



IEEE MAGNETICS SOCIETY

NEWSLETTER

VOLUME 35, NO. 1

ISSN 1059-8340

February 1998

RICHARD DEE and JOHN NYENHUIS, EDITORS

7TH JOINT INTERMAG-MMM CONFERENCE HELD IN SAN FRANCISCO, CALIFORNIA USA



The 7th Joint Intermag-MMM Conference was held January 6-9, 1998 at the Hyatt Regency Embarcadero Hotel in San Francisco, California USA. The conference, whose General Chairman was Prof. William Doyle from the University of Alabama, was the best attended Joint Conference ever, with more with more than 1800 registrants.

The conference program was extensive, covering a broad and interesting range of basic and applied magnetism. There were a total of 1143 oral and poster presentations. The sessions on magnetic recording were particularly well attended, at least in part due to attendance by representatives of recording companies in the San Francisco Bay Area.

Monday evening, the Magnetics Society Education Committee sponsored a tutorial on magnetic imaging. Five presentations on domain imaging by Lorentz, scanning probe and magneto-optic microscopy were made. On Tuesday evening, the Micromagnetics Activity Group (muMAG), sponsored by NIST, hosted a workshop/discussion session on computational micromagnetics. Lessons learned from the variety of results for muMAG standard problem #1 were used to select a second standard problem for specification and an anonymous round robin. Also, the muMag Public Code Working Group presented the initial release of its micromagnetic software package. Information about this program can be found at <http://math.nist.gov/oommf/>. The special session on Thursday evening was entitled "Past and Future of Magnetic Storage". The session opened with a talk by Prof. Mark Clark of the Oregon Institute of Technology on the early history of magnetic recording. Experts from industry (Robert Scranton, IBM; Gordon Knight, Terastor; Gary Rauh, Seagate, and Yoshimasa Miura, Fujitsu) then offered their predictions of the future of magnetic information storage. The session concluded with an interesting panel discussion moderated by Prof. Mark Kryder of Carnegie Mellon University in which written questions from the audience were addressed by the industrial experts.

Representatives from forty seven companies displayed their products and services at exhibit booths. The exhibit booths were in the same room as the posters and attendance was good.

Manuscripts from the conference which have been accepted by the reviewers will be published in the IEEE Transactions on Magnetics and the Journal of Applied Physics.

Photographs in this newsletter were taken by Richard Dee during the Joint Conference.

MAGNETICS SOCIETY REINTRODUCES BEST PAPER OF THE YEAR AWARD

The Magnetics Society has reintroduced an annual award for the best paper published in the IEEE Transactions on Magnetics during the prior calendar year. Magnetics Society members are asked to submit nominations for the best paper published in the Transactions in 1997 based upon the criteria: importance of technical contribution, clarity of presentation, readability, and originality. The winning paper will be the Society's nomination for the IEEE's W. R. G. Baker Prize, given annually for the outstanding paper reporting original work in any of the IEEE Transactions, Proceedings, journals, or magazines published during the previous calendar year.

Fritz Friedlaender of Purdue University is responsible for the Best Paper Award. He has appointed Jim Monson, Harvey Mudd College, to coordinate the selection process. Briefly, the process begins with submission of a nomination form by a Magnetics Society member. The author(s) of the paper need not be members of the Magnetics Society. Any paper published in the IEEE Transactions on Magnetics during the previous calendar year is eligible. The Editors and Editorial Board and Publications Board will select the best paper from those nominated. They will follow a procedure similar to those used for the W. R. G. Baker Prize, trying to avoid any possible conflict of interest.

The deadline for this year's nominations is March 1, so please nominate your choice for outstanding paper soon. A nomination form is available on the Society's web page www.ieee.org/society/mag. For further information, please contact Jim Monson at (909) 621-8019 or e-mail: James_Monson@hmc.edu

IEEE MAGNETICS SOCIETY DISTINGUISHED LECTURERS FOR 1997-98

The 1997-98 IEEE Magnetics Society Distinguished Lecturers are Prof. David Jiles of Iowa State University and Prof. S. Shtrikman of the Weizman Institute. The title of Prof. Jiles's talk is "Modeling Magnetic Properties of Materials" and Prof. Shtrikman's talk is entitled "A Short Excursion into Magnetic Levitation".

