RUNDBRIEF

DER

GESELLSCHAFT FÜR ANGEWANDTE MATHEMATIK UND MECHANIK

Herausgegeben vom

Sekretär der GAMM
V. Ulbricht, Dresden

Redaktion

M. Gründer, Dresden

2003 – Brief 1

Editorial

In Kürze werden wir uns zur Jahrestagung 2003 in Padua-Abano treffen. Das vorläufige Programm liegt diesem Rundbrief bei. Der gegenwärtige Stand der Anmeldungen zeigt bereits jetzt, dass wir eine interessante Tagung mit zahlreichen Teilnehmern erleben werden.

Die nächste Zukunft hält eine Reihe bedeutender Tagungen bereit, die traditionsgemäß von vielen GAMM-Mitgliedern besucht werden. An erster Stelle sei darauf hingewiesen, dass der ICIAM-Kongress in Sydney vom 7. – 11. Juli 2003 immer näher rückt. Noch besteht die Möglichkeit, Vorträge anzumelden, obwohl der offizielle Anmeldetermin bereits überschritten ist. Nähere Informationen findet man auf Seite 21 dieses Rundbriefes bzw. auf der ICIAM-Homepage. Zur Darstellung des gegenwärtigen Vorbereitungstandes veröffentlichen wir auf Seite 22 eine Mitteilung des Kongress-Direktors Noel Barton.

Ebenfalls in diesem Jahr finden drei EUROMECH-Konferenzen statt, die die Traditionen der Themen Materialmechanik, Festkörpermechanik sowie Strömungsmechanik fortsetzen. Nähere Angaben hierzu sind auf den Seiten 27 bis 29 einzusehen.

Angemerkt sei auch die gemeinsam von EMS und SIAM veranstaltete Konferenz im Mai 2003 (Seite 30).

Abschließend möchte ich noch auf die bereits vorliegende Ankündigung der Kongresse ECCOMAS 2004 (Seite 25) und ICIAM 2004 (Seite 23) verweisen.

Die Herausgeber der GAMM-Mitteilungen richten an alle Leser des Rundbriefes die Bitte um Einreichung von geeigneten Manuskripten. Diese sollten in erster Linie Übersichtsartikel über Themen aus der angewandten Mathematik und Mechanik enthalten. Aber auch Berichte über größere Forschungsvorhaben und -aktivitäten werden gern angenommen.

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Inhaltsverzeichnis

Ausschreibung des Richard-von-Mises-Preises der GAMM 2004

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 2004 ist der Einreichungstermin der **30. September 2003**.

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

Berichte der GAMM-Fachausschüsse

FA: Rechnerarithmetik und Wissenschaftliches Rechnen
Jahresbericht 2002

Dem Fachausschuss gehören derzeit an:

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

Der Fachausschuss hat in der Zeit vom 24. bis 27. September 2002 eine weitere Fachtagung, „SCAN 2002, GAMM/IMACS International Symposium on Scientific Computing, Computer Arithmetic and Validated Numerics", an der Universite P. et M. Curie, Laboratoire d'Informatique in Paris durchgeführt. Örtlicher Tagungsleiter war Prof. Dr. René Alt. Die Tagung wurde von 101 Teilnehmern aus 18 Ländern besucht. Es wurden 8 Hauptvorträge und 82 Kurzvorträge gehalten. Zu der Veranstaltung wird ein Tagungsband beim Kluwer Verlag erscheinen. Weitere Vorträge werden in der Zeitschrift Reliable Computing veröffentlicht.

Am 25. September fand in Paris eine Sitzung des Fachausschusses statt. Es wurde beschlossen, die nächste größere Veranstaltung unter dem Titel: „SCAN 2004, GAMM/IMACS International Symposium on Scientific Computing, Computer Arithmetic and Validated Numerics" in der Zeit vom 4. bis 8. Oktober 2004 an der Kyushu Universität in Fukuoka, Japan, durchzuführen. Die örtliche Tagungsleitung wird Prof. Dr. Mitsuhiro Nakao übernehmen. Prof. Nakao ist unter folgender E-Mail Anschrift zu erreichen: mtnakao@math.kyushu-u.ac.jp

Auf ebendieser Sitzung in Paris bat der bisherige Vorsitzende des Fachausschusses, Prof. Dr. Ulrich Kulisch, ihn von diesem Amt zu entlasten und einen neuen Vorsitzenden zu wählen. Der Bitte wurde entsprochen. Als neuer Vorsitzender des Fachausschusses wurde einstimmig Prof. Dr. Walter Krämer, Universität Wuppertal, gewählt. Prof. Krämer wird den Vorsitz am 1.1.2003 übernehmen.

U. Kulisch, Karlsruhe

Der Vorstand dankt Herrn Kollegen Kulisch für sein langjähriges aktives Wirken in der Leitung des Fachausschusses.
Herrn Kollegen Krämer gilt unser Dank für seine Bereitschaft, diese Tätigkeit fortzuführen.

V. Ulbricht
Sekretär der GAMM

FA: Analysis von Mikrostrukturen
Jahresbericht 2002

Der Fachausschuss hat sich in Hannover am 22.9.1998 konstituiert; ihm gehören derzeit an:

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

Interessierte GAMM-Mitglieder seien weiterhin herzlich zur Mitarbeit aufgerufen.

Aktivitäten im Berichtszeitraum:

- Conference on Nonlinear Analysis: Mathematics as a Guide to the Understanding of Applied Nonlinear Problems, Kloster Irsee
06.-10. Januar 2002
Organisatoren: H. Kielhöfer, A. Mielke, J. Scheurle
- Vienna GAMM Seminar on Microstructures, Technische Universität Wien, Österreich
18.-20. Januar 2002
Organisatoren: C. Carstensen, K. Hackl, T. Schrefl
- International Conference on Multifield Problems, Universität Stuttgart
08.-12. April 2002
Organisation: SFB 404 - "Mehrfeldprobleme" (u.a. A. Mielke)
- CISM-Kurs "Computational Micromechanics of Materials Science", Udine, Italien
23.-27. September 2002
Organisation: P. Wriggers, C. Schwab, T.I. Zohdi
- Abschlusstagung des Sonderforschungsbereichs 298 "Deformation und Versagen bei metallischen und granularen Strukturen", Technische Universität Darmstadt
18. und 19. November 2002
Organisator: K. Hutter, Mitorganisator: H.-D. Alber
- Workshop on "Numerical methods for multiscale problems", Max-Planck-Institut für Mathematik in den Naturwissenschaften, Leipzig
13.-15. November 2002
Organisatoren: C. Carstensen, W. Hackbusch, S. Luckhaus

Geplante Aktivitäten in 2003:

- 2nd GAMM Seminar on Microstructures, Ruhr-Universität Bochum
10. und 11. Januar 2003
Organisatoren: C. Carstensen, K. Hackl, J. Schröder
web-Info: http://www.am.bi.ruhr-uni-bochum.de/gamm-seminar/

Aktuelle Informationen über die Ziele und Aktivitäten des Fachausschusses finden sich auf der Internetseite

http://gamm.tuwien.ac.at/gammFA/

C. Carstensen, Wien

FA: Angewandte und Numerische Lineare Algebra
Jahresbericht 2002

Dem Fachausschuss gehören derzeit an:

B. Beckermann (Lille)
P. Benner (Berlin)
L. Blank (Regensburg)
A. Böttcher (Chemnitz)
A. Bunse-Gerstner (Bremen)
L. Elsner (Bielefeld)
O. Ernst (Freiberg)
H. Faßbender (Braunschweig)
B. Fischer (Lübeck)
A. Frommer (Wuppertal)
M. Gutknecht (Zürich
M. Hochbruck (Düsseldorf)
T. Huckle (München)

A. Klawonn (Essen)
J. Liesen (Berlin)
V. Mehrmann (Berlin)
J. Modersitzki (Lübeck)
R. Nabben (Bielefeld)
K. Neymeyr (Tübingen)
Y. Notay (Brüssel)
D. Potts (Lübeck)
K. Rost (Chemnitz)
S. Rump (Hamburg-Harburg)
G. Steidl, (Mannheim)
M. Tuma, (Prag)
H. Voß (Hamburg-Harburg)

Der diesjährige Workshop der GAMM-Fachgruppe „Angewandte und Numerische Lineare Algebra" fand unter dem Themenschwerpunkt „Multilevelmethoden und Krylov-Unterraum-Iterationen" vom 13.-14.09.2002 an der Universität Bielefeld statt.

Der Workshop wurde von Jörg Liesen (TU Berlin) und Reinhard Nabben (Univ. Bielefeld) organisiert.

Hauptvortragende waren Owe Axelsson (Univ. Nijmegen, Holland), Klaus Stüben (GMD St. Augustin), Olof Widlund (Courant Institute, New York) und Miroslav Tuma (Czech Academy of Science, Prag).

Neben diesen vier einstündigen Vorträgen fanden 28 halbstündige Vorträge statt. Insgesamt nahmen 52 Personen aus 8 Ländern an dem Workshop teil.

Den Organisatoren sei für die geleistete Arbeit und der GAMM und der Universität Bielefeld sei für die finanzielle Unterstützung gedankt.

Im Rahmen des Workshops fand am 13.09. 2002 auch die diesjährige Mitgliederversammlung des Fachausschusses unter reger Beteiligung (25 Teilnehmer) statt.

Folgende Themenschwerpunkte wurden diskutiert und beschlossen:

• Die Fachgruppe hat sich eine Ordnung gegeben und diese verabschiedet.

• Frau Faßbender (TU Braunschweig) hat eine Web-Seite der Fachgruppe erstellt.

  http://www-m8.mathematik.tu-muenchen.de/m3/NLA/gamm/index.html.

• Es wurde beschlossen, dass versucht werden soll die SIAM Applied Linear Algebra Tagung im Jahre 2006 gemeinsam mit der Partnerfachgruppe der SIAM und der International Linear Algebra Society (ILAS) zu organisieren. Die Tagung soll in Düsseldorf vom 26.-29.07.2006 stattfinden. Die Tagungsleitung würde von Frau Hochbruck (Düsseldorf) und Herrn Frommer (Wuppertal) übernommen. Die Fachgruppe der SIAM und die ILAS haben bereits ihre Zustimmung signalisiert. Es sollen weiterhin verschiedene Sommerschulen organisiert werden.

Das nächste Treffen der Fachgruppe wird 2003 in Braunschweig stattfinden, und im Jahre 2004 soll die Tagung zusammen mit der IWASEP IV (Accurate Solution of Eigenvalue Problems) in Hagen organisiert werden. Weitere Workshops sind in den kommenden Jahren in Freiberg bzw. Poznan geplant.

Auf der Tagung in Braunschweig sollen die Mitglieder des Vorstandes der Fachgruppe neu gewählt werden. Die Amtszeit beträgt 3 Jahre.

Vorschläge für Kandidatinnen und Kandidaten sind an Volker Mehrmann zu richten.

V. Mehrmann, Berlin

FA: Mathematische Analyse nichtlinearer Gleichungen
Jahresbericht 2002

Dem Fachausschuss gehören derzeit an:

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

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.
Das in diesem Jahr von Herrn Kollegen Wolf-Jürgen Beyn organisierte traditionelle Treffen des Fachausschusses im Mathematischen Forschungsinstitut Oberwolfach fand vom 1.11.-3.11.2002 statt.

Es wurde wieder mit einer Kurztagung verbunden, die in diesem Jahr unter dem Thema "From DNA Modelling to Molecular Evolution" stand.

Das Programm wurde mit einem Vortrag von John Maddocks eröffnet, der über seine Arbeit auf dem Gebiet der Beschreibung der DNA-Eigenschaften berichtete. Techniken der Kontinuumsmechanik, insbesondere der Theorie elastischer Stöße werden angewandt, um Computerprogramme und analytische Verfahren zu entwickeln, die grundlegende mechanische Eigenschaften der DNA beschreiben sollen. Für DNA-Abschnitte, die länger als 20 Basenpaare sind, ist es nicht möglich, Simulationen auf dem atomaren Level durchzuführen. In einem "reduced order model" wird deshalb die Struktur der Atome durch ein Modell eines

kontinuierlich gedrehten Stabes ersetzt. Ergänzt wurde dieser Vortrag durch Maher Moakher, der einen Kontinuumsansatz für die DNA-Doppelhelix vorstellte, und durch Cedric Vaillant, der in seinem Beitrag einen Ansatz vorstellte, in dem mittels statistischer Analyse der DNA-Sequenzen ein mathematisches Modell für einen DNA-Strang entwickelt wird.

Andreas Dress berichtete über das Problem der Rekonstruktion phylogenetischer Bäume aus der Sicht der Mathematik. Dabei tritt die Frage auf, ob die Ähnlichkeit zwischen DNA-Molekülen auf einem Zwang zur Anpassung (Konvergenz) beruht oder auf einem Divergenzprozess, der als Ausgangspunkt die gemeinsame Abstammung hat. Stefan Grünewald stellte eine neue Methode vor, die es ermöglicht, phylogenetische Bäume zu erstellen. Holger Wagner sprach über seine Untersuchung von verschiedenen ABC-Transporter-Klassen, die in einem Bakterium vorkommen, das als Modellorganismus für die "bacteria-legume" Symbiose dient. Des weiteren stellte Georg Füllen einen Algorithmus vor, der in Bruchteilen der DNA-Sequenz nach gemeinsamen Mustern sucht. Dieser Algorithmus kann dann beim Erstellen eines phylogenetischen Baumes verwendet werden.

Anton Wakolbinger berichtete über neue Erkenntnisse in der Analyse des "stepping stone" Modells. Dieses Modell aus der Populationsgenetik dient zur Berechnung der Wahrscheinlichkeit, mit der z.B. zwei Personen einen gleichen Vorfahren haben. Wichtige Parameter in diesem Modell sind u.a. die Populationsgröße und die Migrationsdynamik. Die Suche nach Koaleszenz wird dabei mittels eines Random Walks beschrieben. Dirk Metzler sprach über ein Modell, das zur Bestimmung von "alignments" und Mutationsraten dient und auf Sequenz-Evolutions-Modellen basiert. Der Prozess der Einfügung und Löschung in einem Sequenz-Evolutionsmodell wird mit einer "hidden Markov" Struktur auf dem Level von einzelnen "alignments" simuliert. Simulationen mit der von Metzler entwickelten Software zeigen den Vergleich von DNA-Sequenzen im Mitochondrium des Menschen und des Orang-Utans und bewerten die Variabilität der Parameter für "alignments" und Mutation. Steffen Grossmann sprach über ein Problem, das beim Vergleich einer neu bestimmten DNA-Sequenz mit einer großen Basis von bekannten Sequenzen auftritt: Welche "score" Werte bei einem gegebenen "scoring" Schema sind außergewöhnlich hoch und könnten so ein biologisch sinnvoller Indikator für die Gleichheit zweier Sequenzen sein? Grossmann sprach in diesem Zusammenhang über die Untersuchung von Verteilungen von optimalen lokalen Gruppierungs-"scores" unter der Annahme, dass zwei zufällige, unkorrelierte Sequenzen betrachtet werden.

