FOREWORD

This annual report about the year 2003 contains information on publications, seminars and guests. A list of DCAMM reports number 1-612 including the final references and also a list of the DCAMM S-reports number S1-S84 is available on request.

The report serves mainly as reference and documentation for accomplished activities. Information on the actual activities are available on our homepage: www.mek.dtu.dk and on the homepages of the cooperating departments of the center.

In the year 2003 the DCAMM Graduate Research School had very limited financial support and only gave one advanced course: Topology Optimization – Theory, Methods and Applications, 18th –25th June with 28 participants from 13 countries. The industrial participants represented 5 different companies. Among the lectures were two guest lectures.

The departments cooperating within DCAMM are:

from Technical University of Denmark:

IMM:	Dept. of Informatics and Mathematical Modelling
MAT:	Dept. of Mathematics
MEK-ET:	Dept. of Mechanical Engineering, Fluid Mechanics and Energy Egngn.
MEK-FAM:	Dept. of Mechanical Engineering, Solid Mechanics
MEK-K&P:	Dept. of Mechanical Engineering, Engineering Design
MEK-MT:	Dept. of Mechanical Engineering, Maritime Engineering
MEK-VB:	Dept. of Mechanical Engineering, Coastal and River Eng.

from Aalborg University:

IFB-AAU:	Building Technology and Structural Engineering
IME-AAU:	Institute of Mechanical Engineering

In 2003 the center organized an internal Symposium on “Mechanics and Materials”, held at Hotel Fjordgården in Ringkøbing at the Danish West coast. A short report from the Symposium is given on page 37.

I thank our international contacts for their support and inspirations.

Pauli Pedersen

CONTENTS

1. MEMBERS 2003

36 professors
60 scientific members at the five coorperating departments at the Center
37 Ph.D.-students

36 elected members
14 foreign members (listed in section 2)

(A complete list of names is given in the Appendix).

2. FOREIGN MEMBERS

Professor Hassan Aref
Virginia Polytechnic Institute & State University
333 Norris Hall
Blacksburg, VA 24061-0217
USA

Professor G.I. Barenblatt
Department of Mathematics
UC Berkeley
USA

Professor John P. Breslin, Dr. Sc.
Calle Dinamarca 7
03193 San Miguel de Salinas, (Alicante)
Spain

Professor Germund Dahlquist
Kungliga Tekniska Högskolan
Stockholm
Sweden

Professor John W. Hutchinson
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Professor Joseph B. Keller
Departments of Mathematics and Mechanical Engineering
Stanford University
Stanford, California
USA

Professor Michael S. Longuet-Higgins
UCSD
USA

Professor Ole Secher Madsen
Ralph M. Parsons Lab., Dept. of civil Eng.
Massachusetts Institute of Technology
Cambridge, MA 02139
USA

Professor Alan Needleman
Division of Engineering, Box D
Brown University
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USA

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University of California in San Diego
La Jolla, CA 92093, 0416
USA

Professor D.H. Peregrine
School of Mathematics
University Walk
Bristol BS8 1TW
UK

Professor Bertil Storåkers
Kungliga Tekniska Högskolan
S-100 44 Stockholm
Sweden

Professor Ib A. Svendsen
Department of Civil Engineering
University of Delaware, Neward, DE 19716
USA

Professor John E. Taylor
Department of Aerospace Engineering
Aerospace Engineering Building
University of Michigan
Ann Arbor, MI 48109
USA

3. GUESTS FOR EXTENDED PERIODS IN 2003

Alan Needleman, Professor, Division of Engineering, Brown University, USA (January 16 - 20)

Yasuhide Nakayama, Dr., Japan (May 1 –)

Alexander Fidlin, Germany (August 10 – August 23)

Niels Olhoff, Professor, Department of Mechanical Engineering, Aalborg University, Denmark (October 6 – December 12)

Hongwei Chen, Institute of Huaxing Aviation Wheel Co. Ltd., China (September 8 -)

Valery Okulou, Institute of Thermophysics, Siberian Branch of RAS, Lavrentyes Ave. 1, 630090 Novosibirsk, Russia, (June 1 - Aug 31)

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Krolikowski, W.Z., Bang, O., Wyller, J. & Rasmussen, J.J.: Nonlinear waves in nonlocal media. (poster, Tuesday no. 69, page 197 in book of abstracts). ICOLS 03 16th International Conference on Laser Spectroscopy. July 13-18, 2003, Novotel Palm Cove Resort, Palm Cove, Queensland, Australia.