Please contact the speakers if you would like a presentation to be made to your group.

Prof. David C. Jiles

Ames Laboratory, Iowa State University

Ames, Iowa 50011

Phone: 515-294-5655 • Fax: 294-8727

E-Mail: gauss@ameslab.gov

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ABOUT THE NEWSLETTER

The objective of the IEEE Magnetics Society Newsletter is to publicize activities, conferences, workshops and other information of interest to the Society membership and technical people in the general area of applied magnetism. Copy is solicited from the Magnetics Society membership, organizers of conferences, officers of the Society and local chapters and other individuals with relevant material. The Magnetics Society Newsletter will be published four times a year.

In 1998, the paper version of the Newsletter will be sent to members of the IEEE Magnetics Society and the electronic version, which includes the contents of the paper version plus additional information, is on the Magnetics Society Web Page. Commencing in 1999, the paper version of the Newsletter will be discontinued and the Newsletter will only be published only on the Web at www.ieee.org/society/mag

Please send contributions to one of the co-editors:

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The IEEE Magnetics Society Newsletter is published by the Magnetics Society of The Institute of Electrical and Electronics Engineers, Inc. Headquarters of the IEEE is 345 East 47th Street, New York, NY 10017-2394, \$1.00 per year (included in Society fee) for each member of the Magnetic Society. Printed in USA. Second-class postage paid at New York, NY and at additional mailing offices. Postmaster: Send address changes to IEEE Magnetics Society Newsletter, IEEE, 445 Hoes Lane, Piscataway, NJ 08854-4150.

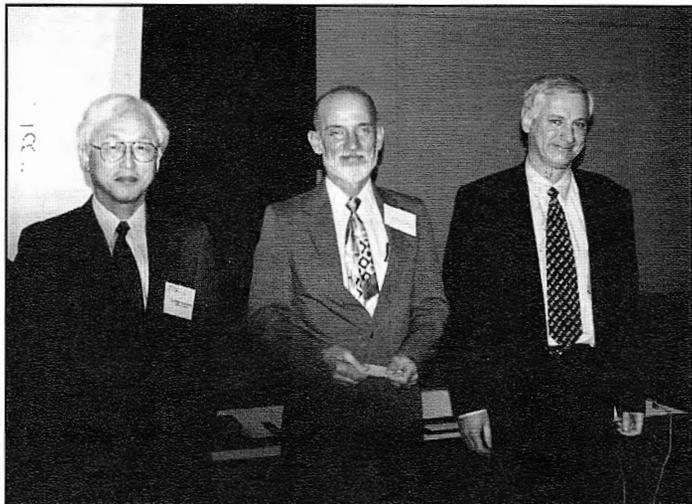
THANK YOU TO JODIE CHRISTNER

Dr. Jodie Christner served as editor of the IEEE Magnetics Society Newsletter from 1991 to 1997. On behalf of all the readers of the Newsletter, we thank her for her service in publishing a quality and informative Newsletter. In addition, we personally thank her for her considerable help and friendly patience in getting us started as the new editors. Thank, Jodie and we wish you well in all your future endeavors.

Sincerely,

John Nyenhuis and Richard Dee

NEW MAGNETICS SOCIETY FELLOWS FOR 1998



Three members of the Magnetics Society were recently elected to the grade of IEEE Fellow. The new Fellows were recognized by Daniel Stancil, President of the IEEE Magnetics Society and Fritz Friedlaender, chair of the Awards Department of the Magnetics Society, at the Awards Session of the 7th Joint Intermag-MMM Conference in San Francisco, California USA. The new Fellows evaluated by the Magnetics Society and the contributions leading to their awards are as follows.