Im Einzelnen wurden folgende Vorträge gehalten:
- John Maddocks (Lausanne): Multi-scale models of DNA tertiary structure
- Maher Moakher (Lausanne): A double-stranded rod theory: Toward a more refined continuum model for the DNA Duplex
- Cedric Vaillant (Lausanne): Influence of the sequence of the elastic properties of long DNA chains
- Andreas Dress (Bielefeld): Comparative sequence analysis: How to derive consistent conclusions from inconsistent data
- Stefan Grünewald (Bielefeld): Some methods to obtain phylogenetic trees or other split systems from DNA data
- Holger Wagner (Bielefeld): Multiple sequence alignment and predictions of physiological functions
- Georg Füllen (Münster): Towards mathematical analysis of the minimum conflict method for phylogeny estimation
- Anton Wakolbinger (Frankfurt): Migration, mutation, lines of descent: the stepping stone model from population genetics

- Stefan Grossmann (Frankfurt): How likely are high alignment scores with unrelated sequences?
- Dirk Metzler (Frankfurt): Sequence alignment in the light of molecular evolution models

Aufgrund der positiven Erfahrungen diesen Jahres soll das nächste Fachausschuss-Treffen wiederum mit einer dreitägigen Tagung verbunden werden und vom 7.11-9.11.2003 im Mathematischen Forschungsinstitut Oberwolfach stattfinden.

T. Küpper, Köln

FA: Angewandte Stochastik und Optimierung
Jahresbericht 2002

Dem Fachausschuss gehören derzeit an:

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

Über die Tätigkeit des Fachausschusses im Berichtszeitraum 2002/03 ist wie folgt zu berichten:

1. Workshop Applications of Fuzzy Sets and Fuzzy Logic to Engineering Problems, Pertisau, Tirol, September 29 - October 1, 2002

Auf diesem Workshop, organisiert von M. Oberguggenberger und G.I. Schueller, Universität Innsbruck, wurden 13 Vorträge gehalten zu den folgenden Themenbereichen: Vague Data, imprecise probabilities, fuzzy sets, interval probabilities, etc., und ihre Anwendung im Ingenieurwesen, insbesondere in der Zuverlässigkeitsanalyse mechanischer Strukturen unter Unsicherheit. Ein Sonderheft der ZAMM über die Ergebnisse dieses Workshops ist in Vorbereitung.

2. Festkolloquium "10 Jahre FOMAAS", 8. November 2002, Siegen

Am 8. November 2002 fand aus Anlass des zehnjährigen Bestehens des Forschungszentrums für Multidisziplinäre Analyen und Angewandte Systemoptimierung FOMAAS ein Festkolloquium an der Universität Siegen unter Beteiligung von 160 Gästen aus Wissenschaft, Verwaltung und Industrie statt. Eines der Grußworte sprach der GAMM-Präsident Prof. Dr.-Ing. Dr. h.c. Friedrich Pfeiffer. Der Beginn der Forschungen auf dem Gebiet der Strukturoptimierung geht allerdings schon mehr als 25 Jahre zurück, wozu Grundlagenforschung auf den Gebieten Multikriterien-Optimierung, der Multilevel-Optimierung und den mathematischen Optimierungsmethoden gefördert durch die Deutsche Forschungsgemeinschaft DFG zählten. Ziel der Gründung war es, eine Institution zu errichten, in der durch interdisziplinäre, projektbezogene Zusammenführung der Ingenieurwissenschaften mit der Angewandten Mathematik, den Naturwissenschaften, den Wirtschaftswissenschaften und der Informatik sowohl für die Grundlagenforschung als auch für die Angewandte Forschung Anstöße gegeben und Lösungswege aufgezeigt werden. Inzwischen sind sechs

Arbeitsgruppen der Universität Siegen und drei Arbeitsgruppen der Universitäten Marburg, Bochum und Essen beteiligt. Die thematische Bandbreite der Forschung reicht von Lebensdauerproblemen und der Optimierung von Verkehrssystemen, der Optimierung komplexer wasserwirtschaftlicher Systeme bis hin zu innovativen Ansätzen in der Brennstoffzellenforschung und der Biotechnologie. Überdies ist FOMAAS an mehreren zukunftsweisenden Entwicklungen und Vorhaben wie dem Zentrum für Mikro- und Nanochemie, einem EU-Projekt "MDO in Anwendung auf Flugzeugflügel-Konfigurationen" und dem neuen PhD-Studiengang "Multisensorik" beteiligt.

Das Kolloquium, organisiert durch die Professoren Eschenauer und Wiechert, sollte auf die Problemstellungen der heutigen Zeit und auf einige wichtige Forschungsaufgaben verweisen. Es war hierzu gelungen, neben dem GAMM-Präsidenten den Vorsitzenden der Deutschen Sektion des Club of Rome, Professor M.F. Jischa und den VDI-Direktor und geschäftsführendes VDI-Präsidiumsmitglied Dr. W. Fuchs als auswärtige Festredner zu gewinnen. Folgende Vorträge wurden gehalten:

- 10 Jahre FOMAAS: Rückblick und Vorschau
  Prof. Dr.-Ing. Hans A. Eschenauer, Universität Siegen, FOMAAS
- Technik - Macht - Gesellschaft
  Prof. Dr.-Ing. M. Jischa, TU Clausthal
- Gewichtsoptimierung von Laminat-Leichtbaustrukturen
  Prof. Dr.-Ing. W. Becker, Universität Siegen, FOMAAS
- Systembiologie: Eine Herausforderung für die Ingenieurwissenschaften
  Prof. Dr. rer. nat. W. Wiechert, FOMAAS
- Verteilte simulationsbasierte Produkt- und Prozessoptimierung
  Prof. Dr. M. Grauer, FOMAAS
- Ingenieure und Innovation
  Dr.-Ing. W. Fuchs, Direktor des VDI

3. 5. GAMM-Workshop über das Thema "Stochastische Modelle und Steuerung", Lutherstadt Wittenberg, 17.-21.03.2003

Der 5. GAMM-Workshop über das Thema "Stochastische Modelle und Steuerung" findet vom 17. bis 21. März 2003 wieder in Lutherstadt Wittenberg statt, diesmal unter der Leitung von Prof. H.-U. Küenle. Dem Programmkomitee gehören an: H.-J. Girlich (U Leipzig), W. Grecksch (MLU Halle), K. Helmes (HU Berlin), H.-U. Küenle (BTU Cottbus), K. Marti (UniBw München), V. Nollau (TU Dresden) U. Rieder (U Ulm), S. Vogel (TU Ilmenau)

4. Eine Auswahl von referierten Beiträgen, die auf dem 4. GAMM-Workshop "Stochastische Modelle und Steuerung", 2.-4. April, 2001, Lutherstadt Wittenberg, präsentiert wurden ist als Sonderheft der ZAMM, Vol. 82, 11-12, 2002, erschienen; Editoren: W. Grecksch, Universität Halle und K. Marti, UniBw München.

5. Ein Proceedingsband des IFIP/IIASA/GAMM-Workshop on "Dynamic Stochastic Optimization", 11.-14. März 2002, Laxenburg/Wien ist in Vorbereitung. Die Proceedings werden als Springer Lecture Notes erscheinen. Editoren sind: K. Marti, UniBw München, Y. Ermoliev, IIASA Laxenburg und G. Pflug, Universität Wien.

K. Marti, München

FA: Effiziente numerische Verfahren für Partielle Differentialgleichungen
Jahresbericht 2002

Dem Fachausschuss gehören an (Stand 18.01.03):

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

Aktivitäten im Berichtszeitraum:

18th GAMM-Seminar Leipzig on Multigrid and related methods for optimization problems, 24.-26.01.2002
Veranstalter: Wolfgang Hackbusch (MPI Leipzig), Michael Griebel (Uni Bonn)
Proceedings:
http://www.mis.mpg.de/conferences/gamm/2002/GAMM_2002_Proceedings_1.html

Workshop OPA 2002 ("Optimization in Partial Differential Equations and Applications"), Heidelberg, 07.-09.10.2002
Organisatoren: PD Dr. R. Becker, Prof. H.G. Bock, Prof. R. Rannacher, Dr. J. Schlöder

Zürich Summer School ("FEM for PDEs with Multiple Scales"), 09.-13.09.2002
Veranstalter: S. Sauter und C. Schwab
Details unter: http://www.sam.math.ethz.ch/conferences/zss02/

Workshop on numerical methods for multiscale problems, 13.-15.11.2002
Veranstalter: C. Carstensen, TU Vienna, W. Hackbusch, MPI Leipzig, S. Luckhaus, Uni Leipzig

Workshop COMREF 2002 ("Computational Methods for Multidimensional Reactine Flows"), Heidelberg, 02.-04.12.2002
Organisatoren: Dr. M. Braack, Dr. O. Deutschmann, Prof. R. Rannacher, Prof. J. Warnatz

19th GAMM-Seminar Leipzig on High-dimensional problems - Numerical treatment and applications, 23.-25.01.2003
Veranstalter: Wolfgang Hackbusch (MPI Leipzig) , Gerhard Zumbusch (Uni Jena)

Ankündigungen:

Winterschule zu hierarchischen Matrizen, 24.-28. 02. 2003
Veranstalter: W. Hackbusch, S. Börm, L. Grasedyck

Workshop on Numerical methods for PDEs with complicated structures, 16.-18.06.2003

S. Sauter, Zürich

Mitteilungen

Grußwort des Präsidenten der GAMM

Prof. Dr.-Ing. Dr. h.c. Friedrich Pfeiffer

anlässlich der Festveranstaltung "10 Jahre FOMAAS"
8. November 2002, Universität Siegen

Magnifica, Herr Bürgermeister, sehr geehrte Festgäste,

im Namen der Gesellschaft für Angewandte Mathematik und Mechanik möchte ich der Universität Siegen und dem Forschungszentrum für Multidisziplinäre Analysen und Angewandte Systemoptimierung sehr herzlich zu diesem zehnjährigen Jubiläum gratulieren.

Als ich gebeten wurde, aus diesem Anlass zu Ihnen zu sprechen, kam mir natürlich vieles in den Sinn. Unsere berühmten Altvordern an erster Stelle. So Ludwig Prandtl, dessen kurze, aber effiziente Tätigkeit bei der Nürnberger Maschinenfabrik, später MAN, ihm entscheidende Anstöße für seine spätere Grenzschichttheorie gab. Oder Karl Friedrich Gauss, dem wesentliche Erkenntnisse zur Differentialgeometrie bei der praktischen Landesvermessung zufielen. Es kam mir Charles Augustin Coulomb in den Sinn, der nach seinen Festungsbauten in Martinique und den dabei auftretenden Gewölbeproblemen 1776 nach Paris zurückkehrte und seine Arbeiten zur Balkenstatik und zur Reibung entwickelte. Die Liste ließe sich beliebig fortführen.

„Theoria cum praxi", wie es auf der ZAMM steht, oder das „mens agitat molem" meiner alten Darmstädter Technischen Hochschule sind die wesentlichen Eigenschaften des Ingenieurs und Ingenieurwissenschaftlers. Ingenieurwissenschaften sind Umsetzungswissenschaften, die tiefgehendes Wissen über beides verlangen, über moderne Theorien, besonders mathematische und physikalische Theorien, **und** über die Probleme der Praxis, der echten Praxis, der industriellen nämlich. Nicht „entweder – oder", sondern „und".

Die aktuelle Hochschulentwicklung entspricht kaum derartigen sachlichen Anforderungen. Es gibt viel zu viele Anwendungsfächer, die mitunter den Namen kaum verdienen, wenn man an die Industrie denkt. Es gibt zu wenig Grundlagenfächer und dementsprechend eine Schieflage in der Ausbildung. Anwendungswissen veraltet schnell, es stellt keine Basis für lebenslanges Weiterlernen dar. Grundlagen und ein darauf aufbauender Durchblick „befreit vom Diktat des Partikulären", wie es mein Vorgänger im Präsidentenamt der GAMM, Prof. Becker aus Darmstadt, einmal formulierte. Das setzt Beherrschung der Umsetzungsspannen von den abstrakten Grundlagen bis zur fertigen Maschine voraus, sicherlich ein lohnendes, aber schwierigeres Ausbildungsziel als die immer mehr vorherrschende Tendenz zu Faktenwissen von nicht immer überzeugendem Niveau. Eine stets zu unterstützende Chancengleichheit ist nicht Ergebnisgleichheit. Die dazwischen liegenden Kriterien wie Begabung, Leistungswille und -bereitschaft sowie Selbstdisziplin müssen eingefordert werden - und zwar von Schulen und Universitäten. Hohes Abstraktionsvermögen und praktische Intelligenz beim Umsetzen und Organisieren kennzeichnen den Ingenieur – beides, nicht das eine *oder* das andere.

Jeder, der einmal im industriellen Management größere Verantwortung getragen hat, kennt das Prinzip des „Market Pull und Technology Push". Dies bedeutet, dass sich technische Neuerungen im Spannungsfeld der Marktanforderungen auf der einen und der aus den Grundlagen kommenden Ideen auf der anderen Seite abspielen. In den wissenschaftlichen Bereich übertragen könnte man von „Technology Pull und Science Push" sprechen.

Wissenschaft erzeugt aus sich selbst heraus Ansätze für neue Ideen, was ausnahmslos und immer auf der Basis neuer Grundlagenentwicklungen geschieht, und existierende Technologien motivieren die Wissenschaft, sich mit ihren offenen technologischen Problemen zu beschäftigen. Bei einer Einrichtung wie FOMAAS findet man sicherlich beides, bei einer Firma wie der Bundesrepublik Deutschland ist die Balance erheblich gestört.

Deutschland ist Weltmeister im Verbessern, was in die Kategorie „Market Pull und Technology Pull" gehört, aber nicht Weltmeister im Erfinden neuer Technologien und neuen Wissens. Ich denke, dass man auf einer Veranstaltung wie dieser auf diese Situation hinweisen darf, insbesondere vor dem Hintergrund, dass dieser Trend durchdringend ist. Abgesehen von der Tatsache, dass Schulen und Hochschulen mit zweistelligen Milliardensummen unterfinanziert sind, ist das deutsche Bildungssystem in vielen Bereichen in einem Maße anwendungsorientiert, dass die daraus hervorgegangenen Menschen kaum in der Lage sein werden, mögliche Neuerungen zu generieren. Dazu gehört Grundlagenwissen, Denkfähigkeit, äußerste Disziplin und eine nie endende Zähigkeit – alles derzeit etwas unbeliebte Aspekte. Ambiguitätstoleranz, so die Kreativitätsforscher, sei eine „conditio sine qua non" für Innovationen, die Fähigkeit also, lange Zeit mit der aus vielen Lösungsmöglichkeiten eines Problems resultierenden geistigen Spannung zu leben, bis die beste Lösung gefunden ist. Selbst an den Hochschulen scheint hierfür vielfach die Zeit, häufig auch die Einsicht zu fehlen.

FOMAAS ist ein Lichtblick in dieser Landschaft. Ich wünsche ihm, dass es nicht nur so bleibt, sondern dass dieses Licht in Zukunft noch intensiver leuchten möge, zum Wohle Ihrer Universität, Ihrer Studenten, aber auch zum Wohle der damit eingebundenen Industrie.
Ich danke Ihnen für Ihre Aufmerksamkeit.

