



From The President

By Takao Suzuki, President of the Magnetics Society

This is the second year of my presidency, and I want to take a moment to express to you my sincere gratitude for all of your support in so many ways during the past year.



The year 2011 was a time when we had several very severe natural disasters, including the huge earthquakes and tsunami in Japan, and the tornados in the southern states in the U.S.A. Those natural disasters took the lives of thousands of people and destroyed cities and towns. Yet there still are many regions where very little recovery has been made. While I am saddened by all the things that happened, I am confident that those who have suffered will be able to rebuild their lives and recover in the near future.

continued on page 4

23rd IEEE Magnetic Recording Conference

By Peter Goglia, Conference General Chair

The 23rd IEEE Magnetic Recording Conference (TMRC 2012) will be held Aug 20–22, 2012, at the San Jose Marriott in San Jose, California. TMRC 2012 will focus on magnetic recording areal density enablers. Approximately 30 invited papers of the highest quality will be presented orally at the conference, and will later be published in *IEEE Transactions on Magnetics*. Topics to be presented include but are not limited to PMR extendibility; SMR & TDMR; energy-assisted magnetic recording (including HAMR and MAMR); bit-patterned and discrete-track media; head-disk interface, overcoats, lubes & tribology; advanced recording channels and detection algorithms; and novel recording technologies.

Nominations for speakers should be made to Program Chairs Gerardo Bertero (gerardo.bertero@wdc.com), Joe Smyth

(joe.smyth@headway.com) and Ikuya Tagawa (ikuya.tagawa@hitachigst.com) via e-mail by Monday, April 9, 2012. Please include a brief description or abstract to support your nomination and aid in selection.

Poster sessions will feature contributed posters in addition to invited speaker posters. Poster contributors must send a one-page abstract to Poster Chair Bin Lu (bin.lu@seagate.com) by Tuesday, July 31, 2012, for selection purposes. The conference program and invited paper digests will be available online by early August 2012.

For information as the conference approaches, visit www.dssc.ece.cmu.edu/TMRC2012.

INSIDE THIS ISSUE...

From The President	1
23rd IEEE Magnetic Recording Conference	1
2012 David Sarnoff Award	2
APMRC 2012	2
Dennis Elias Speliotis (1933-2011)	3
Conference Calendar	6
New Senior Members	7
New Addition to Technical Committee	7
About the Newsletter	7

Hideo Ohno Receives 2012 David Sarnoff Award

By Bruce Gurney, Honors and Awards Committee Chair

Professor Hideo Ohno receives the 2012 IEEE David Sarnoff Award "for seminal contributions and leadership in bridging semiconductor electronics with magnetism and spintronics."

The IEEE David Sarnoff Award was established in 1959 through agreement between the RCA Corporation and the American Institute of Electrical Engineers, and continued by the Board of Directors of the IEEE. The Award is presented to an individual, or team up to three in number, for exceptional contributions to electronics.

Hideo Ohno received the B.S., M.S. and Ph.D. degrees from the University of Tokyo in 1977, 1979 and 1982, respectively. He spent one year as a visiting-graduate student at Cornell University, Ithaca, USA, from 1979. He joined the Faculty of Engineering of Hokkaido University, Sapporo, Japan, in 1982. He was a visiting scientist at IBM T. J. Watson Research Center



from 1988 to 1990. He moved to Tohoku University, Sendai, Japan, as Professor in 1994, where he is currently Director of Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication. He has authored and coauthored more than 300 papers that cover the areas of semiconductor materials and devices to physics and applications of spin-related phenomena in semiconductors as well as in metal-based nanostructures.

Professor Ohno received the IBM Japan Science Award (1998), the IUPAP Magnetism Prize (2003), Japan Academy Prize (2005), Presidential Prize for Research Excellence, Tohoku University (2005), and the 2005 Agilent Technologies Europhysics Prize. He

has been a Fellow of the Institute of Physics (IOP) since 2004, an honorary professor of the Institute of Semiconductors, Chinese Academy of Sciences, since 2006 and a Fellow of the Japan Society of Applied Physics (JSAP) since 2007. Tohoku University appointed him as a distinguished professor in 2008.