- Dr. Frederick John Jeffers, Eastman Kodak, "For contributions to magnetic recording physics and the invention and development of novel magnetic inductive and magnetoresistive heads"
- Prof. Yoshihisa Nakamura, Tohoku University, "For contributions to modeling and analysis of magnetic devices"
- Dr. Robert A. Scranton, IBM, "For leadership in the development and manufacturing of magnetoresistive heads for disk drives"

The following new Fellows are members of the Magnetics Society but were evaluated by another Society:

- Dr. Kenneth Allen Connor, Rensselaer Polytechnic Institute
- Prof. Roberto Domenico Graglia, Politecnico di Torino
- Dr. Taketoshi Hibiya, NEC Corporation
- Dr. Denis Conrad Webb, Naval Research Laboratory

CHANGE OF ADDRESS FOR COURTESY ASSOCIATES

Courtesy Associates has served as Conference Coordinator for numerous Intermag and MMM Conferences. They have outgrown their previous quarters and their present contact information is below. Our congratulations to Courtesy Associates on their new home.

Courtesy Associates
2000 L Street, N.W.
Suite 710
Washington D.C. 20036
phone: 202/331-2000
fax: 202/331-0111
E-mail: magnetism@courtesyassoc.com

CONTRIBUTORS TO THE 1998 JOINT MMM/INTERMAG CONFERENCE

The 1998 Joint MMM/Intermag Conference expresses its warm appreciation to the following for their generous support:

\$2500 and above
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EMTEC Magnetics GmbH, formerly BASF Magnetics
GmbH
IBM
TDK Corporation

\$1000 and above
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Imation
Quantum Corporation
Sony Corporation
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Applied Magnetics Corporation
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Digital Measurement Systems Division of ADE
Technologies, Inc.
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Hyundai Electronics America, MaxMedia Division

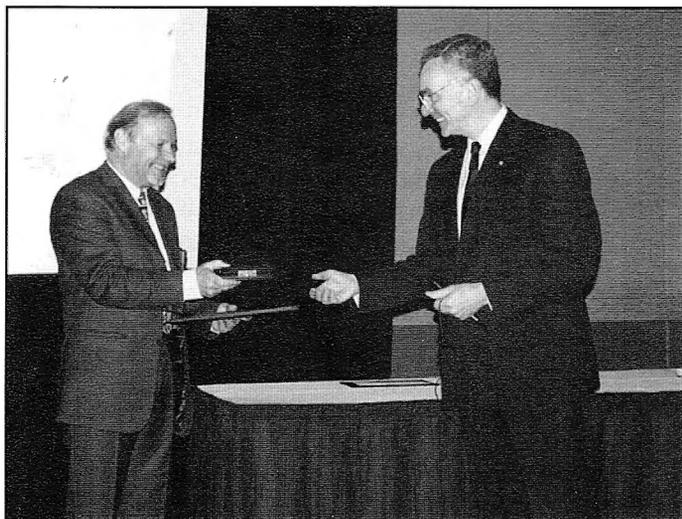
Other contributions
F. G. Jones Associates, Ltd.
Innovative Instrumentation