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Allaire, Gregoire: Shape Optimization using Sensitivity Analysis and a Level-Set Method. 2 June 2003.
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(Professor at Institute of Mechanical Engineering, Aalborg University, Denmark)

9. DCAMM SYMPOSIUM AT HOTEL FJORDGÅRDEN, RINGKØBING

The internal DCAMM symposium number nine was held over the three days March 17th - March 19th 2003 at Hotel Fjordgården, Ringkøbing. Like the previous eight symposia, also this ninth symposium was sponsored by the DCAMM STØTTEFOND, a fund that has as a primary goal to encourage contacts between the members of the Center.

There were 69 participants (74, 76, 80, 78, 63, 61, 53 and 34 at the previous symposia). Of these 69 participants 23 were Ph.D.-students and they had a strong influence on the symposium.

Eight sessions was held with a total of 34 lectures, most of which were Ph.D.-presentations. Traditionally the language at these meetings is Danish, but a number of lectures were given in English. A book of abstracts is available. An afternoon visit to the industry VESTAS A/S was informative and much appreciated. The organizing Committee consist of Esben Byskov, Pauli Pedersen and Per Grove Thomsen.

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HOTEL
FJORDGARDEN

APPENDIX

Abbreviations:

from Technical University of Denmark

IMM:	Dept. of Informatics and Mathematical Modelling
MAT:	Department of Mathematics
MEK-ET:	Dept. of Mechanical Engineering, Fluid Mechanics and Energy Engng.
MEK-FAM:	Dept. of Mechanical Engineering, Solid Mechanics
MEK-K&P:	Dept. of Mechanical Engineering, Engineering Design
MEK-MT:	Dept. of Mechanical Engineering, Maritime Engineering
MEK-VB:	Dept. of Mechanical Engineering, Coastal and River Eng.

from Aalborg University

IFB-AAU:	Building Technology and Structural Engineering
IME-AAU:	Institute of Mechanical Engineering

Albertsen, Niels Chr.	(IMM)	Associate Professor, Ph.D.
Ammitzbøll, Jeppe	(MAT)	Ph.D. student
Andersen, Poul	(MEK-MT)	Associate Professor, Ph.D.
Andreasen, Jens H.	(IME-AAU)	Associate Professor, Ph.D.
Back-Pedersen, Andreas		Elected member, Ph.D.
Bang, Ole	(IMM)	Associate Professor
Bendsøe, Martin P.	(MAT)	Professor, dr.techn.
Berggren, Carl Christian	(MEK-MT)	Ph.D. student
Bingham, Harry	(IMM)	Associate Professor
Bisgaard, Anders	(MAT)	Ph.D. student
Bjørnø, Leif		Elected member, Professor
Boudant, Pauline	(MEK-MT)	Ph.D. student
Bozhevolnaya, Elena	(IME-AAU)	Associate Professor, Ph.D.
Bredmose, Henrik	(IMM)	Ph.D. student
Brink-Kjær, Ole	(MAT)	Professor, Ph.D.
Brohus, Henrik	(IFB-AAU)	Associate Professor, Ph.D.
Bræstrup, M.W.		Elected member, Ph.D.
Brøns, Morten	(MAT)	Professor, Ph.D.
Buhl, Thomas		Elected member, Ph.D.
Byskov, E.	(IFB-AAU)	Professor, dr.techn.
Cederkvist, Jan		Elected member, Ph.D.
Christensen, Ole	(MAT)	Associate Professor, Ph.D.
Christensen, Søren T.	(IME-AAU)	Assistant Professor, Ph.D.
Christiansen, Edmund		Elected member, dr.scient.
Christiansen, Peter L.	(IMM)	Professor, dr.techn.
Christiansen, Søren	(IMM)	Associate Professor, Ph.D.

The degree of Ph.D.: After the five year engineering education, this degree can be obtained by a three year study, including courses and a thesis.

