



IEEE MAGNETICS SOCIETY NEWSLETTER

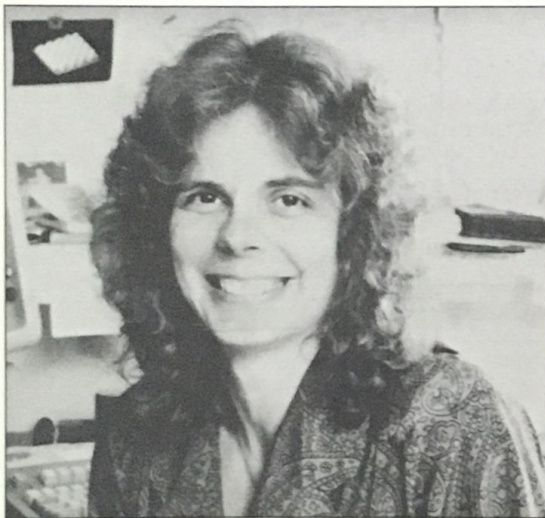
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JODIE CHRISTNER, EDITOR

IN MEMORY OF DR. CELIA YEACK-SCRANTON



Dr. Celia Yeack-Scranton

Dr. Celia E. Yeack-Scranton died of ovarian cancer on Monday, March 14. She will be sadly missed by the members of our society. At the time of her death, Celia was the Vice President of the Magnetics Society. She previously served as Secretary-Treasurer, and numerous other positions in the Magnetics Society, the MMM Conferences, and the INTERMAG Conferences. She was also very active in the IEEE Ultrasonics, Ferroelectrics and Frequency Control Society and its conferences. Celia was especially an inspiration to young women engineers and scientists, and made efforts to help and encourage them even through the last months of her life.

Celia received her B.S. from Washington University and her Ph.D. from Stanford, with a thesis on ultrasonic microscopy. She joined IBM in 1979, and worked on a variety of sensors, instruments, and especially on data storage devices. Dr. Yeack-Scranton's most significant contribution has been to apply miniature piezoelectric sensor technology to the problem of head-disk interactions in rigid disk data storage. Her work to characterize and instrument the head/disk interface has resulted in numerous discoveries about the interactions between the head, disk, lubricant, stray parti-

cles, transient "fuzz balls" and the micro-turbulence caused by surface roughness. As part of these studies, she expanded her field of interest to include the design of the slider air bearing, fabrication techniques for the slider, suspension design and design of the magnetic head element. Her work on the photoacoustic measurement and control of pulsed laser drilling has been important in the fabrication of large multilayer printed circuit boards. Her work on the pyroelectric measurement of thermal diffusivity is of scientific interest, but also offers a unique method for assessing adhesion defects of the thin films used everywhere in integrated circuit and magnetic recording technologies. Investigations by Celia on air-shear-driven migration of disk lubricant have been important in understanding the self-healing properties of these lubricants. The list of her patents and invited papers is too long to list here. She received numerous honors and awards, including being named IEEE Fellow and IBM Fellow.

Celia was among the most brilliant and versatile colleagues that we shall ever see. Some of her projects on advanced recording heads will continue to bear fruit for years to come, and we will not forget her.

Memorial donations may be made in Celia's name to the Easter Seal Society of the Bay Area, 275 Telegraph Avenue, Oakland CA 94612 or the Atypical Infant Motivation Program, 4115 Jacksol Drive, San Jose, CA 95124.

CORRECTION:

Dr. Roger Wood, one of the Magnetic Society's Distinguished Lecturers for 1994, can be reached at the address listed below. The January Newsletter had the wrong mail-stop listed.

Roger Wood
IBM Corporation
P01/0282
5600 Cottle Road
San Jose, CA 95193-0001
Tel: 408 256-4131
Fax: 408 256-2653
E-mail: wood@sjevml3.vnet.ibm.com

IEEE ADOPTS METRIC POLICY

by Bruce B. Barrow

In 1992 an Ad Hoc Committee on Metric Policy was established and sponsored by the IEEE Standards Board. Dr. Bruce Barrow was appointed Chair and invitations were sent to the six Institute Vice Presidents, the ten Division Directors and all Society Presidents to name members.