- February 11-12, 1998** **CMRR Research Review** UC San Diego, La Jolla, CA For information contact: Cheryl Hacker Ph: (619) 534-6563, FAX (619) 534-8059 E-mail: chacker@ucsd.edu
- March 9-13, 1998** **APS Meeting**, Los Angeles, CA
- March 16-20, 1998** **The Applied Computational Electromagnetic Society** For information contact: Richard W. Adler, ECE Dept/CodeEC/AB, Naval Postgraduate School, 833 Dyer Road, Room 437, Monterey CA 93943-5121 TEL 408-646-1111 FAX 408-649-0300 <http://www.emclab.umr.edu/aces>
- March 23-26, 1998** **Joint NASA and IEEE Mass Storage Conference**, University of Maryland University College Conference Center, College Park, MD For information contact: Ben Kobler, NASA Goddard Space Flight Center, E-mail: ben.kobler@gsfc.nasa.gov
- April 13-17, 1998** **Materials Research Society Spring Meeting** San Francisco, CA For information contact: MRS, Ph: (412) 367-3012, FAX: (412) 367-4373, E-mail: info@mrs.org <http://www.mrs.org> Information on high-density recording symposium at <http://www.mrs.org/meetings/spring98/cfp/1.html>
- May 3-8, 1998** **CLEO**, San Francisco, CA
- May 10-13, 1998** **ODS**, Aspen CO
- May 11-13, 1998** **Chicago Illinois USA. 17th Annual Conference on Properties and Applications of Magnetic Materials.** For information, contact: Bonnie Dow Illinois Institute of Technology TEL 312-567-6809 FAX 312-567-8976
- May 14-15, 1998** **Ames, Iowa USA. Symposium on Microstructure and Microscopy of Magnetic Materials.** Information at: <http://www.exnet.iastate.edu/Pages/ece/m4.html> For more information, contact: Dr. Madhav Rao Govindaraju Karta Technology, Inc. 1892 Grandstand San Antonio, TX 78238 USA TEL 210-681-9102 (ext 312) FAX 210-681-9198 rao@karta.com
- May 28-20, 1998** **Second International Conference on the Scientific and Clinical Applications of Magnetic Carriers** Cleveland, Ohio USA For information, contact: Urs Hafeli Radiation Oncology Dept. T28 The Cleveland Clinic Foundation 9500 Euclid Ave. Cleveland, OH 44195 USA TEL: +1-216-444-2174 FAX: +1-216-445-4480 hafeliu@cesmtp.ccf.org http://www.ccf.org/cc/radonc/conferences/mag_carriers.html
- June 1-3, 1998** **The Eighth Biennial IEEE Conference on Electromagnetic Field Computation**, Tucson, Arizona USA. Information at <http://www.ece.arizona.edu/~cefc98> For more information, contact: CEFC'98 Secretariat Engineering Professional Development The University of Arizona 1224 N. Vine Avenue Tucson, AZ 85719-4552 TEL 520-621-3054 FAX 520-621-1443 baltes@bigdog.engr.arizona.edu <http://www.ece.arizona.edu/~cefc98/>
- June 7-11, 1998** **IEEE ICC '98 Conference Signal Processing for Data Storage**, Atlanta, GA Info at <http://www.comsoc.org/socstr/techcom/spfs/icc98call.html>
- June 14-19, 1998** **3rd International Symposium on Metallic Multilayers (MML '98)** held jointly with the EMRS Symposium on Magnetic Ultrathin Films Vancouver, British Columbia, Canada, For information contact: MML/EMRS 1998 Symposium Conference Services, Halpern Centre Simon Fraser University, 8888 University Drive Burnaby, BC V5A 1S6 CANADA TEL: (604) 291-4910, FAX (604) 291-3420 E-mail: Conference_Services@sfu.ca
- June 22-24, 1998** **IEEE 1998 International Nonvolatile Memory Technology Conference**, Albuquerque, New Mexico, USA For information contact: Gail Wesling, Publications 12250 Saraglen Drive Saratoga, CA 95070 USA Phone: 408-257-5702 Fax: 408-285-9670 g.wesling@ieee.org
- June 24-26, 1998** **16th Conference on New Magnetic Materials for Microelectronics** Moscow State University, Moscow, Russia For information contact: Prof. Alexander Logginov Moscow State University Physics Department Moscow 119899 Russia asl@osc.phys.msu.ru <http://yara.ecn.purdue.edu/~smag/Conf/nmmm.htm>

