April 29, 2005
Submitting the full paper: May 20, 2005
Final announcement: June 03, 2005

Conference Secretariat
Institute of Computer Methods in Civil Engineering, Cracow University ofTechnology, Warszawska 24, 31-155 Kraków, Poland.

Tel: +48 12 6282546; Fax: +48 12 6282034
E-Mail: nnsc@pk.edu.pl
Web: http://www.pk.edu.pl/nnsc

July 11 - 14, 2005

Meshless Methods
Lisbon, Portugal

Meshless 2005 is one of the Thematic Conferences of the European Community in Computational Methods in Applied Sciences (ECCOMAS) and it has been promoted by the European Committee in Solids and Structural Mechanics (ECSSM) of ECCOMAS.

Objectives
To present the up-to-date state-of-the-art in the field of meshless methods and other mesh reduction methods; to encourage discussion and to contribute to new developments in this field.

Deadlines
Abstract submission: 31. Jan. 2005
Notification of acceptance: 28. Feb. 2005
Submission of corrected: 31. March 2005

Congress Secretariat
Mrs. Conceição Melo
ICIST- Instituto Superior Técnico, Av. Rovisco Pais, 1049-001 Lisboa, Portugal.

Tel: +351 21 8418237; Fax: +351 21 8497650
E-mail: meshless@math.ist.utl.pt
Web: www.math.ist.utl.pt/meshless

July 18 - 21, 2005

II Conference on Smart Structures and Materials
Lisbon, Portugal

Objective
In the past decade, technological developments in material and computer sciences have evolved to the point where their synergistic combination have culminated in a new field of multidisciplinary research in smart materials and structures, systems and related technologies. The advances in material sciences have provided a comprehensive and theoretical framework for implementing multifunctionality into materials, and the development of high speed digital computers has permitted the transformation of that framework into methodologies for practical design and production. The goals of the ECCOMAS Conference on Smart Structures and Materials consist in the provision of a comprehensive forum for discussion on the current state-of-the-art in the field. The Conference will enable: Understanding of basic fundamentals of smart structures; Modelling and characterization of smart actuators and sensors; Comparatively evaluation of different smart actuators and sensors; Formulation and analysis of systems integrated with smart actuators; Analysis of smart structures; Design and development of smart structures and systems; Fabrication and testing of smart structures and systems; Application of smart materials, structures and related technology.

Topics
Sensors and Structural Identification; Active Materials and Actuators; Structural Health Monitoring and Signal Processing; MEMS and Structural Control; Vibration and Shape Control; Adaptive Crashworthiness; Composite Modelling; Software Tools and Optimal Design; Identification of Materials Properties; Nanotechnology; Industrial Applications; Demonstrators.

Congress Secretariat
Mrs. Andrea Marques
IDMEC- Instituto Superior Técnico, Av. Rovisco Pais, 1049-001 Lisboa, Portugal.

Tel: +351 21 8417280; Fax: +351 21 8417915
E-Mail: amarques@dem.ist.utl.pt
Web: http://www.dem.ist.utl.pt/~smart05

August 23 - 26, 2005

10th International Conference on Numerical Methods in Continuum Mechanics (NMCM) & 4th Workshop on Trefftz Methods
Zilina, Slovakia

September 05 - 08, 2005

VIII International Conference on Computational Plasticity - COMPLAS VIII
Barcelona, Spain

COMPLAS 2005 will address both the theoretical bases for the solution of plasticity problems and the numerical algorithms necessary for efficient and robust computer implementation. The ability to provide numerical simulations for increasingly complex problems is advancing rapidly due to both remarkable strides in computer hardware development and the improved maturity of computational procedures for non-linear systems. Significant advances have been made in the formulation and implementation of algorithms for static and dynamic problems involving finite strains, complex contact interaction laws, constitutive material behaviours including multi-physics or multi-scale effects, progressive large scale fracturing, etc.. Such advances, however, demand a closer interaction between numerical analysts and material scientists in order to produce theoretical models which provide a response in keeping with fundamental material principles and experimental observations. Numerical techniques, and in particular finite element and discrete element methods, are now extensively employed in non-linear deformation predictions and very often offer the only means of solution for practical engineering problems. It is therefore essential to ascertain that such techniques can be reliably employed in industrial and R&D applications. COMPLAS 2005 aims to act as a forum for practitioners in the field to discuss recent advances and identify future research directions.
areas, as well as by contributed papers received from the general Call for Papers.

Topics
Multi-fracturing solids; Forming process simulations; High velocity impact Contact problems; Composites; Biomechanics; Damage, fracture & fatigue Granulation processes;·Multi-physics problems;·Advanced material models;·Multi-scale material models;·Innovative computational models; Parallel processing computations (FEM discrete element methods; Environmental and Geosciences meshless methods, etc);·Multi-body and non-linear dynamic Industrial applications;·Nano-mechanics.

Deadline
For abstract: 15. February 2005
Acceptance of the paper and instructions: 15. March 2005
Deadline for submitting the full paper: 10. June 2005

Conference Secretariat
International Center for Numerical Methods in Engineering, (CIMNE), Edificio C1, Campus Norte UPC, Gran Capitán s/n, 08034 Barcelona, Spain.

Tel: +34 934017441; Fax +34 934016517
E-Mail: complas@cimne.upc.es
Web: http://congress.cimne.upc.es/complas05

September 12 - 14, 2005

Evolutionary and Deterministic Methods for Design, Optimisation and Control with Applications to Industrial and Societal Problems
Munich, Germany

Topics
Evolutionary Algorithms, including Evolutionary Programming (EP), Evolution Strategies (ES), Genetic Algorithms (GA), and Genetic Programming (GP) Multi-

Objective Evolutionary Algorithms (EMOAs) and Constraint Handling Methods Hybridization with Standard Optimization Tools (Gradient Techniques, Combinatorial Optimization Methods, ...) Response Surface Methods and other Embeddings of Machine Learning Techniques Parallel and Distributed Evolutionary Algorithms (from LANs to the GRID) Multi-disciplinary Optimization Methods Economic and Social Simulations Multi Criteria Decision Making Tools.

Conference Secretariat:
Dipl.-Ing. S. Thum, Institute for Fluidmechanics / Hydraulic Machinery Department, University of Technology Munich, Boltzmannstr. 15, 85747 Garching/Munich.

Tel.: +49 89 289 16307; Fax: +49 89 289 16297
E-Mail: eurogen05(at)lhm.mw.tum.de
Web: http://www.lhm.mw.tu-muenchen.de/EUROGEN05

September 14 - 16, 2005

Computational Bioengineering
Lisbon, Portugal

September 27 - 30, 2005

8th European Multigrid Conference - EMG08
Delft, The Netherlands

October 02 - 04, 2005

II International Conference on Textile Composites and Inflatable Structures - Structural Membranes 2005
Stuttgart, Germany

Textile composites and inflatable structures are becoming increasingly popular for a variety of applications in among many other fields, civil engineering, architecture and aerospace engineering. Typical examples include membrane roofs and covers, sails, inflatable buildings and pavilions, airships, inflatable furniture, airspace structures etc. The objectives of Structural Membranes 2005 are to collect and disseminate state-of-the-art research and technology for design, analysis, construction and maintenance of textile and inflatable structures. The ability to provide numerical simulations for increasingly complex membrane and inflatable structures is advancing rapidly due to computer hardware development and the improved maturity of computational procedures for nonlinear structural systems. Significant progress has been made in the formulation of finite element methods for static and dynamic problems, complex constitutive material behaviour, coupled aero-elastic analysis etc. The conference will address both the theoretical bases for structural analysis and the numerical necessary for efficient and robust computer implementation. A significant part of the conference will be devoted to discuss advances in new textile composites for applications in membrane and inflatable structures, as well as in innovative design, construction and maintenance procedures.

Topics
Design Methods: Numerical Methods for Structural.
Analysis: New Membrane Materials, Testing Procedures, Manufacturing, Construction Methods, Maintenance Techniques, Energetic Aspects, Climate Impact, Environmental Aspects, Pressure Management, Adaptivity.
Applications: membrane, roofs and covers, sails, inflatable pavilions and buildings, airships, airspace structures inflatable antennas, furniture, etc.

Deadline
For Abstract: 14. March, 2005
Acceptance of the paper and instructions: 19. April, 2005
For submitting a full paper: 30. June, 2005

Conference Secretariat
International Center for Numerical, Methods in Engineering (CIMNE),Edificio C1, Campus Norte UPC,Gran Capitán, s/n., 08034 Barcelona, Spain.

Tel: +34 934017441; Fax: +34 934016517
E-Mail: membranes05@cimne.upc.es
Web: http://congress.cimne.upc.es/membranes05

November 16 - 18, 2005

Symposium on Methods of Artificial Intelligence AI-METH 2005
Gliwice, Poland

ECCOMAS CSSM 2006

June 04 - 08, 2006

III European Conference on Computational Solid and Structural Mechanics
Lisbon, Portugal

Organizer**:** Associação Portuguesa de Mecânica Teórica, Aplicada e Computacional

Topics
Computational Methods
Advances in FEM, Optimization and Sensitivities, Advances in BEM, Discretization Methods, Mathematical Foundations, Optimization Methods, Identification Methods, Stochastic Methods, Error Control and Adaptivity, Domain Decomposition, Meshless Methods, High Performance Computing, Inverse Problems, Soft Computing, Visualization.

Computational Solid Mechanics
Material Modelling, Smart Materials, Finite Deformations, Homogenization and Localization, Viscoelasticity and Creep, Geomechanics, Plasticity and Viscoplasticity, Micromechanics and Multiscale Problems, Nanomechanics, Contact Mechanics, Damage, Fracture, Fatigue, Impact and Wave Propagation, Composites, Experimental Mechanics.

Computational Structural Mechanics
Nonlinear Analysis of Structures, Multibody Dynamics and Robotics, Plates and Shells, Impact and Crashworthiness, Structural Stability, Composite Structures, Dynamics and Transient Problems, Smart Structures, Reliability and Safety, Forming Process, Casting Process, Enverse Problems, Control of Structures, Optimization of Structures,Coupled Problems, Fluid-Structures/Solid Interaction, Thermomechanics, Aeroelastic Problems, Biomechanics, Environmental Problems, Earthquake and Wind Engineering, Acoustics and Electromagnetics, Phase Transformations, Transport Phenomena, Electromechanical, Magnetomechanical, Industrial Applications, Aeronautics and Space Technology, Industrial Forming Processes, Geomechanics and Environmental Engineering, Naval Architecture, Vehicle Design and Transport, Engineering Structures, Commercial Software, Software Reliability.

Congress Secretariat

Mrs. Andrea Marques
IDMEC
Instituto Superior Técnico
Av. Rovisco Pais
1049-001 Lisboa, Portugal
Tel: +351 21 8417280
Fax: +351 21 8417915
E-Mail: amarques@dem.ist.utl.pt

Prof. Helder C. Rodrigues
IDMEC
Instituto Superior Técnico
Av. Rovisco Pais
1049-001 Lisboa, Portugal
Tel: +351 21 8417460
Fax: +351 21 8417915
E-Mail: hcr@ist.utl.pt

ECCOMAS CFD 2006

September 05 - 08, 2006

European Conference on Computational Fluids Dynamics
Egmond aan Zee, The Netherlands

Conference Topics
Computational Fluid Dynamics, Computational Acoustics, Computational Electromagnetics, Computational Chemistry, Computational Mathematics and Numerical Methods, Inverse Problems, Optimization and Control, Computational Methods in Life Sciences, Industrial Applications.

Major Application Areas
Aerospace Engineering, Automotive Engineering, Turbomachinery, Fluid-Structure Interaction, Process Technology, Reactive Flows, Physiological Flows, Flow Control, Microfluidics, Optimal Shape Design, Environmental Sciences, Noise Abatement, Wave Propagation and Scattering, Antennas, Radar Cross Section, Tomography, Mathematical Finance.

Deadlines
January 15, 2006: for extended abstracts
January 15, 2006: for Minisymposia proposals
March 01, 2006: Notification of acceptance
May 15, 2006: for full papers

Conference Secretariat
Delft University of Technology, ECCOMAS CFD 2006, Mekelweg 4,
2628 CD Delft, The Netherlands.

Tel: +31 15 278 9617
Fax: +31 15 278 1151
E-Mail: eccomascfd2006@math.tudelft.nl
Web: http://pcse.tudelft.nl/eccomas2006/

ECCOMAS Congress 2008

June 30 - July 05, 2008

European Congress on Computational Methods in Applied Sciences and Engineering
Lido Island, Venezia, Italy

ECCOMAS Council is formed by official representatives of National or Regional Scientific Societies or Organizations covering most of the European countries. Its main mission is to favour the exchange of information, and to promote the transfer between Research and Industry at the European scale. Its fields of interest are the applications of Mathematical and Computational Methods and Modelling to major areas such as Fluid Dynamics, Structural Mechanics, Semi-conductor Modelling or Electro-magnetics. Multidisciplinary applications of these fields to critical societal and technological problems encountered in sectors like Aerospace, Car and Ship Industry, Electronics, Energy, Finance, Chemistry, Medicine, Biosciences, Environmental sciences are of particular interest.

The main event organized by ECCOMAS is a large European conference taking place on a four year cycle and addressing scientists and engineers both in and outside Europe. The main objective of these conferences is to provide a forum for presentation and discussion of state-of-the-art in scientific computing applied to engineering sciences. Equal emphasis is given to basic methodologies, scientific development and industrial applications.

Web: http://www.cimne.com/eccomas/

EUROMECH
European Mechanics Society

EUROMECH Conferences 2005

August 07 - 12, 2005

ENOC-2005: Fifth EUROMECH Nonlinear Oscillations (Nonlinear Dynamics) Conference
Auditorium Building, Eindhoven University of Technology, The Netherlands

Although still the brand name ENOC is used as the historical abbreviation, the ENOC conferences aim at covering the complete field of nonlinear dynamics.

Prof. Dick H. van Campen,
Dept. Mechanical Engineering, Eindhoven University of Technology, P.O. Box 513, 5600 MB Eindhoven, The Netherlands.

E-Mail: D.H.v.Campen@tue.nl, Fax: +31 40 243 7175
Web: http://www.enoc2005.tue.nl

September 13 - 15, 2005

EMMC8: MECAMAT, The 8th EUROPEAN Mechanics of Material Conference
ENS Cachan, Avenue du President Wilson 61, Cachan, France

Claudine Chabaud
E-Mail chabaud@lmt.ens-cachan.fr
Tel: +33 1 47 40 22 39
Web: http://www.lmt.ens-cachan.fr/emmc8

EUROMECH Colloquia 2005

460.
February 21 - 23, 2005

Numerical Modelling of Concrete Cracking
Innsbruck, Austria

Chairman: Professor G. Hofstetter
Institute for Structural Analysis and Strength of Materials, University of Innsbruck, Technikerstrasse 13, A-6020 Insbruck, Austria.
Tel: +43 (0) 512 507 6720, Fax: + 43 (0) 512 507 2908
E-Mail: guenter.hofstetter@uibk.ac.at
Co-chairman: Prof. Günther Meschke
Institute for Structural Mechanics, Ruhr University Bochum, Universitätsstrasse 150, D-44801 Bochum, Germany.
Tel: +49 (0) 234 32 29051 Fax: ++49 (0) 234 32 14149
E-Mail: Guenther.Meschke@ruhr-uni-bochum.de
Euromech contact person: Prof. F. Rammerstorfer

461.
2005

Vortex and Magnetohydrodynamics Structure, Symmetry and Singularity
Italy

Chairman: Prof. R.L. Ricca
Dip. Matematica, Universita di Milano, Bicocca, Via Biccoca degli Arcimboldi 8, 20126 Milano, Italy.
Tel: +39-02 6448 7762; Fax: +39-02 6448 7705
E-Mail: ricca@matapp.unimib.it
Co-chairman: to be nominated
Euromech contact person: Prof. P. Huerre

462.
2005

Fluid Mechanical Stirring and Mixing

Chairman: Dr. P.A. Davidson
Dept. of Engineering, University of Cambridge, Cambridge, UK.
Fax: +44 (0)1223 332662
E-Mail: pad3@eng.cam.ac.uk
Co-chairman: Dr. A. Pumir, INLN, Nice, France
Co-chairman: Dr. J.C. Vassilikos, Aeronautics, Imperial College, London, UK
Euromech contact person: Prof. P. Huerre

463.
June 13 - 16, 2005

Size-dependent Mechanics of Materials
Groningen, The Netherlands
Chairman: Prof. P.R. Onck
University of Groningen, Micromechanics of Materials, Nijenborgh 4, 9747 AG Groningen, Netherlands.
Tel: +31 (0)50 363 8039; Fax: +31 (0)50 363 4886
E-Mail: p.r.onck@phys.rug.nl
Co-chairman: Prof. Dr. T. Pardoen
Université Catholique de Louvain, Materials Science and Processes Department, PCIM, Bâtiment Réaumur, Place Sainte Barbe 2, 1348 Louvain-la-Neuve, Belgium.
Euromech contact person: Prof. E. van der Giessen

464.
October 05 - 07, 2005

Wind energy
Oldenburg, Germany

Chairman: Prof. Dr. Peinke
Center for Wind Energy Research, Carl-von-Ossietzky University of Oldenburg, Faculty V, Institute of Physics, 26111 Oldenburg, Germany.
Tel: +49 (0)441 798 3536; Fax: +49 (0)441 798 3990
E-Mail: peinke@uni-oldenburg.de
Co-chairman: Prof. Dr.-Ing. Schaumann, University of Hannover, Institute for Steel Construction, Appelstrasse 9a, D-30167, Hannover, Germany.
Euromech contact person: Prof. Hans Fernholz

465.
June 06 - 08, 2005

Hydrodynamics of Bubbly Flows
Lorenz Center Leiden, The Netherlands

Chairman: Professor Dr. Detlef Lohse
Applied Physics, University of Twente, Postbus 217, 7500 AE Enschede,
The Netherlands.
Tel: +31 (0)534 898 076, Fax: +31 (0)534 898 068
E-Mail: d.lohse@utwente.nl
Co-chairman: Prof. Leen van Wijngaarden
Impact Institute, University of Twente
Postbus 217, 7500 AE Enschede, The Netherlands
Euromech contact person: Prof. H. Fernholz

466.
July 20 - 22, 2005

Computational and Experimental Mechanics of Advanced Materials 2005
Loughborough, U.K.

