

IEEE Magnetics Society Newsletter

July 2002

Volume 40, No. 3

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 - CEFC The Tenth Biennial IEEE Conference on Electromagnetic Field Computation, Perugia, Italy, *June 16-19 2002*
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 1. **BIOMAG 2002**, Jena, Germany, *August 10 - 14, 2002*.
 2. **IEEE-NANO 2002** Second IEEE Conference on Nanotechnology, *Aug. 26-28, 2002*, Washington DC, USA
 3. **TMRC 2002**, *August 26-28, 2002*, Santa Clara, USA
 4. The **47th MMM** Conference, Tampa, Florida, *November 11 – 15, 2002*
 5. **HMM 2003**, the 4th International Symposium on Hysteresis and Micromagnetic Modeling, University of Salamanca, Spain, *May 28-30, 2003*
 6. **MIPE 2003** Joint conference on Micromechanotrics, Yokohama, Japan, June, 2003
- Visual Magnetics – *Solution*



2002 IEEE ANNUAL ELECTIONS - CANDIDATES' STATEMENTS

Selecting officers for the top-level leadership positions in the IEEE begins 15 March when the candidate slates are submitted to the IEEE Board of Directors. The Board then announces its list of nominees for each office on 1 May. These include:

- president-elect
- delegate/director
- delegate-elect/director-elect
- other officers

to be elected by voting members for the coming year

Ballots are mailed on or before 1 September and must be returned before 12:00 noon on the first business day following 31 October. While election results are announced by the IEEE Tellers Committee, these results are unofficial until the IEEE Board of Directors accepts the Tellers Committee report at its last meeting of the year.

For more information about the election process see IEEE Bylaw I-308.

More information about the elections can be found at:

<http://www.ieee.org/organizations/corporate/candidates.htm>

The candidates websites can be reached from

<http://www.ieee.org/organizations/corporate/candidates.htm>

2002 CANDIDATES

IEEE President-Elect, 2003

- Vijay K. Bhargava
- Luis T. Gandia
- Arthur W. Winston

Division IV, Div IV-Electromagnetics and Radiation, does not have elections in 2002. For your information the candidates of other divisions are included into our list:

Division II Delegate/Director, 2003-2004

- Philip T. Krein
- J. Barry Oakes
- Frederick C. Trutt

Division VI Delegate/Director, 2003-2004

- Richard L. Doyle
- Gerard H. Gaynor

Division X Delegate/Director, 2003-2004

- Metin Akay
- Enrique H. Ruspini

Division III Delegate-Elect/Director-Elect, 2003-2004

- Nim K. Cheung
- J. Roberto B. deMarca

Division V Delegate-Elect/Director-Elect, 2003

- Gene F. Hoffnagle
- Willis K. King

Division IX Delegate-Elect/Director-Elect, 2003

- J. R. Cruz
- Tariq S. Durrani
- John A. Reagan

Regions

Region 2 Delegate-Elect/Director-Elect, 2003-2004

- Parviz Famouri
- Thomas A. Tullia

Region 4 Delegate-Elect/Director-Elect, 2003-2004

- Satyendra N. Basu
- Ronald G. Jensen

Region 6 Delegate-Elect/Director-Elect, 2003-2004

- Michael R. Andrews
- Robert L. Baldwin

Region 10 Delegate-Elect/Director-Elect, 2003-2004

- Marzuki B. Khalid
- H. P. Khincha
- Seiichi Takeuchi

TAB

Technical Activities Vice President-Elect, 2003

- Benjamin W. Wah
- Ralph W. Wyndrum, Jr.

IEEE-USA

IEEE-USA President-Elect, 2003

- Joseph V. Lillie
- John W. Steadman

IEEE-USA Member-at-Large, 2003-2004

- Merrill W. Buckley, Jr.
- George R. Dean
- Gary E. Johnson
- C. Lee Stogner

Standards

Standards Association President-Elect, 2003

- Daniel R. Benigni
- James T. Carlo

Standards Association Member-at-Large, 2003-2004

- Nader Mehravri - Profile 2
- Ruben D. Garzon - Profile 3
- Tom Prevost - Profile 3
- Dennis Bodson - Profile 7
- F. Don Wright - Profile 7
- Harold E. Epstein - Profile 8
- Douglas R. Topping - Profile 8

Vijay K. Bhargava
for IEEE President-Elect, 2003

<http://www.ece.uvic.ca/~bhargava/ieee>

<http://www.ieee.org/organizations/corporate/preselect.html>



Position Statement

In this statement, I will first tell you about my key accomplishments in previous IEEE volunteer positions and then talk about the challenges facing the IEEE.

CONTRIBUTIONS IN PAST IEEE POSITIONS

In the Technical Activities Board, I played a key role in the creation of the *IEEE Transactions on Communications*. As Vice President of Regional Activities Board, I initiated the highly successful Graduates of the Last Decade (GOLD) program. As director of Region 7, I undertook cost control, revenue generation and volunteer training. I closed Region 7 office. We now have a lean, but electronically smart office. I conceived and launched a highly successful annual conference for revenue generation.

A registered professional engineer, I am the founding president of Binary Communications and hold a Canada Research Chair in Wireless Communications at the University of Victoria, Canada. I obtained my bachelor's degree in 1970.

KEY CHALLENGES

The President is the principal Officer of the IEEE and must be responsible to the needs of its members. The President presides at meetings of the Board of Directors and must guide the process leading to fiscal responsibility, to innovation in the development of intellectual property products (IPP), to clear communication and harmonious working relationships at all levels of our organization, and to improve member services and benefits.

Membership — How do we make the IEEE more relevant to industry and younger members? What is needed to improve member services and benefits, and to expand our membership base?

New Product Development — Business models for developing and managing our intellectual property products (IPP), such as a journal, conference proceedings and standards are changing with the shift to electronic publication. How do we manage these changes? A related question is early identification and promotion of emerging technologies, and developing products to service them.

Fiscal Responsibility — A lot has been said about this issue. How do we accomplish this while maintaining core member services and controlling costs?

Communications — How do we make various IEEE entities understand their role within the context of a global technical organization?

ADDRESSING THE CHALLENGES

On the membership front, we need to expand membership beyond the traditional field of electrical engineering. There are tremendous opportunities in the information technology and related areas. Timely and authoritative information through publications, conferences and networking should make the IEEE more attractive to younger members and industry. Industry endorsement to join the IEEE, and the CEUs, may be useful in retention while reduced barrier and implementation of sound e-business practices may expand our membership base.

Our technologies are becoming increasingly interdisciplinary. We need to encourage societies to bring out products that address these interdisciplinary needs and eliminate organizational impediments that may hinder this. Early identification and promotion of emerging technologies is a must to position ourselves as a dominant player against commercial publishers. Electronic distribution of our products should continue to receive high priority.

Fiscal responsibility entails not only cost cutting but looking at new ways of increasing income stream. The challenge is to accomplish this without losing the IEEE as a volunteer organization. We need to identify and sun-set activities that have outlived their purpose to maintain a positive income stream. We need to spend on new initiative that will lead to new income streams. Eliminating spending on new initiatives is dangerous to the future of the Institute.

IEEE works best when there is excellent synergy between volunteers and staff and between various entities. Communication is the key here. Availability of easily understandable information (financial or otherwise) will be of immense help in this process. This, in turn, will lead to a better understanding of financial and organizational relationship between the IEEE entities and the IEEE as a whole.

I offer specific changes to bring about quantifiable improvements in product and services that our members receive.

Luis T. Gandia
for IEEE President-Elect, 2003

<http://www.luchigandia.com/>

<http://www.ieee.org/organizations/corporate/preselect.html>



Position Statement

The world as well as IEEE is going through a transformation - a transformation that affects the industrial world as well as the financial world. The world is being fundamentally reshaped by the information and technology revolution, which is supplanting the industrial revolution.

The IEEE, as the world's largest technical organization must take a leadership role in managing this revolution. We must be prepared to offer our members and society in general, the products and services necessary to not only survive in today's world of high technology but provide for the future.

IEEE serves our research and academic members with excellent publications and programs. Xplore is a very good example. Nevertheless we are not meeting the needs of that group of engineers who conceive and develop those essential new products, processes, and systems. Programs, publications, and services geared toward this creative and innovative group of engineers must be expanded if we are to meet our obligation to our members and society. We need to serve our members who have earned those BS degrees as well as those with the MS and Ph.D. degrees.

In this New World our members must keep themselves technically up to date. We must provide the tools necessary for our membership to maintain their technical and operational competencies by supplying continuing education programs through the Internet and IEEE's network of organizational units.

During my 48 years of experience as an engineer and more than 30 years of dedicated involvement in international voluntary organizations, I have learned to interact with my peers, heard their concerns, and worked with them to build successful organizations. I used this expertise during my eight years in the IEEE Board of Directors where I held positions both in the Technical Activities Board as well as in the Regional Activities Board. This gave me the experience and perspective to serve as your 2003 IEEE President Elect.

Rebuttal Statement

After reading the candidates statements, you will agree that they are similar. We all mention financial problems, competition, fiscal responsibilities, service, etc. They have to be similar. We all know what IEEE is going through. The question is which of the candidates have the expertise to provide the leadership, business experience and knowledge required to lead our Institute in the process of solving these problems and bring it back to its position of prominence.

Never before in IEEE history has there been a moment where the president must demonstrate true leadership and business expertise.

Arthur W. Winston
for IEEE President-Elect, 2003

<http://www.arthurwinston.com>

<http://www.ieee.org/organizations/corporate/preselect.html>



Position Statement

IEEE is a great Institution that provides valuable educational and professional services to its members. I plan to keep it that way.

To accomplish this goal, we must preserve the scientific and financial integrity of our technical societies and enhance the operational efficiency of the Institute without surrendering the strength of our volunteer-driven organization. We must continue to make tough financial decisions, reduce our expenses without compromising our objectives, and carefully examine all aspects of IEEE's business operations, including benefits to members, projects undertaken, location of meetings, staff levels and staff structure.

I have the industrial, business, and academic experience to help lead our volunteers to build an even greater Institution.

This is my platform:

- Provide financial planning and stability and reduce expenses
- Improve efficiency of Board operations
- Improve trust and communication
- Enhance membership value
- Ensure the viability of our Technical Societies
- Stimulate educational activities and career development
- Ensure volunteer input and participation globally
- Improve the retention rate of members, including students
- Restore industrial acceptance
- Enhance the image of the profession

I have the vision, drive and experience needed to lead the IEEE, and I am willing and able to dedicate the time, energy and attention required by this most important position. We can make the IEEE more member-responsive, more efficient, and less costly to operate.

I respectfully ask for your vote and thank you for your support.