CALENDAR

- July 13-17, 1998**
- July 29-31, 1998**
- August 17-19, 1998**
- August 23-26, 1998**
- August 30 - September 3, 1998**
- August 31 - September 2, 1998**
- September 2-4, 1998**
- November 1-6, 1998**
- November 9-12, 1998**
- January 10-14, 1999**
- May 18-21, 1999**
- May 17-19, 1999**
- April 9-12, 2000**
- January 8-11, 2001**
- 1998 NSIC Annual Meeting** DoubleTree Hotel, Monterey, CA
- APMRC '98** Pan Pacific Hotel, Singapore For information contact: Bharat Bhushan Ph: (614) 292-0651, FAX (614) 292-0325
- The Conference on Magnetic Recording TMRC '98** For information, contact: Yung Yip Imation Corp. 3M Center 236-GN-06 St. Paul, MN 55144-1000 USA TEL (612)704-5091 FAX: (612)737-2801 E-mail: yyip@imation.com <http://www-iist.scu.edu/>
- ISPMM '98 Fourth International Symposium on Physics of Magnetic Materials** Sendai, Japan For information, contact: K. Takanashi ISPMM '98 Secretary Magnetic Materials Laboratory IMR, Tohoku University Katahira 2-1-1, Aoba-ku Sendai 980-77 Japan TEL: +81-22-215-2098 FAX: +81-22-215-2096 ispmm98@imr.tohoku.ac.jp
- Fifteenth International Conference on Rare Earth Magnets and their Applications** For information contact: K-H Muller REM XV Institut fuer Festkoerper und Werkstofforschung Postfach D-01171 Dresden, Germany Tel: +49 351 4659 237 Fax: +49 351 4659 541 d.hinz@ifw-dresden.de
- 7th International Conference on Magnetic Recording Media MRM'98** Maastricht, Netherlands Information at: <http://www.el.utwente.nl/mrm98>
- International Conference on Electrical Machines** For information, contact: Prof. Dr. H. Bulent Eftan ICEM '98 Conference Office Middle East Technical University Electrical and Electronics Engineering Dept. Inonu Bulvari 06531 Ankara Turkey TEL +90 312 210 23 59 FAX +90 312 210 12 61 +90 312 210 11 05 icem98@metu.edu.tr <http://icem98.metu.edu.tr>
- FIFTH INTERNATIONAL SYMPOSIUM ON MAGNETIC MATERIALS, PROCESSES AND DEVICES** Boston, Mass. USA For information, contact: L.T. Romankiw IBM Corporation Thomas J. Watson Research Center P.O. Box 218 Yorktown Heights New York 10598 USA, Phone: (914) 945-1208, Fax: (914) 945-4081 E-mail: roman@watson.ibm.com
- 43rd Conference on Magnetism and Magnetic Materials**, Miami, Florida USA For information: Diane Suiters, Courtesy Associates 2000 L Street NW, Suite 710 Washington, DC 20036 TEL: 202 973-8668 FAX: 202 331-0111 email magnetism@courtesyassoc.com <http://www.ieee.org/society/mag>
- Magneto Optical Recording International Symposium '99 (Moris '99)** Doubletree Hotel, Monterey, CA USA For information, contact: Prof. Akiyoshi Itoh Dept. of Electronic Engineering College of Science and Technology Nihon University 7-24-1 Narasino-dai Funabashi 274-8501 JAPAN TEL +81-474-69-5455 FAX +81-474-67-9683 email:aitoh@cst.nihon-u.ac.jp <http://www.amsc.cst.nihon-u.ac.jp/moris>
- Intermag Conference, Kyongju, Korea** For information: Diane Suiters, Courtesy Associates 2000 L Street NW, Suite 710 Washington, DC 20036 TEL: 202 973-8668 FAX: 202 331-0111 email magnetism@courtesyassoc.com
- Electrosoft 99 - Software for Electrical Engineering** Seville, Spain For information, contact: Liz Kerr Wessex Institute of Technology Ashurst Lodge Southampton SO40 7AA United Kingdom TEL +44-1703-293223 FAX: +44-1703-292853 liz@wessex.ac.uk <http://www.wessex.ac.uk>
- Intermag Conference**, Toronto, Canada For information: Diane Suiters, Courtesy Associates 2000 L Street NW, Suite 710 Washington, DC 20036 TEL: 202 973-8668 FAX: 202 331-0111 email magnetism@courtesyassoc.com
- 8th Joint MMM-Intermag Conference** San Antonio, Texas USA For info: Diane Suiters, Courtesy Associates 2000 L Street NW, Suite 710 Washington, DC 20036 TEL: 202 973-8668 FAX: 202 331-0111 email magnetism@courtesyassoc.com