Asia-Pacific Magnetic Recording Conference 2012

By APMRC 2012 Secretariat

The Asia-Pacific Magnetic Recording Conference (APMRC) 2012 will be held in Singapore from October 31 to November 2, 2012. As the ninth of a successful series (1995: Singapore; 1998: Singapore; 2000: Japan; 2002: Singapore; 2004: Korea; 2006: Singapore; 2009: Singapore, 2010: Singapore), the APMRC 2012 takes on an exciting new look in 2012.

In conjunction with the 20th anniversary of the Data Storage Institute, the APMRC, which used to focus on the mechanical and manufacturing aspects of the hard-disk drive, widens its scope to incorporate magnetic head, magnetic media, and signal processing technologies, making it the only conference worldwide that covers every technical aspect of the hard disk drive. To reach out to the greater data storage community, an inaugural APMRC Storage System, Hard Disk and Solid State Technologies Summit will be launched at the APMRC 2012.

Among other things, the APMRC 2012 will set the stage for in-depth discussion on green and ultra-high density magnetic recording in the multi-terabit per square inch regime.

The topics covered include recording physics and magnetic integrations; energy-assisted magnetic recording, bit-patterned media & other future magnetic recording technologies; recording media & media magnetics; spintronics & magnetic read/write head; mechanics, vibro-acoustics, heat transfer & airflow; nano-mechanics and aerodynamics for head-disk interface; lube, overcoat and surface protection technology for head and media; micro- and nano-actuator; motor and bearing; servo and control; signal processing; and system integration.

Nomination of invited speakers and submission of digests are currently in progress, and members of the international scientific and hard disk drive/data center communities are most welcome to participate in the conference.

Please visit the conference website at apmrc2012.dsi.a-star.edu.sg or email the conference secretariat via apmrc2012@dsi.a-star.edu.sg for more details.

Dennis Elias Speliotis (1933-2011)

By Tom Coughlin, Senior IEEE Member

Dennis Elias Speliotis, passed away on May 15, 2011, in Lexington, Massachusetts. Dennis was born in Kalamata, Greece, in 1933. He came to study at the University of Rhode Island School of Engineering in 1951. After graduating from the University of Rhode Island, Dennis continued his formal education at MIT with a masters degree in electrical engineering, followed by a doctorate in physics at the University of Minnesota.

Dennis was a sought-after authority on advanced magnetic recording media for high-density magnetic recording. He was an IEEE Fellow and IEEE Magnetics Society Distinguished Lecturer, who delivered more than 50 invited lectures and authored some 300 technical papers.



Dennis consulted with more than 100 corporations worldwide on computers, magnetic and information storage technology and other technical issues. He also supported many others in their endeavors in these fields and was a good friend and advisor to everyone who knew him

Dennis was a strong advocate for the use of barium-ferrite particles in magnetic recording media, especially in the 1990s. In February 2011, just a few months before Dennis's passing, Oracle announced a 5 TB digital magnetic tape with 5 TB storage capacity. Shortly after, IBM also announced a barium-ferrite high-capacity digital-tape product.