Their report was accepted by the Standards Board in September 1993 and submitted by Standards Vice President, Wallace Read, to the IEEE Board of Directors for approval later that year.

On November 21, 1993, the IEEE Board of Directors adopted a strong pro-metric policy by unanimous consent. This decision was based on a policy developed by the IEEE Ad Hoc Committee on Metric Policy, whose assigned mission was "to develop a policy for IEEE and to get all interested parties to buy into the recommendation."

The committee also established liaison with the Electronic Industry Association (EIA), the National Electrical Manufacturers Association (NEMA), the National Society of Professional Engineers (NSPE), and the US Government's Metric Program Office.

The committee met three times in 1993, and publicized their mission in the *IEEE Standards Bearer* and *The Institute*. These reports and others in various newsletters stimulated much correspondence from individual members. Approximately 70% of the respondents advocated a pro-metric stance. The committee initially proposed a quick transition, but responded to the reservations expressed by some members and by some of the IEEE entities, and decided to recommend a more flexible approach and a transition period of up to four years.

The committee's proposed statement was discussed by the major boards of the Institute and by the Publications

Council. By the time it was presented to the Board of Directors, it had the support of all "interested parties," as President Buckley had requested, and it was adopted by unanimous consent.

The Ad Hoc Committee on Metric Policy will focus its activities in 1994 on assisting the various task groups that the major boards will establish and on coordinating their efforts.

IEEE STATEMENT OF METRIC POLICY

All IEEE Organizational Units shall:

- A. Actively support the use of the International System of Units (Le Système International d'Unités, or SI), the modernized metric system;
- B. Follow SI-based metric practice as detailed in IEEE Standard 268, *American National Standard for Metric Practice*, to express measured and calculated values of quantity in all IEEE publications, including standards;
- C. Promote the understanding and use of SI in education at all levels, both within the profession and in society at large.

Plans for the implementation of this policy by January 1, 1998, at the latest, shall be developed by the major boards of the Institute and reported to the Board of Directors no later than January 1, 1995. Necessary exceptions to this policy, such as where a conflicting world industry practice exists, must be evaluated on an individual basis and approved by the responsible major board of the Institute for a specific period of time. The major board responsible for the publication or activity will be responsible for monitoring compliance.

— Adopted by the IEEE Board of Directors
November 21 1993

Reprinted with the permission of Wallace S. Read, Vice President of Standards, from "IEEE Standards Bearer," Vol. 8, No. 1, January, 1994.

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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 magnetics. 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 Newsletter is published in January, April, July and October. Submission deadlines are December 1, March 1, June 1, and September 1, respectively.

Please send contributions to:

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MAGNETICS SOCIETY SPECIAL ELECTION RESULTS

The vacancy caused by the death of Magnetics Society Vice President Celia Yeack-Scranton has been filled by a special election. In accordance with the by-laws on this subject, the Nominating Committee under Chairman Dan Gordon ran the election, with members of the society Administrative Committee voting. In this process, the present Secretary-Treasurer, Jim Opfer has been elected Vice President. Dan Stancil has been elected the new Secretary-Treasurer. These changes will take place immediately. Their term of office will extend to the end of this year, when a new slate elected this Fall under the usual procedures will take office.

The regular annual election process has already started. The call for the 1995 AdCom should be received by all members of the Magnetics Society by 1 May. The deadline for submitting nominations (with biographical sketches) is 15 June.

INTERMAG '93 MANUSCRIPTS NOW AVAILABLE

The refereed manuscripts from Intermag '93, held in Stockholm, Sweden, have been published in the November 1993 IEEE Transactions on Magnetics. The November 1993 Transactions are a three volume set. Volumes 1 and 2 contain conference presentations and volume 3 is a regular issue with contributed manuscripts.