Chairman: Professor Vadim V. Silberschmidt
Wolfson School of Mechanical and Manufacturing Engineering, Loughborough
University, Ashby Road, Loughborough, Leics., LE11 3TU, UK.
Tel: +44 (0)1509 227504, Fax: +44 (0)1509 227502
E-Mail: v.silberschmidt@lboro.ac.uk
Co-chairmen: Prof. Ewald Werner
Lehrstuhl Werkstoffkunde und Werkstoffmechanik, Technische Universität München,
Germany.
Prof. Helmut Böhm
Institute of Lightweigth Design and Structural Biomechanics, TU Wien, Austria.
Euromech contact person: Ahmed Benallal

467.
July 18 - 20, 2005

Turbulent Flow and Noise Generation
Université de Provence, Marseille, France

Chairman: Prof. Dr. rer. nat. Claus-Dieter Munz
Institut für Aerodynamik und Gasdynamik, Pfaffenwaldring 21, 70550, Stuttgart,
Germany.
Tel: +49 (0)711 685 3433, Fax: +49 (0)711 685 3438
E-Mail: munz@iag.uni-stuttgart.de
Co-chairman: Prof. Dr. Patrick Bontoux
Université de Provence, Marseille, France.
Euromech contact person: Prof. Werner Schröder
Web: http://www.iag.uni-stuttgart.de/Euromech-467

468.
June 29 - July 01, 2005

Multi-scale Modelling in the Mechanics of Solids
St. Petersburg, Russia

Chairman: Acad. N.F. Morozov
Institute for Problems in Mechanical Engineering, Russian Academy of Sciences.
Tel: +7 812 321 4788; Fax: +7 812 321 4771
E-Mail: morozov@nm1016.spb.edu
Co-chairpersons: Acad. I.G. Goryacheva
Institute for Problems in Mechanics RAS.
Prof. M. Wiercigroch, University of Aberdeen, UK.
Euromech contact person: Acad. I.G. Goryacheva
Web: http://www.ipme.ru/ipme/conf/apm2005/euromech/

469.
October 06 - 08, 2005

LES of Complex Flows
Dresden, Germany

Chairman: Prof. Dr. N. Adams, Technische Universität Dresden, Institut für Strömungsmechanik, George-Bähr-Str. 3c, 01062, Dresden, Germany.
Tel: +49 (0)351 463 37607; Fax: +49 (0)351 463 35246
E-Mail: nikolaus.adams@ism.mw.tu-dresden.de
Co-chairman: Dr. habil. M. Manhart
Lehrstuhl für Fluidmechanik, Technische Universität München,
Boltzmannstrasse 15, 85748, Garching, Germany.
Euromech contact person: Prof. Hans Fernholz
Web: http://www.tu-dresden.de/mw/ism/euromech/

470.
February 2006

Recent Development in Magnetic Fluid Research
Bremen, Germany

Chairman: Dr. Stefan Odenbach
ZARM, University of Bremen, Am Fallturm, D-28359, Bremen, Germany.
Tel: +49 (0)421 2184 785; Fax: +49 (0)421 2182 521
E-Mail: odenbach@zarm.uni-bremen.de
Co-chairman: Prof. Dr. Elmars Blums, Institute of Physics,
University of Latvia, Salaspils, Latvia.
Euromech contact person: Prof. W. Schröder

471.
September 2005

Turbulent Convection in Passenger Compartments
Göttingen, Germany

Chairman: Dr. C. Wagner
DLR Göttingen, Bunsenstrasse 10, 37073, Göttingen, Germany.
Tel: +49 (0)551 709 2261; Fax: +49 (0)551 709 2404
E-Mail: claus.wagner@dlr.de
Co-chairman: Prof. A. Thess

Technical University of Ilmenau, Germany.
Euromech contact person: Prof. W. Schröder

472.
September 06 - 08, 2005

Microfluidics and Tranfer
Grenoble, France

Chairman: Prof. Michel Favre-Marinet
LEGI BP 53, F-38041 Grenoble, Cedex, France
Tel: +33 (0)4 7682 5049; Fax: +33 (0)4 7682 5271
E-Mail: michel.favre-marinet@hmg.inpg.fr
Co-chairman: Dr. Patrick Tabeling
MMN ESPCI, 24, rue Lhomond, F-75231, Paris, Cedex 05, France.
Euromech contact person: Prof. Emil Hopfinger
Web: http://www.legi.hmg.inpg.fr/microfluidics2005/

473.
October 27 - 29, 2005

Failure and Fracture of Composite Materials
Porto, Portugal

Chairman: Prof. A.T. Marques
Departamento de Engenharia Mecânica e Gestão Industrial, Faculdade de Engenharia da Universidade do Porto, Rua Dr. Roberto Frias, s/n 4200 ż 465 Porto, Portugal.
Tel: +351 22 508 1716; Fax: +351 22 508 1584
E-mail marques@fe.up.pt
Co-chairmen: Prof. A.M. Balaco de Morais
Departamento de Engenharia Mecânica, Universidade de Aveiro, Aveiro, Portugal.
Prof. P. T. de Castro, Departamento de Engenharia Mecânica e Gestão Industrial, Faculdade de Engenharia da Universidade do Porto.
Euromech contact person: Prof. J. Ambrosio

474.
August 30 - September 01, 2005

Material Instabilities in Coupled Problems
Troyes, France

Chairman: Prof. A. Benallal
LMT-Cachan, 61 Avenue du Président Wilson, F-94235, Cachan, France.
Tel: +33 (0)1 47 40 27 39; Fax: +33 (0)1 47 40 22 40
E-Mail: benalla@lmt.ens-cachan.fr
Co-chairman: Prof. D. Bigoni, Trento University, Italy
Euromech contact person: Prof. P. Huerre

475.
February 2006

Fluid Dynamics in High Magnetic Fields
Ilmenau, University of Technology, Germany

Chairman: Prof. A. Thess
Department of Mechanical Engineering Ilmenau, University of Technology
P.O. Box 100 565, D-98684, Ilmenau, Germany.
Tel: +49 (0)3677 69 2445; Fax: +49 (0)3677 69 1281
E-Mail: thess@tu-ilmenau.de

476.
March 2006

Real-time Simulation and Virtual Reality Applications of Multibody Systems
Ferrol, Spain

Chairman: Prof. J. Cuadrado
Escuela Politecnica Superior, Universidad de La Coru a Mendizabal s/n,
15403 Ferrol, Spain.
Tel: +34 9813 37400 ext. 3873; Fax: +34 9813 37410
E-Mail: javicuad@cdf.udc.es
Co-chairman: Prof. W. Schiehlen, Institute B of Mechanics,
University of Stuttgart, Germany.
Euromech contact person: Prof. J. Ambrosio

477.
June 2006

Particle-laden Flow. From Geophysical to Kolmogorov Scales
University of Twente, The Netherlands
Chairman: Prof. B.J. Geurts
Mathematical Sciences, University of Twente,
P.O. Box 217, 7500 AE Enschede, The Netherlands.
Tel: +31 (0)48 94125; Fax: +31 (0)48 94833
E-Mail: b.j.geurts@utwente.nl
Euromech contact person: Prof. D. Lohse

EMS
European Mathematical Society

August 22 - 30, 2006

International Congress of Mathematicians
Madrid, Spain

Following the long standing tradition of the congress, ICM2006 will be a major scientific event, bringing together mathematicians from all over the world, and demonstrating the vital role of mathematics in our society. We hope very much that you will be able to attend.

President of the Organizing Committee: Manuel de León
Vicepresident General: Carlos Andradas
Web: http://www.icm2006.org

July 14 - 18, 2008

5th European Congress of Mathematics
Amsterdam, The Netherlands

The Fifth European Congress of Mathematics is organized by Stichting 5ECM, founded by VU Vrije Universiteit CWI Centrum voor Wiskunde en Informatica,
UvA Universiteit van Amsterdam.

Conferences

March 03 - 05, 2005

The International Conference on Environmentqal Fluid Mechanics (ICEFM'05)
Indian Institute of Technology Guwahati, India

Topic
Atmospheric and oceanic flows Flow over complex terrains, e.g. hills, wind breaks etc. Two and multiphase flows Flow in porous media Flow in continental water bodies, e.g. lakes, rivers, reservoirs etc. Any other topic related to environmental fluid mechanics
Organized by: Department of Mathematics, Indian Institute of Technology Guwahati, India in cooperation withSociety for Industrial and Applied Mathematics (SIAM)
Programme Committee: Durga Charan Dalal, Convener, Swaroop Nandan Bora, Organizing Secretary, Jiten Chandra Kalita, Secretary (Academic Programme), Natesan Srinivasan (SIAM Representative), Treasurer

Contact:
Department of Mathematics, Indian Institute of Technology Guwahati, Guwahati-781039, Assam, India
E-Mail: icefm@iitg.ernet.in
Tel: +91 361 258 2650; Fax: +91 361 269 0762
Web: http://www.iitg.ernet.in/scifac/maths/public_html/conference/index.htm

Submitted by: Natesan Srinivasan
E-Mail: natesan@iitg.ernet.in

March 14 - 19, 2005

Conference on Bounded Cohomology, Harmonic Maps and Higgs Bundles
Strasbourg, France and Basel, Switzerland

Topic: The aim of the conference is to bring together researchers interested in the applications of bounded cohomology, harmonic maps and Higgs bundles to the study of discrete group representations, and to profit from the convergence of ideas which follows from different approaches to similar problems. Recently progress has been made in several open problems, where rigidity results were proven using methods and techniques either from Higgs bundles, harmonic maps or bounded cohomology. While the different methods lead in certain cases to similar results, sometimes they give only complementary results which do not seem to be easily approachable using other techniques. We hope that bringing experts of the three different approaches together will help to explore the relations more systematically and will lead to a deeper understanding and further progress.

Organized by: Oliver Baues, Karlsruhe; Olivier Biquard, Strasbourg; Alessandra Iozzi, Basel, Strasbourg; Anna Wienhard, Basel
E-Mail: bhmhb@math.ethz.ch
Web: http://www.math.unibas.ch/~bhmhb
Submitted by: Anna Wienhard
E-Mail: anna.wienhard@unibas.ch

March 30 - April 01, 2005

South African Society for Numerical and Applied Mathematics (SANUM) 29th Annual Conference
University of Stellenbosch, South Africa

Topic: We solicit contributions, in the form of 20 minute talks, from numerical analysts, applied mathematicians, and engineers. All contributions in the areas of computational, applied or engineering mathematics will be suitable. In particular for SANUM2005, we welcome contributions to the envisaged special sessions in transport porous media and image processing.

Organized by: Department of Applied Mathematics, University of Stellenbosch
Programme Committee: Ben Herbst, Andre Weideman, Neil Muller, Karin Hunter
Contact: Ben Herbst at herbst@sun.ac.za or +27 21 808 4217
Department of Applied Mathematics, University of Stellenbosch, Private Bag X1, Matieland, South Africa
E-Mail: herbst@sun.ac.za
Tel/Fax: +27 21 808 4217
Web: http://dip.sun.ac.za/sanum2005
Submitted by: Karin Hunter
E-Mail: karin@goose.sun.ac.za

April 01 - July 08, 2005

Modern Methods of Time-Frequency Analysis
Erwin Schroedinger Institute (ESI) for Mathematical Physics, Vienna, Austria

Topic: This special semester will bring together 100 scientists from mathematics, engineering and physics to explore new directions in time-frequency analysis. The ESI offers an ideal environment for research and interaction. In addition, the program will contain four specialized workshops and a big conference on “Progress in Time-

Frequency Analysis" (May 23-28, 2005). Main topics: non-orthogonal expansions and representation theory; combined phase space methods: between Gabor and wavelets; non-linear approximation theory and computational harmonic analysis; time-frequency methods and pseudodifferential operators.
Organized by: H. G. Feichtinger, Univ. of Vienna; K. Groechenig, GSF Research Center, Munich; J.J. Benedetto, Univ. of Maryland
Programme Committee: Contact: Hans Feichtinger
NuHAG, Department of Mathematics, University of Vienna, Nordbergstraße 15, A-1090 Wien, Austria.
E-Mail: hans.feichtinger@univie.ac.at
Tel/Fax: + 43 1 4277 50696
Web: http://www.univie.ac.at/NuHAG/ESI05
Submitted by: Karlheinz Groechenig
E-Mail: karlheinz.groechenig@gsf.de

April 03 - 10, 2005

ALCOMA05 Design and Codes
Thurnau near Bayreuth, Germany

Topic: The intention is to bring representatives of research groups together that work in particular in the field of constructive theory of codes and designs or on closely related topics.

Organized by: Lehrstuhl Mathematik II, University of Bayreuth
Programme Committee: Prof. A. Kerber, A. Kohnert
Contact: University of Bayreuth, 95440 Bayreuth, Germany.
E-Mail l: alcoma05@btm2x3.mat.uni-bayreuth.de
Tel/Fax: 49 921 553382
Web: http://www.mathe2.uni-bayreuth.de/ALCOMA05/
Submitted by: Axel Kohnert
E-Mail: kohnert@uni-bayreuth.de

April 04 - 07, 2005

Mathematics 2005
Liverpool, England

Topic: Incorporating the British Mathematical Colloquium and the British Applied Mathematics Colloquium.

Organized by: Professor Peter Giblin and Professor Hugh Morton
Programme Committee: Peter Giblin, Hugh Morton, Sasha Movchan
Contact: Peter Giblin
Department of Mathematical Sciences, The University of Liverpool, L69 7ZL, England.
E-Mail: pjgiblin@liv.ac.uk
Tel/Fax: +44 151 794 4053/4061
Web: http://www.maths.liv.ac.uk/maths2005

Remarks: Supported by the London Mathematical Society, the Engineering and Physical Sciences Research Council, the Institute of Mathematics and its Applications, the Edinburgh Mathematical Society, SIAM, the University of Liverpool and University College London.

Submitted by: Professor Peter Giblin
E-Mail: pjgiblin@liv.ac.uk

April 25 - 28, 2005

Analytical Methods in Number Theory, Probability Theory and Mathematical Statistics
Euler IMI, St. Petersburg, Russia

Topic: The conference dedicated to 90 anniversary of the prominent Russian mathematician Yuri V. Linnik (1915-1972). The conference will be devoted to recent achievements in branches of mathematics close to Linnik's interests. Two parallel sections are supposed: Number Theory; Probability Theory and Mathematical Statistics.

Organized by: St. Petersburg, Department of Steklov Institute of Mathematics, Euler International Mathematical Institute
E-Mail: linnik90@imi.ras.ru
Tel: +7 812 2340574; Fax: +7 812 2345819
Web: http://www.pdmi.ras.ru/EIMI/2005/Linnik90/

Deadline
Submission: March 01, 2005
Abstact submission: April 15, 2005

Submitted by: Elena Novikova
E-Mail: novikova@pdmi.ras.ru

May 09 - 20, 2005

Third Annual Spring Institute on Noncommutative Geometry and Operator Algebras in conjunction with the 20th Shanks Lecture
Vanderbilt University, Nashville, Tennesse, USA

Topic: The Third Annual Spring Institute in NCGOA is a combination of spring school and international research conference. Students and postdocs are strongly encouraged to attend the conference/school. See the conference web site for deadlines and details pertaining to funding. Shanks Lecturer: Vaughan Jones, UC Berkeley; Main speakers: Claire Anantharaman-Delaroche, University of Orlens; Alain Connes, College de France, IHES & Vanderbilt University; Vaughan Jones, UC Berkeley; Uffe Haagerup, University of Southern Denmark; Narutaka Ozawa, University of Tokyo and UCLA; Sorin Popa, UCLA; Dimitri Shlyakhtenko, UCLA; Dan Voiculescu, UC Berkeley and Feng Xu, UC Riverside.
Organized and Programme Committee: Dietmar Bisch, Alain Connes, Bruce Hughes, Gennaid Kasparov, Guoliang Yu (all at Vanderbilt University)
Contact: Dietmar Bisch or Lori Rafter
NCGOA 2005, Department of Mathematics, SC 1326, Vanderbilt University, Nashville, TN 37240, USA.
E-Mail: ncgoa05@math.vanderbilt.edu
Tel: 615 322-6672; Fax: 615 343-0215
Submit your request for financial support by April 03, 2005.
Web: http://www.math.vanderbilt.edu/~ncgoa05

May 11 - 14, 2005

Analysis Conference on the Interplay of Complex Variables, Probability and Partial Differential Equations
Washington University in St. Louis, MO, USA

Topic: In this international conference senior researchers from Europe and the United States will interact with junior scientists and graduate students from US institutions for

four days, exploring the connections between Complex Analysis (including the theory of Quasiregular and Quasiconformal Mappings), Partial Differential Equations and the Theory of Probability. The last session of the meeting, the afternoon of Saturday May 14, will be devoted to celebrate the achievements of a long standing leader in Classical Analysis, Albert Baernstein II on the occasion of his sixty-fifth birthday. The themes of the conference include recent advances in the well-known conjecture on the Lp-norm of the Beurling-Ahlfors transform, symmetrization in partial differential equations, probabilistic methods in Analysis, and extensions of classical ideas of function theory to higher dimensions.
Organized by: Washington University in St. Louis
Programme Committee: Nicola Arcozzi, Bologna; Daniel Girela, Málaga; Richard Laugesen, Urbana-Champaign; Juan Manfredi, Pittsburgh and Guido Weiss, Saint Louis.
Contact: Nicola Arcozzi or anybodyeslse in the Programme Committee
Unitversita of Biologia, Dipartmento di Matematica, Piazza di porta San Donatos 5, 40127 Bolognia, Italy.
E-Mail: arcozzi@dm.unibo.it
Tel/Fax: 39 054 267 4268
Web: http://www.math.wustl.edu/ac/

Submitted by: Nicola Arcozzi
E-Mail: arcozzi@dm.unibo.it

May 14 - 15, 2005

Conference in Honor of Heydar Radjavi's 70th Birthday
Hotel Golf, Bled, Slovenia

Topic: The conference will consist of invited and contributed talks related to Heydar Radjavi's work. Radjavi's many important contributions to linear algebra and to operator theory include his seminal characterization of self-commutators of operators on Hilbert space and his definitive trace condition for simultaneous triangularizability of semigroups of matrices which was the culmination of work on this topic by several generations of distinguished algebraists. Heydar has obtained numerous other results of broad interest on invariant subspaces, simultaneous triangularizability, products of involutions, semigroups of matrices and many other topics. It is hoped that this conference will reflect the breadth and influence of his research.
Organized by: M. Bresar, L. Grunenfelder, T. Kosir, M. Omladic, P. Rosenthal, P. Semrl.
Contact: Damjana Kokol Bukovsek
Institute of Mathematics, Physics and Mechanics, Jadranska 19, 1000 Ljubljana, Slovenia.
E-Mail: Damjana.Kokol@FMF.Uni-Lj.SI
Tel: +386 1 476 65 50; Fax: +386 1 251 72-81
Web: http://www.law05.si/hrc/
Should register by: January 15, 2005.

Submitted by: Tomaz Kosir
E-Mail: tomaz.kosir@fmf.uni-lj.si

May 17 - 20, 2005

Graph Theory with Altitude: Conference in Honor of Joan P Hutchinson on the Occasion of her 60th Birthday
Denver, Colorado, USA

Topic: Chromatic and Topological Graph Theory, Visibility Graphs, Graph Algorithms, and Combinatorics.
Organized by: Ellen Gethner, Mike Jacobson, Arta Doci, John Clark
Contact: Ellen Gethner
University of Colorado at Denver, Dept of Computer Science, Campus Box 109, Denver, CO 80217, USA.
E-Mail: egethner@carbon.cudenver.edu
Tel/Fax: 303 556 2356
Web: http://carbon.cudenver.edu/~egethner/JoanHutchinson60.html
Confirmed Plenary Speakers: Mike Albertson, Fan Chung, Ron Graham, Carsten Thomassen, Doug West, Sue Whitesides and Herb Wilf.

Submitted by: Ellen Gethner
E-Mail: egethner@carbon.cudenver.edu

May 23 - 29, 2005

International conference "Function Spaces, Approximation Theory and Nonlinear Analysis" dedicated to the 100th birthday of S.M. Nikolskii
Steklov Mathematical Institute, Moscow, Russia

Topic: On the 30th of April, 2005, the prominent mathematician S. M. Nikolskii will celebrate his 100th birthday. The Russian Academy of Sciences organizes an International Conference "Function Spaces, Approximation Theory and Nonlinear Analysis" dedicated to this event. It will be held in Moscow from May 23 to May 29, 2005. We expect about 350 actively working mathematicians to attend this conference. The conference will include plenary lectures of invited speakers and short communications arranged in three sections declared in the title: Function Spaces, Approximation Theory, and Nonlinear Analysis.
Organized by: Steklov Mathematical Instite of the Russian Academy of Sciences
Programme Committee: Yu.S. Osipov, O.V. Besov, A.G. Sergeev, V.I. Burenkov, V.A. Il'in, L.D. Kudryavtsev, S.I. Pohozaev, A.A. Skubachevskii, P.L. Ul'yanov, A.A. Shkalikov, et al.
Contact: Nikolai Andreev (scientific secretary)
Nikolskii-100 Conference, Steklov Mathematical Institute, Gubkina str. 8, 119991, Moscow, Russia
E-Mail: nik-100@mi.ras.ru
Tel/Fax: +7 095 135-05-55
Web: http://nik-100.mi.ras.ru

Submitted by: Oleg Besov
E-Mail: besov@mi.ras.ru

May 29 - June 03, 2005

Stochastic Analysis, Random Fields, and Applications
Centro Stefano Franscini, Ascona, Switzerland

Topic: Stochastic Analysis, Random Fields and Applications (May 30, 31, June 1), Minisymposium on Stochastic Methods in Financial Models (June 02, 03)
Organized by: R. Dalang, EPF, Lausanne; M. Dozzi, Nancy; F. Russo, Paris 13.
Contact: Mrs. Erika Gindraux
Ascona 2005, Institut de Mathématiques, EPF, CH-1015 Lausanne, Switzerland.
E-Mail: erika.gindraux@epfl.ch
Tel/Fax: +41 21 693 53 80

Submitted by: Dozzi, Marco
E-Mail: dozzi@iecn.u-nancy.fr

May 31 - June 03, 2005

Discrete Groups and Geometric Structures, with Applications IV
Oostende, Hotel Royal Astrid, Belgium

Topic: Recent developments concerning all interactions between group theory and geometry e.g. geometric group theory, group actions on manifolds, crystallographic groups and all possible generalizations (affine, polynomial, projective, almost-crystallographic), discrete subgroups of Lie groups, Main invited talks by: Oliver Baues, Karlsruhe; Yves Benoist, Paris; Martin Bridson, London; Benson Farb, Chicago; Oscar Garcia-Prada, Madrid; Etienne Ghys, Lyon; Domingo Toledo, Salt Lake City.
Organized by: Algebra Research Team, K.U.Leuven Campus Kortrijk, Belgium
Programme Committee: Yves Felix, Louvain-la-Neuve; William Goldman, College Park; Fritz Grunewald, Düsseldorf; Paul Igodt, Leuven/Kortrijk; Kyung Bai Lee, Norman.
Contact: Paul Igodt, Department of Mathematics, K.U. Leuven Campus Kortrijk, E. Sabbelaan 53, B-8500 Kortrijk, Belgium.
E-Mail: workshop@kulak.ac.be
Tel/Fax: +32 (0)56 24 69 99
Web: http://www.kulak.ac.be/workshop

Submitted by: Paul Igodt
E-Mail: Paul.Igodt@kulak.ac.be

June 01 - 07, 2005

Constructive Theory of Functions
Varna, Bulgaria

Topic: The whole spectrum of Approximation Theory and its applications
Organized by: Institute of Mathematics and Informatics of BAS, University of Sofia
Programme Committee: Walter van Assche, Leuven; Borislav Bojanov, Sofia; Zbigniew Ciesielski, Gdansk; Werner Haussmann, Duisburg; Blagovest Sendov, Sofia; A. Shadrin, Cambridge; J. Szabados, Budapest; V. Tikhomirov, Moscow.
Contact: Professor Dr. Borislav Bojanov
Department of Mathematics, University of Sofia, 5 James Bourchier Boulevard, 1164 Sofia, Bulgaria.
E-Mail: boris@fmi.uni-sofia.bg
Tel/Fax: +359 2 868 70 81
Web: http://www.math.bas.bg/CTF-2005