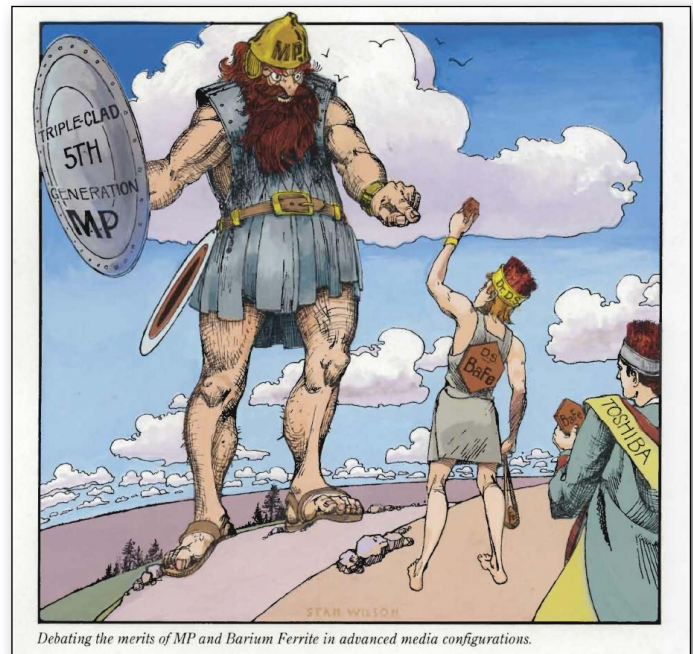
Dennis organized the International Storage Technology Symposia which were held every 2-4 years in Kalamata, Greece, starting in the late 1980s. These symposia were invited events where storage experts could share insights on the latest developments as well as enjoy the hospitality and historical sites in Greece. The meetings included fun activities both for symposium participants as well as their companions and families. Dennis had planned a symposium in September 2011 which was cancelled upon his death. The last Kalamata symposium was held in June 2007 and included a trip to ancient Delphi.

Dennis was an entrepreneur who founded two companies. Micro-Bit Corporation was started in the 1960s and tried to

create a storage technology using electron-beam technology. Digital Measurement Systems (DMS) made vibrating-sample magnetometers (VSMs) and other magnetic measurement equipment. DMS was purchased by KLA-Tencor in 2004.

Throughout his life, Dennis loved collaborating with others. Most of his 300 technical papers were co-authored with a great many well-known names in the magnetic-recording community. Dennis had a great love of other people, telling stories, entertaining and expanding our knowledge of the world around us and creating technologies that enabled the magnetic digital storage technology that surrounds us today.

Dennis is survived by his wife of 53 years, Katherine, and his three children: Evanthia, her husband Peter and their two daughters Ophelia and Ismene of Louisville, Kentucky; Ismene and her daughter Ariadne of Brooklyn, New York; and Elias, his wife Mary and their children Alexis and Ian of Westford, Massachusetts. Dennis is also survived by his three brothers, Athanasios, Nicholas, and Demetrios and their families who reside in Greece.



Debating the merits of MP and Barium Ferrite in advanced media configurations.

From The President *continued from page 1*

In previous editions of the Newsletter, I mentioned our commitment to serve the community through our professional activities, such as the summer school, distinguished lecturer-programs, publications and conferences. I believe that these activities are going very smoothly, and we have made significant accomplishments in all areas. However, there is still room to improve. For example, it is not clear as to what the benefits are for membership in the IEEE Magnetics Society, and how we can quantify the success of our activities. The answers to these questions are not obvious, but we need to identify our mission together with those questions. One way to quantify the success of our activities may be through our membership numbers. The trend in our membership for about the last 10 years remains nearly constant (around 3,000, 5% of which is students and affiliates), but this is down by 15% as compared to two decades ago. Among them, about 800 members are from the Asia-Pacific region (Region 10), which was up by 6% for 2011 from the previous year, and about 900 members are from Europe (Region 8), down by 1 % from 2010 (the membership for U.S. Regions 1-6 (USA) decreased by 1% from 2010).

Given this situation, the membership committee, led by Peter Fischer, is working hard to recruit more members around the world in cooperation with the Chapters Chair, Hiroaki Muraoka. Kaizhong Gao (the former Chapters Chair) did a great job, creating three chapters in China (Beijing, Nanjing, and Hong Kong) during his term, and the overall activity of each chapter is phenomenal! The Nanjing Chapter hosted the summer school in 2009, and the one in Beijing is nicely cooperating with the IEEE office there. Chapter Chair Muraoka is working hard to create new chapters in the new regions, such as India where our Magnetics Society has not been active, and the Distinguished Lecturers have given presentations in those regions. The planning committee led by President-Elect Liesl Folks, along with an ad-hoc committee led by Burkard Hillebrands, are intensively working on our Society's future direction, which includes a strategy to increase membership. With these intensive activities, I am confident that our membership will grow in the next few years to come.