Christoffersen, Jes	(MEK-FAM)	Emeritus Assoc. Prof., Ph.D.
Cifuentes, Gustavo C.	(IFB-AAU)	Ph.D. student
Cour, Dorthe D. de la	(MEK-FAM)	Ph.D.
Damkilde, Lars		Elected Member, Prof., Ph.D.
Damsgaard, Michael	(IME-AAU)	Assistant Professor, Ph.D.
Deigaard, Rolf	(MEK-VB)	Professor, Ph.D.
Dietz, Jesper	(MEK-MT)	Ph.D. student
Ditlevsen, Ove	(MEK-MT)	Professor, dr.techn.
Du, Jianbin	(IME-AAU)	Assistant Professor, Ph.D.
Fenger, N.P.		Elected member, Ph.D.
Frier, Christian	(IFB-AAU)	Assistant Professor, Ph.D.
Friis-Hansen, Peter	(MEK-MT)	Professor, Ph.D.
Fuhrman, David	(MEK-MT)	Ph.D. student
Fynbo, Jens	(IME-AAU)	Ph.D. student
Gaunaa, Mac	(MEK-ET)	Ph.D. student
Goltermann, Per		Elected member, Ph.D.
Gravesen, Jens	(MAT)	Associate Professor, Dr.phil.
Groos, Jesper	(IMM)	Ph.D student
Gunneskov, Ole		Elected member, Ph.D.
Hammer, Velaja B.		Elected member, Ph.D.
Hansen, John M.	(MEK-FAM)	Associate Professor, Ph.D.
Hansen, Martin O.L.	(MEK-ET)	Associate Professor, Ph.D.
Hansen, Michael R.	(IME-AAU)	Associate Professor, Ph.D.
Hansen, Morten Hartvig		Elected member, Ph.D.
Hansen, Lars Pilegaard	(IFB-AAU)	Professor, Ph.D.
Hansen, Per Chr.	(IMM)	Professor, dr.techn.
Hansen, Vagn Lundsgaard	(MAT)	Professor, Ph.D.
Hjorth, Poul	(MAT)	Associate Professor, Ph.D.
Hjort, Søren	(MEK-ET)	Ph.D. student
Hougaard, Peter		Elected member, Ph.D.
Høgsberg, Jan	(MEK-MT)	Ph.D. student
Jacobsen, Michael	(IMM)	Ph.D. student
Jensen, Henrik Myhre	(MEK-FAM)	Professor, dr. techn.
Jensen, Jakob S.	(MEK-FAM)	Assistant Professor, Ph.D.
Jensen, Jarl	(MEK-FAM)	Associate Professor, HD
Jensen, Jørgen Juncher	(MEK-MT)	Professor, dr.techn.
Jensen, Lars R.	(IME-AAU)	Ph.D. student
Jensen, Torben Klint	(MAT)	Ph.D. student
Johansen, Steffen Kjær	(IMM)	Ph.D. student
Kawamoto, Atsushi	(MAT)	Ph.D. student
Kepler, Jørgen A.	(IME-AAU)	Associate Professor, Ph.D.
Kildegaard, Arne	(IME-AAU)	Professor, Ph.D.
Kliem, Wolfhard	(MAT)	Associate Professor
Knudsen, Thomas S.		Elected member, Ph.D.
Kokkendorff, Simon Lyngby	(MAT)	Ph.D. student
Krenk, Steen	(MEK-MT)	Professor, dr. techn.
Lade, Poul V.		Elected member, Professor
Larsen, Jesper		Elected member, Ph.D.
Larsen, Mikael	(IME-AAU)	Associate Professor, Ph.D.
Larsen, Peter V.	(IMM)	Ph.D. student

Larsen, P. Scheel	(MEK-ET)	Professor, Ph.D.
Legarth, Brian N.	(MEK-FAM)	Ph.D. student
Lind-Nielsen, Birger		Elected member, Ph.D.
Lund, Erik	(IME-AAU)	Associate Professor, Ph.D.
Lyckegaard, Anders	(IME-AAU)	Assistant Professor, Ph.D.
Lützen, Marie	(MEK-MT)	Assistant Professor, Ph.D.
Madsen, Kaj	(IMM)	Professor, dr.techn.
Madsen, Per	(MEK-MT)	Professor, dr.techn.
Markvorsen, Steen	(MAT)	Professor, Ph.D.
Mayer, Stefan	(IMM)	Assistant Professor, Ph.D.
Melnik, Roderick V.N.		Elected member, Professor
Meyer, Knud Erik	(MEK-ET)	Associate Professor, Ph.D.
Michelsen, Jess	(MEK-ET)	Associate Professor
Mikkelsen, Lars P.		Elected member, Ph.D.
Mikkelsen, Robert	(MEK-ET)	Ph.D. student
Mohr, Gunnar	(MAT)	Professor
Mouritsen, Ole Ø.	(IME-AAU)	Associate Professor
Møller, Henrik	(IME-AAU)	Assistant Professor, Ph.D.
Mørch, K.A.		Elected member, Ph.D.
Nielsen, Arne Gudmann	(MEK-FAM)	Associate Professor
Nielsen, H. Bruun	(IMM)	Associate Professor, Ph.D.
Nielsen, Jacob	(IFB-AAU)	Associate Professor, Ph.D.
Nielsen, Kristian Bendix	(MEK-MT)	Ph.D. student
Nielsen, Leif Otto		Elected member, Asso. Prof. Ph.D.
Nielsen, N.-J. Rishøj		Elected member, Ph.D.
Nielsen, Peter V.	(IFB-AAU)	Professor, Ph.D.
Nielsen, Søren R.K.		Elected member, Prof., dr.techn.
Nielsen, Ulrik D.	(MEK-MT)	Ph.D. student
Niordson, Christian	(MEK-FAM)	Assistant Professor, Ph.D.
Niordson, Frithiof I.	(MEK-FAM)	Emeritus Professor, Ph.D.
Nygaard, Jens V.	(IME-AAU)	Assistant Professor, Ph.D.
Olhoff, Niels	(IME-AAU)	Professor, dr.techn.
Olsen, Anders Smærup	(MEK-MT)	Assistant Professor, Ph.D.
Ottosen, Niels Saabye		Elected member, Professor
Pedersen, Claus B.W.	(MEK-FAM)	Ph.D.
Pedersen, Jacob M.	(MEK-ET)	Ph.D. student
Pedersen, Michael	(MAT)	Associate Professor, Ph.D.
Pedersen, Niels L.	(IME-AAU)	Associate Professor, Ph.D.
Pedersen, Ole Bøcker		Elected member, dr.techn.
Pedersen, Pauli	(MEK-FAM)	Professor, dr.techn., HD
Pedersen, P. Terndrup	(MEK-MT)	Professor, Ph.D.
Pedersen, Sine L.	(MEK-FAM)	Ph.D. student
Pedersen, Thomas Ørts		Elected member, Ph.D.
Perram, John W.		Elected member, Professor
Petersen, Thomas		Elected member, Ph.D.
Pommer, Christian	(MAT)	Professor
Poulsen, Thomas Agersten	(MEK-FAM)	Ph.D.
Pyrz, Ryszard W.	(IME-AAU)	Professor, dr.techn.
Rasmussen, Jeppe F.	(MEK-MT)	Ph.D. student
Rasmussen, John	(IME-AAU)	Associate Professor, Ph.D.