The November Transactions can be purchased from the IEEE.

IEEE Customer Service
445 Hoes Lane
Post Office Box 1331
Piscataway, NJ 08855-1331
USA

The order numbers and prices are as follows:

Vol. 1: JP 15503 \$20/\$50
Vol. 2: JP 19000 \$20/\$50
Vol. 3: JP 19018 \$10/\$20

The lower price is for IEEE Members. Be sure to specify both which volume you want and the order number.

The shipping cost depends on the amount of the order:

Order Amount	Shipping Fee
< \$50	\$4
\$50-\$75	\$5
\$75-\$100	\$6
\$100-\$200	\$8

Other issues of the Transactions on Magnetics can be purchased from the IEEE. The IEEE can also be reached at numbers 800-678-4333, 908-981-0060 ext. 5420 and via Fax at 908-981-9667.

NEW BOOK ANNOUNCEMENT: *Theory of Magnetic Recording*

by Professor H. Neal Bertram
Center for Magnetic Recording Research
University of California at San Diego

Published by Cambridge University Press, February 1994

This book is a comprehensive text on the theory of the magnetic recording process. It presents a fundamental, in-depth treatment of all the essential features of the writing and retrieval of information for both high density disk recording and tape recording. The reader is given a thorough grounding in four basic areas of magnetic recording: structure and fields of heads and media, the replay process, the recording process, and medium noise analysis. Both time and frequency responses are discussed to facilitate the understanding and evaluation of signal processing schemes. Longitudinal and perpendicular recording are given parallel treatments throughout, and an entire chapter is devoted to the emerging technology of magnetoresistive heads.

Table of Contents: Ch. I - Overview. Ch. II - Review of Magnetostatic fields. Ch. III - Inductive head fields. Ch. IV - Medium magnetic fields. Ch. V - Playback process: Part 1 - General concepts and single transitions. Ch. VI - Playback

process: Part 2 - Multiple transitions. Ch. VII - Magnetoresistive heads. Ch. VIII - Record Process: Part 1 - Transition models. Ch. IX - Record Process: Part 2 - Nonlinearities and overwrite. Ch. X - Medium noise mechanisms: Part 1 - General concepts, modulation noise. Ch. XII - Medium noise mechanisms: Part 2 - Particulate noise. Ch. XII - Medium noise mechanisms: Part 3 - Transition noise.

IEEE-USA EXPANDS ELECTRONIC MAIL SERVICES

IEEE-USA is continuing to expand its distribution of information by electronic mail. Three new electronic "auto-response" files have been established with Internet and Comppmail addresses to provide information on subjects of interest to IEEE's U.S. members. Several files already exist with such subjects as pensions, employment assistance, and lobbying. The new autoresponse files provide information on IEEE-USA Congressional Fellowships, Washington Internships For Students Of Engineering (WISE), and Student Professional Awareness Conferences (S-PACs).

In response to messages sent to these addresses, the corresponding IEEE-USA text file is sent automatically by e-mail. Information on IEEE-USA's Congressional Fellowship program, including qualifications, applications procedures, and a listing of past Fellows is available at info.ieeeusa.congfel@ieee.org (Internet) or info.ieeeusa.congfel (Comppmail). For WISE program information and application procedures, the address is info.ieeeusa.wise@ieee.org (Internet) or info.ieeeusa.wise (Comppmail). To learn about S-PACs and how they're organized, contact info.spac@ieee.org (Internet).

To use electronic autoresponse files, just send an e-mail message to the address indicated. No subject line or text message is necessary. Your message will trigger the auto-response mechanism, which will return an e-mail file containing the requested information to your electronic address.

These autoresponse files are just a few of the many information files being developed by IEEE as a member service. For a complete listing of current files and their addresses, send your e-mail request to info.info@ieee.org (Internet) or info.info (Comppmail).