F. Pfeiffer

Message from new EMS President

Dear President,

Please forgive this impersonal form of address, but I am writing to the Presidents of all the societies that are corporate members of the European Mathematical Society to introduce myself. I have just taken over from Rolf Jeltsch as President, and I am anxious to follow his example in keeping in close touch with both corporate and individual members. I hope that over time I shall meet many of you and your colleagues, but meanwhile I would be glad to hear from you about any matter relevant to the EMS or to European mathematics generally.

Obviously one item of great concern is the role of the European Union in the support of mathematics, for instance in the Sixth Framework Programme, but the EMS is not confined to EU countries, and there are many other issues, for example around mathematical publications, which do and should engage the attention of the EMS.

Do please feel free to let me know your views. The EMS exists to serve the mathematicians of Europe, and to complement the activities of national societies. The e-mail address from which I write is dedicated to EMS business, but I can also be contacted by other means at the

Isaac Newton Institute
20 Clarkson Road,
Cambridge CB3 0EH, UK;

Telephone: +44 (0)1223 335980
Telefax: +44 (0)1223 330508)
E-mail: emspresident@newton.cam.ac.uk

With best wishes for 2003,

Yours sincerely,

John Kingman

Zur Situation der Strömungsmechanik an deutschen Universitäten

Schreiben des Präsidenten der GAMM an den Vorsitzenden des Fakultätentages Maschinenbau und Verfahrenstechnik, Prof. Friedrich

Grundlagenfächer

Sehr geehrter Herr Kollege Friedrich,

als Anlage finden Sie einen Brief, in dem ich im Namen der GAMM und als Präsident der GAMM meine Sorge über die derzeitige Entwicklung der Ingenieurausbildung zum Ausdruck bringe.

Ich bin der Meinung, daß mit den heutigen Trends auch der Industrie nicht gedient ist, da Universitätsingenieure diejenigen sein sollen, die für die Konzepte und die zukünftige Entwicklung in der Industrie an leitender Stelle einmal verantwortlich sein sollen. Dies ist ohne solide Grundlagenkenntnisse nicht möglich. Man kann im späteren Berufsleben vieles nachlernen. Am schwierigsten ist dies ohne Zweifel bei den Grundlagen.

Ich möchte Sie bitten, diese Bemühungen zur Meinungsbildung dahingehend zu unterstützen, daß Sie das beiliegende Schreiben mit Anlagen an die Teilnehmer des Fakultätentages verteilen. Für Ihre Mühe bedanke ich mich im voraus.

Mit freundlichen Grüßen

Prof. Dr.-Ing. F. Pfeiffer

An die Mitglieder des Fakultätentages Maschinebau und Verfahrenstechnik

Sehr geehrte Damen und Herren,

im Namen der Gesellschaft für Angewandte Mathematik und Mechanik (GAMM) möchte ich Sie auf eine Entwicklung aufmerksam machen, die langfristig deutliche Gefahren für die Ausbildung zukünftiger Ingenieure in sich birgt. Ich meine den Prozeß des Zurückdrängens der Grundlagenfächer und den Ersatz dieser Fächer durch mehr anwendungsorientierte Gebiete. Dies liegt auf der Linie des deutschen Bildungssystems, daß man durch Herabsetzen der Anforderungen einer größeren Zahl von jungen Menschen ermöglicht, einen gehobenen Abschluß zu erreichen. Es gilt für das Abitur ganz genauso wie für das Diplom in den Ingenieurfächern. Ich halte diesen Weg für falsch.

Die Grundlagenfächer, allen voran die Mechanik und Strömungsmechanik, sind die Basis, von der der zukünftige Ingenieur in all seinen Aktivitäten ausgehen muß. Ingenieurwesen ist ein gestalterischer Beruf und hat damit durchaus Ähnlichkeit mit künstlerischen Berufen, jedoch mit dem gravierenden Unterschied, daß alle technischen Artefakte einer physikalischen und mathematischen Logik folgen müssen. Grundlagenwissen veraltet nicht, Anwendungswissen muß immer wieder aktualisiert werden und ist damit ein Gegenstand des "training on the job".

Grundlagenwissen ist langfristig höchst ökonomisch, da es Obersichten und Einsichten gestattet, die Anwendungswissen nur partikulär und zeitlich schnell vergänglich liefert. Grundlagenwissen befreit vom Diktat des Partikulären und ist für lebenslanges Lernen das einzige und damit unverzichtbare Fundament. An den Universitäten sollen die Studenten Denken lernen und nicht spezielles Wissen anhäufen, sie sollen Berufsfähigkeiten und weniger

Berufsfertigkeiten vermittelt bekommen. Aus eigener sechzehnjähriger Industrieerfahrung in leitenden Positionen kann ich nur bestätigen, daß man mit wachsender Verantwortung für das personelle und technische Geschehen einer Firma immer mehr auf sein Reservoir an Grundlagenwissen zurückgreifen muß.

Die GAMM betrachtet mit Sorge die oben angedeutete Entwicklung. Dies gilt für die Mechanik auf der einen Seite, deren Stundenzahl an fast allen Technischen Universitäten schleichend reduziert wurde. Dies gilt insbesondere für die Strömungsmechanik, für die sogar an einigen deutschen Universitäten die Lehrstühle umgewidmet oder ganz abgeschafft wurden. Man braucht nicht die Pisa-Studie zu bemühen, um diesen Trend als nicht sinnvoll zu erkennen. Es geht nicht darum, was die Industrie kurzfristig an Personal braucht, es geht darum, was den jungen Menschen und damit auch der Industrie langfristig am meisten nützt. Im Namen der GAMM bitte ich den Fakultätentag, diese Entwicklung zu stoppen und umzukehren.

Als Anlage finden Sie eine Denkschrift zur Didaktik der Mechanik und ein Memorandum zur Strömungsmechanik, die die obigen Ausführungen detaillieren.

Mit freundlichen Grüßen

Prof. Dr.-Ing. F. Pfeiffer

Memorandum zur Situation der Strömungsmechanik an deutschen Universitäten

Seit mehreren Jahren werden in ingenieurwissenschaftlichen Fakultäten deutscher Universitäten eine Reihe von Professuren und Lehrstühlen für Strömungsmechanik nicht mehr besetzt. Von dieser Tendenz haben die deutschen Professoren, die das Fach Strömungsmechanik vertreten, anlässlich einer Klausurtagung in Darmstadt mit Sorge Kenntnis genommen. Sie warnen vor den Gefahren des Verlustes an wissenschaftlicher und technischer Kompetenz der Hochschulen und deren Absolventen, worauf in diesem Memorandum kurz eingegangen wird.

Die Strömungsmechanik gehört zu den physikalisch orientierten Grundlagenfächern in ingenieurwissenschaftlichen Studiengängen wie Maschinenbau, Verfahrenstechnik, Energietechnik, Umwelttechnik, Luft- und Raunfahrttechnik, Medizintechnik. Bedingt durch große Fortschritte in den Bereichen der Numerik, der Computer-Simulationen und der optischen Laser-Messtechnik befindet sich die strömungsmechanische Forschung zur Zeit in einer stürmischen Entwicklung. Die Forschung in Deutschland in diesen Gebieten konnte sich gegenüber der internationalen Konkurrenz bisher sehr gut behaupten. Die Bedeutung einer hohen wissenschaftlichen Kompetenz in einem Grundlagenfach, wie hier der Strömungsmechanik, ist für technische Anwendungen unübersehbar. Fast alle technischen Innovationen resultieren aus der Gewinnung neuer grundlegender Erkenntnisse in den Basiswissenschaften. Als Beispiele verweisen wir auf die enormen Fortschritte, die in den vergangenen Jahren in der Technologie der Verbrennungsmotoren und Luftfahrtantriebe bezüglich Kraftstoff-Einsparung und Schadstoff-Emission gemacht wurden, und die infolge neuer Kenntnisse über Strömungsturbulenz, numerischer Berechnungsverfahren und Laser-Messtechnik ermöglicht wurden. In gleicher Weise haben diese Fortschritte zu einer Vibrations- und Lärmreduktion bei Kraftfahrzeugen, Windturbinen, Hubschraubern und Flugzeugen geführt. Die Strömungsmechanik leistete auch eine erhebliche Pionierarbeit in der Bildverarbeitung und in den Scanning-Techniken, die nicht nur in der Strömungsmechanik selbst, sondern auch in der Medizin, z.B. in der Computer-Tomographie und Herz-Kreislauf-Diagnostik, eine herausragende Anwendung fanden.

Die Reduzierung wissenschaftlicher Kapazität in einem Grundlagenfach bedeutet für eine ingenieurwissenschaftliche Fakultät, dass sie ihre technische Innovationsfähigkeit zumindest mittelfristig vermindert. Diese Situation tritt auch dann ein, wenn, wie von einigen Fakultäten vorgeschlagen oder schon praktiziert, die Lehre in einem Grundlagenfach von einem Anwendungsfach mit übernommen wird, z.B. Vertretung der Strömungsmechanik durch das Fach Strömungsmaschinen. Die Betonung der Anwendungs- und Praxisrelevanz akademischer Studiengänge in der öffentlichen Diskussion kann nicht darüber hinwegtäuschen, dass den Absolventen ingenieurwissenschaftlicher Studiengänge langfristig großer Schaden zugefügt wird, wenn die grundlagenorientierte Lehre zugunsten praxisnaher Fächer ausgedünnt wird. In einem sich rasch ändernden technischen Umfeld mit immer wieder neuen technischen Möglichkeiten und Herausforderungen haben aus einem Studium nur die basiswissenschaftlichen Grundlagen Bestand. Nur ein solides Verständnis dieser Grundlagen kann einen Ingenieur in die Lage versetzen, während eines ganzen Berufslebens innovativ zu arbeiten und neue technische Herausforderungen zu meistern. Die eingangs erwähnte Reduzierung strömungsmechanischer Kompetenz in den ingenieurwissenschaftlichen Studiengängen und Fakultäten steht in krassem Gegensatz zu diesen Anforderungen an die Ausbildung innovationsfähiger Ingenieure, und deshalb muss vor dieser Entwicklung, auch im Sinne einer Sicherung des Industriestandorts Deutschland, eindringlich gewarnt werden.

Auszug aus dem Protokoll der Sitzung der Strategie- und Studienkommission des FTMV am 30.10.2002

TOP 11:   Schreiben von Prof. Pfeiffer, GAMM, vom 02.07.2002 wegen Vernachlässigung von Grundlagenfächern

Die Strategie- und Studienkommission sieht in einer Vermittlung von Grundlagenfächern, wie z.B. der Strömungslehre, ein wesentliches Element der universitären Ingenieurausbildung. Im Hinblick auf neu hinzutretende Fächer, wie z.B. die Informatik, können sich jedoch abhängig von den jeweiligen Studienschwerpunkten auch gewisse Einschnitte bei Grundlagenfächern als unumgänglich erweisen, um den Studienumfang und die Studienzeit in vertretbaren Grenzen zu halten.

Der Vorsitzende wird Herrn Prof. Pfeiffer über dieses Diskussionsergebnis informieren.

Wissenschaftliche Veranstaltungen

Kongresse / Konferenzen

ICIAM
International Council for Industrial and Applied Mathematics

Juli 07 - 11, 2003

5th International Congress on Industrial and Applied Mathematics
Sydney, Australia

The International Congress on Industrial and Applied Mathematics (ICIAM) is held every four years and is the most important general meeting, worldwide, for applied mathematicians. The Congress covers the full spectrum of research topics in applied mathematics and its industrial applications.

The Congress celebrates and describes the contributions of applied mathematics as an intellectual creation in its own right, as a foundation stone of technological development, and as an indispensable collaborative partner for other scientific disciplines. These aspects of applied mathematics have held true since the dawn of civilisation. They will remain just as important in the new millennium.

ICIAM 2003 will be held in Sydney, Australia, and is hosted by ANZIAM (Australian and New Zealand Industrial and Applied Mathematics), the main professional body for applied mathematicians in the region. ANZIAM, which is a division of the Australian Mathematical Society, has approximately 500 members. ANZIAM provides a focus for applied mathematicians in Australia and New Zealand; it organises conferences, publishes a professional Journal, and has four active Specialist Interest Groups.

Goals for ICIAM 2003
- Arrange the major conference, worldwide, for industrial and applied mathematics during the current four-year period.
- Provide a forum to describe new and emerging research developments in applied mathematics and its industrial applications.
- Provide a special focus on applied mathematics in the Pacific Region and South-East Asia.
- Provide a high-profile activity to enhance the lustre of applied mathematics, as perceived by the public, research collaborators, end-users and politicians;
- Contribute to the worldwide development of applied mathematics, including development of the International Council for Industrial and Applied Mathematics.
- Attract at least 2000 delegates, and help them develop valuable international connections.
- Ensure the Congress is well managed, with a balanced budget.

ICIAM 2003 Congress Secretariat
Sydney NSW 2001 Australia
Tel: +61 2 9241 1478
Fax: +61 2 9251 3552
E-mail: iciam@icmsaust.com.au
Web: www.iciam.org

ICIAM 2003 Circular
(7 January 2003)

All of my colleagues on the Management Committee for ICIAM 2003 join me in wishing you a successful and prosperous New Year.

It has been a quiet couple of weeks in Sydney. Here (and perhaps elsewhere in the world) many people take recreation leave over the Christmas/New Year period, and so there has not been much recent change in registrations and abstracts for ICIAM 2003.

We have had a calm opportunity to assess the current situation for ICIAM 2003, and I present below statistical data about the abstracts, embedded meetings and registrations.

My assessment:

- the scientific program will be rich - large, comprehensive, diverse, very interesting; scientifically we expect the meeting to be a success

- our declared deadline for abstracts is 31 January, although we have the capability to accept presentations beyond this (and probably will!)

- there is nothing significant we can do about venue or program or accommodation or travel costs. (A brief note about air fares: we have tried to get the best deal possible from QANTAS; they are not overly generous! We observe that the international airline business is very competitive: delegates should observe normal commercial practices shop around, obtain concessions for advance purchase.)

- our declared deadline for regular registrations is 7 March; adjustment of this is possible, but would be a commercial decision (which we have not considered at this stage).

Abstracts (data at 3 January 2003)

Total Number of presentations 1539

- Number of Minisymposium presentations 971

- Number of Contributed/Poster presentations 560

- Number of Minisymposia 249

Noel Barton, Sydney

IUTAM
International Union of Theoretical and Applied Mechanics

August 15 - 21, 2004

ICTAM 2004 International Congress of Theoretical and Applied Mechanics
Warsaw, Poland

General Information
The 21st International Congress of Theoretical and Applied Mechanics was invited by the:

- Polish National Committee of IUTAM
- Institute of Fundamental Technological Research of the Polish Academy of Sciences
- Warsaw University of Technology

President of ICTAM 2004 and Chairman of the Local Organizing Committee is:
Prof. Witold Gutkowski.
Co-Chairmen are: Prof. Michal Kleiber and Prof. Wlodzimierz Kurnik
Secretary-General is: Prof. Tomasz A. Kowalewski.

Scientific Program
The scientific program will start and end with the opening and closing lectures. The rest of the program will consist of sectional lectures, mini-symposia and contributed papers presented in lecture and seminar presentation sessions. Invitations to present contributed papers will be made on the recommendation of the International Papers Committee, based on their review of submitted abstracts and extended summaries.

