



VIRGINIA MOUNTAIN SECTION NEWSLETTER

IEEE Region 3, Council 9, Section 65

October 2001

Thursday, October 18

A Joint Meeting with the MTT/ED Chapter

Wireless Interconnect Network and Reconfigurable System

(WINARS)

– A Proof of Concept

Dr. George M. Metze

**Department of Defense/Laboratory for Physical Sciences
College Park**

Abstract

The Wireless Interconnect Network and Reconfigurable System is a new approach to develop a paradigm for microelectronic interconnects, that will be based on mm-wave (i.e., wireless) technology.

Specifically, the objectives of the proposed, self-contained/enclosed prototype system are to illustrate:

- (1) Point-to-point and broadcast data transfer rates in excess of 2.0 Gbps
- (2) Dynamic reconfigurability, to show that data routing between multiple CPUs can be dynamically changed in real time, and
- (3) System scalability for systems incorporating many users and subscribers.

To this end, the Government has embarked on an ambitious program to

develop a multi-processor system, interconnected exclusively by mm-wave data links. In the proposed system, data can be simultaneously shared between 1000's of processors in true parallel fashion (i.e., broadcast mode). Furthermore, data paths between different CPU's will be dynamically reconfigurable, allowing critical data to be re-routed to, or away from idle or busy processors, respectively.

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The Speaker

Dr. Metze is with the Laboratory for Physical Sciences, a division of the Department of Defense, located in College Park, Maryland.

Reservations

Date: Thursday Oct. 18, 2001
 Social: 6:30 PM
 Dinner: 7:00 PM
 Talk: 8:00 PM

Cost: Member or Guest \$15.00
 Student \$ 8.00

Clarion Hotel Roanoke Airport

2727 Ferndale Drive NW
 I581 Exit 3 Hershberger Rd West
 1st Rt. onto Ordway Drive,
 ¼ mile, Rt. Into Parking Lot.

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

Howard Moses (540) 953-5069
MMoses@ieee.org

Please specify number of attendees.

New Section Members

Since August, twelve IEEE members have joined the VMS.

A warm welcome to:

Samir Vijay Ginde

Blacksburg

Mrinmayee Kulkarni

Blacksburg

Scott Meller

Blacksburg

Thomas Novak

Blacksburg

Rajaraman Parmeswaran

Blacksburg

David Sanderson

Blacksburg

Md Sarfraz

Blacksburg

James Scott

Roanoke

Shuo Sheng

Blacksburg

Raymond Soroka

Radford

Adrian Thomas

Salem

Matthew Thomson

Blacksburg

Dave Kingma has sent his personal welcome to each and we look forward to greeting you at our Section or Chapter meetings.

...*Editor*

MTT/ED Chapter News

The MTT/ED Chapter page on the Section Web Site is now up and active.

Members can select topics for Chapter meetings from Distinguished Lecturer Lists

for both the MTT and ED societies and send their choices, or just general comments and suggestions, directly to the Chapter Chair, Dain Miller.

Access is through the Section site at

<http://www.ewh.ieee.org/r3/virginia-mountain/>

and clicking on Chapters/MTT, or directly at

http://www.ewh.ieee.org/r3/virginiamountain/chapters/mt_ed_ch.html

Current and future meeting data and other Chapter-specific information will be provided .

...*editor*

FIRST Robotics

Background:

Last Spring, the VMS, along with fourteen other region entities, contributed to the support of local High School students and VA Tech student advisors in "The FIRST Robotics Competition".

The name FIRST is an acronym: For Inspiration and Recognition of Science and Technology. The non-profit organization, founded in 1989 by New Hampshire entrepreneur and inventor Dean Kamen creates alliances of business, government, education, and volunteer groups to inspire young people to develop an interest in science and engineering.