Philip T. Krein

for Division II Delegate/Director, 2003-2004

<http://www.ieee.org/organizations/corporate/divii.html>



Position Statement

Division II covers the fundamental infrastructure of electrical engineering and its relationship to industrial development. Our era of revolutionary change is accelerating in the twenty-first century, and we must position ourselves as central players in fast-changing basic technologies.

Strong synergy is possible among the four societies that form Division II. We can enhance our excellence with joint activities and publications, through close exchange, and with discussion of best practices. There is a vast range of new technology that should be championed by our Division: sensors and microsensors, battery advances and fuel cells, transportation electronics and hybrid vehicles, industrial plasma processes, to name just a few.

As Division Director, I will encourage the societies, individually and collectively, to provide IEEE forums for emerging technologies and to proactively expand activities in these areas. I will support our leadership in international activities, such as the Future Energy Challenge, that will share excitement in our areas with students and young engineers. We can better serve members through more tutorial publications and short courses, and through coordination of conferences.

Rebuttal -- Our Division can enhance student opportunities and support professional development of young members. I believe that most of us have learned our fields through long experience. Our four Societies can work together to convey the most interesting challenges and to develop the engineers of the future. As Division Director, I will challenge our Societies to reach out to new technologies, new opportunities, and new people. These activities are vital investments, and deserve high financial priority.

J. Barry Oakes

for Division II Delegate/Director, 2003-2004

<http://www.ieee.org/organizations/corporate/divii.html>



Position Statement

Because of my career and IEEE experience, I can contribute strongly in several areas of interest to IEEE members. If elected, I will work vigorously to:

- Support the introduction of electronic publishing throughout the IEEE, and to assure that the rewards of this effort are made available to all IEEE members in a cost-effective way. Funding problems with this effort presently exist which are grave threats to the financial viability of IEEE Societies, and I will work to make Society concerns abundantly clear to the IEEE Board of Directors. In addition, planning must start now at the BoD level so that staff costs can be appropriately reduced once the electronic publishing system is completed.
- Assure that new technologies in our profession are recognized promptly and addressed in existing or new IEEE Transactions and conferences.
- Establish an online, searchable guide to all IEEE lifelong learning programs. This database will serve our members well in this age of short technological half-life, and will require cooperation from all IEEE entities involved in continuing education.

Rebuttal -- Most IEEE intellectual property is generated by the TAB Societies, and presented in Society Transactions and in Society-sponsored conferences. Major IEEE income arises from the sale of this intellectual property to libraries and other non-members, who view us as an important publishing house. IEEE must be run like a business, and all IEEE Directors must place IEEE financial viability at the top of their action agenda. Glittering generalities and motherhood statements don't count.

Frederick C. Trutt

for Division II Delegate/Director, 2003-2004

<http://www.ieee.org/organizations/corporate/divii.html>



Position Statement

Thirty years of service to the IEEE and the engineering profession have provided me with some insight into IEEE Chapter, Society, and TAB activities. My current assessment is that the IEEE leadership, staff, and volunteers are all working to improve and expand member and professional services. I support this concept and believe that the IEEE should develop and streamline its leadership role in our electronic and global society.

However, difficult decisions are required in order to manage business activities within the constraint of limited resources. Balanced budgets without significant reliance on soft-money income, increased membership contributions, or taxes levied on technical societies are needed. To achieve this goal while maintaining member services, real measures for reducing expenses and improving efficiency must be implemented.

If elected as your representative, my plan is to:

- Establish avenues for dialogue with members and society representatives to expand my knowledge of our expectations and concerns.
- With this information, participate as an active and constructive member of the IEEE Board of Directors working towards the realization of our objectives.

Rebuttal –

I strongly support and would work towards expansion of cooperative efforts, member services, and new technologies within our Societies. However, at this time, new initiatives at the IEEE level would be a financial concern. IEEE membership dues will be raised approximately 9% in 2003 to fund current infrastructure costs; tax levies to our Societies are unknown. IEEE budgeting difficulties must be addressed while we still have four solvent Societies in our Division.

Richard L. Doyle

for Division VI Delegate/Director, 2003-2004

<http://www.ieee.org/organizations/corporate/divvi.html>



Position Statement

I was previously the Director of Region 6 and will apply this experience as your Technical Director. I will assist in advancing the growth and technical content in IEEE and in our rapidly developing technologies.

New activities will benefit you and your society. IEEE members benefit by becoming more knowledgeable in their field, which helps both you and your employer. Conferences, tutorials, and the Internet provide valuable new information that is unavailable elsewhere. There is strong leadership throughout the Division VI societies, and as Division VI Director, I would promote and support the collaboration of our societies in sponsoring a Division VI Conference.

I am a member of the Management Society and was effective as President of the Reliability Society in 1995 and 1996. I served on three major TAB committees and chaired the New Ventures Committee, which proposed 30 new projects. I support financial responsibility with high productivity. IEEE is a vast resource, as the world knows. As your Director, I will help direct the future of IEEE.

Gerard H. Gaynor

for Division VI Delegate/Director, 2003-2004

<http://www.imisage.com/ieee/>

<http://www.ieee.org/organizations/corporate/divvi.html>



Position Statement

IEEE's challenges range from providing leading edge intellectual property to governing the Institute with fiscal discipline. These issues dictate that we:

- Manage IEEE activities effectively and efficiently.
- Recognize that volunteers are the source of value-added intellectual property but staff needs to provide services to members and business clients effectively and efficiently.
- Open the communication channels to restore high levels of trust. Let's find the problems and solve them.
- Review all programs, processes, and activities; eliminate the marginal contributors; and provide resources for new initiatives. Evaluate work methods and practices of volunteers and staff.
- Govern the Institute with financial discipline. We are a not-for-profit organization but need to govern with a business mentality. Set stretch targets for annual cost reduction. Provide a business reality check. Eliminate year-end budget surprises.
- Focus on innovation as a priority in all activities. Doing it today as we did yesterday just isn't good enough.

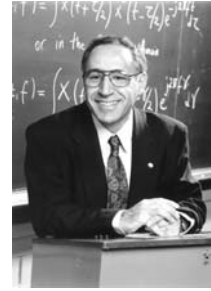
Your support in helping implement these objectives will be appreciated.

Metin Akay

for Division X Delegate/Director, 2003-2004

<http://thayer.dartmouth.edu/thayer/faculty/metinakay.html>

<http://www.ieee.org/organizations/corporate/divx.html>



Position Statement

Recent developments in engineering and technology fields have stimulated interdisciplinary research and collaborations among engineers, computer scientists and biologists. We are at the cross-roads of these developments and must play more active leadership roles to promote engineering education and research in the world by closely working with all the IEEE societies and other non-IEEE societies.

As the organizer and chair of several interdisciplinary IEEE conferences, workshops and summer schools, I was able to interact and exchange ideas with many colleagues, researchers and students about how we can better serve our members. I have gained tremendous insight from these activities and am very determined to work hard to:

- publicize the positive aspects of engineering and promote engineering education and research in the world.
- work with all the IEEE societies to organize joint conferences in the areas of emerging technologies.
- raise awareness of engineering opportunities among young male and female students, especially minorities.

Not only will I be your Division Delegate/Director, but your voice to the IEEE Board of Directors, if elected.

Enrique H. Ruspini
for Division X Delegate/Director, 2003-2004

<http://www.ai.sri.com/%7Eruspini/ieeedivx.html>

<http://www.ieee.org/organizations/corporate/divx.html>



Position Statement

The IEEE faces significant issues to assure its continued success and viability. These issues require that those steering its course do so from a background of leadership and understanding. As a member of several IEEE Societies (Control Systems, Industrial Electronics, Robotics and Automation, System, Man, and Cybernetics, Computer, and Neural Networks), a member of the Technical Activities Board, and a Society Officer and Past-President, I will bring the knowledge gained through more than ten years of volunteer service to help steer the future course of the IEEE.

Recognizing the importance of the services provided by the Institute to its members through interdisciplinary activities and educational programs, I will continue, at the Institute level, to continue my efforts to encourage, nurture, and disseminate technological advances across all technical, educational, and regional IEEE units. As a member of the IEEE Board of Directors, I will also continue to emphasize collaboration between IEEE Societies, and other professional organizations throughout the world, that result in the introduction of new intellectual products by timely identification of emerging technologies.

In addition to encourage activities that extend the scope of IEEE products and services, I will also actively promote policies, intended to enhance their effectiveness, that

- Expand Institute membership beyond traditional boundaries and disciplines
- Improve the dissemination and availability of products and services, particularly to engineers in industry
- Increase accessibility to information sources, job banks, accredited learning programs, short courses, and student-support opportunities
- Expand member benefits and increase their world-wide availability

To accomplish these goals, it is essential that those in charge of steering the future course of the IEEE have an adequate understanding of the costs, risks, and expected benefits associated with the promotion and support of various initiatives. As your representative in the Board of Directors, I will stress the development of policies that enhance fiscal responsibility and accountability by clear understanding of the cost and value of existing and proposed programs.

I hope that you will support my candidacy with your vote and I look forward to serve as your representative in the Board of Directors. I welcome your thoughts on these issues and any other matters of importance to the IEEE.

Enrique H. Ruspini

E-mail: ruspini@ai.sri.com

Nim K. Cheung

for Division III Delegate-Elect/Director-Elect, 2003-2004

<http://www.ieee.org/organizations/corporate/diviii.html>



Position Statement

The members of IEEE should be proud of our contributions towards the creation of today's worldwide communication infrastructure that encompass both the Internet and wireless mobile networks. We are well positioned for even greater accomplishments in the 21st Century as communications and electronics technologies continue to grow in importance in the world's economic, commercial and educational activities.

If elected Division III Delegate/Director, 2002-2003, I will promote the creation and dissemination of leading edge technical information and emphasize technical excellence in IEEE's conferences, publications and educational services. Delivering high quality, timely, and relevant information to the technical community is crucial to enhance IEEE's visibility to the industry, government, and academics and attract high caliber volunteers.

My extensive corporate management experience with profit and loss responsibilities makes me uniquely qualified to serve on the IEEE Board in a time when IEEE is encountering severe budget difficulties. I will work with the IEEE leadership to enforce sound fiscal policy while continuing to deliver exceptional value to all members and upholding the highest standard of professionalism.

J. Roberto B. deMarca

for Division III Delegate-Elect/Director-Elect, 2003-2004

<http://iris.nyit.edu/%7Eagelman/demarca/demarca.html>

<http://www.ieee.org/organizations/corporate/diviii.html>



Position Statement

Over the last two years, I was the President of the IEEE Communications Society, a truly global society that maintains its focus on increasing the real and perceived value of IEEE membership. During my term, new technological areas were addressed, electronic services were deployed, chapter support was increased. This was all accomplished while increasing revenues and working in a congenial volunteer environment. If elected, I will use my proven leadership skills towards reaching similar goals on an Institute-wide basis.