EMERGING TECHNOLOGIES UPDATE

The Magnetics Society's statement of Emerging Technologies is being updated. Input from the members would be appreciated. Please contact:

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IBM Research Division
Almaden Research Center, K01/803
650 Harry Road
San Jose, CA 95120-6099
TEL: 408 927-2118
FAX: 408 927-3204

When finalized, the material will be available to all on the IEEE server at Headquarters. The current IEEE portfolio of emerging technologies may be accessed by sending a blank e-mail message to INFO.NEW.TECH@IEEE.ORG.

IEEE MAGNETICS SOCIETY NEWSLETTER CONFERENCE CALENDAR

Last Update 04/29/94

- MAY 2-4, 1994** **IEEE International Symposium on Electronics and the Environment**
San Francisco, CA.
IEEE/ISEEE Registrar, P.O. Box 1331, Piscataway, NJ 08855-1331;
TEL: 908 562-3878, FAX: 908 562-1571.
- MAY 17-19, 1994** **13th Annual Conference on Properties and Applications of Magnetic Materials**
Chicago, IL.
David Jiles, Ames Laboratory, Iowa State University, Ames, IA 50011,
TEL: 515 294-9685, FAX: 515 294-8727.
Jafar Saniie, Dept. of Electrical and Computer Engineering, Illinois Institute of Technology,
Chicago 60616, TEL: 312 567-3412, FAX: 312 567-8976.
- MAY 24-26, 1994** **2nd Workshop on Finite Element Methods in Electromagnetic Wave Problems**
Certosa di Pontignano, Siena, Italy.
Giuseppe Pelosi, Department of Electrical Engineering, University of Florence,
Via C. Lombroso 6/17, I_Florence, Italy, TEL: +39-55-4796759, FAX: +39-55-4796767,
E-Mail: SIENA94@INGFII.CINECA.IT.
- JUNE 20-23, 1994** **6th Joint MMM-INTERMAG Conference**
Albuquerque, New Mexico.
William C. Cain, Read-Rite Corporation, 345 Los Coches Street, Milpitas, CA 95035,
TEL: 408-956-3301, FAX: 408-956-3210, EMAIL: b2net/b2post/ccw%read-rite@mcimail.com
- JULY 5-7, 1994** **Sixth Biennial IEEE Conference on Electromagnetic Field Computations**
Grenoble, France.
Edward Della Torre, George Washington University, Dept. of Electrical Engineering &
Computer Science, Washington, DC 20052, TEL: 202-944-5517, FAX: 202-944-5296,
E-Mail: dellator@gwusun.gwu.edu
- JULY 14-15, 1994** **4th Annual Joint Conference of the US Dept. of Commerce, National Technical Information Service and the Japan Information Center of Science and Technology**
Boston, MA.
Barbara Payne, Room 306F, National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161. TEL: 703 487-4819
- AUGUST 15-17, 1994** **TMRC '94 on Signal Processing**
UC San Diego, Center for Magnetic Recording Research
Roger Hoyt, TEL: 408 927-2118, FAX: 408 927-3204,
E-Mail: RFHOYT@ALMADEN.IBM.COM
- AUGUST 24-26, 1994** **4th International Symposium on Magnetic Bearings**
ETH Zurich, Switzerland
International Center for Magnetic Bearings, ETH Center/LEO, 8092 Zurich, Switzerland,
TEL: +41-1-256 3584, FAX: +41-1-252 0276, E-Mail: AMB@ifr.ethz.ch
- SEPTEMBER 11-15, 1994** **13th International Workshop on Rare-Earth Magnets and their Applications and 8th International Symposium on Magnetic Anisotropy and Coercivity in Rare Earth-Transition Metal Alloys**
I. R. Harris, School of Metallurgy and Materials, The University of Birmingham, Edgbaston, Birmingham B15 2TT, UK, TEL: (44) 21 414 5165, FAX: (44) 21 471 2207