Opening Lecturer: Leen van Wijngaarden (Netherlands)
Closing Lecturer: Kazimierz Sobczyk (Poland)

Sectional Lecturers

E. Arzt (Germany)	M. Lesieur (France)
K. Bajer (Poland)	A. Neishtadt (Russia)
D. Beysens (France)	R.W. Ogden (U.K.)
J.F. Brady (USA)	A. Preumont (Belgium)
H.-J. Gao (USA/Germany)	P.B. Rhines (USA)
T.J.R. Hughes (USA)	E. Sackmann (Germany)
R. Keunings (Belgium)	D.A. Saville (USA)
E. Kreuzer (Germany)	E.A. Spiegel (USA)
P. Ladeveze (France)	H.L. Swinney (USA)

Mini-Symposia and Chairs
- Smart materials and structures
  N. Sottos (USA) Chair J. Holnicki-Szulc (Poland) Co-Chair
- Tissue, cellular and molecular biomechanics
  P. Janmey (USA) Chair, D. Barthes-Biesel (France), A. Hoger (USA) CoChairs
- Mechanics of thin films and nanostructures
  K.S. Kim (USA) Chair, Z. Suo (USA), H.M. Jensen (Denmark) Co-Chairs
- Microfluidics
  P. Tabeling (France) Chair, R.J. Adrian (USA), J. Santiago (USA) Co-Chairs

- Microgravity flow phenomena
  J.C. Legros (Belgium) Chair, P. Neitzel (USA), J.I.D. Alexander (USA) Co-Chairs
- Atmosphere and ocean dynamics
  J. Sommeria (France) Chair, M.E. McIntyre (U.K.) Co-Chair

Pre-Nominated Sessions - Fluid Mechanics
Biological fluid dynamics * Boundary layers * Combustion and flames * Complex and smart fluids * Compressible flow * Computational fluid dynamics (jointly with IACM) * Convective phenomena * Drops and bubbles * Environmental fluid dynamics * Experimental methods in fluid mechanics * Flow control * Flow in porous media * Flow instability and transition * Flow in thin films * Fluid mechanics of materials processing * Fluid mechanics of suspensions * Granular flows * Low-Reynolds-number flow * Magnetohydrodynamics * Multiphase flows * Solidification and crystal growth * Stirring and mixing * Topological fluid mechanics * Turbulence * Vortex dynamics * Waves

Solid Mechanics
Computational solid mechanics (jointly with IACM) * Contact and friction mechanics (jointly with IAVSD) * Control of structures * Damage mechanics * Dynamic plasticity of structures * Elasticity * Experimental methods in solid mechanics * Fatigue * Fracture and crack mechanics (jointly with ICF) * Functionally graded materials * Impact and wave propagation * Material instabilities * Mechanics of composites * Mechanics of phase transformations (jointly with IACM) * Mechanics of porous materials * Mechatronics * Multibody dynamics * Plasticity and viscoplasticity * Plates and shells (jointly with IACM) * Rock mechanics and geomechanics * Solid mechanics in manufacturing * Stability of structures * Stochastic micromechanics * Structural optimization (jointly with ISSMO) * Structural vibrations * Vehicle dynamics * Viscoelasticity and creep

Topics involving both fluid mechanics and solid mechanics
Acoustics * Chaos in fluid and solid mechanics * Continuum mechanics * Fluid-structure interaction * Mechanics of foams and cellular materials * Multiscale phenomena in mechanics

Deadline
Abstract and Extended Summary: January 9, 2004.
Contributors will be informed of the decision of the International Papers Committee, and on the assignment of their paper to a session, by May 1, 2004. The author of a paper invited for presentation is expected to register and present the paper at the Congress.

Correspondence related to the Congress should be sent to:

ICTAM04 Secretary-General
Prof. Tomasz A. Kowalewski
Institute of Fundamental Technological Research
Swietokrzyska 21, 00-049 Warszawa, Poland

Phone: (+48 22) 826 9803
Fax: (+48 22) 826 9815
E-Mail: ictam04@ippt.gov.pl
Web: http://ictam04.ippt.gov.pl

ECCOMAS
European Community on Computational Methods in Applied Sciences

July 24 - 28, 2004

ECCOMAS 2004 Congress
Jyväskylä, Finland

Following the success of the three previous ECCOMAS Congresses held in Brussels 1992, in Paris 1996, and in Barcelona 2000, ECCOMAS is pleased to announce the fourth European Congress on Computational Methods in Applied Sciences and Engineering.

Scientific Programme
The scientific programme of the Congress consists of invited keynote lectures by respected experts, invited symposia, contributed papers, special technological sessions and poster presentations. Further details will be given in the Third Announcement.

Call for Papers
Two-page abstracts on topics related to the themes of the congress are invited by 15 November 2003. Authors are kindly requested to submit their abstracts via the Congress Website. The service will be opened at the time of the publication of the Third Announcement. Notification of acceptance will be given by 15 January 2004 at which stage recommendations concerning the format of the papers to be published in CD-ROM proceedings will be sent to the authors. In order to produce the proceedings in time for distribution to delegates upon registration, completed papers must be submitted by 31 March 2004.

Call for Mini-symposia or Web-lectures
The organisers invite proposals for minisymposia to be given by 31 March 2003. The proposals should be e-mailed to:

Prof. Pekka Neittaanmäki
E-mail: pn@mit.jyu.fi

Congress Topics
- Computational Solid and Structural Mechanics
- Computational Fluid Mechanics
- Computational Acoustics
- Computational Electromagnetics
- Computational Chemistry
- Computational Mathematics and Numerical Methods
- Inverse Problems
- Optimization and Control
- Computational Methods in Life Sciences
- Industrial Applications

Deadline
- For minisymposia 31 March 2003
- Third Announcement, Guidelines for Abstracts and Presentations, and Registration Form May 2003
- Deadline for abstracts 15 November 2003
- Acceptance of presentations by 15 January 2004
- Deadline for complete papers 31 March 2004
- Deadline for early registrations 15 April 2004
- Deadline for post-conference tours 15 May 2004
- Deadline for registrations and hotel bookings 15 June 2004

Organisers
ECCOMAS 2004 will be organised in co-operation with ECCOMAS (The European Community on Computational Methods in Applied Sciences), the University of Jyväskylä, Department of Mathematical Information Technology, the City of Jyväskylä, and Jyväskylä Congresses. The conference is co-sponsored by WG 7.2 TC 7 IFIP (Working Group 7.2 on Numerical Methods in DPS, Technical Committee 7 in Modeling and Optimization within the International Federation for Information Processing).

ECCOMAS 2004 Congress Secretariat
Jyväskylä Congresses
P.O. Box 212
FIN-40101 Jyväskylä, Finland

Fax: +358 14 339 8159
E-mail: eccomas2004-info@mit.jyu.fi
Web: http://193.209.12.112/mediakettu/eccomas/index.htm

EUROMECH
European Mechanics Society

May 18 - 23, 2003

7th European Mechanics of Materials Conference (EMMC7)
Frejus, France

Adaptive Systems and Materials: Constitutive Materials and Hybrid Structures

Scope of EMMC7
Since the 90's shape memory alloys and other active materials are used to design active structures in many industrial fields (biotechnology, aerospace, microsystems, automotive application, civil engineering..). This industrial need implies the development of numerical tools for computer aided design process. Complexity of the material behaviour involved requires a deep understanding of strain mechanisms, the use of accurate experimental techniques and advanced modelling approaches at various scale (micro- , meso- , macroscopic). This also allows the tailoring of new materials with exciting properties and the improvement of the existing ones.

The EMMC7 conference will address Smart Materials and Systems from the view point of solids mechanics. Four classes of Active Materials will be considered:

- Shape Memory Alloys
- Piezoelectric Materials
- Magnetostritive Materials
- TRIP Steels

Info: EMMC7
Prof. E. Patoor
LPMM
Ile du Saulcy
57045 METZ Cedex, France

Tel.:   33 387 31 54 08;
Fax: 33 387 31 53 66
E-mail: emmc7@lpmm.univ-metz.fr

August 17 - 22, 2003

5th Euromech Solid Mechanics Conference
Thessaloniki, Greece

Conference Themes
- Continuum Mechanics: Elasticity / Plasticity / Waves
- Structural Mechanics: Plates / Shells / Vibrations
- Experimental and Computational Mechanics
- Mechanics of Materials: Fracture / Damage / Composites
- Micromechanics and Nanomechanics
- Geomechanics and Biomechanics

- Manufacturing and Contact Mechanics
- Impact and Penetration Mechanics
- Nonlinear and Probabilistic Mechanics
- Other Topics in Mechanics: Smart Materials and Systems; Dynamics and Stability; Optimization and Control

Deadline
February 1, 2003 Paper Acceptance

Contact: Prof. E.C. Aifantis
Lab. of Mechanics of Materials
Polytechnic School
Box 468, GR54124,
Thessaloniki, Greece

E-mail: esmc2003@mom.gen.auth.gr
Web: http://mech3.gen.auth.gr

August 24 - 28, 2003

5th Euromech Fluid Mechanics Conference
Toulouse, France

The European Mechanics Society is an international non-governmental non-profit scientific organisation.

The objective of the society is to engage in all activities intended to promote in Europe the development of mechanics as a branch of science and engineering. Mechanics deals with motion, flow and deformation of matter, be it fluid or solid, under the action of applied forces, and with any associated phenomena.

The next European Fluid Mechanics Conference will be held in Toulouse (France) from August 24 to August 28, 2003. This conference, organised under the auspices of EUROMECH by the Institut de Mécanique des Fluides de Toulouse, will be the fifth in the series started in Cambridge in 1991 and continued in Warsaw (1994), Göttingen (1997) and Eindhoven (2000). The conference will cover the whole field of Fluid Dynamics, ranging from very fundamental aspects to recent applications. This conference will provide a unique opportunity for fluid dynamics to see what is going on in this very active field in Europe and to exchange their views on recent developments. The conference will comprise invited lectures, oral presentations, poster sessions, and three mini-symposia dealing with selected topics. Selection of papers will be made on the basis of a one-page abstract. Following the general policy of EUROMECH Conferences, no proceedings will be published.

Topics
- Aeroacoustics (conveners: J. Delfs, Braunschweig; A. Dowling, Cambridge)
- Experimental techniques: Light and sound (conveners: C. Baudet, Grenoble; J. Westerweel, Delft);
- Microgravity fluids dynamics (conveners: M. Dreyer, Bremen; B. Zappoli, Toulouse)

Deadline
March 1, 2003: Notification of acceptance (oral or poster). Preliminary programme is drawn up and made available on the Web site.
April 1, 2003: Notification of acceptance of fellowships for young researchers.
May 1, 2003: Deadline for registration at a reduced fee. Registration deadline for authors of oral presentations. Final programme available on the Web site.
June 30, 2003: Deadline for payment at a reduced fee and for the reservation of pre-booked hotel rooms.

Contact: Dr J. Magnaudet
Institut de Mécanique des Fluides de Toulouse,
2 allée C. Soula
31400 Toulouse, France

E-mail: efmc2003@imft.fr
Web: http://www.imft.fr/efmc2003

2004   not yet known
10th Euromech Turbulence Conference
Trondheim, Norway

August 7 - 12, 2005

ENOC-2005: 5th EUROMECH Nonlinear Oscillations (Nonlinear Dynamics) Conference
Eindhoven, Netherlands

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

Fax: +31 40 243 7175
E-mail: D.H.v.Campen@tue.nl

EMS
European Mathematical Society

May 18 - 23, 2003

IPAM/SIAM/EMS conference on Applied Inverse Problems: Theoretical and Computational Aspects
UCLA Lake Arrowhead Conference Center

Scientific Introduction and Objectives:
In the last twenty years the field of inverse problems has undergone rapid development. These are problems where the solutions are nearly always indirectly related to the available data, where causes are determined for desired or observed effects. The problems are often ill posed in that small changes in the data can produce large effects in the solution. Furthermore, even questions of whether a solution that corresponds to likely noisy data can exist and how many and how different solutions there may be that correspond to partial data sets need to be considered.

The enormous increase in computing power and the development of powerful algorithms has made it possible to consider real-world problems of growing complexity and has led to a growing appetite to apply the techniques of inverse problems to ever more complicated physical and biological problems. Applications include several medical as well as other imaging techniques, location of oil and mineral deposits in the earth's substructure, creating astrophysical images from telescope data, finding cracks and interfaces within materials, shape optimization, and model identification in growth processes and more recently in the life sciences. Historically the model of the physical phenomena was frequently linear with the inverse problem being nonlinear; recent work also includes nonlinear physical phenomena models.

The goal in this conference is to include a broad spectrum of advancing new problems with presentations on both computational and theoretical issues and for a wide range of applications. The conference also serves as a lead toward the IPAM special Fall 2003 quarter on Inverse Problems.

In addition, this conference is the second, following the first one held in Montecatini in 2001, in what we hope will be a continuing series of conferences on this same subject.

Represented Topics
- Inverse scattering including acoustics, electromagnetics, radar and sonar
- Tomography: time reversal, optical, ultrasound and x-ray problems
- Biological Modeling: elastography, neuroscience and molecular models
- Image reconstruction: regularization and reconstructions from partial data
- Shape optimization and photonics
- Astrophysics and Geophysics
- Data Analysis and modeling: uncertainty and statistical modeling

Institute for Pure and Applied Mathematics (IPAM)
Attn: AIP2003
460 Portola Plaza
Los Angeles CA 90095-7121

Phone: 310 825-4755
Fax: 310 825-4756
E-mail: aip2003@ipam.ucla.edu
Web: http://www.ipam.ucla.edu/programs/aip2003

June 27 - July 02, 2004

4th European Congress of Mathematics
Stockholm, Sweden

Instructions for Organisers
The Executive Committee of the 4th ECM offers the following advantages to organisers of satellite activities.

- A summary of information about each satellite activity will be freely distributed through the printed and electronic systems of the 4th ECM.
- The reduced registration fee offered to participants of the 4th ECM registered before April 2004 will be extended until the beginning of the 4th ECM for participants of satellite activities.
- Addresses of satellite activity participants may be included in the mailing list of the 4th ECM for distribution of information.

The Executive Committee requires the following information in order to decide if an activity can be considered as a satellite of the 4th ECM.

- Title and a short presentation of the activity (periodicity, objectives, etc.)
- Location and dates
- Organising Committee and Scientific Committee, if applicable
- Preliminary list of speakers, if applicable

The experience from previous EMS conferences and other international events shows that it is also convenient to request the following.

- The dates of satellite activities should be close to the dates of the 4th ECM (from 27th June to 2nd July, 2004).
- People responsible for each satellite activity should provide their participants with information about the 4th ECM. In addition, they should assist them in organising their trip to or from Stockholm. The organisers of the 4th ECM will also assist 4th ECM participants who are registered in some satellite activity in arranging their travel plans.

Contact Addresses for Organisers
Mikael Passare, passare@matematik.se

The deadline for proposals of satellite activities is February 1, 2004. We regret that activities communicated after this date cannot be acknowledged by the Organising Committee.