I would like to mention my experience from my recent visits to Zhejiang, China. There are more than one hundred companies in the Zhejiang province, south of Shanghai, having businesses that are mainly in magnetic materials and devices, including permanent magnets and microwave devices. I gave several talks at different places. Each time, I found many engineers and

students, with more than 150 attendees present at some venues, who were very eager to learn. I received many questions from them, and sometimes, our discussions went for more than one hour after my talk had concluded. During one trip, I had a chance to have dinner with about ten engineers. They were very enthusiastic to learn, and we had some intensive discussions over drinks! In 2007, I was a Distinguished Lecturer for our Society, and during that time, I gave several lectures in China. During that time I observed that they were already very enthusiastic, but I also found that there was much more energy and activity in the business sectors, as well as in academia. I was convinced on the way back that this is certainly one of the countries in which our Magnetics Society needs to invest our money and efforts.

I would like to discuss the status of the IEEE. The total membership of the entire IEEE community is about 400,000 people from some 160 countries. There are 38 Technical Societies and 7 Councils. The IEEE's revenue and expenses for 2011 are shown in Figure 1 and 2, respectively. One can see that the total revenue is about \$400M, whereas the expenses are about \$360M. One can also see that the major contributors to revenue are periodicals (34%) and conferences (35%). Even though expenses for periodicals and conferences are the major parts, membership and public imperatives are also about 26%, a significant percentage when compared to the 17% of the membership revenue.

IEEE Lines of Operations Revenue \$(000) – Total Revenue = \$392,915,500

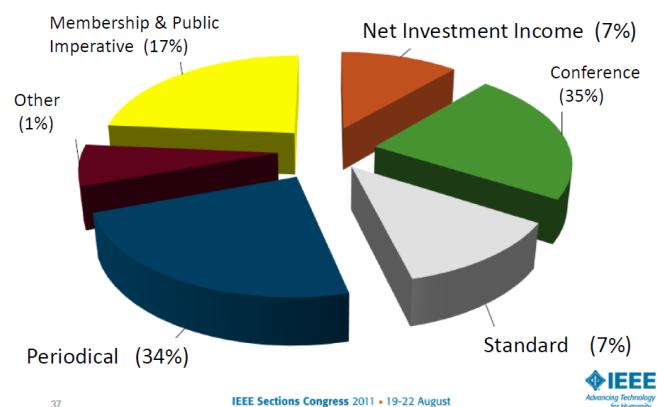


Figure 1: Revenue for IEEE (2011)

Our Society's revenue and expenditures for the 2011 budget are shown in Figure 3. The total revenue and expenses are \$2.3M

continued on page 5

From The President *continued from page 4*

IEEE EXPENSES – Lines of Operations \$359,703,000

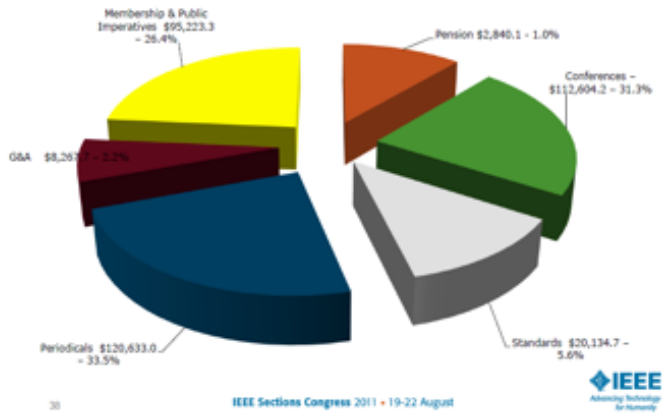


Figure 2: Expenses for IEEE (2011)