IEEE critically needs dedicated and proven volunteers at its helm. In recent years, there were multimillion dollar deficits caused by questionable financial management and unsustainable high infrastructure costs. There is a perceived decision centralization in headquarters which threatens to alienate IEEE's most precious asset, the volunteers. The disconnect between upper management and society volunteers has caused widespread mistrust.

As a Board member, I will strive to put IEEE back on the right track, the successful track exemplified by the Communications Society, allowing IEEE to stay on top of the technical world in the new competitive and challenging environment.

Gene F. Hoffnagle

for Division V Delegate-Elect/Director-Elect, 2003

<http://www.ieee.org/organizations/corporate/divv.html>



Position Statement

The center and focus of the IEEE should be its members, their participation in IEEE, and the programs and services they want. We have seen significant growth over the years in the quality and quantity of what IEEE offers. Nonetheless, I believe there is more that can and should be done to enhance professionalism, publications, conferences, education, and electronic capabilities. And more that can and should be done in support of the Divisions and Societies, Regions and Chapters, relationships with other professional organizations, new members, student members, and underserved populations and geographic areas. Further, the IEEE must quickly resolve its structural challenges in globalization, organization, finances, management, communication, and outreach.

To provide these programs and services and to overcome these challenges, I believe the Board of Directors should be, first and foremost, an advocate for decisions supporting member ideas and needs, for decentralization of control and operations, and for grass roots initiation of new programs and services. If elected, I will gladly work toward ensuring that members receive the programs and services they want.

Willis K. King

for Division V Delegate-Elect/Director-Elect, 2003

<http://www.ieee.org/organizations/corporate/divv.html>



Position Statement

As a long-time volunteer of the IEEE Computer Society, I have learned how to manage a volunteer organization using strict fiscal discipline, while remaining nimble enough to develop services to meet members' needs in a changing world. I hope to use that knowledge to help the IEEE to solve its current financial crisis.

The financial problems of the IEEE in recent years have severely impacted the operation of all the societies in general, and the Computer Society in particular. We must drastically reduce the infrastructure overhead to balance the central organization's budget. We need to delegate authority to the units closest to the members because they are most sensitive to the members' needs. This would eliminate layers of bureaucracy and further reduce overhead costs.

We must also provide better services to the IEEE members to make the Institute strong. I believe continuing education and improving services for our global membership are two areas in dire need of improvement. I will work hard towards these goals, if given the chance.

J. R. Cruz

for Division IX Delegate-Elect/Director-Elect, 2003

<http://www.ieee.org/organizations/corporate/divix.html>



Position Statement

I have dedicated my entire professional service to the IEEE Vehicular Technology Society and to its core values of excellence in its publications and conferences, commitment to international representation, and efficient governance. The incredible success of VTS has been built on a management philosophy that stresses good practices and encourages volunteerism. We have built a transparent organization that sets high standards for its members and we accomplished this in a collegial manner bringing personal satisfaction to our active members and delivering services to the membership at the lowest possible cost.

Our vision for VTS was meticulously executed by an outstanding group of executive Board members, who over the years accomplished all the major strategic goals of our organization. I have been schooled in this positive environment and deeply believe that our vision and our execution of this vision are portable to other organizations.

If elected, I will bring to the IEEE Board the same commitment to these core values and a fresh perspective on how to efficiently manage a volunteer organization.

Tariq S. Durrani

for Division IX Delegate-Elect/Director-Elect, 2003

<http://www.ieee.org/organizations/corporate/divix.html>



Position Statement

As Division IX Delegate/Director, I will:

- Seek improvement in the infrastructure of the IEEE through fiscal prudence to overcome the current malaise of deficit budgeting and unpalatable taxing of societies.
- Advance members' interests and seek services in support of their professional concerns.
- Encourage inter-society cooperation within Division IX through synergistic actions, collaborative events and joint activities.
- Require improved IEEE services for practicing engineers through opportunities for applications-focussed publications, continuing professional development, and industry-led conferences.
- Provide robust representation of the Societies' needs and opinions to TAB, and make Division IX a visible and progressive force in the IEEE.
- Strengthen global opportunities for the IEEE to enhance its technical leadership role world-wide.

My IEEE Board experience - Technical Activities, Educational Activities, and Publication Services and Products Board, and being Past President of one of the largest IEEE societies; as well as my work for industry and government, ranging from managing large-scale organizations to new and nimble initiatives, has equipped me with the background to serve the interests of Division IX members. I look forward to the opportunity to serve.

John A. Reagan

for Division IX Delegate-Elect/Director-Elect, 2003

<http://www.ieee.org/organizations/corporate/divix.html>



Position Statement

Service is a way of life. Over the years I've volunteered for many IEEE service activities: working in support of conferencing, publications - particularly progressing to electronic information dissemination, professional development activities, and strengthening international activities, which are all central to best serving IEEE members and continuing the success of IEEE.

Working to effectively manage change and growth, in an equitable and fiscally responsible manner, has been the hallmark of my approach as a society president and conference coordinator, member of several TAB publication-related entities, including serving as Book Broker Chair, and in heading a large university department.

Dealing with growth and change in a fiscally responsible manner are major challenges that IEEE faces. I believe my career and professional service experiences equip me to effectively assist IEEE in addressing these challenges, and I'm at a point in my career where I can again increase my service activities. I'm honored to now be nominated for the position of IEEE Division IX Delegate-Elect/Director-Elect, 2003, and, if elected, will serve with vigor and dedication.

Rebuttal -- Standing by my original statement, I offer experience, concerned interest and commitment to working as IEEE Division IX Delegate/Director, if elected, to preserve and advance the Institute in ways that best serve members. I would work with a society centric perspective, advocating measures that equitably benefit members of large and small societies alike. However, my first concern must be working for/supporting measures to put IEEE on a sound financial basis for the future.

Parviz Famouri

for Region 2 Delegate-Elect/Director-Elect, 2003-2004

<http://www.ems.wvu.edu/famouri/>

<http://www.ieee.org/organizations/corporate/reg2.html>



Position Statement

It is a distinct honor and privilege to be nominated as a candidate for Region 2 Delegate-Elect/Director-Elect, 2003-2004, by the Nominations and Appointments Committee. With this honor comes a responsibility to serve you well, which I will try my best to do.

As Director, I look forward with great pleasure to working with the many engineers and volunteers in the Region. I want to thank all of our volunteers who give their invaluable time to serve the membership by bringing and organizing new professional, technical, and social activities to the Region. As Director, I will raise the visibility of these efforts, and I will assist them in every way I can to continue to serve the members.

As Director, I will work with the industrial employers to be flexible so our members and volunteers can be involved with the Sections' and the Region's activities. By having an active Region, the employers, engineering employees, consultants, and students will all benefit.

Rebuttal - IEEE is in turbulent times financially and cannot afford new programs at this time. The Regions have been asked to cut back financially, and as Director, I will do my utmost to reduce the effect of any cut to the Region. Drawing on my project management experience, I will manage the Region's budget in a fiscally responsible manner.

If elected, I will be a grass roots voice for members, sections and chapters on IEEE Boards.

Thomas A. Tullia

for Region 2 Delegate-Elect/Director-Elect, 2003-2004

<http://www.ieee.org/organizations/corporate/reg2.html>



Position Statement

IEEE's diverse products and services are important; however, the value in our membership lies in the relationships that we develop through active participation.

I will promote the evolution of an on-line IEEE community in Region 2 so that our interests and concerns are made known and represented to the Institute. If elected, I pledge to:

- Increase overall Region leadership presence and improve access
- Support the programs of our Sections and Chapters by identifying, sharing, and implementing our best practices throughout the Region
- Develop stronger ties with industry and government by increasing awareness of our constituency, our concerns, and our capabilities
- Nurture future IEEE leaders by focusing support to student branch, GOLD, and PACE activities
- Recognize and reward your IEEE efforts and accomplishments.

We are the IEEE and we each bring considerable skill and capability to it. We are responsible for its successes. I know there's value in IEEE - we bring it with us. Thank you!

I ask for your support and your vote.

Rebuttal -- Like many of my predecessors, I have a broad appreciation of the problems facing electrical engineers and information technology practitioners in Region 2. But, the diversity in our interests, avocations, and concerns prompts local response to local challenges - and local action often requires Regional resources. I ask for the opportunity to guide the Region to help meet your needs. I seek your trust and your vote.

Satyendra N. Basu

for Region 4 Delegate-Elect/Director-Elect, 2003-2004

<http://www.ewh.ieee.org/reg/4/satbasu.htm>

<http://www.ieee.org/organizations/corporate/candidates.htm>



Position Statement

The IEEE is a complex organization made up of six boards and many committees. The Institute is respected throughout the world because of its logistic balance between technical expertise, standards and its grassroots Sections and Chapters.

IEEE Boards have a great deal of challenges in channeling their systems into processes to serve 377,000+ worldwide members, inclusive of all grades. These challenges require patience, understanding, knowledge of politics, and many other skills. While most of its Ways, Methods, Systems and Processes are just right, a few improvements are still possible. Advancement of technology changes members' perceptions and expectations, which forces IEEE boards to constantly rebuild its paths.

My main objective on the Board will be to implement processes to improve interactions and relationships between the Technical and Regional Activities Boards. This will benefit the grassroots Sections and Chapters. My job will require learning, investigating, facing challenges and implementing some processes to achieve these goals. Other objectives include creating better relationships with Communities.

Ronald G. Jensen

for Region 4 Delegate-Elect/Director-Elect, 2003-2004

<http://www.ieee.org/organizations/corporate/candidates.htm>



Position Statement

I became active in my Section and Region over the past years because I found it rewarding technically and professionally. I make a point to identify how each level of IEEE can best support members. I enjoy finding innovative ways to deliver technical programs through Sections and Branches. Unfortunately, some members are still not well served.

IEEE must deliver a set of benefits that justifies membership dues to each of us. There are opportunities with technology to deliver technical and professional programs in new ways to members. Our membership in Region 4 is diverse in sections, membership interests, and needs. These members come from many professional areas: they are consultants, they work in industry and at universities. I understand their concerns and know the issues within IEEE.

If elected, I will be honored to represent all of Region 4 in region activities and on the IEEE Board of Directors.

Michael R. Andrews

for Region 6 Delegate-Elect/Director-Elect, 2003-2004

<http://www.andrews-associates.com>

<http://www.ieee.org/organizations/corporate/reg6.html>



Position Statement

The members of Region 6 are faced with a diversity of challenges: professional vitality, career resilience, strategic personal positioning and a changing market economy. In addition, as the largest region in the IEEE, it is essential that our goals be clearly articulated to members and other IEEE entities. As the Region 6 Director-Elect, I will provide the leadership to ensure that a support infrastructure is in place to provide the individual engineer with tools, support systems and legal protection to assure success and satisfaction.