Weitere wissenschaftliche Veranstaltungen

CISM - Programm 2003 - www.cism.it

April 07 - 11
Solid-Liquid Separation Systems: Mathematical Modelling and Engineering Applications
R. Bürger (Stuttgart, D), W.L. Wendland (Stuttgart, D)

May 26 - 30
Moving Discontinuities in Crystalline Solids
F.D. Fischer (Leoben, A), M. Berveiller (Metz, F)

June 09 - 13
Effect of Heat on Concrete
G. Khoury (London, UK), C. Majorana (Padova, I)

June 16 - 20
Degradations and Instabilities in Geomaterials
F. Darve (Grenoble, F), I. Vardoulakis (Athens, GR)

June 23 - 27
Chemo-mechanical Couplings in Porous Media - Geomechanics and Biomechanics
B. Loret (Grenoble, F), J. Huyghe (Eindhoven, NL)

June 30 - July 4
Fluid Mechanics of Surfactant and Polymer Solutions
V. Starov (Loughborough, UK), I. Ivanov (Sofia, BG)

July 07 - 11
IUTAM Summer School on Mechanics of Microstructured Materials
H.J. Böhm (Vienna, A)

July 14 - 18
Bone Cell and Tissue Mechanics
S.C. Cowin (The City University of New York)

July 21 - 25
Mechanics of Solid Polymers: the Kinetics of Irreversible Processes
A. Dorfmann (Vienna, A), A. Drozdov (Beersheba, IL)

September 01 - 05
Microfluidics: History, Theory and Applications
W.B.J. Zimmerman (Sheffield, UK)

September 08 - 12
Walking-Biological and Technological Aspects
F. Pfeiffer (Garching, D), T. Zielinska (Warsaw, PL)

September 22 - 26
Dynamical Systems, Wave Based Computation and Neuro-inspired Robots
P. Arena (Catania, I)

October 06 - 10
Parameter Identification of Materials and Structures
Z. Mroz (Warsaw, PL), G. Stavroulakis (Ioannina, GR)

October 20 - 24
Phenomenological and Mathematical Modelling in Structural Instabilities
M. Pignataro (Rome, I), V. Gioncu (Timisoara, RO)

Kalendarium 2003 - 2004

April 22 - 26, 2003

4th Workshop on Parallel and Distributed Scientific and Engineering Computing with Applications (PDSECA-03)
Nice Acropolis Convention Center, Nice, France

in conjunction with the 17th International Parallel and Distributed Processing Symposium (IPDPS-2003)

Scope and Interests
Parallel and distributed scientific and engineering computing has become a key technology which will play an important part in determining, or at least shaping, future research and development activities in many academic and industrial branches. This special workshop is to bring together computer scientists, applied mathematicians and researchers to present, discuss and exchange idea, results, work in progress and experience of research in the area of parallel and distributed computing for problems in science and engineering applications.

Topics
development of advanced parallel and distributed methods parallel and distributed computing techniques and codes practical experiences using various supercomputers with software such as MPI, PVM, and High Performance Fortran, OpenMP, etc. cluster and grid computing applications to the following areas:

- computational fluid dynamics and mechanics
- material sciences
- space, weather, climate systems and global changes
- computational environment and energy systems
- computational ocean and earth sciences
- combustion system simulation
- computational chemistry
- computational physics
- bioinformatics and computational biology
- medical applications
- transportation systems simulations
- combinatorial and global optimization problems
- structural engineering
- computational electromagnetics
- computer graphics
- semiconductor technology, and electronic circuits and system design etc.

Workshop Organizers
General Chairs: Prof. Yi Pan, Atlanta, USA
Prof. Thomas Rauber, Halle, Germany
Program Chairs: Prof. Gudula Rünger, Chemnitz
Prof. Laurence Tianruo Yang , Antigonish, Canada

E-mail: complas@cimne.upc.es
Web: http://www.ipdps.org/ipdps2003
or   http://www.stfx.ca/people/lyang/activities/ipdps03-pdseca

Mai 07 - 08, 2003

NAFEMS Seminar: Einsatz der Stochastik in FEM-Berechnungen
Use of Stochastics in FEM Analyses
Hotel Oranien, Wiesbaden

NAFEMS ist ein Verein zur Förderung der sicheren und zuverlässigen Anwendung der Finite-Element-Methode. NAFEMS stand ursprünglich für „National Agency for Finite Element Methods and Standards". 1983 in England gegründet, hat sich NAFEMS längst in eine internationale Gesellschaft zur Förderung der rechnerischen Simulation weiterentwickelt. 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 600 Mitglieder in 37 Ländern und ist seit 1996 auch in Deutschland präsent.

Ziele
Das Seminar zum Einsatz der Stochastik in FEM-Berechnungen möchte einen möglichst vollständigen Überblick über die momentane Situation der stochastischen FEM-Berechnung geben. Dazu soll zunächst in die Methoden eingeführt und deren Potenzial und Nutzen aufgezeigt werden. Dabei spielen der Stand bei Forschung und Entwicklung ebenso eine wichtige Rolle wie die industriellen Anforderungen an die Aussagekraft solcher Analysen.

Abstract : 7. Februar 2003

Fachliche Koordination dieses Seminars: Dr.-Ing. Reinhard Helfrich (Intes GmbH)
Seminarorganisation: 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: nafems@werbos.de
Web: www.nafems.de or www.nafems.org

June 23 - July 02, 2003

XXXI Summer School - Conference "Advanced Problems in Mechanics"
A P M 2 0 0 3
St. Petersburg, Russia

The Summer school Advanced Problems in Mechanics 2003 is organized by the Institute for Problems in Mechanical Engineering of the Russian Academy of Sciences (IPME RAS) under the patronage of the Russian Academy of Sciences and with information support of Gesellschaft für Angewandte Mathematik und Mechanik (GAMM). The main purpose of the meeting is to gather specialists from different branches of mechanics to provide a platform for cross-fertilization of ideas.

Scientific Program
Presentations devoted to fundamental aspects of mechanics, or spreading the field of applications of mechanics, are invited. We are particularly keen to receive contributions that show new effects and phenomena or develop new mathematical models.

Topics
- mechanics of generalized continua (polar and micromorphic
  continua, mixtures, porous media, electromagnetic continua, grains, powders etc.)
- solids and structures
- phase transitions
- nanostructures and thin films
- wave motion
- nonlinear dynamics, chaos and vibration
- dynamics of rigid bodies and multibody dynamics
- fluid and gas
- computational mechanics
- mechanical and civil engineering applications

Deadlines
Application for financial support for young scientists from Russia (abstract and registration form are required): January 15, 2003.
Abstract submission: February 1, 2003.
Submission of a visa form (required to issue the invitation to Russia): February 1, 2003.
Notification of acceptance: March 15, 2003.
Paper submission (for plenary lectures, minisymposia and invited papers): June 23, 2003.

APM'2003
Institute of Problems of Mechanical Engineering
of Russian Academy of Sciences
Bolshoy pr. V.O., 61
St.Petersburg, 199178
Russia

Phone: +7(812)-3214772
Fax :   +7(812)-3214771
E-mail: apm@eng.abdn.ac.uk
Web: http://www.eng.abdn.ac.uk/~apm/2003

July 25 – 29, 2003

ICES'03
International Conference on Computational & Experimental Engineering & Sciences
Corfu, Greece

ICES series of congresses ICES'03, Corfu, is the 11th in the series of congresses initiated in 1986; with previous congresses having been held at: ICES'86 (Tokyo); ICES'88 (Atlanta); ICES 91 (Sydney); ICES'92 (Hong Kong); ICES'95 (Big Island, Hawaii); ICES'97 (Costa Rica); ICES'98 (Atlanta); ICES'2K (Los Angeles); ICES'01 (Puerto Vallarta); ICES'02 (Reno).

The series of congresses in the past have been highly successful scientific gatherings that brought together several hundreds of prominent researchers worldwide, in very congenial social settings as well. The proceedings of these congresses have been

abstracted in prominent databases. The scope of these congresses has evolved to include, besides classical topics in mechanics, emerging scientific and engineering disciplines such as: nano-science & nano-technology, NEMS & MEMS; biotechnology; micro- & nano-device modeling; multi-scale and multi-physics phenomena; functional and smart material systems; meshless and novel methods of computational modeling, novel material models such as gradient theories, etc.

Recognizing the complementary roles of computation & experimentation in modern engineering & sciences, the ICES series of conferences henceforth, beginning with ICES'03 in Corfu, will be International Conferences on Computational & Experimental Engineering & Sciences.

Because of your well-known contributions to the literature, and your reputation in the international community, the organizing Committee of ICES'03 is honoured to invite you to present a paper on a topic of your current interest, at ICES'03.

We look forward to the honour of your acceptance of this invitation.
1. Please go to the web-site, http://www.icces.org and indicte your interest, by signing in , and creating an ICES'03 account. Further details of ICES'03 are posted at this web-site.
2. Only 6-page summaries of papers are needed. They will be published in the ICES'03 Proceedings, after peer review.
3. Please submit your 6-page summary, as soon as possible, but no later than 1 April 2003.

ICES'03 Organizing Committee
Satya N. Atluri, D.Sc.(honoris causa) Samueli Von Karman, Professor of Aerospace Engineering, Department of Mechanical & Aerospace Engineering, & Director, Center for Aerospace Research & Education

University of California , Irvine
5251 California Avenue, Suite 140
Irvine, CA 92612, USA

CMES: Computer Modeling in Engineering & Sciences; A bi-monthly scholarly journal: http://cmes.techscience.com

Tel: 949-824-9946/9966
Fax: 949-824-9967
E-mail: satluri@uci.edu
web: http://www.icces.org

July 31 - August 02, 2003

Conference on Computer, Communication and Control Technologies: CCCT '03, Orlando, Florida, USA

CCCT '03 and ISAS '03 Organizing Committees invite authors to submit their original and unpublished works, innovations, ideas based on analogical thinking, problems that require solutions, position papers, case studies, etc., in the fields of computer, communication and control, as well as in the relationships between two of these areas or among the three of them. Submitted papers must describe work not previously published. They must not be submitted concurrently to another conference with refereed proceedings.

Conference Areas, Sub-areas and Topics
A. Computing and Information Systems and Technologies
B. Communication Systems, Technologies and Applications
C. Control Systems, Technologies and Applications
D. Hybrid Systems, Dual Technologies, Cross-Fertilizing Research and Analogical Thinking
  D. 1. Communications and Control
  D. 2. Computing and Communications
  D. 3. Computing and Control
  D. 4. Computing, Communication and Control
E. Applications of CCCT in other areas
F. Applications of other areas in CCCT
G. Hybrid Applications

Key Dates
January 08, 2003: Submission of extended abstracts (500-1500 words) or paper drafts (2000-5000 words).
January 08, 2003: Invited Session proposals.
February 19, 2003: Notifications of Acceptance.
April 02, 2003: Submission of final versions: hard copies and electronic versions.
July 31, 2003: Conference Starts
August 2, 2003: Conference Ends

E-mail: CCCT@iiis.org or SEC_CCCT@iiis.org
Web: http://www.iiisci.org/ccct2003/ or http://www.iiis.org/ccct2003/

August 05 - 08, 2003

12th International Workshop on Matrices and Statistics   IWMS-2003
Dortmund, Germany

The 12th International Workshop on Matrices and Statistics (IWMS- 2003) will be held at the University of Dortmund (Dortmund, Germany) on August 5-8, 2003, during the week immediately before the 54th Biennial Session of the International Statistical Institute (ISI) in Berlin. This Workshop, which will be an ISI satellite meeting, will be hosted by the Department of Statistics at the University of Dortmund and will be

cosponsored by the Bernoulli Society. It has also been endorsed by the International Linear Algebra Society (ILAS).

The purpose of this Workshop is to stimulate research and, in an informal setting, to foster the interaction of researchers in the interface between matrix theory and statistics. This Workshop will provide a forum through which statisticians may be better informed of the latest developments and newest techniques in matrix theory and may exchange ideas with researchers from a wide variety of countries. This Workshop will include the presentation of both invited and contributed papers on matrices and statistics; it is expected that many of these papers will be published, after refereeing, in a Special Issue on Linear Algebra and Statistics of Linear Algebra and Its Applications (the 9th Special Issue is Volume 354 and appeared on October 15, 2002.) Contributed papers are welcome! Details for submission of a paper are given on the Workshop Web site.

Abstracts should arrive by May 15, 2003.

The International Organizing Committees (IOC) comprises Richard William Farebrother (Shrewsbury, England, UK), Simo Puntanen (Univ. of Tampere, Finland), George P. H. Styan (McGill Univ., Montréal, Québec, Canada; IOC vice-chair), and Hans Joachim Werner (Univ. of Bonn, Germany; IOC-chair). The Local Organizing Committee (LOC) at the University of Dortmund comprises Jürgen Groß, Götz Trenkler (LOC- chair), and Claus Weihs. The Workshop Secretary is Mrs. Eva Brune (Department of Statistics, IWMS-2003, Univ. of Dortmund, Vogelpothsweg 87, D-44221 Dortmund, Germany).

This Workshop in Germany will be the 12th in a series. The previous eleven Workshops were held as follows: (1) Tampere, Finland: August 1990; (2) Auckland, New Zealand: December 1992; (3) Tartu, Estonia: May 1994; (4) Montréal (Québec), Canada: July 1995; (5) Shrewsbury, England: July 1996; (6) Istanbul, Turkey: August 1997, as an ISI Satellite Meeting; (7) Fort Lauderdale, Florida, USA: December 1998; (8) Tampere, Finland: August 1999, as an ISI Satellite Meeting; (9) Hyderabad, India: December 2000; (10) Voorburg, The Netherlands: August 2001, as an ISI Satellite Meeting; and (11) Lyngby, Denmark: August 2002.

For further more detailed information (paper submission, registration fees, accommodation, deadlines, etc.) please visit our Workshop Web site or contact either

Hans Joachim Werner (IOC-chair) at werner@united.econ.uni-bonn.de or
Götz Trenkler (LOC-chair) at trenkler@statistik.uni-dortmund.de

Web: http://www.statistik.uni-dortmund.de/IWMS/main.html

August 18 - 22, 2003

ENUMATH 2003
The European Conference on Numerical Mathematics and Advanced Applications
Prague, Czech Republic

Organized by
Charles University Prague, Faculty of Mathematics and Physics (M. Feistauer)
Institute of Chemical Technology, Department of Mathematics (A. Klìc)

Scientific Committee
O. Axelsson (Netherlands), C. Bernardi (France), C. Canuto (Italy), M. Griebel (Germany), R. Hoppe (Germany), G. Kobelkov (Russia), M. Krížek (Czech Republic), P. Neittaanmäki (Finland), O. Pironneau (France), A. Quarteroni (Italy/Switzerland), C. Schwab (Switzerland), E. Süli (Great Britain), W. Wendland (Germany)

Program Committee
F. Brezzi (Italy), M. Feistauer (Czech Republic), R. Glowinski (France/USA), R. Jeltsch (Switzerland), Yu. Kuznetsov (Russia/ USA), J. Periaux (France), R. Rannacher (Germany)

Invited Plenary Speakers
A. Bermudez (Spain), R. Blaheta (Czech Republic), T. Gallouet (France), J. Haslinger (Czech Republic), R. Hiptmair (Germany), T. J. R. Hughes (USA), J. Rappaz (Switzerland), A. Russo (Italy), V. Schultz (Germany), A. Tveito (Norway)

Local Organizing Committee:
V. Dolejší, M. Feistauer, J. Felcman, P. Knobloch, K. Najzar, E. Plandorová, J. Segethová

Call for Papers
The program of the conference will include invited 50 minute lectures and 25 minute communications. A limited number of minisymposia (2 hours or, exceptionally, 4 hours) will be organized. Abstracts of communications and proposals of minisymposia should be sent to the contact address till February 28, 2003 - see Contact Information.