Submitted by: Geno Nikolov
E-Mail: geno@fmi.uni-sofia.bg

June 01 - 30, 2005

Mathematical Problems and Techniques in Cryptography
Centre de Recerca Matemàtica

Organized by: Centre de Recerca Matemàtica, Bellaterra, Spain
Programme Committee: Carles Padró and Jorge Villar (UPC)
E-Mail: nportet@crm.es

Web: http://www.crm.es/ Conferences/0405/Cryptology/Cryptology.htm

Submitted by: ERCOM-Database
E-Mail: nportet@crm.es

June 02 - 10, 2005

Seventh International Conference on Geometry, Integrability and Quantization
Sts. Constantine and Elena resort (near Varna), Bulgaria

Topic: This seventh edition of the conference aims like the previous ones to bring together experts in the Classical and Modern Differential Geometry, Complex Analysis, Mathematical Physics and related fields in order to assess recent developments in these areas and to stimulate research in intermediate topics.
Organized by: Ivailo M. Mladenov, Sofia; Allen Hirshfeld, Dortmund and Manuel de Leon, Madrid.
Programme Committee: F. Calogero, Roma; V. Gerdjikov, Sofia; M. Gurses, Ankara; B. Konopelchenko, Lecce; A. Odzijewicz, Bialystok.
Contact: I. M. Mladenov: mladenov@obzor.bio21.bas.bg; A. C. Hirshfeld: hirsh@physik.uni-dortmund.de; Manuel de Leon: mdeleon@imaff.cfmac.csic.es
International Conference on Geometry, Integrability and Quantization, Institute of Biophysics, Bulgarian Academy of Sciences, Acad. G. Bonchev Str., Bl. 21, 1113 Sofia, Bulgaria.
E-Mail: mladenov@obzor.bio21.bas.bg
Tel: +3592 979 26 37; Fax: +3592 971 24 93
Web: http://www.bio21.bas.bg/conference/

Submitted by: Ivailo M. Mladenov
E-Mail: mladenov@obzor.bio21.bas.bg

June 06 - 10, 2005

International Mediterranean Congress of Mathematics Almería 2005
Almería, Spain

Topic: The scientific program of the congress will consist of 3 plenary lectures (by F. Catanese, A. Quarteroni, and E. Zelmanov) and 9 thematic sessions: Algebras and their Representations; Geometry and Topology; Approximation, Special Functions and Numerical Analysis; Functional Analysis and its Applications; General Topology and its Applications; Probabilistic Spaces, Copulae and T-norms. Applications; Random Models and Design of Experiments; Financial Mathematics and Mathematical Economics; Mathematics Education.
Organized by: University of Almería
Web: http://www.ual.es/Congresos/CIMMA20 05

Submitted by: CIMMA 2005
E-Mail: cimma05@ual.es

June 06 - 11, 2005

14th Summer St. Petersburg Meeting in Mathematical Analysis
Euler IMI, St. Petersburg, Russia

Organized by: St. Petersburg Department of Steklov Institute of Mathematics, Euler International Mathematical Institute
Contact: Organizing Committee
E-Mail: analysis@pdmi.ras.ru

Tel/Fax: +7 812 2340574; +7 812 2345819
Web: http://www.pdmi.ras.ru/EIMI/2005/analysis14

Submitted by: Elena Novikova
E-Mail: novikova@pdmi.ras.ru

June 08 - 10, 2005

Eleventh Conference on Integer Programming and Combinatorial Optimization (IPCO XI)
Berlin, Germany

Topic: The IPCO conference is held every year, except for those years in which the "Symposium on Mathematical Programming" takes place. The conference is meant to be a forum for researchers and practitioners working on various aspects of integer programming and combinatorial optimization. The aim is to present recent developments in theory, computation, and applications in that area.
Organized by: Mathematical Programming Society
Programme Committee: Michael Juenger (chair)
E-Mail: ipco05@math.tu-berlin.de
Web: http://www.math.tu-berlin.de/ipco05
Submission deadline: November 15, 2004

Submitted by: Volker Kaibel
E-Mail: kaibel@math.tu-berlin.de

June 08 - 12, 2005

CiE 2005 - Computability in Europe: New Computational Paradigms
University of Amsterdam

Topic: A conference which focuses on some of the new research developments in the fields of mathematics, theoretical computer science and science more widely, related to computability and its applications. In particular, there will be an emphasis on links between different areas of research in logic, computability and computer science, and, particularly, recent work related to new computational paradigms.
Organized by: Computability in Europe, and the Institute for Logic, Language and Computation, University of Amsterdam.
Programme Committee: K. Ambos-Spies, A. Atserias, S.B. Cooper, S. Goncharov, B. Loewe, D. Normann, H. Schwichtenberg, I. Soskov, L. Torenvliet, J. Tucker, J. van Benthem, P. van Emde Boas, J. Wiedermann.
Contact: Benedikt Loewe
ILLC, Universiteit van Amsterdam, Plantage Muidergracht 24, 1018 TV Amsterdam, The Netherlands.
E-Mail: bloewe@science.uva.nl
Tel: 31 20 525 6071; Fax: 31 20 525 5206
Web: http://www.illc.uva.nl/CiE/CiE2005.html

Submitted by: S. Barry Cooper
E-Mail: pmt6sbc@leeds.ac.uk

June 12 - 18, 2005

Workshop on Harnack Inequalities and Positivity for Solutions of Partial Differnetial Equations
Cortona, Italy

Programme Committee: Ugo Gianazza, Vincenzo Vespri, Jose' Miguel Urbano
Contact: Ugo Gianazza
Dipartimento di Matematica F. Casorati, via Ferrata 1, 27100 Pavia PV, Italy
E-Mail: gianazza@imati.cnr.it
Tel/Fax: +39 0382 985653; +39 0382 985602
Web: http://www-dimat.unipv.it/harnack05

Submitted by: Ugo Gianazza
E-Mail: gianazza@imati.cnr.it

June 13 - 18, 2005

Computational Methods and Function Theory (CMFT 2005)
Joensuu, Finland

Topic: The general theme of the meeting concerns various aspects of interaction of complex variables and scientific computation, including related topics from function theory, approximation theory and numerical analysis.
Organized by: Department of Mathematics, University of Joensuu
Programme Committee: St. Ruscheweyh, Würzburg; E.B. Saff, Nashville; O. Martio Helsinki and I. Laine, Joensuu.
Contact: Ilpo Laine
University of Joensuu, P.O. Box 111, FIN-80101 Joensuu, Finland.
E-Mail: cmft@joensuu.fi
Tel: +358 13 251 4599
Web: http://www.joensuu.fi/cmft/

Submitted by: Laine, Ilpo
E-Mail: cmft@joensuu.fi

June 13 - 25, 2005

CIMPA Summer School/Arithmetic and Geometry Around Hypergeometric Functions
Galatasaray University, Istanbul, Turkey

Topic: Hypergeometric differential equaitons, ball-quotients and related moduli problems, relations with real hyperbolic geometry, line arrangements, generalizations of hypergeometric stystems, GKZ equations and KZ equations.
Organized by: A. Muhammed Uludag
Programme Committee: O. Ceyhan, MPIfM; O. Kisisel, METU; L. Chaumard, GSU; A. Ulus, GSU.
Contact: A. Muhammed Uludag
Galatasaray University, Department of Computer Science, Ciragan Cad. No: 36 PK 34357 Ortakoy/Istanbul
E-Mail: muludag@gsu.edu.tr
Tel/Fax: +90 532 610 31 45
Web: http://agahf.gsu.edu.tr
Remarks: Some financial support will be available for research students from the neighbouring countries of Turkey.

Submitted by: A. Ulus
E-Mail: aulus@gsu.edu.tr

June 14 - 17, 2005

Third MIT Conference on Computational Fluid and Solid Mechanics
MIT, Boston, USA

Topic: Session: Preconditiones Methods, Applications and Software Envoronments
Organized by: Session Organizer: Dr. George A. Gravvanis
Contact: For the Session: Dr. George A. Gravvanis
Tel: +30-210-3368024; Fax: +30-210-3368025
Web: http://www.thirdmitconference.org
Deadline for submission of Abstracts: April 15, 2005
Notification of acceptance of Abstracts: June 14-17, 2005

Submitted by: George A. Gravvanis
E-Mail: gravvanis@eap.gr

June 15 - 18, 2005

Algebratic and Topological Methods in Non-Classical Logics II
Barcelona

Topic: In recent years the interest in non-classical logics has been growing. Motivations from computer science, natural language reasoning and linguistics have played a significant role in this development. The semantic study of non-classical logics is a field where no single overarching paradigm has been established, and where a variety of techniques are currently being explored. An important goal of this meeting is to promote the cross-fertilization between the fundamental ideas connected with these approaches. Thus, we aim to bring together researchers from various fields of non-classical logics and applications, as well as from lattice theory, universal algebra, category theory and general topology, in order to foster collaboration and further research. The featured areas include, but are not limited to, the following (in alphabetical order): Algebraic logic, Coalgebraic semantics, Categorical semantics in general, Dynamic logic and dynamic algebras, Fuzzy and many-valued logics, Lattices with operators, Modal logics, Ordered topological spaces, Ordered algebraic structures, Residuated structures, Substructural logics, Topological semantics of modal logic.
Organized by: Josep Maria Font, Àngel Gil, José Gil, Joan Gispert, Carles Noguera, Antoni Torrens and Ventura Verdú.
Programme Committee: Leo Esakia, Mai Gehrke, Petr Hájek, Ramon Jansana, Hiroakira Ono, Constantine Tsinakis, Yde Venema and Michael Zacharyaschev.
E-Mail: mathlog@ub.edu
Web: http://www.mat.ub.es/~logica/meeting2005/
Submission of contributed papers: 30 March 2005
Acceptation of contributed papers: 30 April 2005
Travel grant applications: 30 March 2005

Submitted by: Carles Noguera
E-Mail: cnoguera@iiia.csic.es

June 17 - 23, 2005

Algebraic Geometry and Number Theory
Euler IMI, St. Petersburg, Russia

Organized by: St. Petersburg Department of Steklov Institute of Mathematics, Euler International Mathematical Institute, St. Petersburg State University.
Contact: Sergei Vostokov

E-Mail: sergei@SV1005.spb.edu
Tel: +7 812 2340574; Fax: +7 812 2345819
Web: http://www.pdmi.ras.ru/EIMI/2005/AG/

Submitted by: Elena Novikova
E-Mail: novikova@pdmi.ras.ru

June 20 - 23, 2005

Session of The 2005 International Conference on Algorithmic Mathematics and Computer Science (AMCS'05)
Las Vegas, USA

Topic: Sessiom on Hight Performance Mathematical Computations and Grid-Computations. Topics of the session: Topics of interest include, but not limited to, the following: Advanced Parallel and Distributed Computations, Grid Computational methods, Software Environments (MPI, High Performance Fortran, Java, etc), Libraries and Programming Languages. Computational applications in engineering.
Contact: Dr. George A. Gravvanis
Web: http://www.world-academy-of-science.org/WCAC2005/ws
Submission of papers: March 21, 2005
Notification of acceptance: April 20, 2005
Camera-Ready papers & Prereg. Due: June 20-23, 2005:

Submitted by: George A. Gravvanis
E-Mail: ggravvan@ee.duth.gr

June 20 - 24, 2005

Second Conference on Self-Similarity and Applications
Insa Toulouse, Toulouse, France

Topic: We would like to offer a large overview on self-similarity and its applications.
Programme Committee: M. Ledoux, A. Benassi, A. Estrade, P. Flandrin, J. Istas, S. Jaffard, J. Lévy-Véhel, M. Taqqu.
Contact: Serge Cohen
E-Mail: Serge.Cohen@math.ups-tlse.fr
Web: http://www.lsp.ups-tlse.fr/Autosim05/indexa.html

Submitted by: Céline Lacaux
E-Mail: lacaux@math.ups-tlse.fr

June 20 - 25, 2005

FPSAC'05: 17th International Conference on Formal Power Series and Algebraic Combinatorics
Taormina, Sicily, Italy

Topic: All aspects of combinatorics and their relations with other parts of mathematics, physics, computer science and biology.
Organized by: H. Barcelo, USA; L. Carini, Italy; V. De Filippis, Italy; M. Delest, France; J-M. Fédou, France; A. Goupil, Canada; E.M. Li Marzi, Italy; F. Mignosi, Italy; J. Morse, USA; G. Restuccia, Italy; J-Y. Thibon, France.
Contact: Luisa Carini
Dipartimento di Matematica, Università di Messina, Salita Sperone 31,
98166 Messina, Italy.
Tel: 39 090 6765074; Fax: 39 090 393502

Web: http://www.unime.it/fpsac05

Submitted by: Luisa Carini
E-Mail: lcarini@dipmat.unime.it

June 20 - 26, 2005

Sixth International Conference "Symmetry in Nonlinear Mathematical Physics"
Kiev, Ukraine

Topic: Symmetries of differential equations, Integrable and superintegrable systems, Symbolic computations in symmetry analysis, Dynamical systems, solitons, Supersymmetry and its generalizations, Quantum field theory, Lie groups and algebras, representation theory and special functions, q-algebras, quantum groups and noncommutative geometry, Gravitation, cosmology, quantum gravity, Condensed matter and statistical physics, Nonlinear phenomena and quantum chaos.
Organized by: Institute of Mathematics, National Academy of Sciences of Ukraine, Kyiv, Kiev, Ukraine.
Contact: Anatoly Nikitin
Institute of Mathematics, National Academy of Sciences of Ukraine,
3 Tereshchenkivska Street, Kyiv 4, 01601 Ukraine.
Tel: +38 044 234 63 22; Fax: +38 044 235 20 10
Web: http://www.imath.kiev.ua/~appmath/conf.html
Deadline for Registration: May 20, 2005

Submitted by: Anatoly Nikitin
E-Mail: appmath@imath.kiev.ua

June 20 - July 08, 2005

Random Matrices, Random Processes and Integrable Systems
Centre de recherches mathématiques, Université de Montréal

Topic: This program is intended to emphasize the remarkable relations between two a priori different domains: random matrices and integrable systems. The relations between random matrix models and the theory of classical integrable systems have long been studied. These appear mainly in the deformation theory, when parameters characterizing the measures or the domain of localization of the eigenvalues are varied. The resulting differential equations determining the partition function and correlation functions are, remarkably, of the same type as certain equations appearing in the theory of integrable systems. They may be analysed effectively through methods based upon the Riemann-Hilbert problem of analytic function theory and related approaches to the study of nonlinear asymptotics in the large N limit. Associated to studies of matrix models are certain stochastic processes, the "Dyson processes", and their continuum diffusion limits, which govern the spectrum in random matrix ensembles, and may also be studied by related methods. Correlation functions between eige alues of random matrices also have close similarities to those in integrable quantum spin systems and many body models. There are also remarkable connections to further probabilistic problems such as random words, tilings and partitions, as well as to growth processes, both random and deterministic.
Organized by: Centre de recherches mathématiiques, Univ. de Montréal
Programme Committee: J. Harnad, J. Hurtubise
Contact: J. Harnad
Centre de recherches mathématiques, Univ. de Montréal, C.P. 6128, succursale centre-ville, Montréal, QC Canada H3C 3J7.

Tel/Fax: +1 514 343 2491
Web: http://omega.crm.umontreal.ca/~physmath/home.dir/RANDOM.dir/random-workshop.html
Deadline for application: May 01, 2005
Financial support (young researchers only): March 1, 2005

Submitted by: J. Harnad
E-Mail: harnad@crm.umontreal.ca

June 21 - 24, 2005

International Workshop on Function Theory in Seoul
Seoul, Korea

Topic: Operator-related function theory and related topics
Organized by: Boorim Choe, Hyungwoon Koo, HeungSu Yi, Young Joo Lee
E-Mail: iwft05@korea.ac.kr
Web: http://math.korea.ac.kr/~iwft2005/

Submitted by: Young Joo Lee
E-Mail: yjlee@mokpo.ac.kr

June 26 - 29, 2005

SDS'05 - Structural Dynamical Systems: Computational Aspects
Monopoli-Bari-Italy

Topic: The aim of this workshop is discussing recent developments in computational methods for dynamical systems in linear algebra, control theory and inverse problems; dynamical systems and gradient flows; dynamical systems on manifolds and Lie groups; dynamical systems with inequality constraints and with variable structure. Numerical and theoretical methods will both be welcome.
Organized by: Luciano Lopez
Programme Committee: Luciano Lopez, Nicoletta Del Buono, Tiziano Politi
Contact: Nicoletta Del Buono, Dipartimento di Matematica
E-Mail: delbuono@dm.uniba.it
Tel/Fax: +39 080 544 2722
Web: http://www.dm.uniba.it/~delbuono/sds2005.htm

Submitted by: Luciano Lopez
E-Mail: lopezl@dm.uniba.it

June 26 - July 01, 2005

ERLOGOL-2005 Intermediate problems of Model theory and universal algebra
Altai Mountain, Russia

Topic: This conference take place any odd year from 1995 in the camping center in the mountains of Altai. It is devoted to some problems of Model theory and universal algebra. But we shall be glad to see participants from any field of algebra and math logic.
Organized by: Novosibirsk State technical university and Mathematics institute of Russian Academy of Sciences.
Programme Committee: Co-chairman: Prof.K.N.Ponomarev, Prof. A.G.Pinus,
Prof. V.D.Mazurov; Secretaries S.V.Sudoplatov, V.G.Puzarenko
Contact: Konstantin Ponomarev
Algebra and Logic, Dep/NSTU, pr.K.Marx, Novosibirsk-92, Russia 630092.
E-Mail: algebra@nstu.ru

Tel: 007 383 2 461166; Fax: 007 383 2460109
Web: http://www2.nstu.ru/deps/algebra/erlogol

Submitted by: Konstantin Ponomarev
E-Mail: ponomarev@posef.or.kr

June 27 - 30, 2005

Session of The 2005 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA05)
Las Vegas, USA

Topic: Session on High Performance Computing in Computational Science and Applications Topics of the session: Topics of interest include, but not limited to, the following: Advanced Parallel and Distributed Algorithms, Architectures for Scientific Computing, Parallel Language Techniques and Software Environments (MPI, PVM, High Performance Fortran, Java, etc). Computational Applications in engineering, geometry, fluid dynamics and mechanics, environment and energy systems, chemistry, physics, biology, finance, economics, risk analysis, bio-informatics, medical, reliability engineering, weather and climate forecasting, semiconductor simulation, etc. Scientific Data Mining and Information Retrieval, Computer Graphics and Image Processing, Scientific Visualization and Virtual Reality.
Contact: Dr George A. Gravvanis
Web: http://www.world-academy-of-science.org/IMCSE2005/ws/PDPTA
Feb. 16, 2005: Submission of papers
March 21, 2005: Notification of acceptance
April 20, 2005: Camera-Ready papers & Prereg

Submitted by: George A. Gravvanis
E-Mail: ggravvan@ee.duth.gr

July 01 - 07, 2005

Second International Conference Logic, Algebra and Geometry
Euler IMI, St. Petersburg, Russia

Topic: The conference is devoted to the recently discovered deep interactions between different traditional areas of mathematical logic (model theory, descriptive and combinatorial set theory) and some hot topics in mainstream algebra and geometry.
Organized by: St. Petersburg Department of Steklov Institute of Mathematics, Euler International Mathematical Institute
Contact: Organizing Committee
E-Mail: lag@imi.ras.ru
Tel: +7 812 2340574; Fax: +7 812 2345819
Web: http://www.pdmi.ras.ru/EIMI/2005/2 lag/

Submitted by: Elena Novikova
E-Mail: novikova@pdmi.ras.ru

July 02 - 09, 2005

Mile High Conference on Quasigroups, Loops and Nonassociative Systems
University of Denver, Denver, Colorado

Topic: nonassociative mathematics, quasigroups, loops, and related topics
Organized by: Department of Mathematics, University of Denver

Programme Committee: Kenneth Johnson, Eric Moorhouse, J. D. Phillips, Petr Vojtechovsky.
Contact: Petr Vojtechovsky, Departmenf of Mathematics, University of Denver, 2360 S Gaylord St, Denver, CO 80208, USA.
E-Mail: milehigh@math.du.edu
Tel/Fax: 0013 0387 13314
Web: http://www.math.du.edu/milehigh

Submitted by: Petr Vojtechovsky
E-Mail: petr@math.du.edu

July 05 - 09, 2005

Workshop on Optimization in Finance
Coimbra, Portugal

Topic: Optimization models and methods play an increasingly important role in financial decision making. Many problems in quantitative finance, originating from asset allocation, risk management, derivative pricing, and model fitting, are now routinely and efficiently solved using modern optimization techniques. This workshop will bring together researchers in the rapidly growing field of financial optimization and intends to provide a forum for innovative models and methods on new topics, novel approaches to well-known problems, success stories, and computational studies in this exciting field. Participants are encouraged to present and discuss their recent work and new, possibly controversial, approaches are particularly welcome. The targeted audience for this workshop includes graduate students and faculty members working in applied mathematics, operations research, and economics, who have been interested in mathematical finance or plan to do so. The workshop will also be attractive for those doing quantitative modeling in the financial market. Invited speakers to the workshop include: J. R. Birge, Northwestern University; T. F. Coleman, Cornell University; H. Konno, Chuo University, Japan; J. M. Mulvey, Princeton University; R. T. Rockafellar, University of Washington; N. Touzi, Crest, France; S. A. Zenios, University of Cyprus. A one-day short-course, intended for optimization researchers interested in quantitative finance as well as finance researchers and practitioners interested in optimization models and methods, will precede the scientific program of the workshop. Short-course lectures will be delivered by Reha Tutuncu (Robust Optimization in Finance) and Stanislav Uryasev (Deviation versus Risk). Invited and contributed presentations will be scheduled during the remaining three days.