I will use my skills and experience to develop programs and relationships that increase the involvement of both private and public sector organizations. With your assistance, I will reinforce the existing IEEE initiatives and explore new programs that combine personal development and continued competitiveness, corporate involvement and recognition of the individual professional.

My vision for the IEEE and Region 6 is to engage in increasingly dynamic and creative programs and initiatives that raise our member's visibility within their company, the technical community and the general population.

Robert L. Baldwin

for Region 6 Delegate-Elect/Director-Elect, 2003-2004

<http://www.baldwinregion6.com/>

<http://www.ieee.org/organizations/corporate/reg6.html>



Position Statement

I am a practicing communications engineer with broad experience in cabled and wireless systems. I have long experience on non-profit boards and academic councils.

Currently, I am Region 6 Treasurer and General Vice Chair of ICC 2003. I have served in Section positions through Chair, and as a Regional Area Chair. I am a member of the Communications, Computer, Engineering Management, and Power Engineering Societies.

As Region 6 Delegate-Elect/Director-Elect, I will diligently serve the interests of our 65,708 members. I will work to lighten the burden on volunteers and improve operations of the Region, through emphasis on:

- Leadership training
- Strategic planning
- Section, Chapter, and Student Branch guidelines
- Promoting Section/Society interaction

As Region 6 Delegate/Director, I will work to keep IEEE operations fiscally sound, and dues proportional to member benefits. Women and minority membership growth is a priority. By virtue of my experience, I have gained a unique understanding of the problems the Institute now faces.

I will use this knowledge to serve you to the best of my ability.

Rebuttal -- It is an honor to be nominated for this office, and I am in good company. The IEEE must maintain its preeminence, while evolving professionally in these exciting times and a changing world. It is my intent to work to ensure that serving member interests is foremost in Institute affairs.

Marzuki B. Khalid

for Region 10 Delegate-Elect/Director-Elect, 2003-2004

<http://www.cairo.utm.my/marzuki/>

<http://www.ieee.org/organizations/corporate/reg10.html>



Position Statement

I believe each member deserves good value for their IEEE membership. I will provide support to Sections, Chapters and Student Branches wishing to organize quality activities for their members in Region 10. I believe that IEEE can succeed in doubling its membership within a few years, especially in Region 10, if the membership fees are reasonable.

My goals are to:

- support Section activities and needs as much as possible;
- provide support to Chapters, including those trying to organize technical society conferences in their country;
- improve the value of IEEE membership in the Region, while trying to negotiate higher rebates for Sections;
- provide support to student branches and GOLD members by supplying the tools to help them become better professionals;
- improve communications between members and leaders in the Region as well as between Sections and IEEE staff;
- identify solutions to members' requests and resolve problems quickly;
- ask IEEE Member Services to offer better and variable packages for members.

I believe I can make a difference as your Region Director. Your support is very much appreciated.

Rebuttal -- I will try my best to seek reduction of annual dues and also to request for variable packages for members to pay variable fees as there are many members in Region 10 that are affected by the economic crisis which has not yet improved.

H. P. Khincha

for Region 10 Delegate-Elect/Director-Elect, 2003-2004

<http://www.ieee.org/organizations/corporate/reg10.html>



Position Statement

Extensive experience in the IEEE at many levels has encouraged me to run for Region 10 Delegate-Elect/Director-Elect, 2003-2004.. My experience and background as a Professor, and Chief Executive will also help me in fulfilling my duties as Region Delegate/Director.

IEEE is becoming a Global Organization and new paradigms are evolving for meeting the needs of its members. IEEE must reach out to its members and help in reaching their educational, technical and professional aspirations. Region 10, with its diverse cultures and economies, needs to make special efforts to achieve these goals.

My goals will be to:

- Enhance Member services to benefit Region 10.
- Provide support for activities and needs of the Sections/Chapters.
- Represent the region at HQ level with passion.
- Reduce number of Associate members by recognizing existing academic programs.
- Assist in the Globalization process of IEEE; speak up for the Region.
- Promote and support a Regional Conference and technical activities.

I look forward to working with members and have the will and energy to contribute. My commitment and your vote will help us reach our goals.

Seiichi Takeuchi

for Region 10 Delegate-Elect/Director-Elect, 2003-2004

<http://www.f.dendai.ac.jp/~takeuchi/>

<http://www.ieee.org/organizations/corporate/reg10.html>



Position Statement

Region 10 is the fastest growing Region and its members all have diversified needs. It is imperative that all IEEE members keep up with the unique capabilities of the Internet. The IEEE can meet these needs through vibrant technical programs offered by the Societies, and regional activities offered through the Sections.

I will apply my industry/academia management experience and my networking skills to working with leaders in the IEEE and in R10 to fulfill these needs. The major targets are:

1. More technical conferences and distinguished lecturer programs in R10;
2. More representation from R10 to the IEEE Board level committees;
3. Promotion of globalization of IEEE;
4. Formation and support of the GOLD Committee in R10;
5. Promoting awareness of demographics with relation to membership employed by academia, industry, and government in R10;
6. Increasing start-up funds for new sections and chapters to support and encourage initiatives and leadership training on all levels to increase IEEE membership.

Benjamin W. Wah

for Technical Activities Vice President-Elect, 2003

<http://manip.crhc.uiuc.edu/election.htm>

<http://www.ieee.org/organizations/corporate/technical.html>



Position Statement

In my vision, the IEEE should provide our members easy access to current and concise technical information, facilitate interactions through conferences and regional activities, and bring new technologies to our members, steps ahead of other sources. As TAB Vice President, my goal is to carry out this vision and help our members maintain a competitive edge and overcome obsolescence, using means like distance learning. To fulfill the mission of the IEEE and reduce the technology gap of our members, I plan to emphasize the following:

- Guiding the Institute into a learning community through journals, electronic conferences, Web-based tutorials, seminars, virtual communities, section meetings, and regional activities.
- Using interactive distance learning, we would constantly strive for new ways of delivering timely and easily understandable information to our members according to their technological interests. We must serve both our practitioner and student members who need to stay attuned to changing technologies and continuously expand their technical expertise.
- Leading the Institute through sound financial management practices and better cooperation among societies and councils.

I will work hard to represent the interests of TAB in the IEEE in order to reduce the costs of products and services to our members.

Ralph W. Wyndrum, Jr.
for Technical Activities Vice President-Elect, 2003



<http://election.wyndrum.com/>

<http://www.ieee.org/organizations/corporate/technical.html>

Position Statement

Before 2000, I served AT&T Labs as Technology VP, and later Program Planning/Management VP. I was also a delegate to CCITT (ITU) for 9 years. More recently, I have served as an executive consultant in technology(R&D) planning, and as Business Development Director for a Silicon Valley startup developing R&D enterprise decision support systems .

The IEEE exists to provide unique, affordable products and services to our members, academia, industry and government ; it must be a leader in electronic publications/services. World class technical leadership and business practices are essential ingredients. The TAB VP must lead TAB, but also be a key player on the IEEE management team with the Board of Directors.

Basic industry redirections are underway, including shifts *from internal R&D*. Venture-funded R&D and contract development/manufacture are business models being used today. These models *seriously affect IEEE members and programs*. My Board experience as Director for both Divisions I (Circuits and Devices, 2000-01) and III (Communications, 1990-91) as well as a Society President, help me understand the IEEE infrastructure/cost issues. Costs need to be streamlined for the environment. I understand and appreciate the problems facing our large Societies as well as our small ones

I have wide international experience. I have been a leader in the Div. I-IV annual Region 8 chapter meetings. Further, as IEEE-USA VP-Technology Policy for 2002, I am working with the Societies to strengthen our programs informing Congress and the Regulatory Agencies on vital current issues. Many Societies need to be more supportive of regional programs globally, programs vital to members in start-ups, larger companies, academia and government.

I will deal with the technical challenges and infrastructure cost issues promptly. For years I have run organizations with \$100M+ budgets- always balanced and properly weighted. I am familiar with valuable practices (e.g. activity based costing) which can benefit the IEEE. I will work closely with our colleague Board members to lead technical strategy, planning and operations to a healthy future as Technical VP.

Joseph V. Lillie

For IEEE-USA President-Elect, 2003

<http://www.SolutionsMall.com/lillie>



Position Statement

I feel that I have the organizational, leadership, and management skills necessary to lead IEEE-USA. I have been involved in IEEE-USA activities for several years and I look forward to the opportunity to continue this active involvement.

I feel that the following issues are vital to the continued success of IEEE-USA:

- **Professional Development** – We must work together to assist with the professional development of U.S. members.
- **Membership Development** – I will work with all IEEE entities to grow U.S. membership.
- **Graduates of the Last Decade** – IEEE-USA must continue to provide opportunities for involvement by those with ten or less years of professional experience.
- **Student Members** – Students are the future of IEEE and IEEE-USA. We must find better ways to help students maintain their membership upon graduation.
- **Public Policy** – IEEE-USA must continue to develop position statements that reflect the needs and interests of our members. I will encourage members to communicate their views on issues that affect them as individuals and IEEE-USA as a whole.
- **Financial Stability** – I will work with all entities to ensure the financial stability of IEEE-USA.

Rebuttal -- I commit to you that I will work hard for you, my customers, to ensure that you get the full benefit of your IEEE membership. My past experience as a member of the IEEE Board of Directors will be an asset to you as we work together to provide you the full benefits of membership.

Please give me your vote and your support. I look forward to the opportunity to continue to serve the United States members of the IEEE.

John W. Steadman

For IEEE-USA President-Elect, 2003



Position Statement

IEEE-USA is an important and effective organization that deserves our support and involvement. I have demonstrated the leadership, organizational skills, energy and dedication required to serve you as IEEE-USA President-Elect and request your support.

If elected, I will work hard to make the IEEE-USA even more effective in serving you, our members. I will seek your opinions on projects that deserve our attention, then take action to accomplish those highest priority projects to the best of my ability. I expect those high priority activities to include better services, such as improved continuing professional development at section and chapter levels, and legislative activities, such as advocating for protection of retirement savings plans and improved employment security. These are areas where IEEE-USA can make a difference for our members.

The IEEE-USA President is also a member of the IEEE Board of Directors. In that capacity, I will work toward fiscal responsibility and a more effective IEEE that is responsive to the organizational units that make up the IEEE. I believe that the IEEE can be more attentive to its customers, the membership of IEEE, by listening to the organizational units who are, after all, closer to the individual dues-paying members.