E-mail: enumath@karlin.mff.cuni.cz
web: http://www.karlin.mff.cuni.cz/~enumath

August 24 - September 05, 2003

Advanced CFD (Computational Fluid Dynamics) for industrial and geophysical turbulence. Methods and applications.
Autrans (Isère), France

Objectives of the School
The Summer School will be dedicated to advanced numerical methods for turbulent fluid flows as well as recent developments in the theoretical modelling of turbulent flows. A large part of the School will be devoted to applications, stemming either from industrial or from geophysical problems. We expect a broad view on the numerical

modelling of turbulence, along with the issues that should be addressed in the near future, to emerge from the lectures.

Topics
- Background for CFD methods.

This includes a state-of-the-art of classical methods, the interest of which was recently renewed, such as Vortex Methods and Compact Schemes in advanced DNS. More specific techniques consist of Contour Advection Methods and Filtered Schemes for Weather Forecast. As a new method with explosive development, the Smooth Particle Hydrodynamics will be addressed.
- Turbulence modelling. Hybrid CFD-Statistical approaches.

This includes Large Eddy Simulation, updated Reynolds Averaged Navier-Stokes Equations, and possible combinations of them (e.g. Detached Eddy Simulation).
- Industrial and geophysical applications.

This includes near wall turbulence, detached eddies, as well as typical configurations relevant in geophysics with stratified, rotating and sheared flows. Specific problems in the numerical simulations of oceanic and atmospheric general circulations will also be addressed.

Lecturers
P. Bartello - McGill University, Canada;
P. Comte - University of Strasbourg , France;
G.-H. Cottet - University of Grenoble, France;
D. Dritschel - University of St Andrews, UK;
J. Jimenez - C.T.R., Stanford, USA and University of Madrid, Spain;
Y. Kaneda - University of Nagoya, Japan;
D. Laurence - EDF, France and UMIST, UK;
N. N. Mansour - CTR Stanford and NASA Ames, USA;
P. Spalart - Boeing Company, USA;
A.-M. Tréguier - University of Brest and CNRS, France;

Deadline for application is March 15, 2003.

Web: http://www.legi.hmg.inpg.fr/Autrans03/

September 3 - 6, 2003

12th International Conference on Fluid Flow Technologies
Conference on Modelling Fluid Flow (CMFF'03)
Budapest University of Technology and Economics, Hungary

Invitation
It is our privilege to invite you to take part in the 12th International Conference on Fluid Flow Technologies, entitled "Conference on Modelling Fluid Flow" (CMFF'03), the next event in the series of International Conferences on Fluid Machinery held every fourth year in Budapest since 1959. The aim of the Conference is to respond to fresh challenges in the rapidly developing fields of fluid mechanics. The Conference is a unique event designed to provoke and establish interactive symbiosis and efficient synergy of numerical flow simulation and physical modelling of flow processes using advanced measurement methods. The Conference aims at defining the state of the art in

CFD and advanced measuring methods, inspiring both research and practical applications by promoting interaction between scientists and practitioners working in the computational and experimental fluid dynamics field. Following expressions of interest and proposals received by the organisers, we await a vivid and fruitful international conference.

Scope
includes and integrates both the theoretical and practical aspects of numerical simulation of flows and physical modelling of flow processes using advanced experimental techniques. Each thematic area covers research, development, design, new applications and equipment, case studies and future trends, with particular emphasis on turbulence modelling, the application of CFD and advanced measurement methods.

Deadline
March 20, 2003: for papers

Conference Secretariat
Secretariat of Conference on Modelling Fluid Flow (Dr. János Vad)
Department of Fluid Mechanics
Budapest University of Technology and Economics
H 1111 Budapest, Bertalan L. u. 4-6, Hungary

E-mail: conference@simba.ara.bme.hu
Tel.:   +36 1 463 40 72
Fax: +36 1 463 34 64
Web: http://www.cmff03.hu/

September 08 - 10, 2002

IFAC workshop on Time-Delay Systems INRIA
Rocquencourt, France

This IFAC workshop on Time-Delay Systems is the fourth of the series. The previous workshops were held in Grenoble (France, 1998), Ancona (Italy, 2000) and Santa Fe (USA, 2001). The present meeting will be held in Rocquencourt, 20 km from Paris (France).

Scope
The objective of the organizers is to bring together specialists of the field, considered in the most extensive sense. High-level contributions on the many aspects of control of delay systems, ranging from theoretical to applications, are awaited. Contributions on related domains (including e.g. 2-D and n-D systems, control of uncertain systems…) will be considered with great interest, provided they present explicitly their relations with delay systems. Industrial participations are welcome.

Topics
- Modelling
- Structural Properties
- Stability and Stabilization
- Robust Control Design

- Filtering
- Analysis and Synthesis Methods
- Nonlinear Time-delay Systems
- Computational Methods

Applications are particularly welcome:
- Aerospace
- Biomedical Systems
- Chemical Systems
- Robotic
- Telecommunications and Network Control

Important Dates
March 30th, 2003: Submission of a manuscript, Submission of a proposal for Invited Session
June 15th, 2003: Notification of acceptance
July 20th, 2003: Final manuscripts
July 1st, 2003: Early Registration deadline
Sept. 8-10, 2003: Workshop

Contact
The secretariat of the workshop may be contacted at the address:
E-mail: tdsO3@inria.fr
Web: www.inria.fr/tdsO3.html

IPC chair: Sophie Tarbouriech
IFACTDS 2003 -Invited Session
LAAS-CNRS
7 Avenue du Colonel Roche
31077 Toulouse cedex 4, France

E-mail: ipctds03@laas.fr
Phone: +33.(0)5.61.33.69.28
Fax: +33.(0)5.61.33.69.69

September 09 - 12, 2003

Processing and Properties of Reinforced Polymers
Europe-China Symposium for Scientific and Technical Collaboration
Ecole des Mines (INPL), Nancy, France

International co-operation in science and technology has been boosted in recent last years by the development of the global economy and by easy electronic communication between researchers of all countries. The Internet, however, does not replace person-to-person contact and this is still the best way to exchange knowledge, opinions and national cultures. In Europe and China, top-level research teams are working in the domain of polymeric materials. They belong to universities, research Institutes or industries. The topic is highly interdisciplinary, covering the fields of chemical engineering, process engineering, physics materials science and mechanics. The organizers have designed this Europe-China cooperation symposium as a privileged

link between Europe and Asia for scientific and technological development. The goals are: diffusing know-how, building bilateral programs, and promoting graduate students exchanges.

Topics

The meeting concerns structural polymers in general and, more precisely, polymer based materials especially formulated for modulus, strength and toughness. The symposium will not include long fibre composites.

- Polymer Blends	- Formulation
- Mineral Fillers	- Compatibilization
- Rubber-Toughening	- Transformation
- Nanoparticles	- Microstructures
- Core-Shell Nodules	- Rheology
- Vegetal Fillers	- Deformation and Damage
- Biodegradable Blends	- Crazing
- Glass Beads and short Fibres	- Cavitation
- Controlled Crystallinity	- Impact

Deadline

1st March 2003: deadline for proposing oral communications or posters to the organizing committee. The required form is a 1 page abstract indicating the title of the proposed communication or poster, the names of the authors (underline the presenting author) and the affiliations of the authors.

30th April 2003: deadline for the organizing committee to inform the authors that their communication or poster is accepted (or rejected).

15th June 2003: deadline for authors to provide the extended abstract of their communication or poster for publication in the symposium notebook. The extended abstract will be of 4 pages exactly (including short summary and bibliographic references).

1st July 2003: deadline for registration to the symposium (see registration form attached)

The secretary of the symposium re-opens on January 6th, 2003.

Chairman of the Symposium
Christian G'SELL
Professor Ecole des Mines de Nancy, INPL
Laboratoire de Physique des Matériaux (UMR CNRS 7556)
Parc de Saurupt, 54042 NANCY cedex (France)

Tel.:	33 (0)3 83 58 41 54
Fax :	33 (0)3 83 57 97 94
E-mail:	gsell@mines.u-nancy.fr

September 15 - 17, 2003

ECCMR 2003 - Third European Conference on Constitutive Models for Rubber
Queen Mary, University of London

Conference themes: experimental characterisation of rubber properties critical comparison of continuum mechanics models implementation and application of models, for example in finite element programs design issues of rubber components micro-structural theories of rubber properties modelling of fracture and fatigue.

Web: http://www.materials.qmul.ac.uk/eccmr

September 18 - 20, 2003

4th International Congress of Croatian Society of Mechanics ICCSM
Bizovac, Croatia

Scope
The main objective of the 4th International Congress of the Croatian Society of Mechanics (4thICCSM) is to bring together scientists and researchers from Croatia and worldwide to exchange their knowledge and experience and present their latest achievements in mechanics of solids and fluids. Three previous congresses of Croatian Society of Mechanics (Pula 1994, Supetar/Brac 1997 and Cavtat-Dubrovnik 2000) should be the proof that such congress presents excellent opportunity for scientists, researchers and engineers to meet, present and discuss matters related to the important problems of mechanics in engineering practice. Practical results would be applied in mechanical engineering, civil engineering, aerospace engineering, shipbuilding, soil and rock mechanics, biomechanics and other fields with the aim of minimizing the gap between the new research ideas and their application in the industry.
The official language of the Congress is English. No simultaneous translation to or from other languages will be provided.

Topics
The organisers welcome the contributions in the field of theoretical and engineering mechanics using analytical, numerical and experimental methods. The papers will cover static and dynamic, linear and nonlinear problems as well as stability problems. The contributions in the field of computational technology directly influencing the formulation and computational approach to the numerical problems are welcome.

Call for Papers
Short abstracts up to 200 words are invited by February 28, 2003. All communications must be in English and bear the names of all authors, their affiliation and full mailing addresses.

Information
Croatian Society of Mechanics
Prof. dr. Franjo Matejicek
University of Osijek
Faculty of Mechanical Engineering
Trg Ivane Brlic-Mazuranic 18
HR - 35000 Slavonski Brod, Croatia

Tel: + 385 35 446 188
Fax: + 385 35 446 446
E-mail: iccsm4@csm.hr
Web: http://www.csm.hr/iccsm4

September 22 - 24, 2003

Chemnitz FEM Symposium 2003
Ehrenfriedersdorf (near Chemnitz), Germany

The conference venue in Ehrenfriedersdorf (near Chemnitz, Germany) is situated in the beautiful Erzgebirge mountains and provides a stimulating and cosy atmosphere. The symposium is organized by the DFG-Sonderforschungsbereich 393 "Numerische Simulation auf massiv parallelen Rechnern" and the Faculty of Mathematics, TU Chemnitz.

Topics
Finite Elements, including (but not limited to)
- error estimators,
- high order methods,
- parallel implementations.

This year special emphasis is on
- fast solvers (multi-level methods, domain decomposition methods, H-matrices, hp-methods)
- simulation of materials with nonlinear properties, e.g. deformation, damage, crack propagation,
- mixed formulations,
- problems with anisotropic solution.

Invited Speakers
M. Dobrowolski (Würzburg), R. Duran (Buenos Aires), U. Langer (Linz), M. Melenk (Leipzig)

Deadlines
August 8, 2003: Submission of abstracts
August 29, 2003: Book accommodation

The symposium is supported by the Deutsche Forschungsgemeinschaft.

E-mail: fem03@mathematik.tu-chemnitz.de
Web: http://www.tu-chemnitz.de/sfb393/fem-symposium

October 15 - 18, 2003

International Meeting on Applied Physics (APHYS-2003)
Badajoz, Spain

Topics
All branches of Applied Physics (applied thermodynamics, applied mechanics, applied magnetism, etc.) are covered in this First International Meeting. Moreover, the Conference will be specifically interested in receiving reports on interdisciplinar researches relating Physics with other Sciences such as Biology, Chemistry, Information Science, Medicine, etc. In other words, we are specially interested in applying the techniques, the training, and the culture of physics to research areas usually associated with other scientific and engineering disciplines.

- Surface and Interface Science
- Physical and Biophysical chemistry
- Nano-sciences and Technologies
- Imaging Techniques
- Engineering Physics
- Biophysics, Biomedical Engineering, Medical Physics, Health Physics
- Environmental Physics
- Biomechanics
- Computational Physics
- Applied Solid State and Materials Science
- Non-linear Physics
- Instrumentation, Metrology, Certification...
- Accoustics
- Industrial Physics
- Applied Optics
- Opto-electronics
- Industrial Physics
- Physics and Information Sciences and technologies, Quantum Information Sciences
- Nuclear Sciences, Radioactivity, Radiochemistry...
- Semiconductors devices and Photonics
- Applied Aero-Space Physics/Engineering
- Biomagnetism

In addition, also reports on educational applications of applied research will be accepted for a dedicated educational section of the Conference. In this section, other topics such as "Physics in Culture", Physics results communication to Society, Gender issues in Physics, etc. will be accepted. Accepted papers within this topics will be included in a separate Proceedings volume. Depending on the number and themes of the received papers, several Symposia will be organized. The final structure of the Conference will be published after the deadline for abstracts submissions.

Important Dates
- Submission of abstracts: March 24th
- Notification of acceptance/reject: April 21th
- Full papers submissions in due format: July 21th
- Early registration deadline: May 20th

- Registration absolute deadline for participants wishing to have their papers included in the Proceedings volumes: July 21th

Conference Secretariat
José Antonio Mesa González
INNOVATEX, S.L.
C / Encarnación, 3 1ºE
(Semillero de Empresas)
06001 Badajoz, Spain

Phone/Fax: +34 924 258 615
E-mail: secretariat@formatex.org
Web: http://www.formatex.org/aphys2003/aphys2003.htm

November 05 - 07, 2003

Materials Characterisation 2003
International Conference on Material Characterisation
Santa Fe, New Mexico

Call for Papers
for the international conference on Materials Characterisation 2003, organised by Wessex Institute of Technology, UK, and the University of New Mexico, USA.
The organisation of the conference is progressing well and we have received many interesting abstracts and several outstanding invited contributions.
If you would like to participate in this conference please note that abstract submissions can be made via the conference website.

Objectives
Most natural and artificial materials possess complex microstructures which, to a large extent, determine their physical properties and behaviour. Recent advances in simulation methods and High Performance Computing have made it possible to perform ab initio calculations to study complex microscale mechanisms. Even more significantly, it is becoming feasible to link mircroscale mechanisms to the macroscale behaviour of materials.
The objective of this conference is to bring together researchers who use computational methods in all areas of materials characterisation, to discuss their recent results and ideas, in order to foster the multidisciplinary approach that has become necessary for the study of complex phenomena.

Topics
- Length scale bridging methods
- Statistical characterisation of microstructures
- Constitutive behaviour
- Optimisation of materials
- Interface phenomena
- Damage mechanisms
- Thermomechanical behaviour
- Dynamic behaviour
- Composites
- Foams
- Alloys
- Suspensions and emulsions
- Electro- and magneto-rheological fluids
- Polymers
- Ceramics
- Concretes
- Nanoscale materials
- Molecular dynamics
- Homogenization theory

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Tel: +44 (0) 238 029 3223
Fax: + 44 (0) 238 029 2853
Web: http://www.wessex.ac.uk/conferences/2003/materials03/ index.html

November 10 - 14, 2003

COBEM 2003 International Congress of Mechanical Engineering
Adaptive Modeling and Simulation
Sao Paulo, Brazil

On behalf of the organizing committee of COBEM 2003, we kindly ask you to announce, among the members of your Society, the "COBEM 2003 International Congress of Mechanical Engineering", which will be held in Sao Paulo, Brazil.

