



# VIRGINIA MOUNTAIN SECTION NEWSLETTER

**IEEE Region 3, Council 09, Section 65**

**October 2000**

**Meeting: Thursday, October 19**

**James C. Squire**

**Department of Electrical Engineering, Virginia Military Institute**

## **Engineering in Clinical Research: A Case Study**

As the workplace becomes increasingly interdisciplinary, electrical engineers are frequently asked to perform analytic and modeling tasks outside the traditional description of electrical engineering. One such example is in the field of biomedical engineering, where a research and development team may consist of a single engineer, biologist, and clinician. Here the engineer must function as an electrical and mechanical engineer, teach the other team members engineering principles, and gain an appreciation of the design constraints from a clinical and biological perspective.

I will present my doctoral thesis work concerning endovascular stent expansion as a case study of this type of research career. Endovascular stents are perforated metal tubes approximately 1 inch long and pencil-lead thick used to treat advanced atherosclerotic disease of the heart's coronary arteries. Approximately 30% of patients receiving stents require further intervention within 3 months due to a poorly-understood response of their coronaries to stenting called hyperplasia. I investigated whether this response is a result of the way in which the stents expand.

### **About the speaker**

Dr. Squire received a BS in electrical engineering from the United States Military Academy in West Point. He served as a Military Intelligence officer in Saudi Arabia and New Jersey, and then worked as a high school science teacher before returning to graduate school. He earned the MS and Ph.D. degrees in electrical engineering from the Massachusetts Institute of Technology and completed his research in the Harvard/MIT Health Science Technologies consortium. He is currently

an assistant professor in the Virginia Military Institute.

### **Reservations**

Date: Thursday October 19, 2000  
Social: 6:30 PM  
Dinner: 7:00 PM  
Talk: 8:00 PM  
Cost: Member or Guest \$12.00  
Student \$ 7.00

### **Clarion Hotel Roanoke Airport**

2727 Ferndale Drive NW  
1581 Exit 3 Hershberger Rd West  
1st Rt. onto Ferncliff Ave.,  
2nd Rt. onto Ferndale Drive.

### **NEW DEADLINE**

Reserve by **5 PM Sunday** Oct. 15

#### **Roanoke:**

Dan Jackson (540) 774-0484

#### **Blacksburg:**

Ira Jacobs (540) 231-5620

#### **Lexington:**

David Livingston (540)464-7545

#### **Radford and Christiansburg:**

Russell Churchill (540) 731-0655

### **INSIDE**

<b>Meeting Report</b>	<b>2</b>
<b>Chair's Comments</b>	<b>2</b>
<b>Electronic Newsletter</b>	<b>2</b>
<b>Name Your Topic</b>	<b>3</b>
<b>On The VMS Web</b>	<b>3</b>
<b>Help Us Help You</b>	<b>3</b>
<b>"Who Needs A UCITA?"</b>	<b>3</b>
<b>Job Hunting Easier</b>	<b>3</b>
<b>Computer Hard &amp; Software</b>	<b>3</b>
<b>1999-2000 VMS Schedule</b>	<b>4</b>
<b>VMS Section</b>	<b>4</b>

## VMS Activities

### Meeting Report

Kenneth R. Laker 21<sup>st</sup> Century IEEE – The Exemplary Global Engineering Society

The first meeting of the 2000-2001 season was a Spouses' Night at the Clarion Hotel Roanoke Airport. Thirty-one members, students, and spouses enjoyed dinner followed by Ken Laker's stimulating presentation of IEEE challenges and opportunities in the 21<sup>st</sup> century. Dr. Laker has been an IEEE volunteer for 25 years including his most recent positions as President Elect, 1999 President, and his current role as Past President. Ken serves as the Alfred Fittler Moore Professor of Electrical Engineering at the University of Pennsylvania where he is a former Department Chair.

Dr. Laker's presentation reviewed the current IEEE status, new programs being implemented, and the future. Currently, IEEE membership is at a December 1999 total of 352,259 which is up 5.2 % from 1998. Membership has doubled in the past 25 years and reached 35% non-US in 1999. A goal is to achieve 50% by 2005 representing the global membership and communities. Average member age declined to 45.9 in 1999, and two new technical councils were added for IEEE Sensors and IEEE Superconductivity. Recognizing the tremendous change technology has made in the workplace, IEEE has strongly embraced e-publications and e-commerce. IEEE is the largest professional society in terms of membership, and as information technology (IT) spreads, IEEE is attractive to members of other societies as a second membership.

Consistent with the growth of IT, IEEE is implementing new programs to offer more products and technology online. The web site has been enhanced to offer more information, services, and links. IEEE Xplore offers individuals and libraries access to over 581,000 articles contained in journals, conference proceedings, transactions, magazines, and standards. The IEEE Store and Catalog is online as are

educational opportunities offered through fourteen video on demand courses. Online peer review for web submission of manuscripts is in pilot test, and three new periodicals have been launched involving Multimedia: Electro-Chemical, Solid State, and IT.

