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IEEE OTTAWA NEWSLETTER - April 2012

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News Submission: write an email to the editor as per the adopted format

IEEE Ottawa Section Website: <http://ottawa.ieee.ca/>

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Please Note: local events are sometimes confirmed after the e-newsletter

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A. IEEE Ottawa Section News & Events

1. 2012 IEEE Eastern Ontario Student Oral Paper Competition Results

2012 IEEE Eastern Ontario Student Oral Paper Competition was conducted in Algonquin College, Ottawa on 27th March 2012. Teams from The Queen's University, Kingston, The Royal Military College, Kingston, The University of Ottawa, Carleton University and Algonquin College participated in the competition. The competition was very well done with excellent presentation from all the institutions. The panel of judges drawn from various fields of engineering found it very difficult to rank the presentation. They found all the presentations to be outstanding but they were forced to rank them. Finally, the deliberations were done and the judges agreed to come up with the following order:

First Place: Carleton University Students: Nick Stupich, Mark Klibanov, Musabbir Khan, Amrita Sandhu Title of the paper: Mu

scleMate: An
Electromyographic Controller with Gesture Recognition

Second Place: Tie between the Queen's University and the Royal Military College

The Queen's University: Students: Manoj Hemnani, Eric Moulton, and Andrew Wald
Title of the paper: Computing Techniques for Understanding the Etiology of Atrial Fibrillation

The Royal Military College: Students: Jeff Campbell, Mohamad Iskandarani and Jeremy Hamilton
Title of the paper: Design of an Autopilot for Quadrotors

Third Place: Tie between The University of Ottawa and Algonquin College

Algonquin College: Student: Cameron Hunt
Title of the Paper: Wireless Traffic Management System

The University of Ottawa: Students: Maher Manoubi and Hisham Veeran
Title of the paper: FlightSpyer

Congratulations to all the winners and thanks to the Student Branch advisors and the judges for their participation. Thanks to the Algonquin College Student Branch and its Advisor for the arrangements.

2. Canadian Tracking and Fusion Group, Second Works

hop

The IEEE Ottawa Section is now a co-supporter of the Canadian Tracking and Fusion Group (CTFG - ctfg.ca) which is holding its second workshop (<http://ctfg.ca/workshop2012/index.html>) on April 11-13, 2012 right here in Ottawa.

Important dates

April 11-13, 2012: CTFG 2012 Workshop

Submissions

Please submit a 300 to 400 word abstract of your 20 minute presentation to Garfield Mellema at garfield.mellema@drdc-rddc.gc.ca. Proposals for presentations on research, development, software demonstrations, experiments, benchmark problems, research collaborations and ideas on emerging problems are actively solicited. Proposals for extended panel discussions, tutorials, or software demonstrations are also encouraged. Participation without presentation is also strongly welcomed.

Location

DRDC Ottawa is at 3701 Carling Avenue in Ottawa . As this is a secure facility you will require a passport or equivalent ID when you arrive. If you are not a Canadian citizen,

please let us know when you register.

Registration

There is no fee for this workshop, but the number o

f participants is limited. Register by sending your name, phone number, email and postal addresses to Garfield Mellema at garfield.mellema@rdc-rddc.gc.ca. Please include your government, corporate or university affiliation. For more information, contact any of the organizers.

3. Fifth IEEE Symposium on Computational Intelligence for Security and Defense Applications

We would like to invite you to submit Full Regular or Special Session papers to the Fifth IEEE Symposium on Computational Intelligence for Security and Defense Applications (IEEE CISDA 2012) with the theme of "Creating Intelligent Surveillance".

<http://ieee-cisda.org/>

Ottawa, Canada
11-13 July 2012

Sponsored by the IEEE Computational Intelligence Society (CIS)
Technically Co-Sponsored by the IEEE Ottawa Section, the IEEE Computer Society Ottawa Chapter and the IEEE CIS Ottawa Chapter

Important Dates:

- Special Session/Tutorial Proposals Submission: April 2, 2012
- Full Regular or Special Session Paper Submission: April 23, 2012
- Notification of Acceptance/Rejection: May 14, 2012

- Submission of Camera-Ready Submission: June 4, 2012

4. UAV's - Unmanned Aircraft for the Canadian Forces and the Canadian Civil & Commercial Market

Speaker: Ian Glenn, ING Engineering

Date/Time : Wed 11 April 2012 7.30 - 9.30 pm

Location: The Crowsnest, Naval Officer's Mess 78 Lisgar St., Ottawa

Parking: Nearby, no charge

Registration: pre-registration preferred

Organizer: Hugh Reekie

Organizer e-mail: h.reekie@ieee.org

Organized by: AECS Ottawa Chapter

Url: <http://www3.bell.net/max-com/ottawa.AECS.html>

Abstract: Ian Glenn will provide an overview of Canada's ScanEagle experience - where ING delivered 30,000 hours of UAV ISR support directly to Canadian troops on the ground - flying more during this deployment than all other UAV programs in Canada combined, as well as the company's current deployment with the Royal Canadian Navy. Based on this success in combat operations ING's team is now involved in delivering UAV services for various roles to the civil sector.