COBEM2003 is the 17th edition of the major scientific event in the mechanical engineering area, in Latin America. Covering all areas of knowledge related to the Mechanical Sciences, participation averages 850 published papers. It is held every two years since 1971, promoted by The Brazilian Society of Mechanical Engineering and Sciences (ABCM) which maintain a cooperation agreement with GAMM.

During the 2003 edition, participants and attendees will have the opportunity to have contact with the state-of-the-art on a broad range of application areas and to be acquainted with on-going research projects carried out in Brazil and abroad. Engineering and Society constitutes the thematic motivation of this edition. A special symposium will be organised to serve as a forum for interdisciplinary discussion.

During the 70s and 80s the COBEM primarily had a national character. However, in the 90s, COBEM begun to attract international participants. Starting from the present edition, COBEM is assuming its international character. We would like, therefore, to announce the conference among a large number of international related societies.

Chairman: Paulo E. Miyagi
Technical Committee Coordination: Celso P. Pesce and Agenor T. Fleury,

E-mail: cobem2003@poli.usp.br
Web: http://www.cobem2003.abcm.org.br

June 14 - 27, 2004

ICRS-7   7th International Conference on Residual Stresses
Xian, China

The International Conference on Residual Stresses will be the seventh (ICRS-7) in the series after the tremendous success in Germany in 1987, in France in1989, in Japan in 1991, in USA in 1993, in Sweden in 1997 and in UK in 2000 and will take place in Xian, China on June 14-17, 2004.
The purpose of this conference is to bring together professors, researches, students and engineers worldwide to exchange ideals and information in the evaluation, control and applications of residual stresses.

Topics
- Residual stresses and mechanical behavior
- Residual stress in advanced materials
- Residual stress in engineering components
- Residual stress in composites
- Residual stress in nano- and film materials
- Residual Stresses in non-metallic materials
- Residual stresses in electronic materials
- Residual stresses with processings
- Measurement techniques of residual stresses and their recent developments
- Micro-area and micro-sample residual stress measurement
- Residual stress distribution and simulation
- Online and onsite residual stress measurements
- Removal and control of residual stresses

Important Dates
Submission of abstracts May 30, 2003
Acceptance of abstracts and information for authors July 30, 2003
Submission of final manuscripts Feb. 15, 2004

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Web: http://www.icrs7.xjtu.edu.cn

June 22 - 24, 2004

4th International Conference on Thin-Walled Structures ICTWS 2004
Loughborough, England

This conference is the fourth in the series, with the first three being held in Glasgow in 1996, Singapore in 1998 and Poland in 2001. The aim of the fourth conference is to provide the opportunity for one to follow the advances made in a broad spectrum of topical research areas associated with the unique phenomenological behaviour which can occur in thin-walled structural elements. It is the aim of the conference to bring together the world's experts in the broadest sense at this international gathering to review and discuss current developments and trends and to relate to research progress and the achievements made in our knowledge and understanding in the field of thin-walled structures.

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Aufrufe / Calls

EMS Call for Proposals

1) E.M.S. Summer Schools in Pure and Applied Mathematics
2) E.M.S. Joint Mathematical Weekends
3) E.M.S. Lectures

The European Mathematical Society is launching a call for proposals for three activities : summer schools, mathematical joint week ends and E.M.S. lectures. The deadline for this initial call is **February 26, 2003**, by e-mail at the address : llemaire@ulb.ac.be. Proposals need not be in final form, but should include ideas of subject, location, date, main speakers (tentative).

The proposals will be examined by the "General meetings committee" and the scientific panel of the E.M.S. The (admittedly short) deadline will allow E.M.S. to present a coherent proposal of activities for E.U. funding, thereby allowing organisers of single meetings to be part of a series of events. The result of this application will bear on the possible support for the meetings selected by E.M.S. Here is a description of these three activities.

For any question or tentative project, please contact llemaire@ulb.ac.be at any time.

E.M.S. Summer Schools in Pure and Applied Mathematics

The E.M.S. will pursue its programme of Summer schools, aiming at running two such schools per year, typically one in pure and one in applied mathematics. This call for proposals concerns all schools that any group of mathematicians would like to run in 2004 or later years. The guidelines for such events are that there must be a very strong component of training of young researchers (in the first 10 years of their career) by means of integrated courses and lectures at advanced level. This can be supplemented by conference type research lectures, but the training component is needed.

The courses should aim at an international audience (no more than 30 % of participants should come from a single state). The E.M.S. will help with advertisement and organisation, as well as the applications for financial support.

E.M.S. mathematical week-ends
Joint meetings of the E.M.S. with regional or national societies

The E.M.S. has launched a new format of joint meetings with its corporate member societies, following the model set out by the Portuguese Mathematical Society in the meeting that will take place in Lisbon from September 12 to 14, 2003

Information: http://www.emis.de/conf/item/92.html.

These "E.M.S.- joint mathematical week-ends" will start on a Friday, and finish on the Sunday, both at lunchtime, so that they can be easily attended during term-time. Each would cover around 4 subjects, chosen by the local organisers to fit the research strengths of the local mathematicians, or new subjects they would want to develop. For each subject, a plenary lecture and two half-days of parallel sessions will be organised. Past experience shows that such an internationalisation of the meetings of national societies helps to substantially increase participation. The E.M.S. will help with scientific organisation, publicity and funding

applications. With more than fifty corporate members, the E.M.S. hopes to see regular meetings of this format. Note also that mathematics departments or individual members could also plan such meetings.

E.M.S. Lectures

The E.M.S. is calling for proposals of E.M.S. lectures, in the following new format.

The idea of the E.M.S. lectureship is to allow an institution inside the E.M.S. area to invite a distinguished mathematician (in pure or applied mathematics) to give a series of lectures, and build a small conference around his presence. Typically, he would give between 4 and 8 lectures, complemented by talks of the participants to the meeting. The lectures of the main speaker should lead to a publication by the E.M.S. An application should be introduced by a European institution, with agreement of the main lecturer, and include some plan of the meeting built around his course. The E.M.S. will cover the travel expenses of the main speaker, and a lecture fee on submission of a manuscript. It will help to obtain support for the meeting, provided it has an European dimension in participation. The preceding E.M.S. lecturers (in a somewhat different format) have been professors H.W. Lenstra (Berkeley), M.J. Cutland (Hull), M. Lyubich (Stony Brook), G. Papanicolau (Stanford), M. Vergne (Palaiseau) and G. Dal Maso (SISSA, Trieste). The aim is to maintain the rhythm of one such course per year, and to help dissemination and development of cutting edge subjects.

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Neue Bücher und Zeitschriften

Buchempfehlungen

Numerical Modelling in Materials Science and Engineering
by: **M. Rappaz**, Laboratory of Physical Metallurgy, Lausanne Switzerland;
M. Bellet, Ecole de Mines de Paris, Sophia Antipolis, France;
M. Deville, Swiss Federal Institute of Technology, Lausanne, Switzerland

This book introduces the concepts and methodologies related to the modelling of the complex phenomena occurring in materials processing. After a short reminder of conservation laws and constitutive relationships, the authors introduce the main numerical methods: finite differences, finite volumes and finite elements. These techniques are developed in three main chapters of the book that tackle more specific problems: phase transformation, solid mechanics and fluid flow. The two last chapters treat inverse methods to obtain the boundary conditions or the material properties and stochastic methods for microstructural simulation. This book is intended for undergraduate and graduate students in materials science and engineering and for engineering professional or researchers who want acquainted with numerical simulation to model and compute materials processing.

Publisher: Springer; 2003. XI, 540 p. 268 illus.
Price: € 79,95 (net price)
ISBN: 3-540-42676-0
Web: http://www.springer.de

Creep Mechanics
by: Univ.-Prof. Dr.-Ing. **J. Betten**, Universität Aachen, Germany

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 tensors invariants, scalar coefficients in constitutive and evolutional equations, and tensorial interpolation methods are also explained.

Keywords
creep, materials, solids and fluids, continuum mechanics, tensors, damage, viscoelasticity, viscoplasticity, concrete, glass, metals, polymers

Publisher: Springer; 2002. XI, 327 p. 87 illus. Hardcover
Price: € 79,95
ISBN: 3-540-42981-6
Web: http://www.springer.de

Kontinuumsmechanik
Elastisches und inelastisches Verhalten isotroper und anisotroper Stoffe
von Univ.-Prof. Dr.-Ing. **J. Betten**, Universität Aachen, Deutschland

Nach einer Einführung in werkstoffkundliche Gesichtspunkte und experimentelle Befunde stellt der Autor die wichtigsten Grundlagen der Kontinuumsmechanik (Kinematik, Statik, Dynamik) dar. Im Vordergrund steht dabei die Theorie endlicher Verzerrungen. Im Hinblick auf den zunehmenden Einsatz moderner Werkstoffe, die sich nicht linearelastisch und nicht isotrop verhalten oder bei denen große Verformungen auftreten, sind Tensorfunktionen von grundlegender Bedeutung für die Kontinuumsmechanik. Ausführlich behandelt der Autor das elastische und inelastische Verhalten isotroper u. anisotroper Stoffe (Festkörper und Fluide) unter Einbeziehung geometrischer und physikalischer Nichtlinearitäten. Die Neuauflage stellt eine wesentliche Erweiterung der ursprünglichen Fassung dar, die sich auf eine Einteilung der Kontinuumsmechanik in Elasto-, Plasto- und Kriechmechanik beschränkte, und enthält zahlreiche Übungsaufgaben und vollständig ausgearbeitete Lösungen mit ausf. Erläuterungen.

Schlagworte
Kontinuumsmechanik (solids und fluids), Theorie endlicher Verzerrungen, geometrische und physikalische Nichtlinearitäten, Stoffgleichungen, Tensorfunktionen, krummlinige Koordinaten, Randwertaufgaben, Elastizitätstheorie, Plastizitätstheorie, Kriechmechanik, Viskoelastizitätstheorie, Viskoplastizitätstheorie.

Verlag: Springer; 2. erw. Aufl. 2001. XIII, 556 S. 106 Abb., 20 Tab., 250 Übg., Geb.
Preis: € 56,03
ISBN: 3-540-42043-6
Web: http://www.springer.de

Nonlinear Mechanics of Reinforced Concrete
by **K. Maekawa**, The University of Tokyo, Japan; **H. Okamura**, Koichi University of Technology, Japan and **A. Pimanmas**, Thammasat University, Thailand

This book describes the application of nonlinear static and dynamic analysis for the design, maintenance and seismic strengthening of reinforced concrete structures. The latest structural and RC constitutive modeling techniques are described in detail, with particular attention given to multi-dimensional cracking and damage assessment, and their practical applications for performance-based design. Other subjects covered include 2D/3D analysis techniques, bond and tension stiffness, shear transfer, compression and confinement. Nonlinear Mechanics of Reinforced Concrete presents a practical methodology for structural engineers, graduate students and researchers concerned with the design and maintenance of concrete structures.

Publisher: SPON PRESS; March 2003, 234x156, 592pp illus.,400 b+w photos
ISBN: 0-415-27126-6
Price: £ 90.00
Web: www.sponpress.de

**Structural Analysis
A Unified Classical and Matrix
Approach-5th Edition**
by **Amin Ghali,** University of Calgary, Canada; **Adam Neville,** Consultant Civil
Engineer, UK and **Tom Brown,** University of Calgary, Canada

The fifth edition of this comprehensive textbook combines and develops concurrently, both classical and matrix-based methods of structural analysis.
A new introductory chapter on structural analysis modelling has been added. The suitability of modelling structures as beams, plane or space frames and trusses, plane grids or assemblages of finite elements is discussed in this chapter along with idealisation of loads, anticipated deformations, sketching deflected shapes, and bending moment diagrams. With new solved examples and problems added, the book now has over 100 worked examples and more than 350 problems with answers. A new companion website contains computer programs that can serve as optional aids in studying and in engineering practice: www.sponpress.com/civeng/support.htm.

Publisher: Spon Press; February 2003: 234X156: 904pp: illus.524 lire figures,
                    8 b+w photos and 56 tables
ISBN Hb: 0-415-28091-5
ISBN Pb: 0-415-28092-3
Price Hb: £ 99,00
Price Pb: £ 34,99
Web: www.sponpress.com

Programming the Dynamic Analysis of Structures
by **P. Bhatt**, University of Glasgow, UK

This book presents a series of integrated Computer programs in Fortran-90 for the dynamic analysis of structures, using the finite element method. Two dimensional continuum structures such as walls arc covered along with skeletal structures such as rigid jointed frames and plane grids. Response to general dynamic loading of single degree freedom Systems is calculated, and the author also examines multi degree of freedom Systems (including earthquake analysis). Each chapter covers a different aspect of analytic theory and the corresponding program segments. It will be an essential tool for practising structural and civil engineers, whilst also being of interest to academics and postgraduate students.

Contents:
1. Single Freedom System-I. 2. Single Degree Freedom System-II. 3. Introduction to Multidegree Freedom Systems. 4. Matrix Routines. 5. Solution Methods for General Eigen-Value Problems. 6. Solution of Large Scale Eigen-Value Problems. 7. Line Elements. 8. Finite Elements. 9. Finite Strip Method. 10. Direct Stiffness Method.11. Direct Integration. 12. Subroutines and Programs. Selected References. Index.

Publisher: Spon Press; June 2002: 234x156: 464pp: illus.76 line figures, 47 tables
ISBN: 0-419-15610-0
Price: £ 55.00
Web: www.sponpress.com

Buckling of Thin Metal Structures
by **G. Teng,** Hong Kong, Polytechnic University, Hong Kong and
J. M. Rotter, University of Edinburgh, UK

Due to the inherent properties of thin shelled metal structures, buckling is the main cause of failure and is therefore a topic of great concern and interest. This book is the assimilation of a wealth of recent research, experience and knowledge on the subject. Previously scattered information is made available in a concise, convenient and easy-to-understand form and state of the art research findings are thoroughly examined. This book is relevant to those involved with such structures as: aircraft, missiles, submarines, silos, tanks, pipelines, chimneys and offshore platforms.

Publisher: Spon Press; May 2003;246x189: 656pp
ISBN: 0-419-24190-6
Price: £ 99.00
Web: www.sponpress.com

Fundamentals of Noise and Vibration
by **F. Fahy** and **J. Walker**, both of the University of Southampton, UK

"This represents an excellent introductory text book on noise and vibration for a postgraduate student or a specialist engineer with little or no previous acoustic knowledge. The list of contributing authors reads like a veritable "Who's Who" of UK acoustics".
(**Acoustics Bulletin)**

"…an excellent starting point for engineers seeking to acquaint themselves with these fields as well as a valuable reference for practicing scientists. This is not only interesting reading; it is a useful reference for those working in or planning to work in the field of practical acoustics".
(**Acoustical)**

Fundamentals of Noise and Vibration is based on the first semester of the postgraduate Masters course in Sound and Vibration Studies at the Institute of Sound and Vibration Research, at the University of Southampton. The main objective of the course is to provide students with the skills and knowledge required to practice in the field of noise and vibration control technology.