JEAN-PIERRE LAZZARI HONORED WITH INFORMATION STORAGE AWARD AT 7TH JOINT INTERMAG-MMM CONFERENCE



The 1998 IEEE Reynold B. Johnson Information Storage award was presented to Jean-Pierre Lazzari by IEEE President Joseph Bordogna, at the awards session of the 7th Joint Intermag-MMM Conference in San Francisco, California. The citation which accompanies Dr. Lazzari's award reads: "For contributions and key innovations in media and heads for magnetic disk drives"

Jean-Pierre Lazzari was born on March 14, 1939. He received the Ph.D. degree from the University of Grenoble in 1969.

Dr. Lazzari has spent a long and illustrious career in the field of data storage. Beginning as a researcher at Laboratoire d'Electronique Technologie d'Information (LETI) (CEA) in Grenoble in 1962, he worked on the development of a new thin film media for disk recording and thin film heads. By 1971, he had joined CII Honeywell in Paris, where he was the director of a magnetic recording laboratory. There he focused on the laboratory and had responsibility for the company's magnetic peripheral products. He then spent three years heading up the Honeywell/Bull Technology Research Center where he participated in the development of magnetic printers, MR badge readers, tapes and disk thin film heads and advanced CMOS technologies. He returned to LETI (CEA) Grenoble in 1982.

The 1980's found Dr. Lazzari combining his expertise in both silicon and magnetics technology. The result was a new approach to led to the commercial realization of "planar" magnetic heads. The planar design provides a major performance advantage for inductive heads over the conventional thin film heads.

During this period he was elected Chairman of Basic and

Long Term Research of the EEC's Joint European Submicron Silicon Initiative (JESSI). In this capacity he managed advanced microelectronic research in Europe.

In 1991 Dr. Lazzari co-founded SILMAG (Silicon and Magnetism), along with Roberto Gemi and Hubert Jouve, to mass produce the planar inductive heads. He is currently focusing on extending thin head technology to incorporate a magnetoresistive read transducer based on the phenomenon of giant magnetoresistance.

Dr. Lazzari has filed over 120 patents, 35 of which have been for SILMAG, and authored 70 invited papers.

A member of IEEE, he has received many awards, including the SIA Medal (1981), the Blondel Medal (1982), the Semour Cray Prize (1989) and the Information Technologies European Award (1995).

The IEEE Reynold B. Johnson Information Storage Award was established by the Board of Directors in 1991 and may be presented annually "for outstanding contributions to the field of information storage, with emphasis in the area of computer storage." Recipient selection is administered by the Awards Board through its Technical Field Awards Council.

The Award consists of a bronze medal, certificate and five thousand dollars, and is sponsored by IBM Corporation. It is named in honor of Reynold B. Johnson, who is renowned as a pioneer of magnetic disk technology and was founding manager of the IBM San Jose Research and Engineering Laboratory, San Jose, California in 1952.