For the future, IEEE recognizes that its members want fast access to reliable information, places to meet people with common interests, that engineering is interdisciplinary, and that the growth of the new economy is being driven by small businesses. There will be a strong focus on e-business and its opportunities to offer new and non-traditional products on a global basis. There will be strong efforts to make IEEE relevant to large and small industry and to reinforce IEEE as a medium where engineering technical communities can gather around emerging technologies.

Dr. Laker concluded that we all have much to be proud of by being involved in the IEEE, and we should take advantage of the opportunities it offers both personally and professionally. He believes the IEEE is well positioned to be the exemplary global engineering society. Dave Kingma thanked Ken for his IEEE insights as well as his determination in finally visiting with us after the forced cancellation by Hurricane Floyd of his planned last year's trip.

...Howard J. Moses  
*Secretary/Treasurer*

#### CHAIR'S COMMENTS

Thanks to Dain Miller at Tyco Electronics for volunteering to chair the joint Electron Devices/Microwave Theory and Techniques Chapter. With a chair in place and plans for a chapter meeting this fall we should be able to keep this chapter on the active list for next year. I am sure there are others of you who are involved with these disciplines who will find the programs of value.

If you have not voted in the IEEE election there is still time to cast your ballot. Each of your ballots is individualized for the specific contests in which you are eligible to vote. All are eligible to vote for

President Elect; any who belong to a technical society are eligible to vote for the Vice President Elect, Technical Activities, and the appropriate Division Director Elect. Don't overlook the race for IEEE-USA offices at the bottom of your ballot. These are very important as well. Be sure to SIGN YOUR BALLOT in the designated block.

There are some elections other than IEEE taking place, also. Be sure to visit your polling place on November 7 to vote for the President, your Senator, your Congressman (or woman), and any local election which is on the ballot. Your vote is important and may be vital in electing your candidate.

In the future your Section executive committee will be deciding on the best option for communicating with the members. At present we use the printed Newsletter and an electronic version for those who request it. There are other options available. We welcome your suggestions. Please send them to me, to John Fennick, j.fennick@ieee.org, and to Dave Kingma, dkingma@swva.net.

Hope to see even more of you at the October Section meeting on Thursday, October 19.

**Dan Jackson, Chair**  
[d.jackson@ieee.org](mailto:d.jackson@ieee.org)

## Electronic Newsletter

### Please Sign On

Many thanks to all of you who have signed on to accept the e-mail version of the Newsletter in lieu of hard copy.

Taking some clues from other Sections, we will be trying to expand the methods of delivery and notification. These options are being tried elsewhere:

- Surface Mail
- e-mail, document included as text
- e-mail, attached doc. (Word 7)
- e-mail, notification only, with link to PDF version on the Web Site.

Perhaps you can suggest others. (See Chair's Comments above).

...*editor*

---

## Name Your Topic

### New on our VMS Web Site

Not interested in the VMS meetings?  
Topics have no appeal?  
Speakers are dull?

Now make your own suggestions for topics/speakers/location or any other facet of our meetings.

Go to

[http://  
www.ewh.ieee.org/r3/virginia-mountain/](http://www.ewh.ieee.org/r3/virginia-mountain/)

Click on

### Recommend a Meeting Topic

and tell us. Please supply any and all information you may have, especially concerning speakers and availability. We will do our best to accommodate your wishes.

...*editor*

---

## On The VMS Web

While on the subject, have you visited the Web Site recently (or at all)? Here is a sampling of current items. Why not take a look?

### VMS Meeting

Current, past and future meeting topics.

### Chapters

Pages for individual Chapter announcements

### Recommend a Meeting Topic

The new one described above.

### Student Branches

About, and links to those that have their own sites

### VMS Newsletter

Past copy archive as well as the current issue

### PACE Page

PACE items of interest. Mostly

as described by Dan Jackson.

### What Is? (FAQs)

FAQS about IEEE. Emphasis on the lesser known entities.

### Special Interest

Past articles of particular interest to the Section.

### ExComm Minutes

Minutes of the meetings of your Executive Committee.

### IEEE Leadership Wire Items

Past issues of this newsy IEEE publication of limited circulation but containing articles often of interest to many.

### VMS Calendar

Important Section activities dates

---

## HELP US HELP YOU

To enable IEEE staff to provide us with the most accurate lists, labels and member contact information, up-to-date information must be provided by you. Please, any and all members who have changed address, email or phone number, send a note to:

**address-changes@ieee.org**

...*editor*

---

## Letter From the IEEE-USA

### President asks:

### "Who Needs a UCITA?"

The Uniform Computer Information Transaction Act (UCITA) is a "one size fits all" law that amounts to "a free pass for the software industry." So says IEEE-USA President Merrill W. Buckley, Jr. in his latest monthly "Letter From the President." IEEE-USA recognizes the need to modernize often outdated state laws governing commerce, but opposes UCITA because it would grant software makers virtual impunity with regard to product liability. Buckley warns that, if passed, the UCITA legislation would ultimately have a "chilling effect on innovation and competition — to say nothing of accountability — for software makers and users alike."