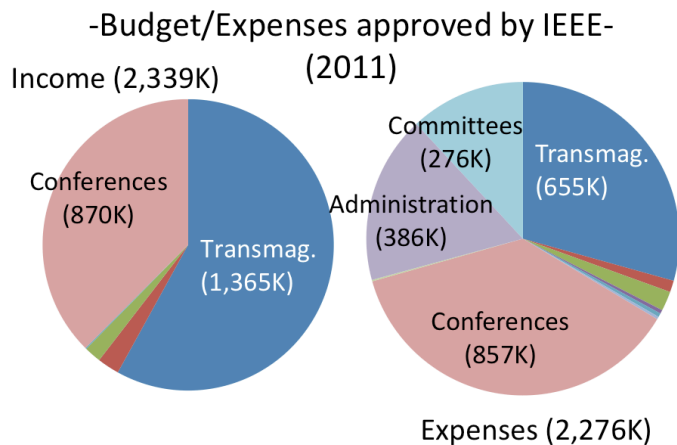


Figure 3: Revenue and expenses for Magnetics Society

and \$2.2M, respectively. One can see that the same thing can be found for revenue and expenses, where the major factors are conferences and publications.

Regarding the standing committee chairs, the AdCom approved the chairs shown in Table 1. The new chairs for 2012 are Mingzhong Wu for the Education Committee, and the Finance chair is Tom Thomson.

Table 1: List of committee chairs & related Society volunteers.

	2012	2011
President	Takao Suzuki	Takao Suzuki
Past President	Randy Victora	Randy Victora
Vice President	Liesl Folks	Liesl Folks
Treasurer / Secretary	Bruce Terris	Bruce Terris
Executive Director	Diane Melton	Diane Melton
Publications	Ron Goldfarb	Massimo Pasquale/ Ron Goldfarb
Technical	Kaizhong Gao	Kaizhong Gao
Honors/Awards	Bruce Gurney	Bruce Gurney
Education	Mingzhong Wu	Albrecht Jander
Membership	Peter Fischer	Peter Fischer
Publicity	Chih-Huang Lal	Chih-Huang Lal
Finance	Tom Thomson	Jan-Ulrich Thiele
Chapter	Hiroaki Muraoka	Hiroaki Muraoka
Nominations	Randy Victora	Randy Victora
Conference Executive	Massimo Pasquale	Doug Lavers/Massimo Pasquale
AdHoc*	Burkard Hillebrands	Burkard Hillebrands
DL Coordinator*	Vince Harris	Vince Harris
IEEE Trans Mag.* Editor in Chief	Pavel Kabos	David Jiles
IEEE Magnetics Letters* Editor	Ron Goldfarb	Ron Goldfarb
IEEE Magnetics Society Newsletter* Editor	Gareth Hatch	Gareth Hatch

Also, the new Editor-in-Chief for the *IEEE Transactions on Magnetics* is Pavel Kabos. Congratulations and welcome on board!

Finally, but not least, I would like to thank Albrecht Jander who was the former chair of the Education Committee, and is now an elected AdCom member, and David Jiles who was the former Editor-in-Chief of the *IEEE Transactions on Magnetics* and is now an elected AdCom member.

Thanks again for your all support, and I look forward to meeting you at the Intermag in May in Vancouver, Canada!

Takao Suzuki can be reached via: takaosuzuki@mint.ua.edu

Get in touch...

We're always interested to hear from Newsletter readers... what you like, what you don't like - what you'd like to see more of in the Newsletter. Just letting us know that you're a reader would be great too!

