

RockIEEE Overlook



Volume 1, Number 3 November 1995

Sitting in the Chair

by Bob Struthers

The companies and institutions which we are employed by, manage, or own are concerned with bringing their operations to maximum efficiency. These institutions state and examine their goals, evaluate how well the goals are met and revise their organization as needed to best accomplish the goals. The IEEE is presently considering reorganization in order to improve its efficiency in service and responsiveness to membership. I suspect that the IEEE Strategic Planning (SPC) and Organizational Improvement (OIC) Committees are finding this task more difficult than management of an industrial or commercial opera-

tion would have in a similar endeavor. Two difficulties I see are that (a) development, evaluation and planning for implementation of goals is dependent on volunteers whose financial and time resources are very limited, and (b) decisions must be based on a greater base of consensus than required for a commercial organization. In spite of these challenges, the committees have listed perceived problems of the existing structure and proposed several new organizational models.

The June issue of The Institute presented the three models considered to be "finalists" in the process. The "consensus" process is now in

progress and interested parties are beginning to respond to the models. It appears to me that members of the U.S. Activities Board are particularly concerned with the effect each of these models will have on services associated with professional activities, which are presently under USAB's jurisdiction in the U.S.A. Merrill Buckley, 1992 IEEE President, (a member of USAB) recently published his opinion that the present organization should not be changed. An excerpt (with apologies for not including his excellent summary of the existing IEEE organization) from his remarks is reprinted below.

continued on page 3

The IEEE -- How Should It Be Organized?

an excerpt from remarks by Merrill Buckley, 1992 IEEE President in the Oct. 1995 Philadelphia Section Almanack

I believe the strengths of the existing organization are:

1. Its decentralized structure keeps management at the lowest practical level. Volunteers are encouraged to assume responsibility and get involved.

2. Sections, Regions, Societies and the existing functional boards and committees are free to seek improvements and are encouraged toward excellence without unneces-

sary interference.

3. Election to the Board of Directors (BOD) requires a demonstration of leadership, accomplishment and participation in our volunteer led organization.

4. Members elected to the BOD provide a good balance of different interests and geography. It has been stated that the BOD is too large. Using some other method of election could very easily reduce the number but it could also give us a Board out of touch with the members. Cost is not a significant factor since the BOD members are volunteers. My experience is that the BOD is not too large and provides a balanced forum.

5. The number of hierarchical levels in the present organization is about as small as practical. This has proven to be a key factor in productivity and efficiency.

6. The present organizational relationship between the members, the volunteers and the staff works very well.

In summary, it should be obvious that I have not been persuaded that any of the recently proposed organizational models will improve the IEEE organization and could very easily give us a lot of trouble. Some minor adjustments such as electing the V.P. of IEEE/USA by U.S. members may be wise, but let's stop there.

RockIEEE Overlook
Official Publication of the
IEEE Denver Section

1834 Fillmore Ct., Louisville, CO 80027-1122
Published Jan. - May, Sept. - Nov.

Meetings

Joint Vehicular Technology & Communications

Thursday, November 16, 1995
7:00 p.m.
National Digital Television Center
Englewood, Colorado
(corner Colorado Blvd. & Dry Creek)

Speaker

Peter Douglas

Where are the satellite uplinks for PRIMESTAR? How is TCI networked to the satellite? Find out with Peter Douglas and see some cool stuff at the facility.

For more information contact David Iliff (303) 757-1797 or Mark Schriver (303) 698-9668.

Components, Packaging and Manufacturing Technology

Thursday, November 16, 1995
6:00 - 7:30 p.m.
Maxtor Corporation
2040 Miller Dr., Longmont, Colorado

Speaker

Mr. Nik Nikmanesh, AT&T
"Design Issues in Fall Grid Arrays"

Contact Mike Erni for directions at (303) 678-2437.

Lasers and Electro-Optics

November 16, 1995
NIST

325 Broadway, Boulder.

Call Kevin Keilbach at 673-1349 or e-mail at kevink@ohmeda.com for more information.

Joint Power Engineering & Industry Application

Thursday, November 16, 1995
Social 5:30-6:30 Dinner 6:30
Brooklyn's Sports Bar
2644 W. Colfax Ave. (1 block south of McNichols Arena and Mile High)
Dinner Fee: \$12.00 (Students free)

Speaker

Please call Jim Houlihan at (303) 297-3280 for details.

Please RSVP by November 13 to Barbara at Peterson Company (303) 388-6322 for dinner reservations.