The following is excerpted from a letter to Dave Kingma:

September 13, 2001

Dear Mr. Kingma:

FIRST Robotics Team 401,... is pleased to report a successful and exciting season of competition in 2001! As many of you already know, this past year teachers and sponsors from both the (*Montgomery Co.*) school system and (*VA tech*) collaborated to create and implement curricula that provided a foundation in both technical and non-technical or "soft" skills. (*including a*) Robotics mentorship. Thirteen engineering students from Virginia Tech mentored thirteen high school students from Auburn,

Blacksburg, and Christiansburg High Schools. Together the students themselves designed and constructed a robot that competed in the NASA Langley/Virginia Commonwealth University Regional Competition in March and the FIRST Robotics National Championship at Walt Disney World Epcot Center in April. We are very proud of our team and robot! We were finalists (*No. 2 of 54*) at the NASA Langley/VCU Regional and Curie Division Finalists (*No. 2 in one Division of four out of 300 participants*) at the National Championship.

Our team's successes would not have been possible without the support of our corporate sponsors, university sponsors, and engineers. (*The VMS contributed \$250.00*)

Sincerely yours,

Leslie P. Graham, Ph.D.
Virginia Tech Project Leader

Michael E. Collver
Montgomery County Public Schools Project Leader

More information about FIRST is available on the Web at www.usfirst.org or you can call FIRST national headquarters in Manchester NH at (800) 871-8326.

Note:

We tried to obtain recent photographs of the participants and their robot3, there are two in existence now, one from last year, but none were available in time. Tune in next month.

... *editor*

Optical Networking Readers

There is so much newly written on optical networking, that it can be a daunting task for a busy professional to keep up with the latest trends. IEEE Educational Activities Selected Readings books, **Optical Networking I and II**, deliver state-of-the-art information for practicing electrical and computer engineers. Each collection provides an overview of specific areas and papers describing the field in detail.

Dr. Mehmet Toy, editor of both volumes, has selected the best previously published papers on optical networking from

prestigious journals and transactions of the last three years. The books are grouped by sub-topics and need not be read in order. Prefaces to the volumes are available for your inspection at

www.ieee.org/organizations/ea/PDI/pages/courselist/preview.htm#O.

Optical Networking I provides readers with a collection of papers describing issues from optical components such as amplifiers to management of optical networks. Topics include: *Architectures for Wide and Local Area Networks *Key devices for building optical networks including MEMS *Architectures for cross connects and architectures for optical switches

Optical Networking II provides readers with knowledge on how to accommodate for the immense capacity of fiber optic needs. By using this material, engineers will know how to match fiber needs with switches, routers, and cross connects, as well as ways to support increasing traffic demands. Topics include: *Signaling and Routing *Scalability *Restoration *Quality of Service

This collation of materials will aid engineers in managing the huge growth of information in optical networking. It can also provide background for those engineers managing in the optical networks area. Toy has a strong background in Optical Networking with a Ph.D. in Electrical Engineering and years of accomplishments with AT&T, Lucent Technologies, and most recently, AxioWave Networks. His expertise assures readers that the volumes are filled with the most current quality materials.

To order, use the following product numbers:

Optical Networking I #SR 118, member: \$75.95

Optical Networking II #SR 119, member: \$75.95

Update your IEEE Record

The IEEE will accept updates from volunteers (Officers, editors) and we occasionally note discrepancies, in e-mail addresses for example, and send corrections to headquarters. However, this is a slipshod

method at best and IEEE's general policy is that the member is responsible for his or her own information.

Each month when creating address labels and updating local records with new data from Headquarters, we notice numerous obvious errors in the data base e.g., area code 703.

When did you last update your records at IEEE? Have you moved, changed phone number, or e-mail address (most common)? Please take a moment to reflect and then act if need be.

There are several different ways to correct member information:

- There is a web based interactive "change of address" form at:

<http://services1.ieee.org/membersvc/coa/intro.htm>

- You can send an e-mail message to:

<mailto:address-changes@ieee.org>.