Rebuttal -- Clearly, the issues listed by Mr. Lillie are important to IEEE-USA and I have already provided some of my ideas for priorities in most of these areas in my statement. I did not explicitly refer to the GOLD program, but agree that it is crucial to the future of IEEE and I will continue to emphasize GOLD member involvement. I voted to add a GOLD representative to the IEEE-USA Board and have involved GOLD members in my Career Activities committees. I would appreciate your support!

Merrill W. Buckley, Jr.

For IEEE-USA Member-at-Large, 2003-2004

<http://www.ieee.org/organizations/corporate/ieeesusamal.html>



Position Statement

A Member-at-Large of IEEE-USA should have a good understanding of the professional and career needs of U.S. engineers and a strong commitment to their objectives.

To this position, I would bring:

- Twenty-two years of service to the IEEE in a diversity of volunteer positions from Chapter Chair to President of the Institute.
- Considerable experience in interfacing with government agencies and testifying before legislative bodies.
- A work history as an engineer, manager and educator in both the private and public sectors.
- A strong sense of how the engineering profession should relate to industry, government and the media.

I believe IEEE-USA should:

- Expand its key lobbying for policies that support stable, rewarding lifelong engineering careers.
- Fight to reduce the H1-B Guest Worker Visa Program.
- Increase IEEE-USA's profile in national technical policy making.
- Assure that IEEE-USA publications are "world class."
- Expand the financial advantage program.

If elected, this is my agenda.

Rebuttal - I believe IEEE-USA has the opportunity and responsibility to increase its influence on national policy where electrotechnology is involved.

George R. Dean

For IEEE-USA Member-at-Large, 2003-2004

<http://www.ieee.org/organizations/corporate/ieeeusamal.html>



Position Statement

It is an honor to be nominated for the position of IEEE-USA Member-at-Large, 2003-2004. If elected, I will do my best to represent the members' point of view on the IEEE-USA Board of Directors. An IEEE-USA Member-at-Large should carry the message of all the U.S. members to the IEEE-USA Board of Directors. In turn, I think IEEE-USA information should be carried back to the members. I would like to do this through meeting with members at region meetings, region conferences and technical conferences. This two-way communication is very important if members' wishes are going to be heard. I would appreciate your vote.

Gary E. Johnson

For IEEE-USA Member-at-Large, 2003-2004

<http://www.ieee.org/organizations/corporate/ieeusamal.html>



Position Statement

I welcome the challenge to serve on the IEEE-USA Board of Directors in the interest of our fellow members. As Member-at-Large, I'll continue to work with our membership to further their careers through continued refinement of our products and services.

My primary goal will be to work with our members, volunteers and staff to increase communications among everyone and further our profession. If elected, I will continue to bring IEEE-USA member concerns before the IEEE-USA Board of Directors and actively lobby for the continued benefit of our membership.

I bring leadership experience and fiscal responsibility from both IEEE and business environments that will be invaluable in working to keep costs under control. My opponents are great guys and would continue doing a great job, but I believe it is time to add fresh talent and ideas to the IEEE-USA Board. If you agree, please make your statement by voting for Gary Johnson, IEEE-USA Member-at-Large, 2003-2004.

C. Lee Stogner

For IEEE-USA Member-at-Large, 2003-2004

<http://www.ieee.org/organizations/corporate/ieeeusamal.html>



Position Statement

I am honored to be nominated for the position of IEEE-USA Member-at-Large, 2003-2004. Over the years, this position has become the Member's Advocate to help the IEEE-USA Board of Directors understand the everyday needs of the USA based Member.

Given the current economic and political situation in the world, this function has never been more important. My promise is to bring over 25 years of experience to identify and represent these needs to both the IEEE-USA BoD and the IEEE-USA staff.

Upcoming IEEE-USA budgets will be tight. In spite of these fiscal limitations, we can still support a number of vital member services if we establish the right priorities. My promise is to listen closely to the needs of the membership and make sure that the leadership of IEEE-USA respects your directives.

Thank you for your support and I look forward to serving the IEEE-USA as Member-at-Large in 2003-2004.

Daniel R. Benigni

for Standards Association President-Elect, 2003

<http://www.ieee.org/organizations/corporate/sape2003.html>



Position Statement

I believe strongly that SA's strength is the diversity of its growing industry and individual membership, and the diversity of its standards for use around the world. As President, I will guide SA in meeting all members' needs, ensuring fiscal responsibility, and building on SA's potential as an ever more prominent SDO in the global marketplace.

Specifically, SA must carve out new areas for standardization to remain viable over the long term, must meet industry's needs while generating the revenue necessary for continued existence and growth, and must improve its standing and relationships within the IEEE and with other international standards bodies. I will work diligently with volunteers and staff to accomplish these goals.

My background in leading or serving on five of IEEE's boards, including SA's Board of Governors, gives me a demonstrated ability to lead effectively, manage with a fresh perspective, and effectively argue SA's issues from an in-depth understanding of the IEEE under which SA must operate. As a NIST observer to the Standards Board, I have gained a complete knowledge of the Association's standards processing and current issues. My NIST work in standards development provides me an objective outlook that will have no conflict of interest.

James T. Carlo

for Standards Association President-Elect, 2003

<http://www.ieee.org/organizations/corporate/sape2003.html>



Position Statement

IEEE standards have achieved world-wide use and recognition by the public, industry and engineering professionals because of their high quality and usability. Our standards are based on five imperative principles: openness, due process, balance, consensus, and right of appeal. We need to continue to uphold these principles as the cornerstone of standards development.

Rapid changes in the industry, business methodologies, and engineering curriculum provide us with new standards development opportunities. First, better utilization of electronic technologies and electronic communication will continue to improve the speed and openness of our standards process through use of electronic development tools. Second, greater ease of the availability of standards to the public needs to be achieved, while still maintaining sound fiscal policy for the Standards Association by taking greater advantage of corporate support and evaluating new funding models different from the traditional "revenue from the sale of standards." Third, members of IEEE Societies/Chapters and engineering students need to be better informed about the IEEE Standards process so they can use this in their careers.

If I am elected IEEE-SA President-Elect, 2003, I will focus on the above three areas (electronic processing, greater ease of standards availability, and IEEE membership awareness) while still maintaining the "IEEE imperative standards principles."

Nader Mehravri - Profile 2

for Standards Association Member-at-Large, 2003-2004

<http://www.ieee.org/organizations/corporate/standardsmal.html>



Position Statement

Networking, telecommunications, and associated network-centric technologies have become one of the fundamental building blocks of many projects and solutions across a wide range of applications in commercial, state, federal, and military domains. Use of national and international standards has been instrumental in this successful proliferation of networking and telecommunications products.

IEEE standards are among some of the most important standards in use today in the areas of networking and telecommunications. As a Standards Association Board of Governors Member-at-Large, my key objective would be to enable the continued enhancement and adoption of IEEE standards worldwide.

Ruben D. Garzon - Profile 3
for Standards Association Member-at-Large, 2003-2004

<http://www.ieee.org/organizations/corporate/standardsmal.html>



Position Statement

As we witness the changes the electrical industry is going through, it is evident that global standardization is a necessity. To obtain the recognition of IEEE among other International Standards Organizations as an equal partner for the standards development, I will promote and support the idea of expanding the participation of members of all regions and the creation of regional standards development groups.

Tom Prevost - Profile 3

for Standards Association Member-at-Large, 2003-2004

<http://www.ieee.org/organizations/corporate/standardsmal.html>



Position Statement

IEEE-SA is an organization that is responsible for producing and maintaining global standards. The foundation of IEEE-SA is the network of volunteers who develop and maintain these standards. It is imperative that the IEEE-SA be made aware of the needs of this volunteer organization. I believe that in my present role of Standards Coordinator for one of the largest Power Engineering Society committees, as well as serving as Chair of the Standards Coordinating Committee of PES, that I understand the needs and goals of the standards volunteers. It is my strong desire, and indeed my reason for running for this office, to:

- Understand and communicate the global role of IEEE-SA standards.
- Simplify the standards development and maintenance process so that volunteer resources are utilized effectively.
- Recruit more volunteers to assist in standards development.
- Maintain the financial position of IEEE-SA.

Dennis Bodson - Profile 7

for Standards Association Member-at-Large, 2003-2004

<http://www.ieee.org/organizations/corporate/standardsmal.html>



Position Statement

As a continuing member of the IEEE Standards Association Board of Governors, my priority will be to set policy and procedures, which will enhance the efficiency of the standards development process. Major goals are as follows:

- Shorten the amount of time it takes to develop a standard, while maintaining the integrity of the consensus process, which is paramount to the acceptance of the standard by the users.
- Continue the growth of IEEE-SA in all membership categories. It is most important that our membership be representative of corporations, consortia, government as well as individuals.
- Promote IEEE Standards on a global basis.
- Recognition of the IEEE-SA as an International Standards Development Organization.
- Broad Based Global membership.

My broad experience with industry and Government, both nationally and internationally, provides the depth of experience needed by the Board of Governors in its oversight role for standards development under IEEE-SA.

F. Don Wright - Profile 7
for Standards Association Member-at-Large, 2003-2004

<http://www.ieee.org/organizations/corporate/standardsmal.html>



Position Statement

Like any vital organization, the IEEE Standards association has grown and evolved since its inception in 1996. The SA's reputation for developing high quality, consensus-based standards is among the best but we must guard that success with vigilance by continuing to make improvements to its process and to move the SA towards an even more vigorous market-driven focus. It is clear that the SA can remain vital only as long as it is developing the standards needed by industry in time for the industry.

Given this, my focus for 2003 and beyond would be to find creative ways to be more responsive to the needs of the individual and corporate members. The SA must move aggressively to take a risk and identify early the needs for a standards and then move quickly to meet that need.

Harold E. Epstein - Profile 8

for Standards Association Member-at-Large, 2003-2004

<http://www.ieee.org/organizations/corporate/standardsmal.html>



Position Statement

IEEE is an organization whose philosophy of openness and consensus approval of engineering standards makes it one of the leading producers of quality standards in the world. The engineering standards published by the IEEE Standards Association are the product of its volunteer members.

As a Member-at-Large of the IEEE Standards Association Board of Governors, I will remain committed to maintaining IEEE in its premier position as a developer of engineering standards of the highest quality. My objectives as a member of the Board of Governors will be to:

- Maintain and improve the policies and procedures of the IEEE Standards Association that support the Institute's culture of openness and the consensus approval process of IEEE standards.
- Improve the efficiency of the standards approval process without challenging the high quality of the standards produced.
- And, ensure these policies and procedures meet the needs of the standards developers and societies of IEEE.