Abstract: by April 1, 2005;
Notification of acceptance will occur before: May 01, 2005.
Organized by: CIM, Center for International Mathematics & School of Economics, University of Coimbra.
Programme Committee: A. M. Monteiro, R. H. Tutuncu, and L. N. Vicente
Contact: Ana Margarida Monteiro / TT2005
Faculdade de Economia, Universidade de Coimbra, 3004-512 Coimbra, Portugal.
Tel/Fax: + 351 239 790525
Web: http://www.mat.uc.pt/tt2005/of

Submitted by: Luis Nunes Vicente
E-Mail: tt05_of@mat.uc.pt

July 05 - 15, 2005

Geometry of the Word Problem for Finitely Generated Groups
Centre de Recerca Matemàtica

Topic: Numerical Analysis and Scientific Computing
Organized by: Centre de Recerca Matemàtica, Bellaterra, Spain.
Programme Committee: Josep Burillo and Enric Ventura, UPC
Web: http://www.crm.es/Conferences/0405/WordProblem/WordProblem.htm

Submitted by: ERCOM-Database
E-Mail: nportet@crm.es

July 06 - 08, 2005

13th INFORMS Applied Probability Conference
Ottawa, Canada

Web: http://appliedprob.society.informs.org/ottawaconf.html
Submitted by: Douglas Down
E-Mail: downd@mcmaster.ca

July 06 - 09, 2005

1st International Conference on Experiments/Process/System Modelling /Simulation/Optimization (1st IC-EpsMsO)
Athens, Greece

Topic: Acoustics and Vibrations, Aeronautics and Astronautics, Applied Mathematics, Artificial Intelligence, Automation, Banking and Finance, Biomechanics/Biomedicine, Car Industry, CFD, Chemical Engineering, Civil Engineering, Components and Instrumentation, Computational Mathematics and Applications, Dynamical Systems and Celestian Mechanics, Earthquake and Seismic Analysis, Economics and Management, Electrical Engineering, Energy Systems, Environmental Systems, Expert Systems, Food Industry, Industrial Engineering Integrating Manufacturing, Marine and Off-Shore Control, Mechanical Engineering, Medicine, Nanotechnology and Microsystems, Neural Networks, Optimization Methods and Applications, Production Industry, Robotics, Signal Processing, Telecommunications, Textile Industry, Transportation Systems, Utilities.
Organized by: Laboratory of Fluid Mechanics and Energy (LFME), University of Patras, Greece.
Programme Committee: Chairman: Professor Demos T. Tsahalis
Contact: Ifanti Assimina
Laboratory of Fluid Mechanics and Energy, P.O. Box 1400, University of Patras, 26500 Patras, Greece.
Tel: +30 2610 996343; Fax: +30 2610 997267
Web: http://epsmso.upatras.gr

Submitted by: Assimina Ifanti
E-Mail: epsmso@upatras.gr

July 07 - 09 2005

Mathematical Learning from early Childhood to Adulthood
Mons, Belgium

Topic: From early childhood, human beings learn mathematics, either alone or with the help of someone else. Such a long learning period involves many processes, depending on many parameters. Some of these originate in the learner: his or her age, previous knowledge and the civilisation in which he or she lives. Others depend on the domain that is being learned, the reasons why it is learned and its applications. The colloquium aims at confronting research results on such subjects. The emphasis will be on synthetic views, guidelines and a structured view of continuous learning.
Organized by: Centre de Recherche sur Enseignement des Mathématiques
Programme Committee: Bernard Hodgson, JeanPierre Kahane, Nicolas Rouche, Alan Schoenfeld, David Tall, Erich Wittman.
Contact: Centre de Recherche sur l'Enseignement des Mathématiques, Rue Vandervelde 5, B 1400 Nivelles, Belgium.
E-Mail: crem@sec.cfwb.be
Tel/Fax: 32 67 212527
Web: http://www.profor.be/crem/colloque.htm

Submitted by: Guy Noël
E-Mail: guy.noel@umh.ac.be

July 10 - 15, 2005

Sampling Theory and Application (SampTA05)
Ondokuz Mayýs University, Faculty of Arts and Sciences, Turkey

Topic: Objective: The objective of SampTA05 International Conference is to bring together mathematians, engineers and applied scientists interested in sampling theory and its applications to exchange results in the following areas: Topics include ,but not limited to: Nonuniform sampling; Numerical methods and fast numerical algorithms ; Sampling and interpolation in spline-type spaces; Effective bandwidth and noise reduction; Frames,non-orthogonal expansions and applications; Greedy algorithms and thresholding methods; Radial basis functions; Wavelet and Gabor methods in sampling theory; Sampling topics related to wavelet and Gabor theory.
Organized by: A.Turan Gürkanli, Ondokuz Mayis University Faculty of Arts and Sciences; (Chair), Yasemin Yardimci, Middle East Technical University Faculty of Engineering; Serap Öztop, Istanbul University Faculty of Science; Özgür Yilmaz, University of British Columbia, Department of Mathematics; Cenap Duyar, Ondokuz Mayis University Faculty of Arts and Sciences; Birsen Saðýr Duyar, Ondokuz Mayis University Faculty of Arts and Sciences; F.Talay Akyýldýz, Ondokuz Mayis University Faculty of Arts and Sciences.
Contact: A.Turan Gurkanli, Ondokuz Mayýs University, Faculty of Arts and Sciences, Department of Mathematics, Samsun, Turkey.
E-Mail: sampta05@omu.edu.tr
Tel/Fax: +903 624 576043
Web: http://sampta05.omu.edu.tr/

Submitted by: A.Turan Gürkanli
E-Mail: gurkanli@omu.edu.tr

July 10 - 16, 2005

Stochastic Modelling of Complex Systems (SMOCS-05)
Daydream Island resort, Whitsundays, Queensland, Australia

Topic: The Fourth National Symposium on Financial Mathematics will be an organic part of the Conference. Other topics include, but are not limited to: mathematical and

statistical foundations of complex systems; Markov processes and related models; Monte Carlo methods; stochastic networks; discrete random processes and randomised algorithms; applications to telecommunications etc. One of the conference sessions will be dedicated to the 80th birthday of Professor Joe Gani.
Organized by: ARC Centre of Excellence for Mathematics and Statistics of Complex Systems.
Contact: Jen Westphal
E-Mail: sa-conference@unimelb.edu.au
Tel/Fax: +61 3 8344 6107
Web: http://www.conferences.unimelb.edu.au/smocs05/index.html

Submitted by: Kostya Borovkov
E-Mail: K.Borovkov@ms.unimelb.edu.au

July 11 - 15, 2005

Summer School on geometric and algebraic approaches for Integer Programming
Lisbon, Portugal

Topic: The School is composed by five set of lectures, designed to introduce young researchers to the more recent advances on geometric and algebraic approaches for integer programming. Each set of lectures will be about six hours long. They will provide the background, introduce the theme, describe the state-of-the-art, and suggest practical exercises. The organizers will try to provide a relaxed atmosphere with enough time for discussion. Integer programming is a field of optimization with recognized scientific and economical relevance. The usual approach to solve integer programming problems is to use linear programming within a branch-and-bound or branch-and-cut framework, using whenever possible polyhedral results about the set of feasible solutions. Alternative algebraic and geometric approaches have recently emerged that show great promise. In particular, polynomial algorithms for solving integer programs in fixed dimension have recently been developed. This is a hot topic of international research, and the School will be an opportunity to bring up-to-date knowledge to young researchers. The School is composed by five lectures, designed to introduce young researchers to the more recent advances on geometric and algebraic approaches for integer programming. Each lecture will be about three hours long. They will provide the background, introduce the theme, describe the state-of-the-art, and suggest practical exercises.
Organized by: Center for International Mathematics & School of Science, University of Lisbon
Programme Committee: M. Constantino, L. Gouveia, and R. Weismantel
Contact: Professor Miguel Constantino / TT2005
Departamento de Estatística e Investigação Operacional, Faculdade de Ciências da Universidade de Lisboa, Edifício C6, Campo Grande, 1749-016 Lisboa, Portugal.
Tel/Fax: +351 21 7500010
Web: http://www.mat.uc.pt/tt2005/ss

Submitted by: Luis Nunes Vicente
E-Mail: tt05_ss@mat.uc.pt

July 12 - 15, 2005

International Conference on Semigroups and Languages
Lisbon, Portugal

Topic: The Conference will be dedicated to Semigroups and Languages - two topics strongly interconnected, with applications, namely, in other branches of Mathematics and in Computer Science. The Conference will be held at the time of Professor Donald McAlister's 65th birthday. Professor McAlister has had, and continues to have, an enormous and crucial impact in the development of various areas of Semigroup Theory, such as the theory of inverse semigroups and, more recently, the theory of finite semigroups of transformations.
Organized by: CAUL, Centro de Álgebra da Universidade de Lisboa.
Programme Committee: Jorge André, FCTUNL/CAUL; Mário Branco, FCUL/CAUL; Vitor Hugo Fernandes, FCTUNL/CAUL; John Fountain, Univ. York; Gracinda M.S. Gomes, FCUL/CAUL; John Meakin, Univ. Nebraska, CAUL, Av. Prof. Gama Pinto, 2, 1649-003 Lisboa, Portugal.
Tel: +351 217 904 739; Fax: +351 217 954 288
Web: http://caul.cii.fc.ul.pt/csl2005/

Submitted by: Patrícia Paraíba
E-Mail: patricia@cii.fc.ul.pt

July 16-August 01, 2005

The eighth International Diffiety school
Santo Stefano del Sole, Avellino, Italy

Topic: The aim of the School is to introduce undergraduate and Ph. D. students in Mathematics and Physics as well as post-doctoral researchers in a recently emerged area of Mathematics and Theoretical Physics: Secondary Calculus. A diffiety is a new geometrical object that properly formalizes the concept of the solution space of a given system of (nonlinear) PDEs, much as an algebraic variety does with respect to solutions of a given system of algebraic equations. Secondary Calculus is a natural diffiety analogue of the standard Calculus on smooth manifolds, and as such leads to a very rich general theory of nonlinear PDEs. Moreover, it appears to be the unique natural language for quantum physics, just as the standard Calculus is the natural language for classical physics.
Organized by: Difiety Institute, Russia
Contact: Prof. A. M. Vinogradov
Dipartimento di Matematica e Informatica, Università di Salerno, Via Ponte del Melillo, 84084 Fisciano (SA), Italy.
E-Mail: school05@diffiety.org
Web: http://diffiety.ac.ru
Deadline: June 15, 2005

Submitted by: Michael Vinogradov
E-Mail: vin@diffiety.ac.ru

July 20 - 22, 2005

Workshop on Optimization in Medicine
Coimbra, Portugal

Topic: The study of computing in medical applications has opened many challenging issues and problems for both the medical computing and mathematical communities. This workshop is intended to foster communication and collaboration between researchers in the medical computing community and researchers working in applied mathematics and optimization. Mathematical techniques (continuous and discrete) are playing a key role with increasingly importance in understanding several fundamental

problems in medicine. For instance, mathematical theory of nonlinear dynamics and discrete optimization has been used to predict epileptic seizures. Next to stroke, epilepsy is among the most common disorders of the nervous system. Measures derived from the theory of nonlinear dynamics and discrete optimization techniques are used for prediction of impending epileptic seizures from analysis of multielectrode electroencephalographic (EEG) data. Several examples of the use of mathematics in medicine can be found in recent cancer research. Sophisticated mathematical models and algorithms have been used for generating treatment plans for radionuclide implant and external beam radiation therapy. With Gamma Knife treatment, for example, optimization techniques have been used to automate the treatment planning process. Optimization has been used to address a variety of medical image registration problems. In particular, specialized mathematical programming techniques have been used in a variety of domains including the rigid alignment of primate autoradiographs and the non-rigid registration of cortical anatomical structures as seen in MRI.
Abstract: April 30, 2005. Notification of acceptance will occur before May 20, 2005.
Organized by: Center for International Mathematics & Institute of Biomedical Research in Light and Image, Univ. of Coimbra.
Programme Committee: C. Alves, A. L. Custódio, P. M. Pardalos, and L. N. Vicente
Contact: Professor Luís Nunes Vicente / TT2005, Departamento de Matemática, Universidade de Coimbra, 3001-454 Coimbra, Portugal.
Tel/Fax: +351 239 791199
Web: http://www.mat.uc.pt/tt2005/om

Submitted by: Luis Nunes Vicente
E-Mail: tt05_om@mat.uc.pt

July 26 - 29, 2005

Workshop on PDE Constrained Optimization
Tomar, Portugal

Topic: Optimization problems governed by partial differential equation (PDE) constraints arise in many important applications. Progress in computational and applied mathematics combined with the availability of rapidly increasing computer power steadily enlarges the range of applications that can be simulated numerically and for which optimization tasks, such as optimal design, parameter identification, and control are being considered. For most of these optimization problems, simple approaches combining off-the-shelf PDE solvers and optimization algorithms often lack robustness or can be very inefficient. Successful solution approaches have to overcome challenges arising from, e.g., the increasing complexity of applications and their mathematical models, the influence of the underlying infinite dimensional problem structure on optimization algorithms, and the interaction of PDE discretization and optimization. This workshop will combine a wide range of topics important to PDE constrained optimization in an integrated approach, fusing techniques from a number of mathematical disciplines including functional analysis, optimal control theory, numerical optimization, numerical PDEs, and numerical analysis and application specific structures.
Abstract: April 30, 2005. Notification of acceptance will occur before May 20, 2005.
Organized by: Center for International Mathematics
Programme Committee: L. M. Fernandes, M. Heinkenschloss, and L. N. Vicente
Contact: Professor Luís Merca Fernandes
TT2005 Escola Superior de Tecnologia de Tomar, Quinta do Contador, Estrada da Serra, 2300-313 Tomar, Portugal.

Tel/Fax: +351 249 328187
Web: http://www.mat.uc.pt/tt2005/pde

Submitted by: Luis Nunes Vicente
E-Mail: tt05_pde@mat.uc.pt

August 01 - December 23, 2005

Pattern Formation in Large Domains
Isaac Newton Institute for Mathematical Sciences

Topic: Mathematical Physics
Organized by: Isaac Newton Institute for Mathematical Sciences (Cambridge, UK)
Web: http://www.newton.cam.ac.uk/programs/PFD/pfd.html

Submitted by: ERCOM-Database
E-Mail: s.wilkinson@newton.cam.ac.uk

August 07 - 12, 2005

International Conference - Mathematics in Finance
South Africa

Topic: The main objective of the conference is to bring together academics, practitioners and graduate students who are working in the broad field of financial mathematics. It is envisaged that participants who are at the forefront of the area will reflect on current open problems and relevant challenges and that they will indicate directions for future research. It is hoped that the interplay between theory and practice as well as issues relating to the dissemination of knowledge and the teaching in this field will be discussed. The conference will focus on various aspects within the field, with special attention given to the interaction between the different areas and in particular emphasizing the role of mathematics and statistics. Topics that would be covered include among others: Stochastic models Modern methods of risk analysis Quantitative and computational models and methods Methods of financial mathematics; in particular the role of measure theory, functional analysis and modern stochastics in Finance
Organized by: The International Conference on Mathematics in Finance will be hosted by the University of the North West, The University of Pretoria and The University of the Witwatersrand.
Programme Committee: Professor Johan Swart, University of Pretoria
Contact: Johan Swart, University of Pretoria, Department of Mathematics and Applied Mathematics, Pretoria University, South Africa.
E-Mail: mif@math.up.ac.za
Tel/Fax: 27 12 420 2520
Web: http://www.mif.up.ac.za/

Submitted by: Prof D Taylor
E-Mail: mfinance@cam.wits.ac.za

August 14 - 19, 2005

International Conference on Complex Analysis and Related Topics. The 10^{th} Romanian-Finnish Seminar
Cluj-Napoca, Romania

Topic: Complex analysis and related topics. The following sections will be included: Analytic functions of one complex variable; Quasiconformal mappings and

Teichmueller spaces; Several complex variables; Potential theory; Functional analytical methods in complex analysis.
Organized by: Institute of Mathematics "Simion Stoilow" of the Romanian Academy, the Faculty of Mathematics and Informatics of the University of Bucharest, the Faculty of Mathematics and Informatics of the "Babes-Bolyai" University of Cluj-Napoca, in cooperation with the Universities of Helsinki, Joensuu and Jyvaskyla from Finland.
Contact: Prof. Dr. Lucian Beznea, Institute of Mathematics "Simion Stoilow" of the Romanian Academy. Complex Analysis and Related Topics c/o Institute of Mathematics "Simion Stoilow" of the Romanian Academy P.O. Box 1-764, 014700, Bucharest, Romania
E-Mail: rofinsem@imar.ro
Tel/Fax: +40 21 212 51 26

Submitted by: Prof. Dr. Lucian Beznea
E-Mail: Lucian.Beznea@imar.ro

August 14 - 21, 2005

The Fourth International Conference on Differential and Functional Differential Equations and Workshop
Moscow, Russia

Topic: The conference will be devoted to classical topics of the theory of differential equations and different kinds of nonlocal interactions: bifurcations, ordinary differential equations, analytic aspects of dynamical systems, spectral theory, partial differential equations in functional spaces, linear and nonlinear problems of mathematical physics, semigroups of operators, asymptotic methods, singularly perturbed systems, attractors of evolution equations, boundary-value problems and nonlocal problems, functional differential equations and applications.
Organized by: The Steklov Mathematical Institute of the Russian Academy of Sciences, the Lomonosov Moscow State University, and the Moscow Mathematical Society
Contact: Alexander Skubachevskii
Moscow State Aviation Institute, Volokolamskoe shosse, 4, Moscow, A-80, GSP-3, 125993, Russia.
E-Mail: dfde2005@mi.ras.ru
Tel: 7 095 158 48 44; Fax: 7 095 158 29 77
Web: http://dfde2005.mi.ras.ru

Submitted by: Alexander L. Skubachevskii
E-Mail: skub@lector.ru

August 17 - 21, 2005

Third Pacific Rim Conference on Mathematics
Fudan University, Shanghai, China

Topic: All areas of mathematics with focus topics on: Algebra and Combinatorics; Algebraic Aspects of Lie Theory and Geometry; Applied Differential Geometry; Asymptotics and Riemann-Hilbert Problems; Computational Approach to Complex Dynamical Systems; Kinetic Theory; Low Dimensional Topology and Geometry; Nonlinear Analysis?Nonlinear Phenomena, Symmetry and Integrable Structures; Partial Differential Equations and Applications.
Contact: Zhou Chunlian, Sino-French Institute of Applied Mathematics, Fudan University. Sino-French Institute of Applied Mathematics, Fudan University, Shanghai 200433, China.

E-Mail: clzhou@fudan.edu.cn
Tel: 81 21 6564 2469; Fax: 86 21 6564 8274
Web: http://PRCM3.fudan.edu.cn

Submitted by: Maggie Mak
E-Mail: mclbj@cityu.edu.hk

September 05 - 10, 2005

17th Czech and Slovak International Conference on Number Theory
Czech Republic

Topic: Commutative algebra, elementary, analytical, algebraic number theory and their applications.
Organized by: University of Ostrava
Address: Department of Mathematics, Faculty of Science, University of Ostrava, 30. Dubna 22, 700 30 Ostrava, Czech Republic.
Web: http://albert.osu.cz/~ntconf/

Submitted by: Juraj Kostra
E-Mail: kostra@osu.cz

September 05 - 11, 2005

Classical and quantum gravity in 3 dimensions
Centro di Ricerca Matematica Ennio De Giorgi, Pisa

Topic: Differential Geometry, Topology, Others
Organized by: Centro Di Ricerca Matematica Ennio De Giorgi, Pisa, Italy
Programme Committee: Riccardo Benedetti, Pisa; Kirill Krasnov, Nottingham; Joerg Teschner, Berlin.
Web: http://www.crm.sns.it/3d.html

Submitted by: ERCOM-Database
E-Mail: crm@crm.sns.it

September 12 - 15, 2005

Third International Workshop Meshfree Methods for Partial Differential Equations
Bonn, Germany

Topic: The numerical treatment of partial differential equations with meshfree discretization techniques has been a very active research area in recent years. While the fundamental theory of meshfree methods has been developed and considerable advances of the various methods have been made, many challenges in the mathematical analysis and practical implementation of meshfree methods remain. The growing interest in meshfree and particle methods is in part due to the fact that these methods are very flexible numerical tools and can be interpreted in a number of ways. For instance, meshfree methods can be viewed as a natural extension of classical finite element and finite difference methods to scattered node configurations with no fixed connectivity. Furthermore, meshfree methods have some advantageous features which are especially attractive when dealing with multiscale phenomena: A-priori knowledge about particular local behavior of the solution can be introduced easily in the meshfree approximation space, and an enrichment of a coarse scale approximation with fine scale information is possible in a seamless fashion. In many areas of application, the use of a classical macroscale model does not give results within the accuracy required today.