AP-S/MTT-S/GRS-S

Thursday, November 16, 1995
4:00 p.m.
NIST, Room 4020
325 Broadway, Boulder, Colorado

Speaker

Dr. Michael Jones, CIRES
University of Colorado
"The Projection-Slice Theorem and a Common Fallacy about Tomographic Inversion"

Reliability

Thursday, November 16, 1995
5:300 p.m.
Storage Technology Corporation
Health & Welfare Building

Speaker

Dr. Sam Keene
"Total System Reliability and Field Failures"

Dr. Keene will present a short paper and a round table discussion will follow.

A light meal and drinks will be provided, and a small fee (\$2.00 limit) may be charged. All IEEE members (regular and students) and affiliates are invited.

Please RSVP to Sam Keene at 673-5963, so the right amount of food and beverages will be available.

Magnetics Society

The Magnetics Society will meet in November. Please call Dr. Jim Cates at (303) 673-4126 for information.

Engineering in Medicine and Biology

Wednesday, December 6, 1996
6:30 p.m.

Shivers Conf. Room #823, 8th Floor
Biomedical Research Building
Univ. of CO Health Sciences Center
4200 E. Ninth Ave., Denver, CO

Speaker

Dr. Richard A. Schmidt
University of Colorado
"Electrical Nerve Stimulation in the Paraplegic"

Barbara Walters recent 20/20 interview with spinal cord injured Superman actor Christopher Reeves brought the topic of bladder and bowel problems accompanying this kind of injury into the public focus again. Dr. Schmidt will present a new type of technology concerning the possibility of regaining bladder and bowel control in this group of patients.

Please RSVP (303) 270-8972.
Parking available at Colorado and 11th Ave. in the parking structure.

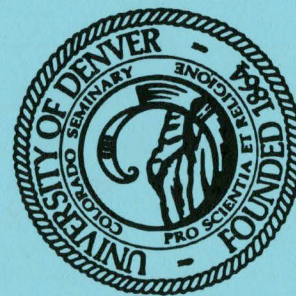
Biomedical engineering often requires engineers and physicians to work closely together to obtain their goal. Because of this close relationship we will try in the future to present both the engineer's and the physician's view at our meetings.

Future topics of the chapter will cover, Lasers in Medicine, Biomedical Data Acquisition in Space and a joint meeting with the Reliability Chapter about Cardiac Pacing and Medical Devices Reliability.

If you are interested in attending or presenting at our meetings in bio-engineering, please fax, phone or e-mail us so we can notify you directly for upcoming events of this chapter. We'd like to hear from you!

ANNOUNCEMENT OF A NEW JOINT DEGREE PROGRAM

The Daniels College of Business & The Department of Engineering University of Denver



Master of Science in Management and Engineering

This program is designed for the professional engineer who is in mid-career (5 to 12 years post BS). Many engineers in this position are often promoted to leadership positions within their businesses. In these roles, they are called upon to exercise managerial skills, often lacking in members of technical professions. At the same time, many of these professionals are facing the need to become updated in their chosen professional fields. With technology constantly undergoing rapid change, skills required in undergraduate education are at or beyond their half-lives. The engineering professional is forced to choose one or two career paths - the management path or the senior technical professional path. Those who choose the former usually opt to seek an MBA and generally abandon keeping current in their technical field. Those that choose the latter seek an MS in their engineering discipline and greatly reduce their opportunities for increased management responsibility and promotion. Since most of these professionals returning to school for one of the other degrees do so at great time expense - often three or more years, they are very reluctant to pursue both degrees, yet many, if given a reasonable option, would prefer to obtain both. This new joint degree does just that. It provides sufficient depth in management to provide necessary and critical skills for successful middle management and it provides sufficient depth in engineering to update a worn undergraduate degree. It achieves this in sixty-six quarter hours, about the time it would take to achieve a traditional MBA and only 21 quarter hours longer than a traditional MSEE or MSME.

The engineering portion of the non-thesis degree offers a viable alternative to a more traditional engineering MS because it requires sufficient depth via the engineering core for the candidate to renew his/her own area of focus and it provides for reasonable breadth via the technical electives. These electives permit a candidate to take courses from other adjacent areas within the same engineering discipline, from cross-disciplines like computer science, physics, chemistry, biology, materials science, and from other engineering disciplines. It also provides multidisciplinary depth via the management portion of the degree. It achieves integration, in lieu of a comprehensive examination, by requiring an advanced engineering project. The management portion of the degree consists of an integrative introductory professional issues seminar, the core of the Daniel's College of Business Masters in Business Administration program, an Ethics and Public Policy course, and flexible business electives.