Douglas R. Topping - Profile 8
for Standards Association Member-at-Large, 2003-2004

<http://www.ieee.org/organizations/corporate/standardsmal.html>



Position Statement

It is an honour to be nominated for the position of Standards Association Board of Governors Member-At-Large, Profile 8. I have served as a member of the IEEE Standards Association and have served as Chair of the IEEE Canada Standards Committee for the past 3 years.

If elected, I can bring to IEEE over 30 years of hands on experience in:

- Power plant design, operation and maintenance;
- Project development management, construction and commissioning;
- Electric utility executive management; and
- Regulatory board case presentations including deregulation.

If elected, I will work towards:

- Promotion of the value of IEEE Standards to practicing engineers;
- Promotion of the acceptance of IEEE Standards on a global basis; and
- Continued protection of the proprietary aspects of IEEE Standards.

IEEE Fiscal State of Affairs: V

Peter Staecker, Divison IV Director

June 2002

p.staecker@ieee.org

As we left 2001, IEEE finances suffered from the double whammy of an optimistic view of investments vs. the actual market slump. Even a heroic performance in operations could not offset the red ink from investment losses. Halfway through 2002, the operating lessons have been remembered and augmented, the investment lesions have not worsened, and the 02 forecast is tracking the budget expectations. As we review financial events since our last report, four headings of our previous discussions are still appropriate:

1. Selection and management of initiative programs within the Institute,
2. Periodic review of the Corporate Infrastructure activities
3. A closer look at (read "simplification of") the complicated set of business rules that are required to support the many offerings of the Societies and Councils,
4. A financial model that more properly allocates expenses among users.

1. Initiative Programs:

As one of the principles of the IEEE financial model (see 4. below), new and continuing initiatives will be capped by dividend and interest income. A process for initiative approval has been established. The New Initiative Committee of the Board of Directors has met to review initial submissions of ideas for possible funding in 2003. Of the 17 ideas submitted, the Committee has asked that 9 be developed into formal business plans for further consideration. These refined proposals are due to the Committee by 8 July. Following those submissions, the Committee will review the proposals and make a recommendation to the IEEE Executive Committee (ExCom) at its August meeting as to which initiatives should be funded. In turn, the ExCom will then send forth a recommendation to the IEEE Board of Directors for incorporation into the 2003 IEEE Operating Budget on which the Board will vote at its November meeting. If you have any questions about the process or status of any initiatives, please feel free to contact Matt Loeb in Piscataway at +1 732 562 5320 or via email at m.loeb@ieee.org

2. Infrastructure Charge Distribution within TAB:

Recall that past discussion in this column dealt with the distribution among TAB Societies and Councils of the *direct* infrastructure costs, so-called because of the relatively "direct" relationship of these costs to activities such as headcount, membership, and expenses. We developed *pay-by-the-drink* philosophy to deal with these within TAB, and called it the *Principles Method*. And finally, this method of distributing these direct infrastructure expenses will be phased in over a 3-year period. Some follow-up activities to this process have been identified, since our last discussion, including:

- a. Collecting accurate cost data for these expenses and benchmarking them to "competitive" costs for similar services.
- b. Preparing a collection of "best practices" that S/Cs can use when considering changes in their operations that may reduce their share of Infrastructure allocations.

In short, the process of identifying these costs, distributing them equitably among the operating units of the Institute, and within each operating unit (of which TAB is one) is complete. The next part of the process, benchmarking and lowering these costs, has now been defined and both of these activities encourage proper financial behavior and will work toward lowering these direct infrastructure costs.

Well what of the *indirect* infrastructure costs? For the 2002 budget, indirect costs are allocated based on three methodologies: ASPP revenue tax, Book Broker revenue tax, and Reserves. The first pass 2003 budget has those costs allocated based on expenses (less conference expenses). A TAB committee reported on its recommendations for assigning these costs at the June TAB meeting, but lack of consensus around the suggestions will require additional refinements and another try at the November meeting.

3. Membership Services-Related Business Rule Simplification

In November 2001, the BoD charged RAB and TAB with identifying business rule changes to realize a possible \$3M annual savings in infrastructure charges associated with membership services. RAB and TAB Business Rule Simplification teams have been working the details since February. TAB committee discussion has focussed on simplifying the options available for Society membership, and the subscription process for members regarding optional Society publications. The TAB Strategic Planning and Review Committee led a wider discussion on the value proposition of Society Membership and optional publications. TAB FinCom became involved on issues of pricing strategy. Two principles of membership and publication pricing were socialized at TAB:

1. Membership dues should recover the variable costs of servicing Members (Here and in the following, *variable* cost is the cost of servicing the *next* Member).
2. Prices for Society optional publications to Members should recover their variable costs.

The reception of these principles within the June TAB meeting was mixed, and broader consensus needs to be reached. The simplification exercise is to reduce the number of options to select Society membership and optional publications available from Societies. Reducing the distinction among members eligible for reduced rates will help. This category presently includes student, unemployed, low income, retired, permanent member, and life member grades. Can business rule simplification take place while maintaining member benefits? Stay tuned; better yet, participate.

RAB is addressing other details of Membership Business Rules simplification. Already, rule simplifications have been put into place that will realize annual savings of about \$300K, starting in 2003.

4. Financial Model and the Budget Update

IEEE Budget principles adopted at the November Board of Directors' Meeting for the 2002 Budget are serving as a template for the 2003 Budget development. The first order principles, approved at the June BoD meeting, include:

- The operating budget will be balanced (bottom line equal to or greater than zero). Individual Operating Units (OUs), which includes TAB, will also have balanced operating budgets, including any applied infrastructure charges.
- Investment income is NOT part of the operating budget. Dividends & Interest (D&I) will be budgeted, but used specifically to fund new and continuing initiatives. Any excess D&I income will be used to reduce infrastructure charges.
- Other investment income surplus/loss will be distributed proportionally to those OUs with reserves.

In addition, a process and timeline have been identified for developing the budget. With principles and process now well defined, 2003 budget development has begun, but is a bit behind schedule because of the lingering approval period for the 2002 budget.

The April 2002 Institute forecast is on target to break-even. TAB and Standards are feeling the strain of their challenge budgets, but increases in revenue and savings in infrastructure make up their shortfalls.

Discussion

Direct infrastructure costs have been identified, and a method for distribution has been approved. The stage is now set for comparing these costs to others, determining best practices, and driving costs down in this area. Distribution methods for *indirect* infrastructure expenses are being addressed. Business Rules Simplification efforts have begun within the area of Membership Services. The financial model is defined, understood, and is being applied to the 2003 budget process. Additional substantial cuts to infrastructure are planned for 2003 to further streamline operations. Finally, in its June meeting, the BOD has approved an external review of the IEEE Corporate infrastructure expenses with the goal of determining their value and their costs. The RFP for this has been completed and the expectations are to have the engagement completed by November. In summary, methods for improving the financial health of the Institute are proceeding along both tactical and strategic fronts. If this keeps up, I will have to talk about one of my other interests, Publications activities, next time! As always, your comments and suggestions are welcome.

Chapters Corner

by

Dr. Richard H. Dee,

Magnetics Society Chapters Chair

***** NOTICE TO MAGNETICS SOCIETY CHAPTER CHAIRS *****

CHAPTER CHAIRS (or for that matter members at large!) please respond to the following so we can update our members on what's happening in Chapterland!

If you are the local chapter chairman and would like to share what's happening in your chapter and local area (e.g. talks, people activity, magnetics news, company or university news etc.), please forward a paragraph (or two), a picture, a reference to a interesting article or something inventive or newsworthy (in your opinion) to me at r.dee@ieee.org so we can include in the next MagSoc Newsletter.

Could you please update you contact information for me. I've noticed several emails bounce back implying that you've moved (at least email addresses). Let me know at r.dee@ieee.org so we can still communicate.

For information on local chapters check the website www.ieemagnetics.org.



MAGNEWS

Exciting new achievements?

Share with us the news!

This is the place to inform the magnetics community about a new discovery, great achievement, theoretical or experimental breakthrough in magnetism, worth to share.

Submit a max. 100 word long information about your new results, what might be worthy of note – pictures welcome!

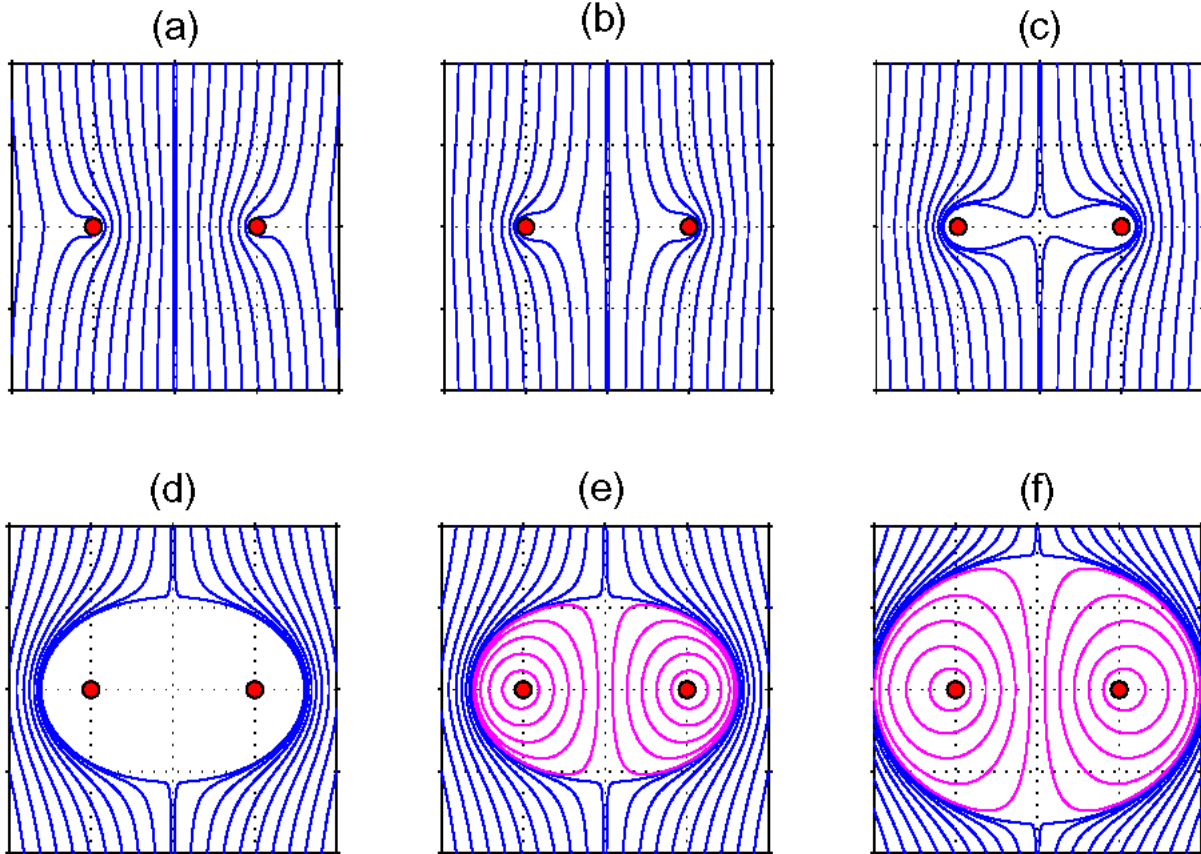
to the Editor: <mailto:pardavi@ieee.org>

Sorry, this is NOT the place for product description, or advertisement.