Hence, multiscale simulations are becoming more and more important. Here, two different approaches, the hierarchical information passing approach and the concurrent coupling approach, are of great interest in today's multiscale research. The goal of this workshop is to bring together an international group of researchers from different fields, inside and outside mathematics, to report on the recent developments in meshfree and multiscale particle methods. The workshop shall provide an open forum for the exchange of ideas on modelling issues, on the analysis of meshfree methods as well as on issues concerning the efficient implementation of meshfree and particle methods. While contributions in all aspects of meshfree and particle methods are invited, the key topics of this workshop will be: multiscale particle models and simulations, coupling of particle models to continuum models, hybrid methods, coupling of meshfree and mesh-based methods, quantum mechanical, atomistic, and molecular models and their applications, industrial engineering applications of meshfree and particle methods, implementational issues of meshfree and particle methods, analysis of meshfree and particle methods. The four day workshop program will consist of invited lectures, contributed papers and poster sessions.
Organized by: Ivo Babu Úka, Ted Belytschko, Michael Griebel, Helmut Neunzert, Harry Yserentant
Programme Committee: Ivo Babu Úka, Ted Belytschko, Michael Griebel, Helmut Neunzert, Harry Yserentant
Contact: Marc Alexander Schweitzer
Institut für Numerische Simulation, Universität Bonn, Wegelerstraße 6, D-53115 Bonn, Germany.
Fax: +49 228 737527
Web: http://wissrech.ins.uni-bonn.de/meshfree
Deadlines: May 01, 2005 Early Registration and Abstract Submission August 1, 2005 Confirmation and Program.

Submitted by: Marc Alexander Schweitzer
E-Mail: meshfree@ins.uni-bonn.de

September 12 - 19, 2005

Nonlinear Partial Differential Equations
Alushta, Crimea, Ukraine

Topic: Qualitative properties of solutions of nonlinear elliptic and parabolic equations; Degenerate nonlinear elliptic and parabolic equations and their applications in mathematical physics; Blow-up and singularities for quasilinear elliptic and parabolic equations; Homogenization problems for nonlinear PDE; Free boundary problems
Organized by: Institute of Applied Mathematics and Mechanics of the National Academy of Sciences of Ukraine.
Contact: Ju.V. Namleeva, Institute of Applied Mathematics and Mechanics of NAS of Ukraine, R. Luxembourg St. 74, 83114 Donetsk, Ukraine.
Tel: 38 062 311 03 91; Fax: 38 062 311 02 85
Web: http://www.iamm.ac.donetsk.ua/npde2005.html

Submitted by: I.V.Skrypnik
E-Mail: NPDE2005@iamm.ac.donetsk.ua

September 12 - 19, 2005

Small Deviation Probabilities and Related Topics
Euler IMI, St. Petersburg, Russia

Topic: The aim of the conference is to bring together outstanding researchers working on small deviation probabilities and in related fields of probability analysis, and applied mathematics such as stochastic processes, approximation theory, quantization, spectral theory of operators etc.
Organized by: St. Petersburg Department of Steklov Institute of Mathematics, Euler International Mathematical Institute
E-Mail: smalldev@euler.pdmi.ras.ru
Tel: +7 812 2340574; Fax: +7 812 2345819
Web: http://www.pdmi.ras.ru/EIMI/2005/sd/

Submitted by: Elena Novikova
E-Mail: novikova@pdmi.ras.ru

September 15 - 18, 2005

International Conference on Theory and Applications of Mathematics and Informatics-ICTAMI 2005
Alba Iulia, Romania

Organized by: "1 December 1918" University of Alba Iulia, The Mathematical Institute of the Romanian Academy, Alexander the Great Technological Institute of Thessalonik.
Contact: Daniel Breaz, "1 December 1918" University of Alba Iulia, Alba, str. N. Iorga, No. 11-13, 510009, Romania.
Tel/Fax: 004 0258 811512
Web: http://www.uab.ro/ictami2005

Submitted by: Daniel Daniel
E-Mail: dbreaz@uab.ro

September 16 - 20, 2005

International Conference of Numerical Analysis and Applied Mathematics 2005 (ICNAAM 2005)
Rhodes, Greece

Topic: All the research areas of Numerical Analysis and Computational Mathematics (Numerical ODEs, Numerical PDEs (inc. BVPs), Scientific Computing and Algorithms, Stochastic Differential Equations, Approximation, Numerical Linear Algebra, Numerical Integral Equations, Error Analysis and Interval Analysis, Difference Equations and Recurrence Relations, Numerical problems in Dynamical Systems, Applications to the Sciences (Computational Physics, Computational Statistics, Computational Chemistry, Computational Engineering etc.), Differential Algebraic Equations, Numerical methods in Fourier analysis etc) All the research areas of Applied Mathematics(Mathematical Physics, Mathematical Chemistry, Mathematical Biology and Mathematical Medicine, Optimization and Operational Research, Theoretical Mechanics, Discrete Applied Mathematics, Statistics, Probability, Dynamical Systems, Algorithms, Experimental Mathematics, Theoretical Computer Science, Applied Analysis, Mathematical Modelling (including but not limited to mathematical modelling of engineering and environmental processes, manufacturing, and industrial systems, heat transfer, fluid mechanics, CFD, and transport phenomena; solid mechanics and mechanics of metals; electromagnets and MHD; reliability modelling and system optimization; decision sciences in an industrial and manufacturing context; civil engineering systems and structures; mineral and energy resources; relevant software engineering issues associated with CAD and CAE; and materials and metallurgical engineering, mathematical modelling of social, behavioral!

and other sciences), Decomposition and Reconstruction Algorithms, Subdivision Algorithms, Continuous and Discrete Wavelet Transform, Time-frequency Localization, Phase-Space An ysis, Subband Coding, Image Compression, Real-Time Filtering, Radar and Sonar Applications, Transient Analysis, Medical Imaging, Multigrid Methods, Frames, Bifurcation and Singularity Theory, Deterministic Chaos and Fractals, Soliton and Coherent Phenomena, Formation of Pattern, Evolution, Complexity Theory and Neural Networks, Analytical Approaches and Simulations for more Accurate Descriptions, Predictions, Experimental Observations and Applications of Nonlinear Phenomena in Sc nce and Engineering, Theoretical and Applied aspects of Computational Geometry, Control Theory and Automation, Fuzzy Sets and Systems and Fuzzy Logic, Applied Algebra, Quality Theory of Differential Equations, Neural Networks , etc.
Organized by: European Society of Computational Methods in Sciences and Engineering (ESCMCE)

Contact
Secretary ICNAAM, Mrs Eleni Ralli-Simou
26 Menelaou Street, Amfithea-Paleon Faliro, Athens GR-175 64, Greece.
E-Mail: icnaam@uop.gr
Tel: +30210 94 20 091; Fax : +302710 237 397
Web: http://www.uop.gr/~icnaam/
Deadlines: June 30, 2005 Submission of Extended Abstract.
June 30, 2005 Final Date Notification of acceptance.
July 10, 2005 Submission of the source files of the camera ready extended abstracts to Wiley-VCH.
July 20, 2005 Final Date Submission of the full paper for consideration for publication in the journals.

Submitted by: Prof. T.E. Simos
E-Mail: tsimos@mail.ariadne-t.gr

September 20 - 27, 2005

International Conference: Harmonic Analysis and Approximations, III
Tsahkadzor, Armenia

Organized by: Institute of Mathematics of Armenian National Academy of Sciences, Yerevan State University
Contact: Artur Sahakian, Institute of Mathematics, Marshal Bagramian ave, 24-B, 375019, Yerevan, Armenia.
E-Mail: mathconf@ysu.am
Tel/Fax: 3741 524801
Web: http://math.sci.am
Organizing Committee: G. Gevorgian, A. Sahakian, A. Hakobyan, M. Poghosyan
Arrival Date: September 20, 2005.
Departure Date: September 27, 2005.
Deadline for Application: March 31, 2005

The following mathematicians have agreed to give a plenary lecture at the conference: Borislav Bojanov, Bulgaria; Carl de Boor, USA; Ronald DeVore, USA; Nira Dyn, Israil; Hakop Hakopian, Armenia; Kazaros Kazarian, Spain; Gerard Kerkyacharian, France; Sergey Konyagin, Russia; Michael Lacey, USA; Konstantin Oskolkov, USA; Allan Pinkus, Israil; Gerald Shmieder, Germany; Przemyslaw Wojtaszczyk, Poland.

Those who are interested in participation in the conference should send the Preliminary Registration Form till March 31, 2005.

Submitted by: Michael Poghosyan
E-Mail: michael@ysu.am

September 22 - 24, 2005

7th Hellenic European Research on Computer Mathematics & its Applications Conference (HERCMA 2005)
Athens, Greece

Contact: Prof. E.A. Lipitakis
E-Mail: eal@aueb.gr
Web: http://www.aueb.gr/conferences/hercma2005/
Deadline: For the submission of the extended abstract: 20 February, 2005
For mini-symposia proposals: 20 February, 2005
Notification of acceptance: 10 April, 2005
For the submission of the complete paper: 30 May, 2005
For the early payment (Registration): 30 May, 2005

Submitted by: George A. Gravvanis
E-Mail: ggravvan@ee.duth.gr

October 05 - 08, 2005

Workshop on Statistics in Genomics and Proteomics
Estoril, Portugal

Topic: Probability and Stochastics
Organized by: Centro Internacional de Matemática, Coimbra, Portugal
Programme Committee: Wolfgand Urfer, Dortmund Univ.; Terry Speed California Univ.; M. Antónia Amaral Turkman and Luisa Loura, Lisbon Univ.
E-Mail: ivette.gomes@fc.ul.pt
Web: http://wsgp.deio.fc.ul.pt/

Submitted by: ERCOM-Database
E-Mail: ivette.gomes@fc.ul.pt

December 14 - 16, 2005

CRAMS-05 International Conference on Applied Nonharmonic Fourier Analysis
BCU, Beirut, Lebanon

Topic: The conference commemorates the Riemann-Lebesgue Lemma Centennial. Its major themes include, but not limited to: multidimensional localization principle, generalized Tauberian theory, time-frequency-scale multiresolution analysis, the Segal Bargmann transform, Gabor wavelets and frames, invertibility of Gabor transforms, functional analysis of Gabor frames, almost periodic and recurrent functional analysis, reversed filtration and regularization, connections with functional equations and tiling theory, nonlinear filter theory, analysis with fractal measures, signal reconstruction in communication theory, and fast numerical algorithms.
Organized by: Nassar H. S. Haidar (Director of CRAMS), (Chair)
Programme Committee: Scientific Committee (Tentative): Akram Aldroubi, Sui Cheng, Sever Dragomir, Gerasimos Ladas, Nassar Haidar, Charles Pearce.
Contact: N. H. S. Haidar, Address: Business & Computer University College (BCU), Commodore Str, Hamra, Beirut, Lebanon.

E-Mail: crams@hnu-crams.org
Tel: 961 1 736 511; Fax: 961 1 340 219
Web: http://www.hnu-crams.org/ann.html
Deadline for submitting Abstracts: May 15, 2005
Notification of acceptance: July 15, 2005
Full-length paper submission: Sept. 15, 2005

Submitted by: N. H. S. Haidar
E-Mail: crams@hnu-crams.org

March 01 - July 31, 2006

Stochastic Analysis, Stochastic Partial Differential Equations and Applications to Fluid Dynamics and Particle Systems
Centro Di Ricerca Matematica Ennio De Giorgi, Pisa, Italy

Topic: Probability and Stochastics, PDE and Potential Theory
Organized by: Centro Di Ricerca Matematica Ennio De Giorgi, Pisa, Italy.
Programme Committee: G. Da Prato, F. Flandoli, G. Jona-Lasinio, E. Pardoux, M. Roeckner.
Web: http://www.crm.sns.it/stochastic/

Submitted by: ERCOM-Database
E-Mail: crm@crm.sns.it

July 02 - 07, 2006

ICOTS 7, International Conference on Teaching Statistics
Salvador (Bahia), Brazil

Topic: Working Cooperatively in Statistics Education
Organized by: International Association for Statistical Education
Programme Committee: Carmen Batanero (Chair)
Contact: Carmen Batanero
E-Mail: batanero@ugr.es
Tel: 349 582 43950; Fax: 349 5824 6359
Web: http://www.maths.otago.ac.nz/icots7

Submitted by: Carmen Batanero
E-Mail: batanero@ugr.es

MFO

Mathematisches Forschungsinstitut Oberwolfach

Meetings at 2005

February 27 - March 05, 2005

Regelungstheorie
Organisers: Frank Allgöwer, Stuttgart; Uwe Helmke, Würzburg; Huibert Kwakernaak, Enschede

March 06 - 12, 2005

Groups and Geometries
Organisers: Martin Liebeck, London; Bernhard Mühlherr, Bruxelles; Gernot Stroth, Halle-Wittenberg

March 13 - 19, 2005

Enveloping Algebras and Geometric Representation Theory
Organisers: Shrawan Kumar, Chapel Hill; Peter Littelmann, Wuppertal; Wolfgang Soergel, Freiburg

March 20 - 26, 2005

Mathematical Logic: Proof Theory, Type Theory and Constructive Mathematics
Organisers: Samuel R. Buss, La Jolla; Yiannis N. Moschovakis, Los Angeles; Helmut Schwichtenberg, München

March 27 - April 02, 2005

Free Probability Theory
Organisers: Philippe Biane, Paris; Roland Speicher, Kingston; Dan Voiculescu, Berkeley

April 10 - 16, 2005

Discrete Geometry
Organisers: Martin Henk, Magdeburg; Jiri Matousek, Prague; Emo Welzl, Zürich

April 17 - 23, 2005

Optimal Control of Coupled Systems of PDE
Organisers: Karl Kunisch, Graz; Günter Leugering, Erlangen; Jürgen Sprekels, Berlin; Fredi Tröltzsch, Berlin

April 24 - 30, 2005

Kommutative Algebra
Organisers: Winfried Bruns, Osnabrück; Hubert Flenner, Bochum; Craig Huneke, Lawrence

May 08 - 14, 2005

Stochastic Analysis and Non-Classical Random Processes
Organisers: Jean-Dominique Deuschel, Berlin; Wendelin Werner, Orsay; Ofer Zeitouni, Minneapolis

May 22 - 28, 2005

Schnelle Löser für partielle Differentialgleichungen
Organisers: Randolph E. Bank, La Jolla; Wolfgang Hackbusch, Leipzig; Gabriel Wittum, Heidelberg

May 29 - June 04, 2005

Nonlinear Evolution Problems
Organisers: Klaus Ecker, Berlin; Jalal Shatah, New York; Michael Struwe, Zürich

June 05 - 11, 2005

Complexity Theory
Organisers: Joachim von zur Gathen, Paderborn; Oded Goldreich, Rehovot; Claus-Peter Schnorr, Frankfurt; Madhu Sudan, MIT

June 12 - 18, 2005

Geometric Topology and Connections with Quantum Field Theory
Organisers:Peter Teichner, La Jolla; Stephan Stolz, Notre Dame

June 19 - 25, 2005

Algebraische Zahlentheorie
Organisers: Christopher Deninger, Münster; Peter Schneider, Münster; Anthony J. Scholl, Durham

June 26 - July 02, 2005

Topological and Variational Methods for Differential Equations
Organisers: Thomas Bartsch, Giessen; E. Norman Dancer, Sydney

July 03 - 09, 2005

Real Analysis, Harmonic Analysis and Applications to PDE
Organisers: Detlef Müller, Kiel; Elias M. Stein, Princeton

July 10 - 16, 2005

Dynamical Systems
Organisers: Helmut W. Hofer, New York; Jean-Christophe Yoccoz, Paris; Eduard Zehnder, Zürich

July 17 - 23, 2005

Explicit Methods in Number Theory
Organisers: Henri Cohen, Talence; Hendrik W. Lenstra, Jr, Leiden; Don B. Zagier, Bonn

July 24 - 30, 2005

Partielle Differentialgleichungen
Organisers: Tom Ilmanen, Zürich; Reiner Schätzle, Bonn; Neil Trudinger, Canberra

July 31 - August 06, 2005

Dynamical System Methods in Fluid Dynamics
Organisers: Jerrold E. Marsden, Pasadena; Jürgen Scheurle, München

August 07 - 13, 2005

Differentialgeometrie im Großen
Organisers: Bernhard Leeb, München; Paul Seidel, Chicago; Gang Tian, MIT

August 21 - 27, 2005

Analysis and Geometric Singularities
Organisers: Jochen Brüning, Berlin; Rafe Mazzeo, Stanford; Paolo Piazza, Roma

August 21 - 27, 2005

Mathematical Population Genetics
Organisers: Ellen Baake, Greifswald; Warren Ewens, Philadelphia; Anton Wakolbinger, Frankfurt

August 28 - September 03, 2005

C*-Algebren
Organisers: Claire Anantharaman-Delaroche, Orleans; Siegfried Echterhoff, Münster; Uffe Haagerup, Odense; Dan Voiculescu, Berkeley

September 04 - 10, 2005

Cohomology of Finite Groups: Interactions and Applications
Organisers: Alejandro Adem, Madison; Jon F. Carlson, Athens; Hans-Werner Henn, Strasbourg

September 11 - 17, 2005

Arakelov Geometry
Organisers: Jean-Benoit Bost, Orsay; Klaus Künnemann, Regensburg; Damian Roessler, Zürich

September 18 - 24, 2005

Analysis and Quantum Theory
Organisers: Volker Bach, Mainz; Jan Derezinski, Warszawa; Jan-Philip Solovej, Kobenhavn

September 25 - October 01, 2005

Low-Dimensional Manifolds
Organisers: Michel Boileau, Toulouse; Klaus Johannson, Frankfurt; Peter Scott, Ann Arbor

October 16 - 22, 2005

Statistische und Probabilistische Methoden der Modellwahl
Organisers: James O. Berger, Durham; Holger Dette, Bochum; Gabor Lugosi, Barcelona; Axel Munk, Göttingen

October 23 - 29, 2005

Noncommutative Geometry and Quantum Field Theory
Organisers: Sergio Doplicher, Rom; Mario Paschke, Leipzig; Rainer Verch, Leipzig; Eberhard Zeidler, Leipzig

October 30 - November 05, 2005

Reactive Flow and Transport Through Complex Systems
Organisers: Cornelius J. van Duijn, Eindhoven; Andro Mikelic, Villeurbanne; Christoph Schwab, Zürich

November 06 - 12, 2005

Combinatorial Optimization
Organisers: Rainer E. Burkard, Graz; David Shmoys, Ithaca; Uwe Zimmermann, Braunschweig

November 27 - December 03, 2005

Heat Kernels, Stochastic Processes and Functional Inequalities
Organisers: Thierry Coulhon, Cergy; Bruno Franchi, Bologna; Takashi Kumagai, Kyoto; Karl-Theodor Sturm, Bonn

December 04 - 10, 2005

Set Theory
Organisers: Sy Friedman, Vienna; Menachem Magidor, Jerusalem; Hugh Woodin, Berkeley

December 11 - 17, 2005

Mathematics in the Physical Sciences, 1650-2000
Organisers: Niccolo Guicciardini, Siena; Tinne Hoff Kjeldsen, Roskilde; David E. Rowe, Mainz

Web: http://www.mfo.de

CISM - Programm 2005

Advanced School

June 13 - 17, 2005
Mechanical Vibration: Where Do We Stand?
Elishakoff, Boca Raton, USA

June 27 - July 01, 2005
Analysis and Control of Mixing with a Application to Micro and Macro Flow Processes
L. Cortelezzi, Montreal, Canada; I. Mezic, Santa Barbara, USA

July 04 - 08, 2005
Multi scale Modelling and Design of New Materials
T.I. Zohdi, Berkeley, USA

July 04 - 08, 2005
Multi scale Modelling of Plasticity and Fracture by means of Dislocation Mechanics
P. Gumbsch, Karlsruhe, Germany; R. Pippan, Leoben, Austria

July 11 - 15, 2005
Waves in Geophysics
J. Grue, Oslo, Norway

July 18 - 22, 2005
Atmospheric Convection: Research and Operational Forecasting Aspects
D.B. Giaiotti, ARPA-OSMER, Udine, Italy; R. Steinacker, University of Vienna Austria; F. Stel, ARPA-OSMER, Udine, ltaly

July 18 - 22, 2005
Thin Films of Soft Matter
S. Kalliadasis, Leeds, UK; U. Thiele, Dresden, Germany

July 25 - 29, 2005
Fluid Dynamics of Cavitation and Cavitating Turbopumps
L. d'Agostino, Pisa, ltaly; M. V. Salvetti, Pisa, ltaly

September 19 - 23, 2005
Boiling Heat Transfer and Boiling Equipment
P. Di Marco, Pisa, Italy

September 26 - 30, 2005
Mixed Finite Element Technologies
C. Carstensen, Berlin, Germany; P. Wriggers, Hannover, Germany

October 03 - 07, 2005
Flow and Transport in Micro-channels-fundamental Theoretical Aspects and Experimental Methods
P. Erhard, Karlsruhe, Germany

October 10 - 14, 2005
Dynamic Methods for Damage Detection in Structures
A. Morassi, Udine, ltaly

International School

September 12 - 16, 2005

Dispersion of Particles in Turbulent Flows
A. Soldati, Udine, ltaly

National Advanced Professional Training

Februar 24 - 26 / March 10 -12, 2005

Tecniche di Analisi, Consolidamento, Rinforzo e Miglioramento Sismico di Edifici Storici
Coordinated by: E. Giuriani, Università di Brescia; A. Benedetti, Università di Bologna

CISM
Palazzo del Torso - Piazza Garibaldi, 18, 33100 Udine, Italy
Tel.: +39 0432 248511
Fax: +39 0432 248550
E-Mail: cism@cism.it
Web: http://www.cism.it

Weitere Wissenschaftliche Veranstaltungen

Tagungsjahr 2005

March 20 - 25, 2005

ICF 11
11th International Conference on Fracture
Turin, Italy

The International Conference on Fracture was founded in 1965. It is the premier organization for promotion cooperation among scientists and engineers worldwide in mechanics and mechanisms of fracture, fatigue and strength of solids. Over the years, ICF has made considerable progress in providing an international forum for highlighting individual and national accomplishments in the field of fracture mechanics.