- Call IEEE Member Services at 1-800-678-IEEE (1-800-678-4333)

- Mail changes to: IEEE 445 Hoes Lane PO Box 1331 Piscataway, NJ 08855-1331 USA

- Fax your changes to: 1-732-981-9667

In all cases you will need to include your member number for verification purposes.

VMS Election

Candidates

The Section election will take place next month. Active Members and Associate Members will receive ballots in the mail in early November and they must be returned by 5:00 PM, November 30.

Please take the time to complete your ballot and return it via the self-addressed folding envelope. Yes, it will need a stamp!

Also, be sure to sign your ballot in the appropriate place. It will not be valid without your signature. The signature section is removed before the ballots are counted so your privacy will be maintained.

The candidates for this year are as follows:

Officers

Section Chair:
Howard Moses

Section Vice Chair:
Mark Shepard

Section Secretary-Treasurer
Shawn Addington

Members at large

Jim Squire

Ira Jacobs

William Trantor

John Fennick

David Livingston

Chapter Chairs

Industry Applications
Cy Harbour

Industrial Electronics/Computer/Control Systems
David Geer

Microwave Theory & Techniques/Electron
Dain Miller

These candidates were nominated by your nominations committee but you are not limited to this list. Additional nominations by petition will be accepted if delivered to the Secretary-Treasurer by October 25.

The petition must have the signatures of at least two per cent of the voting members of the Section or a count of 25 which ever is smaller. Currently the smaller is ten.

...*editor*

IEEE National Election

You should have received your ballot for the general IEEE election by now. The same rules about signing apply here. The ballot must be mailed back in time to be received by November 1.

2001-2002 MEETING SCHEDULE

DATE	SPEAKER/TOPIC	MEETING PLACE
September 20 Spouses' Night, 2001	M. von Spakovsky Fuel Cell Technology	Clarion Hotel Roanoke
October 18 (Joint MTTD)	G. Metze Millimeter Wave Technology for Wireless Interconnection of Multiple CPU Systems	Clarion Hotel Roanoke
November 15	T. Rappaport Trends in Wireless Communications	Clarion Hotel Roanoke
January 17	Student Projects Details: TBD	Clarion Hotel Roanoke
February 21	TBD Six Sigma Design & Production	Clarion Hotel Roanoke
March 21 Spouses' Night, 2002*	Robert Trew Technology Future Directions	Clarion Hotel Roanoke
April 18	Otto Szentisi Fiber Optic Network Development	Clarion Hotel Roanoke
May 16	Plant Tour	TBD

* Changed

IEEE Virginia Mountain Section

VMS OFFICERS

Chairman: Dave Kingma
mailto:dkingma@ieee.org (540) 552-3011 x304

Vice Chairman: Howard J. Moses
mailto:Mmoses@ieee.org (540)-953-5069

Sec./Treasurer: Mark Shepard
mailto:MShepard@ieee.org (540) 387-8710

VMS Executive Committee

Shawn Addington
mailto:AddingtonJS@mail.vmi.edu (540) 464-7236

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

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

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

Junior Past Chairman:

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

Virginia Council Representative:

David Geer
mailto:d.geer@ieee.org (540) 387-7359

VMS Chapter Chairs

Industry Applications
Vacant

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

Microwave Theory & Techniques/Electron
Dain Miller
mailto:dain_miller@ieee.org (540) 563-3998

COMMITTEE CHAIRS

Awards:

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

Education:

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

Membership Development:

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

Nominations:

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

PACE :

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

Program :

Dave Kingma
mailto:dkingma@ieee.org (540) 552-3011 x304

Publicity :

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

Student Activities:

Lou Guido
mailto:louis.guido@vt.edu (540) 231-3551

NEWSLETTER

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

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Go to the VMS Web Site page:
<http://www.ewh.ieee.org/r3/virginia-mountain/misc/SignUpForm.html>

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
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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:

<http://www.ewh.ieee.org/r3/virginia-mountain>

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