VISUAL MAGNETICS

WHAT IS THIS?



SOLUTION?

GO TO THE END



Conference reports

INTERMAG

April 28-May 2, 2002 Amsterdam, The Netherlands

Awards Ceremony

IEEE Magnetics Society Achievement Award

Recipient:

Professor Shun-ichi Iwasaki

General Chairman, PMRC2000

President, Tohoku Institute of Technology

Born Aug.3, 1926

**BS and PhD, Electrical and Communication Engineering,
Tohoku University, Sendai, Japan**

Full Professor at Tohoku University (1964)

Director of the Research Institute of Electrical Communication (1986)

President of the Tohoku Institute of Technology (1989 to present)

Member of the Science Council of Japan (1991-2000)

He has engaged in research on magnetic recording and the material sciences.

Highlights from his activities over more than 40 years include:

Invention of Fe-Co metal particulate recording media (1958)

Establishment of a self-consistent magnetic recording theory (1968)

Invention of perpendicular recording using Co-Cr alloy film (1976)

He is still conducting research on perpendicular recording, and is Chairman of the Magnetic Recording Committee of the Japan Society for the Promotion of Science.

He was General Chairman of Intermag Conference in Tokyo (1987)

Awards

Life Fellow, IEEE

Cledo Brunetti Award of the IEEE

Technical Achievement Award of Computer Society of IEEE

Prize Medal of the Japan Academy

Person of Cultural Merit of Japan

Honorable Member of five technological societies of Japan

In January 1994, he made a " New Year's Lecture " which is an annual ceremony of the Imperial Court, as one of three eminent scholars in Japan.

Recognition of the new IEEE Fellows:

IEEE Fellows

Masaaki Futamoto

Hitachi, Ltd.

For contributions to perpendicular magnetic recording.

Allen W. Glisson

University of Mississippi

For contributions to the development of numerical solution methods in electromagnetic scattering by complex surfaces.

Jack H. Judy

University of Minnesota

For contributions to magnetic thin film media for longitudinal and perpendicular magnetic recording.

James U. Lemke

Recording Physics Inc.

For contributions to magnetic recording for computer data storage.

Eric Michielssen

University of Illinois, Urbana-Champaign

For contributions to the advancement of computational electromagnetics.

Tetsuya Osaka

Waseda University

For contributions in the field of high-density magnetic recording.

Recognition of the Student Travel Awardees:

Nuria Nunez Alvarez

Philippe Baudouin

Magali Brunet

Jin-Ching Bu

Lorenzo Castaldi

Dmitry Chumakov

Mrugech Desai

Jason Goldberg

Kyoung Suk Kim

Takashi Kuribara

Clayton Miller

Alexey Nazarov

Hendrik Ohldag

Masahiko Sendoh

Sandacci Serghei

Shingo Tamaru

IEEE Magnetics Society Information Storage Award

1987 Sidney M. Rubens

1988 Jay W. Forrester

1989 Reynold B. Johnson

1990 Marvin Camras

1991 Charles H. Coleman

1992 Claude Shannon

IEEE Reynold B. Johnson Information Storage Award

1993 John M. Harker

1994 C. Denis Mee

1995 James U. Lemke

1996 Nobutaka Imamura

1997 Alan F. Shugart

1998 JeanPierre Lazzari

1999 David A. Patterson, Randy H. Katz, Garth A. Gibson

2000 Mark H. Kryder

2001 Tu Chen

2002 Christopher Bajorek

The IEEE Information Storage Award will be presented to C.H. Bajorek at TMRC in August.

Achievement Award

The Magnetics Society of the IEEE honors one of its outstanding members each year for his or her lifelong professional achievement. This is the highest award of the Magnetics Society and is given for scientific, technical, and service contributions to the society.

**1981
Fred E. Luborsky**

**1982
Herbert F. Storm**

**1983
Harold W. Lord**

**1985
Joseph J. Suozzi**

**1986
Fritz J. Friedlaender**

**1987
Andrew H. Bobeck**

**1988
Floyd B. Humphrey**

**1989
Paul P. Biringer**

**1990
Daniel Gordon**

**1991
Emerson W. Pugh**

1992

Yoshifumi Sakurai

1993

William Doyle

1994

Richard C. Barker

1995

Mark Kryder

1996

Koosuke Harada

1997

Gordon Slemon

1999

Stanley Charap

1999

David A. Thompson

2000

C. Denis Mee

2001

Fred B. Hagedorn

2002

Shun-Ichi Iwasaki

Conference reports

CEFC'Perugia 2002

Perugia, Italy

June, 2002

The tenth edition of the Biennial *IEEE Conference on Electromagnetic Field Computation* was held in Perugia, Italy.

The technical programme of CEFC'Perugia featured one panel session, 14 oral sessions, 12 poster sessions, and an exhibits area. More than 360 attendees, coming from 33 countries, participated to the Conference.

A special attention has been made by the Organizing Committee in order to help graduate and Phd students to participate to CEFC'Perugia, by means of reduced registration fees, reduced hotel rates, and support to the travel expenses. In addition the IEEE Magnetic Society sponsored 5 students working in magnetics to partially offset travel costs to attend the conference. Totally, more than 70 people have been supported, and they have further increased the exchange of ideas, and the technical and scientific activities during the Conference.

The CEFC'Perugia opening session was held in the City Hall of Perugia (Sala dei Notari). During the Open Ceremony, after the address welcome of academic and political authorities, an introductory overview of the Conference and an Open Ceremony



Lecture was given. At the end of the Open Ceremony a short guided visit of the historical centre of Perugia, the “green heart of Italy”, and a welcome cocktail have been offered to the participants.

During the successive three days of technical sessions and exhibits, the continue, broad and dynamic participation of the attendees, and the high quality of the paper presented, have made this CEFC’Perugia a successful Conference.

The attractions of Perugia, the guided tour to Assisi, and the Conference dinner served in the particular atmosphere of the “La Posta dei Donini”, made the rest.

An honour mention for three selected papers presented in the poster session, and, in addition, a prize for the best one have been given, during the best poster paper award ceremony at the end of the Conference.

Special thanks must be addressed to the Consultravel Group, for his outstanding professionalism, and, again, to all participants, that have contributed to make CEFC’Perugia a real success.

Ermanno Cardelli

General Chairman of CEFC’Perugia

Conference announcement 1

BIOMAG 2002 **13TH INTERNATIONAL CONFERENCE ON BIOMAGNETISM** Jena, Germany, August 10 - 14, 2002.

Biomagnetism is an interdisciplinary field of research with scientists working in biological, physiological, medical, physical, technical and other associated disciplines. Biomagnetic research ranges from basic research to clinical applications. The common denominator of all of these research activities is the analysis of the magnetic field produced by the human body. Because of the totally non-invasive character of the biomagnetic techniques, we believe that the prospective socio-economic impact of this new medical technology is extremely high. We are convinced that the BIOMAG 2002 will substantially contribute to exchange of new ideas and new views in this field.

The conference will take place in Jena, a historical city with a University founded in 1558, a brewery tradition since 1328, and a wine making tradition that has lasted more than 2000 years. At the same time, Jena is a very young and lively city with 20,000 students and the second highest density of young (dot.com) start-ups on the stock market in Germany. We feel that this mixture will provide a very stimulating surrounding for the BIOMAG 2002 conference.

<http://biomag2002.uni-jena.de/>

Jens Haueisen and Hannes Nowak

Conference announcement 2

IEEE-NANO 2002 Second IEEE Conference on Nanotechnology

**Aug. 26-28, 2002,
(Days of Tutorials, August 25)
Washington DC, USA**

Sponsored by

IEEE Nanotechnology Council

In cooperation with

IEEE Robotics and Automation Society (RAS)

IEEE Electron Devices Society (EDS)

IEEE Industrial Electronics Society (IES)

IEEE Circuits and Systems Society (CAS)

Conference organization:

General Chair: Dr. Clifford Lau, ONR, lauc@onr.navy.mil

Program Chair: P.L.E. Uslenghi, Univ. of Illinois at Chicago, uslenghi@uic.edu

http://www.mein.nagoya-u.ac.jp/IEEE-NANO/IEEE_NANO_2002.html



Conference announcement 3

INTERNATIONAL CONFERENCE ON MAGNETIC RECORDING MEDIA TMRC 2002

The Thirteenth Magnetic Recording Conference (TMRC 2002)
will be held
August 26-28, 2002, at Santa Clara University, Santa Clara, CA, USA

TMRC 2002 will be on MAGNETIC RECORDING MEDIA. The Conference will focus on both Magnetic Recording Media as well as Tribology. About thirty invited papers of the highest quality will be presented orally and subsequently considered for publication in the IEEE Transactions on Magnetics. The topics to be presented include:

- Antiferromagnetic Coupled Media
- Perpendicular Recording Media
- Magnetic Media Thermal Stability
- Thermally Assisted Writing
- Magnetics and Microstructure
- Test and Characterization
- Head / Media Interface
- Tribology

The full program booklet of TMRC 2002 will be distributed to members of the IEEE Magnetic Society in June 2002 and posted on the web site below where current information on TMRC 2002 can be now found.

<http://www.iist.scu.edu>

Al Hoagland

Director, Institute for Information Storage Technology (IIST)
& Director, Magnetic Disk Heritage Center (MDHC)
Santa Clara University

Conference announcement 4

The 47th MMM Conference

Tampa, Florida

November 11 – 15, 2002

<http://www.aip.org/mmm/>

UPDATE on MMM'02

On July 21 & 22, the program committee of the *47th Conference on Magnetism and Magnetic Materials (MMM'02)* convened at AIP Headquarters.

The conference, which will be held November 11-15, 2002 in Tampa, Florida, attracted over 1800 contributed abstract submissions from institutions and companies worldwide. The final program will include 60 oral technical sessions and twice-daily poster sessions covering all aspects of fundamental and applied magnetism, magnetic materials and magnetism-related technology.