Readers do not need prior formal training in acoustics although a basic understanding of mechanics, fluid dynamics and applied mathematics is required. Many of the chapters use examples of models and forms of analysis to illustrate the principles that they introduce. By pointing toward the practical application of these fundamental principles and methods, the book will benefit those wishing to extend their knowledge and understanding of acoustic and vibration technology for professional purposes.

Publisher: Spon Press; 1998: 234x156: 536pp: 257 line figures
ISBN Hb: 0-419-24180-9
ISBN Pb: 0-419-22700-8
Price Hb: £ 140,00
Price Pb: £ 41,99
Web: www.sponpress.com

Active Control of Noise and Vibration
by **C. Hansen** and **S. Snyder**, both at University of Adelaide, Australia

"The treatment is attractive, meticulous and accurate a good buy."
(Bulletin of the Institute of Acoustics)
"Covers subject matter previously available only in separate volumes… could be considered as the latest update." **(Noise and Vibration Worldwide)**
"A very good and complete reference on the subject." **(The Structural Engineer)**

Written for all those involved in the active control of noise and vibration, both in industry and the academic field, this study breaks new ground in the field. In the first half of the book, the authors explore the fundamental concepts underlying the various sub-disciplines of active noise vibration control. They explain how active control Systems can be designed and implemented in practice, and show the pitfalls that must be avoided to ensure a reliable and stable systems. They then apply these concepts to practical systems, and among many other subjects discuss in detail the active control of: sound in ducts, sound radiation, sound transmission into enclosures, structural vibration and isolation electronic control system design sensors and actuators. This major work is the first to treat the active control of both sound and vibration in a unified way, and describes the state-of-the-art in developments and research.

Publisher: Spon Press; 1996: 234x156: 1288pp: 520 line Illustrations
ISBN: 0-419-19390-1
Price: £ 275.00
Web: www.sponpress.com

Principles of Mathematical Modeling
Ideas, Methods, Examples
by **A. A. Samarskii** and **A. P. Mikhailov,**
both at the Institute of Mathematical Modeling,
Russian Academy of Sciences, Moscow, Russia

This book demonstrates the versatility of the increasingly multi-disciplinary field of mathematical modeling. The authors consider the principles of mode1 construction and use common approaches to build models from a range of subject areas. Although the contents of the book reflect the interests and experiences of the authors, it includes examples of mathematical modeling in subjects from mechanics to social science. A general approach is adopted where ideas and examples are favored over rigorous mathematical procedures. This insightful book will be of interest to specialists, teachers and students of this fascinating discipline.

Publisher: Taylor & Francis; January 2002, 360 pp
ISBN Hb: 0-415-27280-7
ISBN Pb;   0-415-27281-5
Price Hb: £ 80,00
Price Pb: £ 40,00
Web: www.tandf.co.uk

Partial Differential Equations
Analytical and Numerical Methods
by **Mark S. Gockenbach**

This introductory text on partial differential equations is the first to integrate modern and classical techniques for solving PDEs at a level suitable for undergraduates. The author successfully complements the classical topic of Fourier series with modern finite element methods. The result is an up-to-date, powerful, and flexible approach to solving PDEs, which both faculty and students will find refreshing, challenging, and rewarding. Linear algebra is a key component of the text, providing a framework both for computing solutions and for understanding the theoretical basis of the methods. While techniques are emphasised over theory, the methods are presented in a mathematically sound fashion, developing a strong foundation for further study. Numerous exercises and examples involve meaningful experiments with realistic physical parameters, allowing students to use physical intuition to understand the qualitative features of the solutions.

A modern course in partial differential equations at this level calls for the use of powerful software. Although the text is independent of any particular software package, the accompanying CD-ROM includes thorough tutorials on using MATLAB and/or Mathematica to compute and graph solutions. These tutorials are themselves almost worth the price of the book.

Partial differential equations are one of the most difficult subjects to teach, and this textbook has many features to ease the student into the subject:

- Thorough expositions of the background material from linear algebra and ordinary differential equations
- Solutions to odd-numbered exercises, including, in many cases, a complete outline of the solution process
- An emphasis on connecting mathematical results with physical understanding;
- Some of the best tutorial material available for MATLAB and Mathematica.

The book is designed for undergraduate students in applied mathematics and for undergraduate and graduate students in engineering and physics. It supports courses usually titled Introduction to Partial Differential Equations, Fourier Series and Boundary Values Problems, and Partial Differential Equations and Boundary Value Problems. The book is ideal for self-study.

Publisher:	SIAM, October 2002, 620pp, Hardback + CD-ROM
ISBN:	0-89871-518-0
Prices:	£ 63,50
Email:	orders@edspubs.co.uk
Info:	info@eurospan.co.uk

Modeling and Analysis Stochastic Systems
by **V.G. Kulkarni**, University of North Carolina, Chapel Hill, USA

Features
- Emphasizes modeling and analysis of real-life situations with stochastic elements
- Systematically develops each class of stochastic process: transient analysis, steady-state analysis, first-passage-time analysis, and cost/reward analysis
- Allows readers to begin modeling early in their learning process by introducing Markov

    chains before renewal processes
-   Gives readers an in-depth understanding of solutions through detailed demonstrations of
    both numerical and analytical solution methods

This practical and accessible text enables readers from engineering, business, operations research, public policy and computer science to analyze stochastic systems. Emphasizing the modeling of real-life situations with stochastic elements and analyzing the resulting stochastic model, it presents the major cases of useful stochastic processes-discrete and continuous time Markov chains, renewal processes, regenerative processes, and Markov regenerative processes. he author provides reader-friendly yet rigorous coverage. He follows a set pattern of development for each class of stochastic processes and introduces Markov chains before renewal processes, so that readers can begin modeling systems early. He demonstrates both numerical and analytical solution methods in detail and dedicates a separate chapter to queueing applications.

Modeling and Analysis of Stochastic Systems includes numerous worked examples and exercises, conveniently categorized as modeling, computational, or conceptual and making difficult concepts easy to grasp. Taking a practical approach to working with stochastic models, this book helps readers to model and analyze the increasingly complex and interdependent systems made possible by recent advances.

Publisher: Chepman & Hall, Catalog no. C49991, 1995, 624 pp.,
ISBN: 0-412-04991-0
Prices: $ 74,95   £ 49,99
Web: www.crcpress.com

Stochastic Processes with Applications to Finance
A graduate-level treatment without advanced mathematics
by **M. Kijima**, University of Kyoto, Japan

In recent years, modeling financial uncertainty using stochastic processes has become increasingly important, but it is commonly perceived as requiring a deep mathematical background. Stochastic Processes with Applications to Finance shows that this is not necessarily so. It presents the theory of discrete stochastic processes and their applications in finance in an accessible treatment that strikes a balance between the ahs tract and die practical.

Using an approach that views sophisticated stochastic calculus as based on a simple class of discrete processes -"random walks"- the author first provides an elementary introduction to the relevant areas of real analysis and probability. He then uses random walks to explain the change of measure formula, die reflection principle, and the Kolmogorov backward equation. The Black-Scholes formula is derived as a limit of binomial model, and applications to the pricing of derivative securities are presented. Another primary focus of the book is the pricing of corporate bonds and credit derivatives. which the author explains in terms of discrete default models.

By presenting important results in discrete processes and showing how to transfer those results in their continuous counterparts, Stochastic Processes with Applications to Finance imparts an intuitive and practical understanding of the subject. This unique treatment is ideal both as a text for a graduate-level class and as a reference for researchers and practitioners in financial engineering, operations research, and mathematical and statistical finance.

Features
- Uses discrete processes to explain important but difficult concepts in stochastic calculus
- Includes an introduction to Monte Carlo simulation that emphasizes its use in financial engineering
- Addresses applications in the pricing of derivative securities, corporate bonds. and credit derivatives
- Describes the dynamics of credit ratings using Markov chains
- Contains numerous exercises that support the concepts

Publisher: CRC PRESS
Catalog no.:   C2247, JuIy 2002, 288 pp.,
ISBN: 1-5848-8224-7
Prices: $ 79.95   £ 39.99
Web: www.crcpress.com

Moderne Physik
von **Paul A. Tipler** und **Ralph A. Llewellyn**

Eine umfassende Einführung in die Relativitätstheorie, die Quantenmechanik und die statistische Physik wird im ersten Teil des Buches gegeben. Die wichtigsten Arbeitsgebiete der modernen Physik -Festkörperphysik, Kern- und Teilchenphysik sowie die Kosmologie und Astrophysik - werden in der zweiten Hälfte des Buches behandelt. Zu weiteren zahlreichen Spezialgebieten gibt es Ergänzungen im Internet, die eine Vertiefung des Stoffes ermöglichen. Mit ca. 700 Übungsaufgaben eignet sich das Buch hervorragend zum Selbststudium sowie zur Begleitung einer entsprechenden Vorlesung.

Die Übersetzung des Werkes übernahm Dr. Anna Schleitzer. Die Bearbeitung und Anpassung an Anforderungen deutscher Hochschulen wurde von Prof. Dr. G. Czycholl, Prof. Dr. W. Dreybrodt, Prof. Dr. C. Noack und Prof. Dr. U. Strohbusch durchgeführt. Dieses Team gewährleistet auch für die deutsche Fassung die wissenschaftliche Exaktheit und Stringenz des Originals.

Verlag: Oldenburg, München, Germany 1. Auflage 2003, geb., 964 Seiten
ISBN: 3-486-25564-9
Preise: € 69,80   sFr 110,00
Web: www.oldenburg.de

Zeitschriftenempfehlung

Inverse Problems in Engineering
Journal

Aims and Scope

Inverse Problems in Engineering provides an international forum for the discussion of the conceptual ideas and methods for the practical solution of applied inverse problems. The Journal aims to address the needs of practicing engineers and to serve as a focal point for the quick communication of ideas.

Topics include:

- Shape design: determination of shape, size and location of domains (shape identification or optimisation in acoustics, aerodynamics, electromagnetics, etc; detection of voids and cracks).
- Material properties: determination of physical properties of media.
- Boundary values/initial values: identification of the proper boundary conditions and/or initial conditions (tomographic problems involving X-rays, ultrasonics, optics, thermal sources, etc.; determination of thermal. stress/strain, electromagnetic, fluid flow etc. boundary conditions on inaccessible boundaries: determination of initial chemical composition, etc.).
- Forces and sources: determination of the unknown external forces or inputs acting on a domain (structural dynamic modification and reconstruction) and internal concentrated and distributed
- sources/sinks (sources of heat, noise, electromagnetic radiation, etc.).
- Governing equations: inference of analytic forms of partial and/or integral equations governing the variation of measured field quantities.

Inverse Problems in Engineering is a unique source of information in this new field that will offer researchers the opportunity to publish their ideas in a single Journal. Papers should provide non-trivial examples of practical applications. Multidisciplinary applied papers are particularly welcome.

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Sbornik: Mathematics
Journal

Sbornik: Mathematics is the English edition of the Russian monthly journal **Matematicheskii Sbornik.** This is the oldest Russian mathematical journal, in publication since 1866. Since the beginning of 1995 **Sbornik: Mathematics** has been published in London jointly by the London Mathematical Society, Turpion Ltd, and the Russian Academy of Sciences. **Sbornik: Mathematics** is published bimonthly; each issue being made up of two issues of **Matematicheskii Sbornik** translated into English. The journal publishes research papers keeping pace with modern trends in contemporary mathematics.

Contents
The journal has always maintained the highest scientific levels in a wide area of mathematics with special attention to the current development in:
• Mathematical Analysis
• Ordinary Differential Equations
• Partial Differential Equations
• Mathematical Physics
• Geometry
• Algebra
• Functional Analysis

Audience
• Researchers in the various domains of mathematics and related sciences
• Teachers
• Students and postgraduate students

Facts & Features
• A volume is about 1900 pages and contains about 100 articles.
• Core of mathematics from the Russian Federation. Refereed by leading experts.
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Editorial Board
Editor in Chief: A. A. Gonchar, *Russian Academy of Sciences, Moscow*

Izvestiya: Mathematics
Journal

Izvestiya: Mathematics is the English edition of the Russian bimonthly journal **Izvestiya Rossiiskoi Akademii Nauk, Seriya Matematicheskaya,** founded in 1937. Since the beginning of 1995 **Izvestiya: Mathematics** has been published in London jointly by the London Mathematical Society, Turpion Ltd. and the Russian Academy of Sciences. The journal publishes only original research papers containing full results in the author's field of study.

Contents
This publication covers all fields of mathematics, but special attention is given to:
• Algebra
• Mathematical Logic
• Number Theory
• Mathematical Analysis
• Geometry
• Topology
• Function Theory
• Differential Equations

Audience
• Researchers and postdoctoral workers specialising in the various branches of mathematics
  and related sciences,
• Teachers,
• Students and postgraduate students.

Facts & Features
• A volume contains over 50 articles in around 1350 pages.
• Core of mathematics from the Russian Federation. Refereed by leading experts.
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Russian Mathematical Surveys
Journal

Russian Mathematical Surveys is the English translation of the Russian bimonthly journal **Uspekhi Matematicheskikh Nauk,** founded in 1936. Until the last issue of 1997 the journal was published jointly by the London Mathematical Society and the British Library. Starting from the first issue of 1998 the journal is published jointly by the London Mathematical Society, Turpion Ltd, and the Russian Academy of Sciences. The English language version is a cover-to-cover translation of all the material: that is, the survey articles, the Communications of the Moscow Mathematical Society, and the biographical material.

Contents
This is a high-prestige journal covering a wide area of mathematics. The Russian original is rigorously refereed within the Russian Academy of Sciences and the translations are carefully scrutinised and edited by the London Mathematical Society. The survey articles on current trends in mathematics are generally written by leading experts in the field at the request of the Editorial Board.

Audience
- Postgraduate students
- Research fellows
- Postdoctoral workers
- Lecturers and researchers across many branches of mathematics, mechanics, and mathematical physics

Facts & Features
- A volume contains about 25 surveys and over 100 communications in around 1400 pages.
- Core of mathematics from the Russian Federation. Refereed by leading experts.
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Regular and Chaotic Dynamics
Journal

Regular and Chaotic Dynamics is a quarterly peer-reviewed international scientific journal published in English. The journal was founded in 1996 by the Moscow State University, Moscow Center for Continuous Mathematical Education, and Udmurt State University. Then in 1999 the Department of Mathematics of the Russian Academy of Sciences became a cofounder of the journal. Starting from the first issue of 2000 the journal is published jointly by Turpion Ltd, and the Department of Mathematics of the Russian Academy of Sciences in close cooperation with Udmurt State University. The journal publishes only original research results in the analysis of regular and stochastic behaviour in determined dynamic systems that arise in classical mechanics, physics and in other areas.

Contents
In this mathematics journal, special attention is given to:
- Nonlinear Dynamics
- Integrability and Nonintegrability of Dynamic Systems
- Determined Chaos
- Symmetries, Lie Algebras, and Hamiltonian Formalism

- Fractal Dynamics
- Selforganization Theory and Synergetics
- Quantum Chaos
- Computer Dynamics

Audience
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Facts & Features
- A volume contains about 40 articles in around 500 pages.
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