Drop the Editor a line at: g.p.hatch@ieee.org

Conference Calendar

May 7-11, 2012 International Magnetism Conference INTERMAG 2012
Vancouver, BC, Canada
Web site: www.intermagconference.com/2012/

May 20-23, 2012 International Memory Workshop IMW2012
Milan, Italy
Web site: ewh.ieee.org/soc/eds/imw/

May 21-22, 2012 International Workshop on Advanced Micromagnetics (IWAM)
San Diego, CA, USA
Web site: cem.ucsd.edu/IWAM12/

May 22-26, 2012 9th International Conference on the Scientific and Clinical Applications of
Magnetic Carriers
Minneapolis, MN, USA
Web site: www.magneticmicrosphere.com

Aug 20-22 2012 23rd IEEE Magnetic Record Conference TMRC 2012
San Jose, CA, USA
Web site: www.dssc.ece.cmu.edu/TMRC2012

Aug 26-29, 2012 International Conference on Microwave Magnetics ICMM 2012
Kaiserslautern, Germany
Web site: www.icmm2012.de

Sep 2-5, 2012 22nd Workshop on Rare-Earth Permanent Magnets And Their Applications
Nagasaki, Japan
Web site: www.sntt.or.jp/REPM2012/

Sep 9-14, 2012 Joint European Magnetic Symposia 2012
Parma, Italy
Web site: www.jems2012.it

Oct 31 - Nov 2, 2012 Asia-Pacific Magnetic Recording Conference APMRC 2012
Singapore
Web site: apmrc2012.dsi.a-star.edu.sg

Nov 14-19, 2012 International Conference on Megagauss Magnetic Field Generation
Maui, HI, USA
Web site: www.megagauss.org

Jan 14-18, 2013 12th Joint MMM/INTERMAG Conference
Chicago, IL, USA
Web site: www.magnetism.org

To list your conference in the Newsletter Conference Calendar, please contact the Editor

New Senior Members

Senior Member is the highest grade for which IEEE members can apply. The following members of the IEEE Magnetics Society were recently elevated to the grade of Senior Member.

Feb 2012: Debasis Baral, Johan Driesen, Mehmet Erden, Nikolaos Kantartzis, Toshiro Koderu and Boris Livshitz.

Mar 2012: James Bain, J Fernandez-De-Castro, T Theodoulidis and Xiaobin Wang.

For further information, visit the IEEE Web site at:

http://www.ieee.org/membership_services/membership/grade_elevation.html

New Addition To Society Technical Committee

By Kaizhong Gao, Technical Committee Chair

We have a new addition to the IEEE Magnetics Society Technical Committee:

Dr. Elke Arenholz received her Diploma degree from the Department of Physics at the Universität Regensburg and her Ph.D. in Physics from the Freie Universität Berlin. After a postdoctoral fellowship at the University of California, Berkeley, working on soft x-ray spectroscopy on magnetic nanostructures, she joined Lawrence Berkeley National Laboratory, where she is currently a staff member at the Advanced Light Source, a Department of Energy user facility. Her research focuses on using soft x-ray based techniques, i.e., spectroscopy, scattering, as well as microscopy, to characterize and understand magnetic nanoarchitectures.

Elke has published more than 150 peer reviewed articles on a wide variety of magnetism and magnetic materials related subjects. Currently she is an Academic Editor for AIP Advances and an Editorial Board member of the *Journal of Magnetism and Magnetic Materials*.

Elke is a Senior Member of the IEEE and has served as the chair for IEEE Oakland-East Bay Section Magnetics Society Chapter in 2011. She will be a program co-chair for the MMM Conference in 2013.

About The Newsletter

The purpose of the IEEE Magnetics Society Newsletter is to publicize activities, conferences, workshops and other information of interest to the Society's members and other technical people in the general area of applied magnetics. Manuscripts are solicited from Magnetics Society members, conference organizers, society officers and other volunteers, local chapters, and other individuals with relevant material.

The Newsletter is published in January, April, July and October electronically on the Magnetics Society webpage at www.ieeemagnetics.org. Submission deadlines are January 1, April 1, July 1, and October 1 respectively.

Please send articles, letters and other contributions to the Newsletter Editor:

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