Rathkjen, Arne	(IFB-AAU)	Associate Professor, Ph.D.
Rauhe, Jens Chr.	(IME-AAU)	Ph.D. student
Ravn, Erik S.	(MEK-MT)	Ph.D. student
Ravn-Jensen, Kim		Elected member, Ph.D.
Reck, Mads	(MEK-ET)	Assistant Professor
Redanz, Pia	(MEK-FAM)	Associate Professor, Ph.D.
Richelsen, Ann Bettina	(MEK-FAM)	Associate Professor, Ph.D.
Rosbjerg, Dan		Elected member, Professor, dr.techn.
Rüdinger, Finn	(MEK-MT)	Assistant Professor, Ph.D.
Røgen, Peter	(MAT)	Assistant Professor, Ph.D.
Santos, Ilmar Ferreira	(MEK-K&P)	Associate Professor, Dr.-Ing.
Schjødt-Thomsen, Jan	(IME-AAU)	Associate Professor, Ph.D.
Shen, Wen Zhong	(MEK-ET)	Associate Professor
Sigmund, Ole	(MEK-FAM)	Professor, dr.techn.
Simonsen, Bo Cerup	(MEK-MT)	Associate Professor, Ph.D.
Skovgaard, Ove	(MAT)	Professor, Ph.D.
Sorokin, Sergey	(IME-AAU)	Professor, Ph.D.
Stang, Henrik		Elected member, Asso. Prof. Ph.D.
Stegmann, Jan	(IME-AAU)	Ph.D. student
Sterndorff, Martin J.		Elected member, Ph.D.
Stoustrup, Jakob		Elected member, Professor
Sumer, B. Mutlu	(MEK-VB)	Professor
Svensson, E.		Elected member, Ph.D.
Søndergaard, Jacob	(IMM)	Ph.D. student
Søndergaard, Peter	(MAT)	Ph.D. student
Sørensen, Dan N.	(MEK-ET)	Associate Professor, Ph.D.
Sørensen, Jens Nørkær	(MEK-ET)	Professor, Ph.D.
Sørensen, John D.	(IFB-AAU)	Associate Professor, Ph.D.
Sørensen, Mads P.	(IMM)	Associate Professor, Ph.D.
Sørensen, Niels Jakob		Elected member, Ph.D.
Thoft-Christensen, Palle	(IFB-AAU)	Emeritus Professor, dr.techn.
Thomsen, Jon Juel	(MEK-FAM)	Associate Professor, dr.techn.
Thomsen, Ole Thybo	(IME-AAU)	Professor, Ph.D.
Thomsen, P. Grove	(IMM)	Professor
Thomsen, Thomas	(IME-AAU)	Ph.D. student
True, Hans	(IMM)	Associate Professor, Ph.D.
Tvergaard, Viggo	(MEK-FAM)	Professor, dr.techn.
Törnqvist, Rikard	(MEK-MT)	Ph.D. student
Ullum, Thorvald	(MEK-ET)	Ph.D. student
Vidic-Perunovic, Jelena	(MEK-MT)	Ph.D. student
Widell, K.E.		Elected member, Professor
Wolff, Stefan	(MAT)	Ph.D. student
Zee, Mark de	(IME-AAU)	Assistant Professor, Ph.D.