Serving Colorado and The World

— Since 1885 —

- Power
- Mining & Metals
- Petroleum & Petrochemicals
- Electronics
- Aerospace & Defense
- Biotechnology
- Pharmaceuticals
- Hazardous Waste Management
- Food & Consumer Products
- Airports/Infrastructure
- Environmental

Raytheon
Engineers & Constructors

P.O. Box 5888
Denver, CO 80217
(303) 8432422

"Invest in the Future"

The Denver Section of IEEE has resources for "Careers in Engineering" programs for high school students. Handouts, video-tapes, and program outlines are available for use in the schools in your area. Let's "Invest in the Future" of our high school students by letting them know how to prepare for these exciting career opportunities. Contact Jeff Wilson, Pre-College Activities Chairman, at Peterson Company (303) 388-6322.

Industry Partnership Program (IPP)

PISCATAWAY, N.J., September 25 -- The IEEE is seeking members to help support an innovative new program at their place of work. Called the Industry Partnership Program (IPP), it was created to strengthen relationships between the Institute and organizations that employ engineers.

IPP promotes the benefits of IEEE membership within industry and recruits members directly from their work place through a special on-site event. It features an informational display of IEEE products and publications provided by Institute staff, and might also include other activities, such as a special lecture about the benefits of being an IEEE member.

Members who are interested in helping to develop an on-site IPP event at their companies will be asked to do the following:

- * Obtain the appropriate approval from company management for the IEEE event.
- * Work with the IEEE staff to coordinate dates, locations and promotion for the event.
- * Spend time at the IEEE display to discuss the benefits of IEEE membership with colleagues and assist in recruiting new members.

More information about this program is available from Kathy Kowalenko, IEEE Corporate Communications, (908) 562-6825.

From the Chair (continued from page 1)

A concern that I have in regard to the health of the IEEE is employer support of professional activities. In the past, many employers were willing to support activities such as attendance and travel for conferences, committee or working group meetings, and professional society dues. Pressures to reduce overhead have reduced support for these activities, increasing the share that the individual member is now paying to maintain his professional activities. Dues are now paying for travel and expenses of many volunteer members of administrative and technical boards, much of which was previously supported by employers. We all need to remind our employers of the benefits of professional society support, and urge them to budget support for professional activities. We can remind them that the professional societies advance theory and practice of the profession through peer review and publication of standards and recommended practices, and papers on the latest technology. Education is improved through standards and accreditation. Professional standing of members is increased through participation in technical and administrative activities on a national and world wide scale. Professionals are willing to donate resources toward these goals, and the businesses and institutions who also benefit should support them as much as they can. The administrative jobs that are necessary to support the technical activities deserve their support as well, because the technical benefits can't be achieved without them.

I am happy to announce that Victor Cheung has accepted the duties of RockIEEE Overlook Editor. I have been acquainted with Victor for a number of years and know that he and Anita Wanberg as Publisher will provide an effective

Curriculum

✓ Management Core	
✓ High Performance Management	
✓ Positioning in the Competitive Environment	
✓ Foundations of Business Decisions	
✓ Ethics/Public Policy	
✓ Eight hours from Global, Quality, Values sequence or other electives	
✓ Professional Issues Seminar	
Total Management Hours	12
✓ Engineering Core (at least 9 QH at 4000 level)	
✓ Technical Electives	4
✓ Advanced Project	8
Total Engineering Hours	38
	4
	15*
	9**
	4
	28

(*15 qtr. hrs. from 3000 or 4000 level courses with ENGR, ENEE, ENME or MTSC prefixes, **9 qtr hrs. from 3000 or 4000 level courses in ENGR, ENEE, ENME, MTSC, COMP, PHYS, CHEM, BIOL, or MATH prefixes, students must show evidence of a working knowledge of statistics or take the statistics course in management or a statistics course as an engineering technical elective)

Admission

A BS in an engineering field or in Engineering Physics from an ABET-accredited institution and either a GRE or GMAT are required for admission. Candidates with an earned BS from a closely related field, such as Physics, Computer Science or Materials Science can also be admitted, usually provisionally, until adequate undergraduate level engineering preparation is completed. This preparation is in addition to the requirements noted for the joint degree. Additional admission requirements are explained on the application. Application packets and an informational brochure can be obtained from:

The Department of Engineering
University of Denver
University Park
Denver, CO 80208
(303) 871-2102, FAX (303) 871-4450

NOLAN LABORATORIES, INC.