Papers for oral presentation will be welcome in all aspects of fracture:

High temperature fracture, Fatigue and fracture, Creep and corrosion fracture, Brittle fracture, Ductile fracture, Dynamic, high-strain rate or impact fracture, Damage mechanics, Failure analysis, Nonlinear fracture mechanics, Computational fracture mechanics, Debonding of coatings or interfaces, Structural integrity, Experimental fracture mechanics, Nondestructive examination, Metallic materials, Concrete and reinforced concrete, Rocks, Polymers, Ceramics, Composites, Ice.

Additional fundamental issues and more advanced topics will be also considered. Special Sessions or Mini-Symposia will be organized. They may involve:

Scaling laws and size-effects, Nano-, micro- or meso-scale fracture mechanics, MEMS, Physical models of fracture, Aging of materials, Industrial sustainability and materials deterioration, Electric and electronic materials, Thin films, Superconductors, Smart materials and structures, Fracture of biological materials, Geophysical and tectonic problems, Durability of civil structures and infrastructures, Damage and restoration of monumental and historical buildings, Safety limits and fracture mechanics.

Professor Alberto Carpinteri ICF11 Chairman, c/o Centro Congressi Internazionale s.r.l., Via Cervino, 60 - 10155 Torino, Italy.

Tel.: + 39 011 2446911; Fax + 39 011 2446900
E-Mail: info@congressiefiere.com
Web: http://www.icf11.com

April 04 - 06, 2005

Thirteenth Conference on Finite Elements for Flow Problems
Swansea, Wales, United Kingdom

The Finite Elements for Flow Problems Conference Series is now entering its fourth decade. In 2005, the Conference will return to the University of Wales at Swansea, which was the location of the first Conference in the Series in 1974. The Conference aims to bring together researchers, practical engineers and students who are engaged in all aspects of the computer modelling of flow, and flow related, phenomena.

Contact
Professor O. Hassan, Civil and Computational Engineering Centre, School of Engineering, University of Wales Swansea, Singleton Park, Swansea SA2 8PP, UK.

Tel. +44 1792 295251; Fax +44 1792 295676
E-Mail: o.hassan@swansea.ac.uk
Web: http://www.swansea.ac.uk/fef05

April 23 - May 01, 2005

IPSI BgD Multidisciplinary, Interdisciplinary and Transdisciplinary Conferences
Carcassonne, France

The upcoming IPSI BgD Multidisciplinary, Interdisciplinary, and Transdisciplinary Conferences take place on two consecutive weekends, in two nearby locations in April 2005. The first IPSI-2005 FRANCE will take place in Carcassonne, France, a UNESCO World Heritage City. It begins on April 23 and ends April 26, 2005. The second one, IPSI-2005 SPAIN will take place in Costa Brava, Spain (near Barcelona) and begins April 28 and ends on May 01, 2005.

All IPSI BgD conferences are non-profit and take place in some of the most attractive places of the world. They bring together global scientists, including seven Nobel Laureates who have spoken at the opening ceremonies. The conferences stress multidisciplinary, interdisciplinary, and transdisciplinary research (M.I.T. research) and the speakers and activities at the conferences truly support this type of scientific interaction.

Topics
Of interest include, but are not limited to: Internet, Computer Science and Engineering, Mobile Communications/Computing for Science and Business, Management and Business Administration, Education, e-Medicine, e-Oriented Bio Engineering/Science and Molecular, Engineering/Science, Environmental Protection, e-Economy, e-Law, Technology Based Art and Art to Inspire Technology Developments, Internet Psychology.

Dr. V. Milutinovic
E-Mail: hawaii2005@vreme.yubc.net
Web: http://www.asph.org/document.cfm?page=131

April 25 - 26, 2005

2. NAFEMS CFD Seminar:
Die Simulation komplexer Strömungsvorgänge (CFD), Simulation of Complex Flows (CFD)
Niedernhausen bei Wiesbaden

NAFEMS ist eine gemeinnützige Organisation zur Förderung der sicheren und zuverlässigen Anwendung von Simulationsmethoden wie der Finite-Elemente-Methode (FEM). 1983 in Großbritannien gegründet, hat sich die Organisation längst in eine internationale Gesellschaft zur Förderung der rechnerischen Simulation entwickelt. Mit NAFEMS ist die neutrale und von Software- und Hardwareanbietern unabhängige Institution entstanden. Sie vertritt die Interessen der FEM-Anwender aus der Industrie, bindet Hochschulen und Forschungsinstitute in ihre Tätigkeit ein und hält Kontakt zu Systemanbietern. NAFEMS hat über 650 Mitgliedunternehmen und -Institutionen in 41 Ländern und ist seit 1996 auch in Deutschland präsent. Um die Aktivitäten von NAFEMS im deutschsprachigen Raum neutral zu leiten und die nationalen Belange innerhalb der NAFEMS zu vertreten, wurde ein Lenkungsausschuss etabliert.

WERBOS GbR, NAFEMS Kontakt DACH, Schillerstraße 6, D-85567 Grafing b. München

Tel.: +49 (0) 80 92 - 8 35 50; Fax +49 (0) 80 92 - 8 35 51
E-Mail: info@nafems.de
Web: www.nafems.de; www.nafems.org

May 17 – 20, 2005

NAFEMS World Congress 2005
Island of Malta

After the success of the 2003 U.S.A. Congress, NAFEMS moves to European shores for the most important event in the Analysis and Simulation Calendar. The conference will bring together world leading industrial practitioners, consultancies, academic researchers and software developers with a common interest in engineering analysis. The event will provide an exclusive insight into established methods and best practices, along with a vision of how future technologies will have an ever increasing impact on the product development process. This will be the 10th international conference organised by NAFEMS. These conferences are widely held to provide a forum for presenting a unique combination of innovative techniques and best practice methods. A wide range of leading industrial experts, along with academic researchers at the forefront of the simulation field, will assemble together. Knowledge and experience will be exchanged, enabling those present to further develop their understanding of current best practices and the future state of the art.

Conference Themes
The conference will be organised around five main themes and a number of sub-themes. We are inviting papers from all areas of engineering simulation, and are not limiting topics to those outlined here.
- Practical Applications of Simulation
- Analysis as an Engineering Tool
- Simulation Techniques & Technologies
- Successful Use of Analysis through Effective Training
- Numerical Methods

E-Mail: anne@nafems.org
Web: www.nafems.org/congress

May 22 - 25, 2005

ICCS 2005: 5th International Conference on Computational Science
Emory University Atlanta, USA

The theme for ICCS 2005 is “Advancing Science through Computation”, to mark several decades of progress in computational science theory and practice, leading to greatly improved applications science.
Original contributions not exceeding 8 pages are invited for publication and oral presentation. All accepted papers will be printed in the conference proceedings published by Springer-Verlag in the Lecture Notes in Computer Science series. Selected papers will also be published as special issues of appropriate journals.

Topics
ICCS 2005 invites original contributions on all topics related to computational science, including, but not limited to: Scientific Computing, Problem Solving Environments, Advanced Numerical Algorithms, Complex Systems: Modeling and Simulation, Hybrid Computational Methods, Computational Science in Data Mining/Information Retrieval, Web- and Grid-based Simulation and Computing, Parallel and Distributed Computing, Visualization in Computational Science, Applications of Computation as a Scientific

Paradigm, New Algorithms for Computational Kernels and Applications, Education in Computational Science.

Deadlines
Early registration: March 30, 2005

Scientific Chair: Vaidy Sunderam
Workshops Chair: Dick van Albada
Overall Co-chair: Jack Dongarra
Overall Chair: Peter M.A. Sloot

E-Mail: iccs2005@mathcs.emory.edu
Web: http://www.iccs-meeting.org/

May 26 - 29, 2005

Sixth International Congress on Thermal Stresses and Related Fields: Thermal Stresses 2005
Vienna University of Technology, Austria

The International Congress on Thermal Stresses is affiliated to IUTAM.
The objective of the Congress is to provide a forum for engineers and scientists engaged in industrial applications and basic research in the field of thermal stresses to exchange ideas and to extend further cooperation among the participants. The Congress enables researchers and engineers to meet at one place, where they present their papers and conduct discussions. Proceedings are published.

Scope
The Congress will feature invited lectures and presentations of contributed papers. Provisional sessions are as follows: Thermal Stresses and Deformations, Thermoelasticity and - viscoelasticity, Thermo-plasticity and -viscoplasticity, Thermal Stresses in Fracture, Cracking and Fatigue, Active & Passive Control in High Temperature Structures, Thermal Shock, Engineering Approaches to High/Low Temperature Design, Anisotropic Thermomechanical Problems, Thermal Stresses in Dynamic Problems, Inverse and Optimization Methods for Thermal Problems, Thermal Stresses in Materials and Forming Processes, Thermal Stresses and Mechanical Problems in Electronic Packaging, Heat Conduction and / or Radiation Problems, Computational Methods in Thermal Stresses, Experimental Methods in Thermal Stresses, Instabilities and Localization under Thermomechanical Loadings, Thermodynamics in Porous Media, Coupled Thermal & Electromechanical Effects, Time-Dependent Thermomechanical Effects, Thermal Problems at Moving Interfaces, Fluid-Solid-Phase.

General Chair: Professor Dr. Franz Ziegler, Department of Civil Engineering (E201), Vienna University of Technology, Wiedner-Hauptstr. 8-10, A-1040 Wien, Austria.

Tel.: +43 1 58801 201 10; Fax +43 1 58801 201 99
E-Mail: franz.ziegler@tuwien.ac.at
Web: http://info.tuwien.ac.at/ts2005

June 01 - 03, 2005

25th Yugoslav Congress on Theoretical and Aplied Mechanics
Novi Sad, Serbia and Montenegro

The Yugoslav Society of Mechanics (YSM) invites you to attend the 25th Yugoslav Congress on Mechanics in Novi Sad on 01-03 June 2005 and present your achieve-

ments in the following Congress topics: General Mechanics, Fluid Mechanics, Mechanics of Deformable Bodies, Interdisciplinary and Multidisciplinary Problems.

Congress Secreatariat, FTN, Congress of Mechanics, Trg D. Obradovica 6, 21000 Novi Sad, Serbia & Montenegro.

Tel.: +381 21 350 122 ext. 815, Fax: +381 21 458 133
E-Mail: congress@uns.ns.ac.yu
Web: http://www.ysm.org.yu/

June 03 - 07, 2005

Second Shanghai International Symposium on Nonlinear Science and Applications
Shanghai, China

Shanghai International Symposium on Nonlinear Science and Applications - 2003 (Shanghai NSA'03) was a great success, a lot of participants suggested that it should be developed into a series symposium, which should be mainly held in Shanghai and her neighboring areas every two years. Now the Second Shanghai International Symposium on Nonlinear Science and Applications (Shanghai NSA, 2005) will be held in Shanghai Convention Center, Chinese Academy of Sciences, Shanghai and Wuxi (a beautiful resort near Shanghai).

Shanghai NSA'05 is sponsored by the Shanghai Society for Nonlinear Science, co-sponsored by the Shanghai Center for Nonlinear Science, organized by the Research Center for Nonlinear Science of Fudan University and the Shanghai Society of Biophysics, and supported by National Science Foundation of China and Center for Chaos Control and Synchronization, City University of Hong Kong.

Nonlinear science is one of the focusing research fields and most active scientific frontier in the new century, and Shanghai NSA'05 is devoted to this important area of scientific research. The theme of the symposium is intended to be broad enough so as to cover most of the directions in nonlinear science, with the aim of promoting wide interactions among researchers from different academic disciplines who are interested in nonlinear science and related technologies. The symposium will provide both experts and new comers from different research backgrounds with an excellent opportunity to review the latest progress and development in the field of nonlinear science, and to exchange their experience, progress, and ideas. The symposium will consist of both oral and poster presentations in three days, plus a one-day tour of the beautiful resort city Wuxi.

Prof. Jiong Ruan, Secretariat of Shanghai NSA'05, Research Center for Nonlinear Sciences, Department of Mathematics, Fudan University, Shanghai 200433, P. R. China.

Tel.: +86-21-6510 0339 (O), +86-21-56620463 (H); Fax: +86-21-5662 0463
E-Mail: snsa@fudan.edu.cn
Web: http://www.sss-nonlinear.org/webs/gjhy.htm

June 09 - 11, 2005

Conference on Scientific Computing (COSCOMP)
Wien, Österreich

Conference on Scientific Computing (COSCOMP) organized in honor of the 75th birthday of Hans J. Stetter

COSCOMP will deal with current and future trends in Scientific Computing through a number of invited lectures.

In particular, COSCOMP will feature an encounter of computer algebra and numerical analysis, in line with the research interests of Hans Stetter since the 1990's (evidenced by his 2004 book "Numerical Polynomial Algebra" published by SIAM Press).

Winfried Auzinger
E-Mail: %3Cw.auzinger@tuwien.ac.at%3E

June 14 - 17, 2005

3rd M.I.T. Conference on Computational Fluid and Solid Mechanics
Cambridge, Mass., USA

Topics
Computational Fluid Dynamics
Combustion; Non-Newtonian and Multiphase Flows; Flows at Small/Molecular Scales; Environmental Flows; Radiation and Convection Heat Transfer; Flows with Moving Boundaries; Turbulence Modeling; Free Surface Flows; Biological Fluid Dynamics; Weather Forecasting; High Speed Flows; Internal and External Flows.

Computational Solid and Structural Mechanics
Biomechanical Phenomena; Micro- and Nano-mechanics; Bridge Structures ; Material Modeling; Chaotic Systems; Nonlinear Dynamics; Composites; Stochastic Structural Analysis; Contact Mechanics; Structural Acoustics; Plasticity, Creep, Visco-plasticity; Damage, Fatigue and Fracture; Large Deformations, Structural Stability; Earth Mechanics; Metal Forming.

Computational Multi-Physics Dynamics
Multiphase Mechanics, Phase Changes; Piezoelectric Mechanics; Electro-mechanics-magnetics; Solid-Fluid Nano-mechanics; Porous Media Mechanics; Fluid Flows with Structural Interactions; Thermomechanics; Micro-Electro-Mechanical Systems.

Important Dates
Notification of acceptance of Abstracts: April 15, 2005

K.J. Bathe, Massachusetts Institute of Technology, Mechanical Engineering Department, Room 3-356, Cambridge, MA 02139 U.S.A.

E-Mail: kjb@mit.edu
Web: http://www.thirdmitconference.org/

June 16 - 19, 2005

Gemeinsame Tagung der AMS, DMV und ÖMG
Johannes Gutenberg-Universität Mainz, Germany

Scientific Committee: V. Bach, Mainz; W. Ballmann, Bonn; K.D. Bierstedt, Paderborn; S.J. Friedlander, Univ. of Illinois at Chicago; W. Schmid; Harvard; K. Schmidt, Univ. Wien; B.A. Taylor, Ann Arbor.

Plenary Speakers: Hélène Esnault, Essen; Richard Hamilton, Columbia; Michael Hopkins, MIT; Christian Krattenthaler, Lyon; Frank Natterer, Münster; Horng Tzer Yau, Courant.

Von den Organisatoren werden über 500 Teilnehmer erwartet. Die Tagung gliedert sich in 28 Themengruppen, die von international anerkannten Wissenschaftlern geleitet

werden. Desweiteren gibt es im Rahmen der Tagung GAMM-SIAM Special Sessions zu folgenden Themen:

Algebraic Approaches to Preconditioning:
H. Fassbender, Braunschweig; A. Frommer, Wuppertal
Control Theory: P. Benner, TU Chemnitz
Mechanics: F. Pfeiffer, TU München; J. Scheurle, TU München
Multiscale Problems: Oscillations in Partial Differential Equations and Homogenization: A. Mielke, Stuttgart; T. Hou, Caltech
Numerical Partial Differential Equations/Equations with Inherent Conditions:
R. Jeltsch, ETH Zürich; M. Lukacova, TU Hamburg-Harburg; Mac Hyman, Los Alamos National Laboratory.

Lokaler Organisator: V. Bach; Organisator für AMS: S.J. Friedlander
Organisator für DMV: K.D. Bierstedt

Web: http://math-www.upb.de/~klausd/Mainz2005/

June 19 - 22, 2005

ICOSSAR 2005 - Ninth International Conference on Structural Safety and Reliability
Rome, Italy

ICOSSAR'05 will encompass every aspect of stochastic mechanics, safety and reliability of structures and civil engineering systems, with special focus on advanced technologies, analytical and computational methods of risk analysis, probability based design and regulations, smart systems and materials, life cycle cost analysis, damage assessment, social aspects, urban planning, and commercial applications. Emerging concepts as well as state of the art and novel applications of reliability principles in all types of structural systems and mechanical components will be included. Systems for civil, marine, mechanical, transportation, and aerospace applications will be discussed. ICOSSAR'05 will emphasize the safety and performance requirements of critical engineering systems subjected to natural and man-made hazards, including life cycle analysis processes and costs. Practical application of all methods will be stressed, including risk analysis and safety assessment of major technological systems.

Chairman: Prof. G. Augusti, Università di Roma “La Sapienza”

Contact
Icossar '05 Secretariat, c/o Prof. M. Ciampoli, Università di Roma “La Sapienza”, Dipartimento di Ingegneria, Strutturale e Geotecnica, Via Eudossiana, 18, I-00184 Roma, Italy, EU.

Tel.: +39 6 445 85 300; Fax: +39 6 488 48 52
E-Mail: icossar05.ciampoli@uniroma1.it; Marcello.ciampoli@uniroma1.it
Web: http://www.icossar2005.com

July 11 - 15, 2005

The International Conference on Textures of Materials - ICOTOM 14
Leuven, Belgium

Paul Van Houtte, Katholieke Universiteit Leuven
Leo Kestens, Ghent University

Web: http://www.icotom14.com

July 25 - 30, 2005

5th International ISAAC Congress
University of Catania, Italien

The following scientists have in principal agreed to give a plenary talk: O. Besov, Steklov; S. Chen, Fudan; Y. Giga, Hakkaido; G.C. Hsiao, Delaware; P.C. Hu, Shandong; V. Isakov, Wichita; T. Iwaniec, Syracuse; F. Ricci, Pisa; A.M. Anile, Catania.

The Congress is organized in sessions as Function Spaces and Related Topics, Partial Differential Equations, Complex Analysis and Related Topics, Applied Analysis.

Proceedings sent before: November 01, 2005 (wengel@math.fu-berlin.de)
Congress fee for registration: April 30, 2005

ISAAC Awards Awards will be presented to young scientists of age below 40 at the time of the congress for particular merits in analysis, its applications and computation. Candidates for the awards may be nominated especially by ISAAC Board Members and Session Organizers but also may apply by themselves. Nominations and applications should be sent before 31. May, 2005.

Award Committee, I. Math. Inst. FU Berlin, Arnimallee 3, 14195 Berlin, Germany.

Fax: +49-30/838 75403
E-Mail: begehr@math.fu-berlin.de
Web: http://www.mathisaac.org and
http://www.math.fu-berlin.de/rd/ag/isaac

September 04 - 07, 2005

EURODYN 2005 - Sixth European Conference on Structural Dynamics
Paris, France

EURODYN 2005 is devoted to theoretical, numerical, experimental developments and applications of structural dynamics to all types of structures, dynamical systems and structural materials, including the development of new methods, analytical and numerical methods, measurement techniques and computational simulations. The conference will reflect the state-of-the-art of structural dynamics and dynamical systems in science and engineering practice and is an opportunity to exchange scientific, technical, and experimental ideas.

Chairman
Prof. C. Soize, Laboratoire de Mécanique, University de Marne-la-Vallée, 5 Boulevard Descartes, F-77454 Marne-la-Vallée Cedex 2, France, EU.