Read President Buckley's letter at:

[http://www.ieeeusa.org/intro/  
buckley/buckleyjune00.html](http://www.ieeeusa.org/intro/buckley/buckleyjune00.html)

To find out if your state legislature has taken up UCITA, and what you can do to fight it, visit:

<http://www.ieeeusa.org/grassroots/ucita/>

---

## Job Hunting Made Easier for IEEE Web Site Visitors

A new link on the IEEE Home page now brings together career and employment resources of the IEEE in one convenient location. The Career & Employment Resources page categorizes this valuable information under user-defined topics such as job seekers, students, employers and consultants.

Featured on the page are links to the new IEEE Computer Society Career Service Center, the revamped IEEE-USA Job Service site and the online classified ads from "IEEE Spectrum" and related material.

For more information, contact Sonny Barber, IEEE Corporate Communications at [barber@ieee.org](mailto:barber@ieee.org)

---

## Save on Computer Hardware and Software

For the first time, IEEE members enjoy an extensive selection and discounted prices on more than 100,000 name-brand computer products. A secure server provides online, real-time access to all pricing and inventory. A full-service call center also is available to answer questions. For more information, visit

[http://www.ieee.org/services/  
financial/fap/programs/  
business\\_services/ computer.html/](http://www.ieee.org/services/financial/fap/programs/business_services/computer.html/).

Note: I have picked up some real bargains there.

...*editor*

## 2000-2001 MEETING SCHEDULE

DATE	SPEAKER/TOPIC	MEETING PLACE
September 21 <b>Spouses' Night</b>	<b>Kenneth R. Laker</b> 1999 IEEE Past President 21st Century IEEE The Exemplary Global Engineering Society	Clarion Hotel Roanoke
October 19	<b>James C. Squire</b> Department of Electrical Engineering, VMI Engineering in Clinical Research: A Case Study	Clarion Hotel Roanoke
November 16	TBD	Clarion Hotel Roanoke
January 18	TBD	TBD
February 15	TBD	TBD
March 15	TBD	TBD
April 19	TBD	TBD
May 17	TBD	TBD

### IEEE Virginia Mountain Section

#### VMS OFFICERS

**Chairman:** **Daniel W. Jackson**  
d.jackson@ieee.org (540) 774-0484

**Vice Chairman:** **Dave Kingma**  
dkingma@swva.net (540) 552-3011  
x304

**Sec./Treasurer:** **Howard J. Moses**  
hjmoses@aol.com (540) 953-5069

**VMS Executive Committee**  
**Russell Churchill**  
arcova@swva.net (540) 731-0655

**John Fennick**  
jhfslf@swva.net (540) 552-0052

**Ira Jacobs**  
ijacobs@vt.edu (540) 231-5620

**Vacant (1)**

**Junior Past Chairman:**  
**David Livingston**  
d.livingston@ieee.org (540) 464-7545

**Virginia Council Representative:**  
**David Geer**  
d.geer@ieee.org (540) 387-7359

#### VMS Chapter Chairs

**Industry Applications**  
**Dal Y. Ohm**  
ohm@usit.net (540) 552-8973

**Industrial Electronics/Computer/Control Systems**  
**David Geer**  
d.geer@ieee.org (540) 387-7359

**Microwave Theory & Techniques/Electron Devices**  
vacant

#### **Power Engineering**

**Ted Aaron**  
Tea45@aol.com (540) 381-2521

#### COMMITTEE CHAIRS

#### **Awards:**

**Ira Jacobs**  
ijacobs@vt.edu (540) 231-5620

#### **Education:**

**Russell Churchill**  
arcova@swva.net (540) 731-0655

#### **Membership Development:**

**Ira Jacobs**  
ijacobs@vt.edu (540) 231-5620

#### **Nominations:**

**David Livingston**  
d.livingston@ieee.org (540) 464-7545

#### **PACE :**

**Dan Jackson**  
d.jackson@ieee.org (540) 774-0484

#### **Program :**

**Dave Kingma**  
dkingma@swva.net (540) 552-3011  
x304

#### **Publicity :**

**John Fennick**  
j.fennick@ieee.org (540) 552-0052

#### **Student Activities:**

Vacant

#### NEWSLETTER

**Editor: John Fennick**  
j.fennick@ieee.org (540) 552-0052

#### **e-mail Newsletter Subscription**

Send the one-line message:

SUBSCRIBE IEEEVMS your-name  
to: LISTSERV@listserv.vt.edu

Anyone may submit material for the Newsletter

#### **Deadline:**

Monday following each meeting

Submit To: Editor

#### **Change of Address**

US Mail: IEEE Service Center  
445 Hoes Lane, PO Box 1331  
Piscataway, NJ 08855-1331

e-mail: address.change@ieee.org

Tel: 800-678-IEEE

Fax: 732-981-9667

IEEE Web:

<http://services1.ieee.org/membersvc/coa/intro.htm>  
(Changes are forwarded to the Newsletter)

#### Visit the VMS WEB page:

[www.ewh.ieee.org/r3/virginia-mountain](http://www.ewh.ieee.org/r3/virginia-mountain)  
Section/Chapter meeting notices, and reports. Past issues of the Newsletter, PACE Patter, etc. Articles, organizations, and activities affecting our profession.

Contributions welcomed - make them on-line.