Consultation, Design, Test and Manufacture

- Electromagnetics
- RF & Microwave
- Bioelectromagnetic Sensors

- Antennas
- EM/RFI
- Optics

James A. Nolan, MSEE
President

P.O. Box 567
Confler, CO 80433
(303) 838-0057 Phone/Fax

T3 Systems

Thad Smith

We develop software and firmware for real-time measurement and control applications, targeting embedded microprocessors and PCs.

- Data Collection and Communications
- Motion Control, Custom Interfaces
- User presentation in DOS & MS Windows

Free estimates

(303) 449-3322

The Institute of Electrical and Electronics Engineers - Denver Section

Chair	Chair-elect	Sr. Vice Chair	Vice Chair Member Services	Vice Chair Student Activities	Secretary	Treasurer
Robert Struthers Raytheon Engineers & Constructors P.O. Box 5888 Denver, CO 80217 (303) 843-2235	David Richmond Raytheon Engineers & Constructors P.O. Box 5888 Denver, CO 80217 (303) 843-2465 d.richmond@ieee.org	Fred Jones EMC Engineers 2750 S. Wadsworth Denver, CO 80227 (303) 988-2951 (303) 985-2527 Fax	John R. Adams Valley Lab Inc. 5920 Longbow Dr. Boulder, CO 80301 (303) 530-6503 (303) 530-6313 Fax jadams@pfizer.com	Ron DeLyser Denver University Dept. of Engineering 2390 S. York St. Denver, CO 80208 (303) 871-2034	W. Kevin Wright NEL, Inc. P.O. Box 1265 Arvada, CO 80001 (303) 431-7895 (303) 431-1836 Fax	David Edwards RMH Group 12600 W. Colfax Lakewood, CO 80215 (303) 239-2771

Society Chapters - Fred Jones, (303) 988-2951
Awards - Paul Meisel, (303) 673-9930
Student Fund - Edward Pitchkolan, (303) 966-3707
Student Branch Activities - Cliff Alston, (303) 329-3340 x290
Consulting Network - Tim Davis, (303) 466-1117, timdavis@tdcon.com
Professional Activities (PACE) - Paul Meisel, (303) 673-9930
Black Hills Subsection - Michael Pendo, (605) 394-5278
Centennial Subsection - Richard Sandige (307) 766-6181
Nominations - Darrell Sabatka, (303) 329-1547

Professional/Industry Liaison - Tony Thomas (303) 753-2289
Membership - Heather Karels, (303) 792-2211
Pre-College Student Activities - Jeff Wilson, (303) 388-6322
Educational Activities -
Conference Activities - Jim Schroeder, (303) 4871-3519, Fax: (303) 871-4450
jschroed@du.edu
RockIEEE Overlook Editor - Victor Cheung, (303) 751-0741, Fax: (303) 751-2581,
Publisher - Anita Wanberg, Phone/Fax: (303) 220-8042

Chapter Officers

Magnetics - Jim Cates, (303) 673-4126, Fax: (303) 673-6540
Joint Vehicular Technology/Communications - Mark Shriver, (303) 698-9668
Joint Industry Applications/Power Engineering - Jim Houlihan, (303) 297-3280
Reliability - Sam Keane, (303) 673-5963
Laser & Electro-Optics - Kevin Keilbach, (303) 673-1349, kevin@ohmeda.com
Components, Packaging, Mfg. Tech--Mike Erni, (303) 678-2437
Engineering in Medicine & Biology - Norbert Kaula, (303) 270-8973,
norbert.kaula@uchsc.edu

Joint Computer/Information Theory - "Shah" Bhatti, (303) 673-8915
Electromagnetic Compatibility - George Trejo, (303) 350-4113
Joint Antenna & Propagation/Microwave Theory & Technology/Geoscience &
Remote Sensing - Richard Geyer, (303) 497-5852
Aerospace and Electronic Systems - John Tsucalas, (303) 798-5769 **
** Anyone interested in revitalizing the Aerospace Chapter please call
John Tsucalas at (303) 798-5769.

**Please notify IEEE headquarters of any changes to your address and/or phone number by calling
1-800-678-IEEE (4333). We can not change this information in the Denver Area.**

The Institute of Electrical and Electronics Engineers



Denver Section
1843 Fillmore Ct.
Louisville, CO 80027-1122

Non Profit Org.
U.S. Postage
PAID
Denver CO
Permit No. 1993

09/26/95 DNVR
DAVID RICHMOND
2921 SO SIDNEY COURT
DENVER CO 80231