Tel.: +331 60 95 76 61; Fax: +331 60 95 77 99
E-Mail: eurodyn2005@univ-mlv.fr
Web: http://www.eurodyn2005.univ-mlv.fr

September 05 - 08, 2005

EUROMAT 2005
Prague, Czech Republic

Engineering progress essentially depends on the availability and the intelligent use of materials. For many key industry areas, Europe is at the forefront of the development of new materials and their applications. Euromat, the biennial meeting of the Federation of

European Materials Societies with its 24 member societies, is the premier pan-european event covering the complete range of Materials Sience and Technology.

Deadline: Abstract: 31 Jan 2005

EUROMAT 2005 features 74 symposia spanning a wide range of topics. We invite you to submit your abstract through the website.

Congress Office: c/o Deutsche Gesellschaft für Materialkunde, Senckenberganlage 10, 60325 Frankfurt, Germany.

Tel.: +49 69 75306 747; Fax: +49 69 75306 733
E-Mail: euromat@fems.org
Web: http://www.euromat2005.fems.org/

September 18 - 23, 2005

Jahrestagung 2005 der Deutschen Mathematiker- Vereinigung
Alpen-Adria-Universität Klagenfurt, Österreich

Bei diesem Kongress wird neben der traditionellen Mathematik auch auf solche Fragestellungen in zahlreichen Sektionen, vor allem aber auch in speziell ausgerichteten Minisymposia eingegangen, deren Anzahl einen neuen Höchststand erreicht hat. So freut es uns ganz besonders, dass es erstmals gelungen ist, die weltgrößte wissenschaftliche Gesellschaft auf dem Gebiet der Angewandten Mathematik, die amerikanische Society for Industrial and Applied Mathematics (SIAM) zur Mitveranstaltung bei einem österreichischen Mathematikerkongress gewinnen zu können.

Ein spezieller Schülertag soll jungen Menschen das neue Rollenbild der Mathematik vermitteln und so vielleicht dazu beitragen, dass vermehrt Mathematik als Studienfach gewählt wird.
Der verstärkte Anwendungsbezug und die neue Bedeutung der Mathematik erfordert aber auch ein neues Lernen und Lehren von Mathematik. Gerade die Universität Klagenfurt hat sich von Anfang an gemäß dem Gründungsauftrag diesen Problemen in Forschung und Lehre gewidmet. Deshalb soll auf diesem Kongress auch breiter Raum für mathematische Bildungsfragen zur Verfügung gestellt werden. Abgerundet wird dieser Themenkreis durch einen Fachhochschul- und Lehrertag, auf dem insbesondere auf das sehr aktuelle Problem der Bildungsstandards im Mathematikunterricht eingegangen werden soll.

E-Mail: oemg2005@uni-klu.ac.at
Web: http://oemg2005.uni-klu.ac.at

September 19 - 21, 2005

Chemnitz FEM Symposium 2005
Chemnitz, Germany

The conference venue in Schöneck (near Plauen, Germany) is situated in the beautiful Vogtland Mountains and provides a stimulating and cosy atmosphere. The symposium is organized by the DFG-Sonderforschungsbereich 393 “Parallele Numerische Simulation für Physik und Kontinuumsmechanik” and the Faculty of Mathematics, TU Chemnitz. The symposium is supported by the Deutsche Forschungsgemeinschaft.

Topics
Finite Elements, including (but not limited to), error estimators, high order methods, parallel implementations. This year special emphasis is on variational inequalities,

contact and free boundary value problems, pde's in optimization and optimal control, special traetment of singularities and singular pertubed problems, parabolic and time dependent problems.

Invited Speakers: Gert Lube, Göttingen; Fredi Tröltzsch, Berlin; Reinhold Schneider, Kiel; Barbara Wohlmuth, Stuttgart.

Deadlines
Submission of abstracts: August 01, 2005
Book accommodation: August 10, 2005

E-Mail: fem05@mathematik.tu-chemnitz.de
Web: http://www.tu-chemnitz.de/sfb393/fem-symposium/

September 22 - 24, 2005

The 7th Hellenic European Conference on Computer Mathematics & its Applications
Athens, Greece

This biennial Conference is following the success of the HERMIS and HERCMA Conference series, which has been held respectively in 1992-1994-1996-1998-2001-2003 in Athens. The HERCMA 2005 Conference is jointly organised by the Department of Informatics of AUEB and the Research Group for Advanced Computational Mathematics & Parallel Processing. The main theme within the Conference will be Computer Mathematics and its Applications and special emphasis will be given to Computational Mathematics, High Performance Computing, Operational Research and Statistics, Mathematics in Economics and Industry.

Call for Papers: Papers on all aspects of Computer Mathematics and Scientific Computing are solicited. Plenary lectures by distinguished Scientists, who have played a significant role in the advancement of Computer Mathematics and its Applications will be scheduled in the scientific program of HERCMA 2005. Non plenary lectures will be held in several parallel sessions, spanning a broad range of Computer Mathematics topics. The Authors should list areas to which their papers belong.

Mini-Symposia (Session) Organisers: Persons interested in organising a mini-symposium (technical session) in the framework of the HERCMA 2005 should submit a proposal using the suitable form (which can be found in the HERCMA web pages). If the proposed session is accepted for presentation at the conference, the Session Organiser will become member of the Organising Committee, and he will be authorised to make the final selection of papers for his session. Conference Chairman: Professor Elias A. Lipitakis, Department of Informatics, AUEB, Director of the Research Group for Advanced Computational Mathematics and Parallel Processing (RG-ACMPP).

Deadlines
Notification of acceptance: April 10, 2005
For the submission of the complete paper: May 30, 2005
For the early payment: May 30, 2005

Conference Secretariat: HERCMA Secretariat, Department of Informatics, Athens University of Economics and Business, 76 Patission Street, Athens 10434, Greece.

Tel.: +3 210 8203 187; Fax: +3 210 8203 187/8226 204/8676 265
E-Mail: eal@aueb.gr, hercma@aueb.gr, pek@aueb.gr
Web: http://www.aueb.gr/conferences/hercma2005/

September 25 - 28, 2005

iTi Conference of Turbulence 2005
Bad Zwischenahn, Gremany

The objectives of this conference are comprising basic research as well as research related to application. Therefore, both engineers and physicists working in the field of turbulence are invited to join the conference. The invited speakers are presenting their contributions in fields of experimental, numerical, and theoretical research. Discussed topics are, for example, thermal convection, boundary layer at large Reynolds numbers, isotropic turbulence, stochastic processes, passive and active scalars, coherent structures, numerical simulations, and related subjects.

Deadlines
Submission of abstracts: June 30, 2005
Acceptance Information: July 20, 2005
Early Registration: July 31, 2005
Cancellation of Registration: September 5, 2005
Submission of full papers: October 31, 2005
Contact
Technische Universität Darmstadt, Institut für Wasserbau und Wasserwirtschaft, Fachgebiet für Hydromechanik und Hydraulik, Petersenstrasse 13, 64287 Darmstadt, Germany.

George Khujadze, M.Sc.
Tel: +49 6151 16 5249; Fax: +49 6151 16 7061
E-Mail: iti@hyhy.tu-darmstadt.de
Web: http://www.hyhy.tu-darmstadt.de/iti/

September 27 - 30, 2005

8th European Multigrid Conference on Multigrid, Multilevel and Multiscale Methods
Scheveningen, The Netherlands

Organized in the framework of the European Community on Computational Methods in Applied Sciences (Eccomas).

This congress is devoted to dissemination of recent advances and ideas concerning multigrid, multilevel and multiscale methods. Multigrid methods are generally accepted as being the fastest numerical methods for the solution of elliptic partial differential equations. Furthermore, they are regarded as among the fastest methods for many other problems like other types of partial differential equations, integral equations etc. If the multigrid idea is generalized to other structures than grids, one obtains multilevel, multiscale or multi-resolution methods, which can successfully be used also for very different types of problems, e.g. problems characterized by matrix structures, particle structures etc. A broad range of problems in the sciences and engineering require multiscale modeling and simulation techniques, because of the range of scales involved and the prohibitively large number of variables implied by a monoscale approach. Multigrid, multilevel and multiscale methods are interrelated in various ways.

Topics
Multigrid methods, Multilevel solvers, Algebraic Multigrid, Theory and applications of methods, New fields of application, Multiscale solution methods and modeling.

Web: http://pcse.tudelft.nl/emg2005/index.php

Weitere Tagungen 2006

February 08 - 10, 2006

5th MATHMOD Vienna
5th IMACS Symposium on Mathematical Modelling
Vienna, Austria

The international symposium on Mathematical Modelling will take place at Vienna University of Technology. Scientists and engineers using or developing models or interested in the development or application of various modelling tools will find an opportunity to present ideas, methods and results and discuss their experiences or problems with experts of various areas of specialisation.

Scope
The scope of the conference covers theoretic and applied aspects of the various types of mathematical modelling (equations of various types, automata, Petri nets, bond graphs, qualitative and fuzzy models, etc.) for systems of dynamic nature (deterministic, stochastic, continuous, discrete or hybrid with respect to time, etc.). Comparison of modelling approaches, model simplification, modelling uncertainties, port-based modelling, and the impact of items such as these on problem solution, numerical techniques, validation, automation of modelling and software support for modelling, co-simulation, etc. will be discussed in special sessions as well as applications of modelling in control, design or analysis of systems in engineering and other fields of application. Presentations of modelling and simulation software and a book exhibition will be organised.

Deadlines
Submission of Abstracts: Sept.01, 2005
Notification of Authors: Oct.15, 2005
Full paper due: Dec. 15, 2005

Organiser: Research Group for Mathematical Modelling and Simulation (E 101) at Vienna University of Technology.

Information
Univ.Prof. Dr. Inge Troch Chair of IPC, Vienna University of Technology, Wiedner Hauptstrasse 8-10, 1040 Wien, Austria.

Tel.: +431 58801 10116; Fax: +431 58801 10199
E-Mail: inge.troch@tuwien.ac.at
Web: http://simtech.tuwien.ac.at/MATHMOD

June 04 - 09, 2006

The 14th International Conference on the Strength of Materials (ICSMA14)
China

ICSMA conferences began in 1967. During the last few meetings the overall interest and enthusiasm of participants coming together from all over the world have proved that ICSMA represents a strong scientific theme with a large impact on the scientific community working on the fundamentals of the strength of materials. ICSMA is the unique opportunity to exchange ideas and the newest achievements related to the fundamentals of this topic.

Topics
Traditionally this conference has been devoted to basic aspects of strength and plasticity of mostly metallic systems but the organisers feel that the basic approaches can be applied to a wide field of materials. The interdisciplinary aspects of the subject will be emphasized in this meeting to promote interaction between groups of researchers who rarely communicate.

The materials of interest are either model materials or structural materials, including metallic alloys and compounds, covalent crystals, ceramics, polymers, hybrid materials (particulate and fibrous composites, sandwich structures, foams, fracture resistant structures based on topological interlocking, etc), geological and biological materials, regardless of state (crystalline and non-crystalline including quasicrystals, metallic glasses, and polymers) or form (single crystalline, polycrystalline, nanomaterial, and thin film),from low to severe plastic deformation.Contributions reporting recent experimental results, modelling and multiscale computer modelling are very welcome.

Dislocations, strength and plasticity; Fracture and fracture modes; Cyclic deformation and fatigue; High temperature deformation and creep; Interfacial strength and adhesion.

Local Co-chairmen: Prof. Jun. Sun and Prof. Shou-xin Li
Secretary: Prof. G.-J. Qiao and Dr. Sheng-Li Ma, State Key Laboratory for Mechanical Behavior of Materials, Xi'an Jiaotong University, Xi'an, 710049, P R China.

Tel.: +86 29 82669071; Fax: +86 29 82663453
E-Mail: ICSMA14@mail.xjtu.edu.cn
Web: http://ICSMA14.xjtu.edu.cn

July 07 - 08, 2006

Second International Conference on Nonsmooth/Nonconvex Mechanics with Applications in Engineering
Aristotele University of Thessaloniki

Topics
Contact Mechanics - Friction & stick-slip effects; Elastoplasticity - Shakedown - Limit Analysis; Convex Analysis and Mechanics; Nonsmooth Analysis and Optimization; Nonconvex Mechanics and Duality; Variational, quasivariational and hemivariational inequalities; Energy methods in Mechanics and Structural Analysis; Nonsmooth Dynamics; Structural Optimization; Structural Control and Identification; Computational Mechanics; Applications; Mathematical Analysis and Approximation results; Innovative topics (like Chaotic behaviour, Fractal approximation, Neural Networks etc.)

Dadlines
Submission of Abstract by: May 01, 2005
Preliminary acceptance by: July 30, 2005
Submission of full paper by: February 28, 2006

Conference Secretariat
c/o Professor Dr.-Ing. C.C. Baniotopoulos, Institute of Steel Structures, Department of Civil Engineering, Aristotle University, GR-54124 Thessaloniki, Greece.

Tel.: +30 2310 99 5753; Fax: +30 2310 99 5642
E-mail: nnmae2006@civil.auth.gr
Web: http://www.civil.auth.gr/nnmae2006/

July 24 - 27, 2006

Joint GAMM-SIAM Conference on Applied Linear Algebra
University of Düsseldorf, Germany

Linear algebra problems and linear algebra algorithms for their solution are at the very heart of almost all numerical computations and play a prominent role in modern simulation methods in science and engineering.
This conference, which belongs to a series of triannual meetings organized by SIAM in the US is the premier international conference on applied linear algebra. We expect about 250 participants coming from countries all over the world, working in academia, research labs or industry. Participants will present and discuss their latest results in the area of applied linear algebra, ranging from advances in the theory over the development and analysis of new precise and efficient algorithms to large scale supercomputer applications.

The conference is organized jointly by Prof. Dr. Marlis Hochbruck, Heinrich-Heine-Universität Düsseldorf and Prof. Dr. Andreas Frommer, Prof. Dr. Bruno Lang, Bergische Universität Wuppertal.

July 26 - August 04, 2006

V. World Congress of Biomechanics
Munich, Germany

Contact
Prof. Dr.-Ing. habil. Dieter Liepsch, FB05, Munich University of Applied Sciences, Lothstr. 34, 80335 München, Federal Republic of Germany.

Tel.: +49 89 12 65 15 33, +49 89 12 65 15 44; Fax: +49 8157 31 60
E-Mail: info@WCB2006.org
Web: http://www.wcb2006.org

August 22 - 30, 2006

International Congress of Mathematicians (ICM 2006)
Madrid, Spain

The first circular letter and call for on-line preregistration will be launched at the end of September.

Web: http://www.icm2006.org/

September 25 - 28, 2006

7th International Conference on Rotor Dynamics
Vienna, Austria

The purpose of the IFToMM seventh International Conference on Rotor Dynamics is to promote a worldwide exchange of ideas and information on the latest developments and applied technologies in rotor dynamics. The range extends from theoretical investigations to industrial applications and will cover the following topics of interest: active components and vibration control, bladed systems, balancing, bearings and seals, cracked rotors, condition monitoring, machine diagnostics, signal processing, dynamic analysis, bending and torsional vibrations, modal testing and identification, geared systems, nonlinear phenomena, etc. The conference organizing committee kindly invites scientists, researchers and engineers from all over the world to attend this traditional Conference on Rotor Dynamics to be held at Vienna University of

Technology in the fall of 2006. Beside the conference a variety of cultural events will take place in the City of Vienna helping the participants to enjoy their stay.

Organizing Committee
Prof. Helmut Springer (Chair): Tel: +43 1 58801 30300
E-Mail: helmut.springer@tuwien.ac.at
Assoc. Prof. Horst Ecker (Co-chair) Tel: +43 1 58801 30312
E-Mail: horst.ecker@tuwien.ac.at

Web: http://IFToMM-rotordynamics2006.mdmt.tuwien.ac.at/

Neue Bücher und Zeitschriften

Buchempfehlungen

Stochastic Optimization Methods

Kurt **Marti**, Universität der Bundeswehr München, Germany

Optimization problems arising in practice involve random parameters. For the computation of robust optimal solutions, i.e., optimal solutions being insensitive with respect to random parameter variations, deterministic substitute problems are needed. Based on the distribution of the random data, and using decision theoretical concepts, optimization problems under stochastic uncertainty are converted into deterministic substitute problems. Due to the occurring probabilities and expectations, approximative solution techniques must be applied. Deterministic and stochastic approximation methods and their analytical properties are provided: Taylor expansion, regression and response surface methods, probability inequalities, First Order Reliability Methods, convex approximation/deterministic descent directions/efficient points, stochastic approximation methods, differentiation of probability and mean value functions. Convergence results of the resulting iterative solution procedures are given.

Contents:
Basic Stochastic Optimization Methods: Decision/Control Under Stochastic Uncertainty. Deterministic Substitute Problems in Optimal Decision Under Stochastic Uncertainty. Differentiation Methods: Differentiation Methods for Probability and Risk Functions. Deterministic Descent Directions: Deterministic Descent Directions and Efficient Points. Semi-Stochastic Approximation Methods: RSM-Based Stochastic Gradient Procedures. Stochastic Approximation Methods with Different Error Variances. Technical Applications: Approximation of the Probability of Failure/Survival in Plastic Structural Analysis and Optimal Plastic Design.

Publisher: Springer Verlag; 2005. XIII, 314 p. 14 illus., Book, Hardcover
ISBN: 3-540-22272-3
Price: 79,95 €, £ 61,50
Web: http://www.springeronline.com

Gewöhnliche und Operator-Differentialgleichungen. Eine integrierte Einführung in Randwertprobleme und Evolutionsgleichungen für Studierende

Etienne **Emmrich,** TU Berlin

Die mathematische Modellierung von Phänomenen und Prozessen in den Natur- und Technikwissenschaften, zunehmend auch in den Lebenswissenschaften, führt oftmals auf Differentialgleichungen. Das Anliegen dieses Lehrbuchs ist die rasche und doch verständliche Heranführung an (funktional-) analytische Methoden, die die Behandlung linearer und nichtlinearer Rand- und Anfangswertprobleme gestatten: Fixpunktprinzipien, Kompaktheits- und Monotonieargumente, variationelle Methoden und die Konstruktion von Näherungslösungen. Diese tragenden Methoden und Techniken werden angewandt, um klassische und schwache Lösungen von gewöhnlichen Randwertproblemen, Variationsproblemen und Evolutionsgleichungen (der abstrakten Formulierung zeitabhängiger partieller Differentialgleichungen) zu studieren. Der Text will auf einschlägige Monographien und Forschungsliteratur vorbereiten.

Das Buch richtet sich insbesondere an Studierende der Mathematik, Techno- und Wirtschaftsmathematik, Physik sowie an theoretisch arbeitende Wissenschaftler anderer Gebiete, die sich für Differentialgleichungen und deren numerische Lösung interessieren.

Inhalt: Randwertprobleme: Beispiele und Anwendungen, klassische Lösungstheorie, lineare und semilineare Probleme, Greensche Funktion, Sturm-Liouville-Problem, Maximumprinzipien, Ober- und Unterlösungen, schwache Lösungstheorie, Sobolew-Räume, lineare Variationsprobleme (Lax-Milgram), nichtlineare Variationsprobleme (monotone Operatoren und verstärkt stetige Störungen), Galerkin-Verfahren und finite Elemente, Übungsaufgaben und Literaturhinweise;

Operator-Differentialgleichungen: Beispiele und Anwendungen, klassische Lösungstheorie, Funktionenräume und Bochner-Integral, Verallgemeinerungen der Sätze von Picard-Lindelöf und Peano, Stabilität und dissipative Systeme, Zeitdiskretisierung, schwache Lösungstheorie, lineare Evolutionsgleichungen und Zeitdiskretisierung, nichtlineare Evolutionsgleichungen und Galerkin-Approximation, Regularität, Kompatibilität der Daten und Glättungseigenschaft, Übungsaufgaben und Literaturhinweise;

Anhang: Elementare Ungleichungen, analytische und funktionalanalytische Hilfsmittel

Publisher: Vieweg Verlag, Wiesbaden; 2004, 300 S. 17 x 24 cm Br.
ISBN: 3-528-03213-8
Price: 24,90 €
Web: http://www.vieweg.de

Direct Methods of Solving Multidimensional Inverse Hyperbolic Problems
Inverse and Ill-Posed Problems Series
S. I. **Kabanikhin**, A. D. **Satybaev** and M. A. **Shishlenin**

The problems of determining coefficients of hyperbolic equations and systems from additional information on their solutions are of great practical significance. As a rule, the desired coefficients are important characteristics of the media under consideration. In this monograph, dynamic type of inverse problems in which the additional information is given by the trace of the direct problem solution on a (usually time-like) surface of the domain is considered.

In this book theoretical and numerical background of the direct methods are discussed. Theorems of convergence, conditional stability and other properties of the mentioned above methods are formulated and proven.

This book is of value and interest for students, postgraduate students, engineers, and researchers who are interested in the theory and numerics of inverse problems for hyperbolic equations.