Past recipients of the award are:

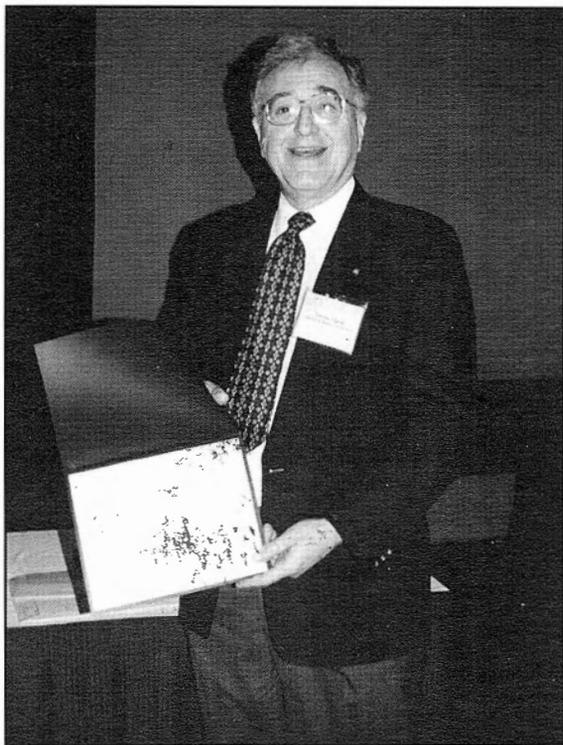
- 1993 - John M. Harker
- 1994 - C. Dennis Mee
- 1995 - James U. Lemke
- 1996 - Nobutake Imamura
- 1997 - Alan F. Shugart

Prior to the establishment of the IEEE Reynold B. Johnson Information Storage Award, the IEEE Magnetics Society presented the Magnetics Society Information Storage Award.

Winners of this award were:

- 1987 - Sidney M. Rubens
- 1988 - Jay W. Forrester
- 1989 - Reynold B. Johnson
- 1990 - M. Camras
- 1991 - Charles H. Coleman
- 1992 - Claude Shannon

STANLEY H. CHARAP HONORED WITH ACHIEVEMENT AWARD



The 1998 Magnetics Society Achievement Award was awarded to Professor Stanley Charap, Professor Emeritus of Carnegie Mellon University, during the Awards Session at the 7th Joint Intermag-MMM Conference in San Francisco, California USA.

Stan Charap was born in Brooklyn, New York. He received his B.S. in physics from Brooklyn College and his Ph.D. from Rutgers University. He started his professional career at the IBM T. J. Watson Research Center in Yorktown Heights, NY in 1958. In 1964 he joined the American-Standard Research Division and advanced to Supervisor of the Solid State Physics Section in the following year and Manager of the Physics and Electronics Department in 1966. In 1968 he moved to Pittsburgh, PA to Carnegie Mellon University as an Associate Professor of Electrical Engineering to maintain the department's research program in magnetics as Professor Leo Finzi approached retirement. In 1971 he was promoted to the rank of Professor of Electrical and Computer Engineering at Carnegie Mellon University (CMU), serving as associate head of the department from 1980-1985, and as acting head from 1981-1982. He was a founding member of the CMU Magnetics Technology Center and served as the associate director of the Data Storage Systems Center from its formation in 1990 until his retirement on December 31, 1996.

Stan has been an outstanding researcher with numerous contributions to magnetics and magnetics education. His early research included fundamental work on spin wave the-

ory in ferromagnetic metals and domain wall dynamics. The results of measurements of the $T(3/2)$ law in nickel and iron with collaborators B. F. Argyle and E. W. Pugh has been included in Kittel's popular text, "Introduction to Solid State Physics". His work on magnetic bubbles in garnets and on current sheet drive for bubbles anticipated developments at Bell Labs in these areas. More recently, he has made significant contributions to the understanding of thermal stability in high-density media and vector Preisach modeling. The work on vector Preisach modeling was highlighted in an invited paper at the 1992 MMM Conference; that on thermal stability was featured in an invited paper at the 1996 TMRC Conference.

Stan has also made significant contributions to engineering education. He prepared the English edition of the text, Physics of Magnetism by S. Chikazumi, which has been widely used in the education of a generation of researchers in magnetics.