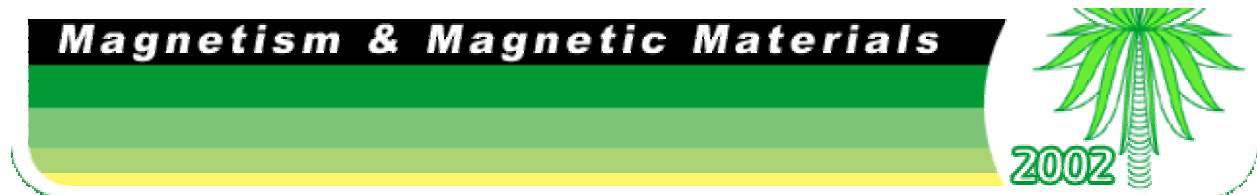
Six **invited symposia** are also planned, including "*Biological applications of magnetic nanostructures*", "*CPP-GMR in magnetic recording*" and "*Building bridges: Magnetic modeling and different length and time scales*". In addition, a **tutorial** session on "*How to get started in magnetic nanostructures*" will be presented.

Further details on the conference and the technical program can be obtained at www.magnetism.org.

Dr. Jeffrey R. Childress

Program Chair

childress@us.ibm.com



Conference announcement 5



4th International Symposium on Hysteresis and Micromagnetics Modeling

May 28-30, 2003

University of Salamanca, Spain

First Announcement

HMM 2003 is intended to be a forum for presentation and discussion of the most recent advancements in the fields of hysteresis modeling and computational micromagnetics. It has a strong interdisciplinary vocation. The aim is to bring together scientists with a wide range of backgrounds to exchange ideas, methods and results. The scientific program of the symposium will consist of a few long talks by invited speakers, a larger number of contributed talks and posters, organized in different thematic sessions. The topics covered include the following:

- General hysteresis and coupled problems.
- Preisach modeling, vector hysteresis modeling.
- Magnetic hysteresis: experiments and measurements.
- Barkhausen noise, disorder.
- Nonmagnetic hysteresis.
- Classical spin models: random-field models, domain wall models, etc.
- Dynamic hysteresis: Thermal relaxation, aftereffects.
- Micromagnetics: theory.
- Micromagnetics: numerical techniques, field calculations, standard problems.
- Micromagnetics: applications.

Salamanca is a lively and charming city in the mid-west of Spain. Known as "*The Golden Town*" for its famous sandstone buildings, it was declared "City of Mankind's Heritage" by UNESCO and it is the European Capital of Culture during 2002. The University of Salamanca, where the symposium will be held, is one of the three eldest in the world, dating back to the thirteenth century.

The first call for digests, as well as details about registration and accommodation, will be sent out by e-mail and posted on the web site in October.



Universidad de Salamanca

More information:

Web page: <http://mumag.usal.es/hmm2003.htm>

E-mail: hmm2003@usal.es



IEEE

Conference announcement 6

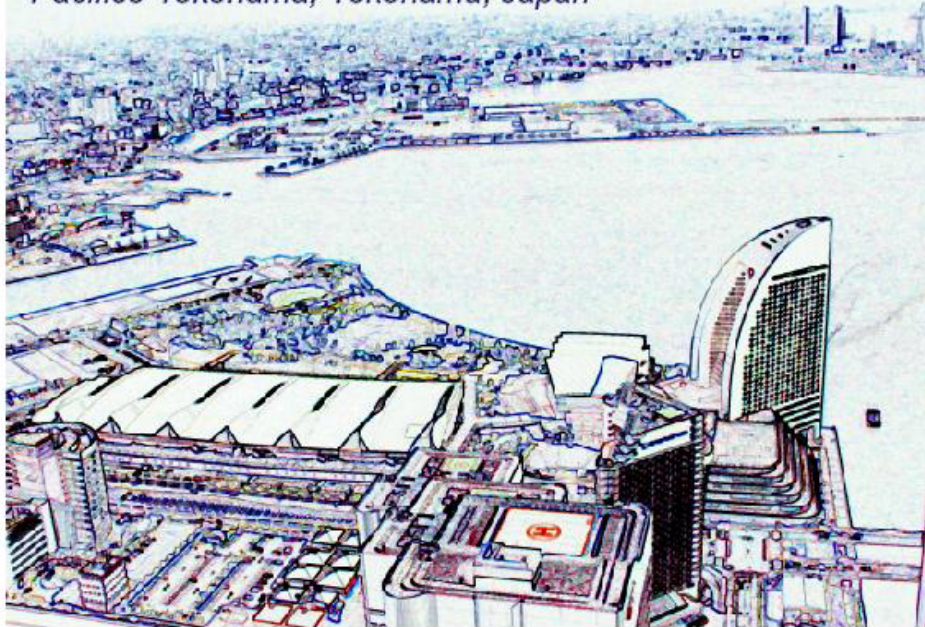
MIPE 2003

Call for Papers

2003 JSME-IIP/ASME-ISPS Joint Conference on
Micromechatronics for Information and
Precision Equipment

IIP/ISPS Joint MIPE

June 16-18 (Mon-Wed), 2003
Pacifico Yokohama, Yokohama, Japan



Sponsored by
Information, Intelligence and Precision Equipment (IIP) Division of JSME
Information Storage and Processing Systems (ISPS) Division of ASME

Participating Societies (Planned)

Japanese Society of Tribologists, The Japan Society for Precision Engineering, The Surface Science Society of Japan, The Horological Institute of Japan, The Magnetic Society of Japan, Japanese Society for Medical and Biological Engineering, The Institute of Electronics, Information and Communication Engineers, Sensors and Micromachines Society of the Institute of Electrical Engineers of Japan, Industry Applications Society of the Institute of Electrical Engineers of Japan, International Disk Drive Equipment Materials Association Japan, The Japan Society of Applied Physics, The Japan Fluid Power System Society, The Japan Society of Applied Electromagnetics and Mechanics, The Robotics Society of Japan, The Society of Instrument and Control Engineers, The Institute of the Systems, Control and Information Engineers, Storage Research Consortium, Magnetic Society of IEEE, The Society of Tribologists and Lubrication Engineers, The Institution of Mechanical Engineers, The Korean Society of Mechanical Engineers

<http://www.jsme.or.jp/iip/english.htm>

VISUAL MAGNETICS – SOLUTION

METAMATERIAL

Figure 1. Sphere of permeability μ in static magnetic field

Figs.1 (a-c) are well known examples of magnetic field distributions (field inside $\mathbf{B}_{in}=\mathbf{B}_0 \frac{3\mu}{(\mu+2)}$) when a sphere of permeability μ is inserted into a static homogeneous magnetic field, (a) ferromagnetic, (b) diamagnetic, (c) an ideal diamagnet. If we assume now that negative permeability is also possible then we obtain Figs.1d-f showing "super-diamagnetism" where the sphere of exclusion is larger than the sphere inserted. The corresponding internal magnetic field, acting as a kind of air-bag, may also be seen in Figs.1e and f.

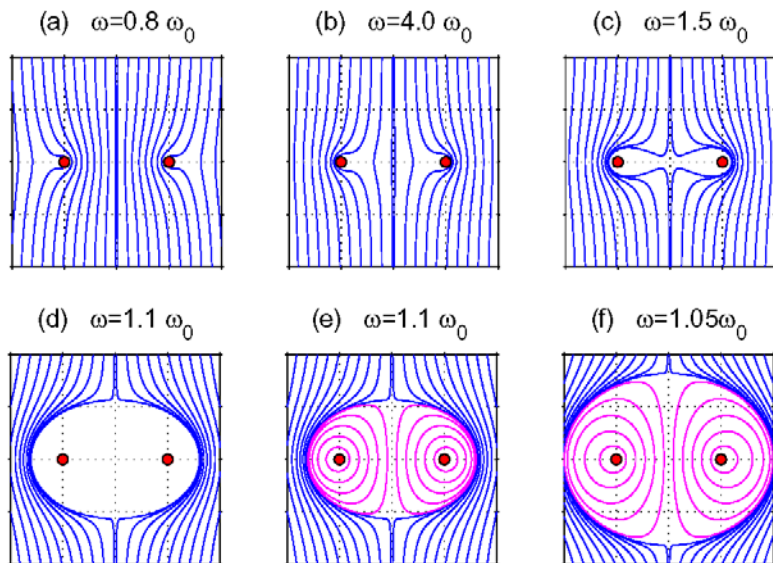
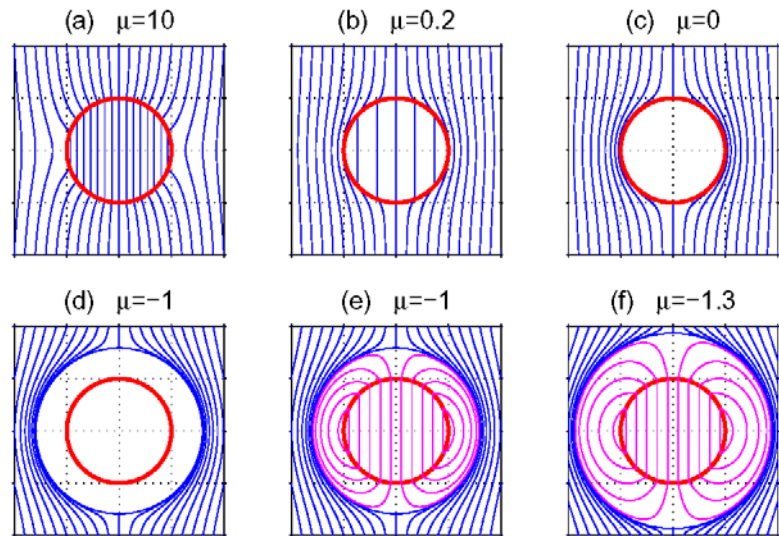


Figure 2. Meta-material in time-varying magnetic field

A capacitively loaded metallic loop of resonant frequency $\omega=\omega_0$ (cross section shown in red) is one of the possible elements of a meta-material. It can, in itself, have a wide variety of responses depending on the frequency of the applied magnetic field. It may show (a) ferromagnetic, (b) diamagnetic, (c) highly diamagnetic and (d-f) super-diamagnetic behaviour. The internal fields (shown in Figs.2e and f) are built up during transients.

This is the way how *Shamonina* et al. [1] gave a physical explanation of the permeability in a meta-material

including the case when it is negative.

[1] E.Shamonina, L.Solymar, V.A.Kalinin, M.Lapine, K.H.Ringhofer, "Flux distributions in a non-resonant magnetic metamaterial", presented at PIERS 2002, Cambridge (MA) on 1-5 July, 2002.

Questions?

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e-mail: ekaterina.shamonina@eng.ox.ac.uk