Publisher: VSP, The Netherlands; 2005, viii+180 pages
ISBN: 90-6764-416-1
Price: 140,00 €
Web: http://www.vsppub.com

Carleman Estimates for Coefficient Inverse Problems and Numerical Applications
Inverse and Ill-Posed Problems Series
Michael V. **Klibanov** and Alexandre **Timonov**

This is the first book dedicated to applying the Carleman estimates to coefficient inverse problems. Coefficient inverse problems consist of determining the variable coefficients of partial differential equations from the boundary measurements of their solutions. Such problems arise in a number of applications of particular interest to natural sciences and

technology, such as medical imaging, underwater acoustics and electromagnetics, non-destructive evaluation, geophysics of exploration, etc.. The main difficulty in solving coefficient inverse problems is due to their nonlinearity and ill-posedness. This monograph presents one of the most powerful tools for the mathematical treatment of such problems, the method of Carleman estimates. Originally introduced in the field of inverse problems by A.L. Bukhgeim and M.V. Klibanov in 1981, the method of Carleman estimates has become popular in the applied mathematics community. Written in a readable and concise manner, the book introduces the reader to the essence of the techniques used for deriving Carleman estimates and using them for proofs of global uniqueness and stability results for coefficient inverse problems. The core of the book is two most recent advances of the authors. These are the global uniqueness of a multidimensional coefficient inverse problem for a nonlinear parabolic equation and the so called convexification framework for constructing globally convergent algorithms for the numerical solution of coefficient inverse problems. Several applications of the convexification to magnetotelluric frequency sounding, electrical impedance tomography, infra-red optical sensing of biotissies, and time reversal are discussed. The effectiveness of convexification algorithms is demonstrated in computational experiments.

This monograph is of value and interest to researchers in the fields of inverse problems in partial differential equations, numerical methods, mathematical modeling, scientific computing, in both academia and industry.

Publisher: VSP, The Netherlands; 2004, 280 pages
ISBN: 90-6764-405-6
Price: 150,00 €
Web: http://www.vsppub.com

Counterexamples in Optimal Control Theory
Inverse and Ill-Posed Problems Series
S.Ya. **Serovaiskii**

This monograph deals with relatively simple examples of the theory of optimal control which, nevertheless are far from being trivial. It deals with cases where optimal control either does not exist or is not unique, cases where optimality conditions are insufficient of degenerate, or where extremum problems in the sense of Tikhonov and Hadamard are ill-posed, and other situations. A formal application of classical optimisation methods in such cases either leads to wrong results or has no effect. The detailed analysis of these “bad“ examples should provide a better understanding of the modern theory of optimal control and the practical difficulties of solving extremum problems.

This book will be of value and interest to (postgraduate) students, engineers and researchers who take interest in the theory of optimal control and its applications.

Publisher: VSP, The Netherlands; 2004, viii+176 pages
ISBN: 90-6764-400-5
Price: 139,00 €
Web: http://www.vsppub.com

Elements of Applied Bifurcation Theory
Reihe: Applied Mathematical Sciences, Band 112
Kuznetsov, Yuri A.

This is a book on nonlinear dynamical systems and their bifurcations under parameter variation. It provides a reader with a solid basis in dynamical systems theory, as well as explicit procedures for application of general mathematical results to particular problems.

Special attention is given to efficient numerical implementations of the developed techniques. Several examples from recent research papers are used as illustrations. The book is designed for advanced undergraduate or graduate students in applied mathematics, as well as for Ph.D. students and researchers in physics, biology, engineering, and economics who use dynamical systems as model tools in their studies. A moderate mathematical background is assumed, and whenever possible, only elementary mathematical tools are used. This new edition preserves the structure of the first edition, while updating the context to incorporate recent theoretical developments, in particular, new and improved numerical methods for bifurcation analysis. Reviews of the first edition: "I know of no other book that so clearly explains the basic phenomena of bifurcation theory." Math Reviews "The book is a fine addition to the dynamical systems literature. It is good to see, in our modern rush to quick publication, that we, as a mathematical community, still have time to bring together, and in such a readable and considered form, the important results on our subject." Bulletin of the AMS

Geschrieben für: Advanced undergraduate or graduate students in mathematics.

Publisher: Springer-Verlag; 3rd ed., 2004, XXII, 631 p. 251 illus., Geb.
ISBN: 0-387-21906-4
Price: 106,95 €
Web: http://www.springeronline.com

Mathematik für Ingenieure mit Maple. Band 1

Differential- und Integralrechnung für Funktionen einer Variablen, Vektor- und Matrizenrechnung, Komplexe Zahlen, Funktionenreihen

Westermann, Thomas

Dieses gut eingeführte zweibändige Lehrwerk überzeugt durch das hervorragende didaktische Konzept und durch sein ansprechendes, in der vierten Auflage verbessertes Layout. Abstrakte mathematische Begriffe werden anschaulich erklärt, auf Beweise wird größtenteils verzichtet. In einem Einführungskapitel bespricht der Autor physikalisch-technische Themenfelder und zeigt auf, welche mathematischen Methoden zur Beschreibung notwendig sind. 270 ausführlich durchgerechnete Beispiele auch aus technischen Anwendungsgebieten helfen dem Ingenieurstudenten, sich die Mathematik zu erschließen.

Alle Themengebiete lassen sich zusätzlich am Rechner mit dem Computeralgebrasystem MAPLE bearbeiten. So können mathematische Begriffe visualisiert und Aufgaben sowie Anwendungsprobleme gelöst werden.

Auf der Homepage zum Buch befinden sich neben Animationen die Lösungen zu den 250 Übungsaufgaben sowie alle im Buch abgedruckten und aktualisierten MAPLE-Arbeitsblätter, mit denen der Stoff interaktiv eingeübt werden kann. Die Bände sind also auch hervorragend für das Selbststudium geeignet.

In der Neuauflage werden noch mehr Inhalte mit MAPLE visualisiert und zusätzliche 100 Übungsaufgaben im Internet angeboten. MAPLE-Befehle und MAPLE-Output sind an MAPLE 9 angepasst.

Geschrieben für: Studierende aller technischen Studiengänge an FH und Universitäten

Publisher: Springer-Verlag; 4. neu bearbeitete Aufl., 2005, XV, 484 S. 250 Abb. u. Skizzen, 270 durchgerechneten Beispielen u. 250 Übungsaufgaben, Softcover
ISBN: 3-540-22208-1
Price: 36,95 €
Web: http://www.springeronline.com

Raumflugmechanik
Dynamik und Steuerung von Raumfahrzeugen
Steiner, Wolfgang, **Schagerl**, Martin

Dieses Lehrbuch dient dem systematischen Studium der Bahn- und Lagedynamik von Raumfahrzeugen. Es richtet sich sowohl an Studenten als auch an Raumfahrt-Praktiker (Konstrukteure, Systemtechniker, etc.), die häufig mit bahnmechanischen Problemen konfrontiert sind und ihre Kenntnisse auf diesem Gebiet erweitern oder auffrischen wollen. Mit den behandelten Themen Grundlagen der Bahnmechanik, Störungen auf erdnahen Umlaufbahnen, Raketendynamik und impulsive Orbitalmanöver, Interplanetare Flugbahnen, Lagedynamik von Raumfahrzeugen, Lokale Bewegungen von Satellitensystemen, bietet das Buch einen umfassenden fachlichen Überblick, wobei auch auf die historische Entwicklung und Bedeutung der Probleme hingewiesen wird. Besonderer Wert wird stets auf nachvollziehbare Herleitungen aus den physikalischen Grundprinzipien gelegt.

Die Autoren sind promovierte Maschinenbauer und Universitätslehrer am Institut für Mechanik der TU Wien, wo sie seit 1997 eine Vorlesung über die Dynamik und Steuerung von Raumfahrzeugen halten. Mittelpunkt ihrer Forschungstätigkeit an der TU Wien waren mehrere Projekte zur Simulation verkabelter Satellitensysteme, die von der Europäischen Raumfahrtbehörde ESA in Auftrag gegeben wurden.

Publisher: Springer-Verlag; 2004, X, 297 S. 116. Abb., Geb.
ISBN: 3-540-20761-9
Price: 59,95 €
Web: http://www.springeronline.com

Dynamik der Kraftfahrzeuge
Reihe: VDI-Buch, Bandwerk: Dynamik der Kraftfahrzeuge
Mitschke, Manfred, **Wallentowitz**, Henning

Diese Neuausgabe wurde umfassend bearbeitet; dabei wurden die Grundlagen für die modernen aktiven Systeme in das Standardwerk über Antrieb und Bremsung, Schwingungen und Fahrverhalten integriert. Das Buch gibt einen Einblick in die Theorie des Gesamtfahrzeuges mit den auf das Kraftfahrzeug wirkenden Störungen. Auch das Wechselspiel Fahrzeug/Insassen wird einbezogen. Die Theorie wird anwendbar durch eine Fülle von Fahrzeugdaten in Tabellen- oder Diagrammform und durch viele Rechenbeispiele. Die Diskussion der Ergebnisse führt zu Vorschlägen für die Verbesserung von Kraftfahrzeugen.

Geschrieben für: Ingenieure und Forscher in der Fahrzeugtechnik

Publisher: Springer-Verlag; 4. neu bearb. Aufl., 2004, 806 S., 560 Abb., Geb.
ISBN: 3-540-42011-8
Price: 189,95 €
Web: http://www.springeronline.com

Dreams of Calculus
Perspectives on Mathematics Education
Hoffman, Johan, **Johnson**, Claes, **Logg**, Anders

What is the relationship between modern mathematics - more precisely computational mathematics - and mathematical education? It is this controversal topic that the authors address with an in-depth analysis. In fact, what they present is an extremely well-reasoned account of the development of mathematics and its culture giving concrete recommendation for a much-needed reform of the teaching of mathematics. The book is essential reading for everybody

involved in mathematics and science, and mathematics teaching.

Geschrieben für: Mathematicians, students of mathematics and science, natural scientists, teachers of mathematics

Publisher: Springer-Verlag; 2004, XIII, 158 p., Softcover
ISBN: 3-540-21976-5
Price: 32,05 €
Web: http://www.springeronline.com

Angewandte Mathematik: Body and Soul
Ableitungen und Geometrie in IR3, (Band 1)
Eriksson, K., **Estep**, D., **Johnson**, C.

Angewandte Mathematik: Body and Soul ist ein neuer Grundkurs für anwendungsorientierte Studiengänge, der von der Chalmers University of Technology entwickelt wurde. Mehrere Buchbände sowie Computer-Software vermitteln die Synthese der mathematischen Analysis (Soul) mit der numerischen Berechnung (Body) und den Anwendungen.

Dieser Band behandelt die Grundlagen der Analysis, beginnend mit dem Aufbau der natürlichen, rationalen, reellen und complexen Zahlen und führt weiter zur analytischen Geometrie im zwei- und drei-dimensionalen Raum sowie Lipschitz Funktionen und Ableitungen. Die Autoren sind führende Experten im wissenschaftlichen Rechnen, die bereits erfolgreiche Bücher geschrieben haben.

Geschrieben für: Studenten der Mathematik, Chemie, Physik und Maschinenbau

Publisher: Springer-Verlag; 2004, XXV, 451 S. 192 Abb., Geb.
ISBN: 3-540-21401-1
Price: 34,95 €
Web: http://www.springeronline.com

Theory and Practice of Finite Elements
Reihe: Applied Mathematical Sciences, Band 159
Ern, Alexandre, **Guermond**, Jean-Luc

This book presents the mathematical theory of finite elements, starting from basic results on approximation theory and finite element interpolation and building up to more recent research topics, such as subgrid viscosity methods and Discontinuous Galerkin methods. The main body of the text is organized into three main sections. The first part develops the theoretical basis for the finite element method, emphasizing inf-sup conditions over the more conventional Lax-Milgrim paradigm, while the second and third parts address various applications and practical implementaions of the method, respectively.

Written at the graduate level, the text contains numerous examples and exercises and will be beneficial to students and researchers alike. Depending on one's interests, several reading paths can be followed, emphasizing either convergence results, numerical algorithms, code efficiency, or applications in the engineering sciences.

Geschrieben für: Graduate students and researchers in Applied Mathematics, Computer Science and Engineering

Publisher: Springer-Verlag; 2004, XIII, 524 p. 89 illus., Geb.
ISBN: 0-387-20574-8
Price: 85,55 €
Web: http://www.springeronline.com

Das MuPAD-Tutorium
Creutzig, Christopher; **Gehrs**, Kai; **Oevel**, Walter

MuPAD ist ein Computeralgebra-System, mit dem neben Problemstellungen der Mathematik auch mathematische Aufgaben der Natur- und Ingenieurwissenschaften behandelt werden können.

MuPAD ist ein wertvolles Hilfsmittel für Schüler und Studenten, Lehrer und Wissenschaftler. Dieses Tutorium stellt eine elementare Einführung in den Umgang mit diesem System dar. Es richtet sich hauptsächlich an Einsteiger in die Computeralgebra. In einfachen Schritten werden die wichtigsten Bausteine des Systems vorgestellt und an Anwendungsbeispielen demonstriert. Die Benutzung von Systemfunktionen, der Graphik sowie die Programmierung MuPADs wird an zahlreichen Beispielen eingeübt.

Dieses Tutorium bezieht sich auf MupAD ab Version 3.0. Zukünftige Änderungen und Erweiterungen des Systems werden unter http://www.mupad.de/doc.html dokumentiert werden.

Publisher: Springer-Verlag; 3. erw. Aufl., 2004, XIII, 436 S., Softcover
ISBN: 3-540-22185-9
Price: 44,95 €
Web: http://www.springeronline.com

Creep Mechanics
Betten, Josef

Provides a short survey of recent advances in the mathematical modelling of the mechanical behavior of anisotropic solids under creep conditions, including principles, methods, and applications of tensor functions. Some examples for practical use are discussed, as well as experiments by the author to test the validity of the modelling. The monograph offers an overview of other experimental investigations in creep mechanics. Rules for specifying irreducible sets of tensor invariants, scalar coefficients in constitutive and evolutional equations, and tensorial interpolation methods are also explained.

Geschrieben für: Researchers and advanced students

Publisher: Springer-Verlag; 2nd ed.2005, XIII, 353p. with CD-ROM
ISBN: 3-540-23204-4
Price: 96,25 €
Web: http://www.springeronline.com

Finite Elemente für Ingenieure 2
Variationsrechnung, Energiemethoden, Näherungsverfahren, Nichtlinearitäten, Numerische Integrationen Bandwerk:
Betten, Josef

Es wird die numerische Integration sehr ausführlich in einem neuen Abschnitt behandelt. Zur Ermittlung von Steifigkeitsmatrizen, Massenmatrizen oder auch Fehlernormen sind ein- und mehrdimensionale Integralausdrücke auszuwerten. Häufig ist eine exakte Integration nur schwerfällig oder gar nicht durchführbar, so dass man in solchen Fällen auf eine numerische Integration (Quadratur) angewiesen ist. Hierzu wird im eindimensionalen Fall die Newton-Cotes-Integration der Gauss-Legendre-Quadratur gegenübergestellt, die sich durch höhere Genauigkeit auszeichnet und daher im Weiteren ausschließlich verwendet wird. Zu der Fülle von Beispielen zählen elliptische Integrale, Bessel-Funktionen, (hyperbolischer) Integral-kosinus, Fresnelsche Integrale, um nur einige zu nennen. Zur Lösung von ebenen Problemen

nach der Finiten Elemente Methode werden zweidimensionale Integrale über Rechteck- und Dreieckselemente numerisch ausgewertet. Ebenfalls werden dreidimensionale Integrale über Hexaeder- und Tetraeder Elemente numerisch ausgewertet. Auch hierbei zeichnet sich die Gauss-Legendre-Quadratur durch hohe Genauigkeit aus, wie an vielen Beispielen gezeigt wird. Alle bisherigen Kapitel wurden übernommen, allerdings mit teilweise umfangreichen Ergänzungen. Das gilt auch für die Lösungen der bisherigen und neu hinzu gekommenen Übungsaufgaben. Die vollständig ausgearbeiteten Lösungen findet man auf der CD-ROM. Hierbei wurde wieder großer Wert auf die Deutung der Ergebnisse gelegt, damit Studierende lernen, ihre Lösungen kritisch zu betrachten, was häufig in der Praxis nicht genug gepflegt wird. Angesprochen werden Studierende des Maschinenbaus, des Bauingenieurwesens und der Physik sowie in der Praxis tätige Ingenieure und Physiker.

Publisher: Springer-Verlag; 2. neu bearb. und erw. Aufl., 2004, XII, 307 S. Mit CD-ROM., Geb.
ISBN: 3-540-20447-4
Price: 69,95 €
Web: http://www.springeronline.com

Pressemitteilung

Springer ermöglicht online Zugang zu historischen wissenschaftlichen Artikeln. Springer erweitert sein Angebot mit einem Online Journals Archive, das einen nahezu vollständigen elektronischen Zugang zu allen englischsprachigen wissenschaftlichen Artikeln bietet, die vor 1997 erschienen sind von Jahrgang 1, Ausgabe 1 an. Ab Januar 2004 werden diese zurückliegenden Inhalte in verschiedenen Themenpaketen aufder Online-Plattform SpringerLink sukzessive angeboten. Wissenschaftler und Forscher sind damit zukünftig in der Lage, elektronisch auf das komplette Wissen von über einem Jahrhundert zurückzugreifen.

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Publisher: Elsevier-Verlag; 2., February 2004, 876 pp, 191 x 235 mm, Paperback
ISBN: 0-1204-1562-3
Web: http://www.books.elsevier.com

Principles of Mathematical Modeling
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Clive **Dym**

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Publisher: Elsevier-Verlag; June 2004, 328 pp: 152 x 229 mm, Hardback
ISBN: 0-1222-6551-3
Price: £ 39,00
Web: http://www.books.elsevier.com

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Publisher: Elsevier-Verlag; July 2004, 576 pp, 191 x 235 mm, Hardback
ISBN: 0-1259-8057-4
Price: £ 65,00
Web: http://www.books.elsevier.com

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Alan **Jeffrey**

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Contents: Review materials; Vectors and matrices; Ordinary differential equations; Fourier series, integrals, and the Fourier transform; Vector calculus; Complex analysis; Numerical mathematics; Answers; References

Publisher: Elsevier-Verlag; July 2001, 300 pp, Paperback
ISBN: 0-1238-2595-4
Price: £ 39,99
Web: http://www.books.elsevier.com

Zeitschriftenempfehlung

Journal
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Preisausschreibungen

ICIAM Prizes for 2007

At the 2007 Congress in Zürich five ICIAM prizes will be awarded:

the **Pioneer Prize**, established for pioneering work introducing applied mathematical methods and scientific computing techniques to an industrial problem area or a new scientific field of applications. The prize commemorates the spirit and impact of the American pioneers.

It was created on the initiative of SIAM, and was first awarded in 1999.
The Pioneer Prize is presently funded by SIAM.

the **Collatz Prize**, established to provide international recognition to individual scientists under 42 years of age for outstanding work on industrial and applied mathematics.

It was created on the initiative of GAMM, and first awarded in 1999.
The Collatz Prize is presently funded by GAMM.

the **Lagrange Prize**, established to provide international recognition to individual mathematicians who have made an exceptional contribution to applied mathematics throughout their careers.

It was created on the initiative of SMAI, and first awarded in 1999.
The Lagrange Prize is presently funded by SMAI, SEMA and SIMAI.

the **Maxwell Prize**, established to provide international recognition to a mathematician who has demonstrated originality in applied mathematics.

It was created on the initiative of the IMA (with the support of the J.C. Maxwell Society), and first awarded in 1999.
The Maxwell Prize is presently funded by IMA.

the **Su Buchin Prize**, established to provide international recognition of an outstanding contribution by an individual in the application of Mathematics to emerging economies and human development, in particular at the economic and cultural level in developing countries.

It was created on the initiative of the CSIAM, and will be awarded for the first time in 2007.
The Su Buchin Prize is presently funded by CSIAM.
The Su Buchin Prize, in honour of the distinguished chinese mathematician Professor Su Buchin, will be awarded for the first time in 2007.

The nomination process for the 2007 prizes will be announced at a later date.
Web: http://www.iciam.org

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Best Ph.D Thesis of 2004 on Computational Methods in Applied Sciences and Engineering

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First Selection: Each local ECCOMAS Association will select a candidate thesis according to an internally decided selection procedure. They will send the selected thesis, together with a short (one page) motivation why this thesis is outstanding, to the ECCOMAS Secretariat in Barcelona, not later than **May 31, 2005**.

Award Decision: The ECCOMAS PhD-Award Committee will select the person awarded by **July 15, 2005**.

Award Presentation: The Award will be handed over at the II International Conference on Adaptive Modeling and Simulation – ADMOS 2005 (Barcelona, Spain) to be held on 08.-10. September, 2005. The specific day will be announced later.

Web: http:// www.eccomas.org

Personalia

Todesfälle

Wir gedenken:

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Herrn Prof. Dr. em. Klemens Burg, zuletzt in Kassel
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Messages concerned with membership issues should be addressed to our Vice-Secretary:
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All other correspondences, information, changes of addresses etc. are being processed by our GAMM-Secretary: Prof. Dr.-Ing. V. Ulbricht or the GAMM-Office respectively.

GAMM-Geschäftsstelle
c/o Prof. Dr.-Ing. V. Ulbricht
Technische Universität Dresden
Institut für Festkörpermechanik
D-01062 Dresden

Tel. : ++49-(0) 351-463-34285
Fax. : ++49-(0) 351-463-37061
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