While at Carnegie Mellon, Charap has been very active in university governance and in the IEEE Magnetics Society. Among other things, he served on the CMU Faculty Senate as senator, as vice-chairman and as chairman. For the Magnetics Society, he served as Transactions editor, chairman of the publications department, secretary/treasurer, vice president and president. He was general chairman of the conference on Magnetism and Magnetic Materials (MMM) in 1986 in Baltimore, MD, and of the Joint Intermag-MMM Conference in 1994 in Albuquerque, NM.

Charap was designated the IEEE Magnetics Society Distinguished Lecturer for 1996. He is a Fellow of the IEEE.

In retirement Charap is continuing to be active in the Magnetics Society, particularly on the Administrative Committee. He also looks forward to completing a textbook on magnetics.

Prof. Charap is the 16th recipient of the Achievement Award. Previous winners are:

- 1981 F.E. Luborsky
- 1982 H. F. Storm
- 1983 H.W. Lord
- 1985 J.J. Suozzi
- 1986 F.J. Friedlaender
- 1987 A. Bobeck
- 1988 F.B. Humphrey
- 1989 P.P. Biringer
- 1990 D.L. Gordon
- 1991 E.W. Pugh
- 1992 Y. Sakurai.
- 1993 W.D. Doyle
- 1994 R.C. Barker
- 1995 M. Kryder
- 1996 K. Harada
- 1997 G. R. Slemmon

MMM '98 TO BE HELD IN MIAMI, FLORIDA USA

The 43rd Annual Conference on Magnetism and Magnetic Materials will be held at the Intercontinental Hotel, Miami, Florida USA. The Conference annually brings together scientists and engineers interested in recent developments in all branches of fundamental and applied magnetism. Emphasis is traditionally placed on experimental and theoretical research in magnetism, the properties and synthesis of new magnetic materials and advances in magnetic technology. The program will consist of invited and contributed papers. Selection of contributed papers is based on abstracts which are due on May 20, 1998. An Abstract Booklet will be available in advance of the Conference from the American Institute of Physics. Registrants will receive the booklet at the Conference. Proceedings will be published in the Journal of Applied Physics.

Individuals who are not on the Conference mailing list may obtain Conference information and details concerning the preparation of abstracts by contacting either of the persons below.

Conference Coordinator
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2000 L Street NW Suite 710
Washington, DC 20036 USA
TEL 202-973-8668 FAX 202-973-8722
email: magnetism@courtesyassoc.com

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email: smag@ecn.purdue.edu

The latest information on MMM '98 can be obtained on World Wide Web via the IEEE Magnetics Society Home Page: <http://www.ieee.org/society/mag>

IEEE Headquarters
345 East 47th Street
New York, NY 10017-2394

This topical conference is jointly sponsored by the American Institute of Physics and the Magnetics Society of the Institute of Electrical and Electronics Engineers in cooperation with the Minerals, Metals and Materials Society, the Office of Naval Research, the American Society for Testing and Materials, the American Physical Society, and the American Ceramic Society.

TMRC '98 TO BE HELD IN BOULDER, COLORADO

The 1998 Magnetic Recording Conference (TMRC'98) will be held on August 17-19, 1998, at the Regal Harvest House Hotel in Boulder, Colorado, USA. The focus of TMRC'98 is on magnetic recording heads. Information on TMRC'98 can be obtained on the web at <http://www.iist.scu.edu/TMRC'98> is primarily a conference of invited papers. Invited papers will be presented in morning and afternoon oral sessions, and again for discussion in the late-afternoon poster session. Authors of invited papers will submit manuscripts for review for publication in the "IEEE Transactions on Magnetics." The poster session will also contain contributed papers. Contributed papers will not be submitted for review through TMRC'98 for publication in the "IEEE Transactions on Magnetics." Contributed papers are intended to be papers from university students, and post-deadline papers whose results merit quick circulation.

Information on TMRC '98 may be obtained from the publicity chair:

Publicity Chair
Yung Yip
Imation Corp.
3M Center 236-GN-06
St. Paul, MN 55144-1000
TEL: (612) 704-5091 • FAX: (612) 737-2801
E-mail: yyip@imation.com

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