5. Advances in Body Area Networks

Speaker: Dr. Min Chen, Huazhong University of Science and Technology,
China

Date/Time: April 13, 2012/2:00 pm - 03:00 pm

Location: 4359 ME (Mackenzie Engineering Building),
Carleton University,
1125 Colonel By Drive, Ottawa, ON, Canada K1S 5B6

Registration: Free. Registration is preferred by E-mail

Organizer: Yifeng Zhou; Jun Li; Rami Abielmona; Sreeraman Rajan; David Coll

Organizer e-mail: Yifeng Zhou (yifeng.zhou@crc.gc.ca), or Rami Abielmona (rabiemo@ieee.org), or Sreeraman Rajan (sreeraman@ieee.org), or David Coll (dccoll@ieee.org), or Jun Li (jun-li@ieee.org)

Organized by: The IEEE Ottawa SP/OC/GRS Joint Chapter; the IEEE Ottawa Computer Society Chapter; the IEEE Ottawa EMBS Chapter; the IEEE Ottawa Life Members Affinity

Url: http://www.ieeeottawa.ca/grsoesp/chen_april132012.htm

Abstract: Advances in wireless communication technologies, such as wearable and implantable biosensors, along with recent developments in the embedded computing area are enabling the design, development, and implementation of body area networks (BANs). This class of networks is paving the way for the deployment of innovative healthcare monitoring applications with lower cost and higher quality healthcare services, and more safety for patients. These benefits and impacts on the facilities of human society have fuelled increasing public interests and have attracted

large support and investment from government, industrial and academic researchers. This talk is to introduce some recent advances as well as technical challenges in the research of BANs deployed with wireless communications technologies for interactive and intelligent healthcare monitoring applications.

6. IEEE Ottawa Consultants' Network (AICN) - "Consulting as a Career"

Speaker(s): Dr. John Leggat
Date/Time: 11 April / 7:00 PM. Networking 6:30 PM onwards
Location: Algonquin College (Details will be provided to registrants and on website)
Parking: Free in lot "P" after 6:00 PM
Registration: Please email bjoshi@ieee.org - Pre-registration before 8 April 2012 as there is limited seating. Please use "IEEE AICN April: " in Subject Line
Organizer: Bhagvat Joshi
Organizer e-mail: bjoshi@ieee.org
Organized by: IEEE Ottawa AICN (Alliance of IEEE Consultants' Networks)
Url:

Abstract: Dr. John Leggat is a consultant and Senior Advisor at CFN Consultants in Ottawa. Seven years ago he retired from the Public Service of Canada and joined CFN to help the partnership with the science and technology dimensions of the practice.

Details to follow on IEEE Ottawa Website and will also be mailed out to those registered

7. Scattering by Load-Modulated Antennas Background , RFID and Sensing Applications

Speaker: Prof. Jean-Charles Bolomey, Distinguished
Lecturer of IEEE Antennas
and Propagation Society, Paris-Sud Univers
ity, Paris, France.

Date/Time: 13 April 2012 / 12:00 pm ? 2:00 pm. Semi
nar: 12:00 pm - 1:00 pm;
Discussion, Refreshments, Networking and
Activity of AP/MTT Joint Chapter: 1:00 pm
- 2:00 pm.

Location: Carleton University, Department of Elect
ronics (DoE), Mackenzie Engineering Building,
Room ME 4124, 1125 Colonel By Drive, Ottawa, Ontari
o, Canada.

Admission: Free

Registration: Required

Refreshments: Served

Organizer: The IEEE Ottawa AP/MTT Joint Chapter, EM
C Chapter, EDS/CAS/SSCS Joint Chapter,
CPMT Chapter, Computer Society (CompSoc), ComSoc/BT
S/CES Joint Chapter, EMBS Chapter,
IEEE Ottawa Section (OS), and Department of Electr
onics at Carleton University (DoE Carleton).

Organizer e-mail:

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Abstract: While transmitting and receiving properties of antennas are fully formulated and well understood, scattering issues remain more mysterious, even if they have been extensively exploited for a while in the antenna engineer practice for shaping radiation patterns, adjusting input impedances, or for characterization purposes. This presentation is more specifically focused on modulated scattering-based systems, which have been successfully developed during the last decades. Operating an antenna in a scattering mode allows avoiding any RF front-end, resulting in very simple and compact passive or battery-assisted transponders. These advantages are now widely exploited in low-cost RFID tags, as well as in low-invasive MST (Modulated Scatterer Technique) probes for EM-field.

This presentation consists of two major parts. The first one consists of a short tutorial review of the minimum engineering background required for a comprehensive approach to modulated scattering systems. Small antennas will be more particularly considered because low-invasiveness and high spatial resolution constitute significant advantages in many sensing applications. The power budget, a key issue for such systems, is derived from a very simple reciprocity-based formulation. The advantage of this analytical formulation is to apply, whatever the distance, for arbitrarily complex scenarios. In addition, the inf

fluence of various parameters can be clearly identified, paving the way for optimizing the antenna design in terms of global system performance. Examples of both active and passive scatterers illustrate the efficiency of this approach.

The second part is more speculative and aims to identify transfer opportunities between RFID's and MST technologies for sensing applications. As compared to existing MST probes, passive RFID tags offer, at a glance, the indisputable advantage of being modulated from their own, without any wire or fiber. However, they may suffer autonomy/lifetime limitations and are constrained by standard regulations in terms of frequency range and power level. Furthermore, they exhibit specific technical difficulties, such as non-linearity of the IC chips loading the antenna. Various solutions to these drawbacks are addressed. Focusing on the case of systems involving arrays of modulated scatterers for its growing relevance in rapid imaging and wireless sensing (e.g. antenna measurement, industrial testing, medical diagnostic?), it is explained how the architecture of MST systems has conceptually changed during the last decades, primarily to face the critical sensitivity issue. Extrapolating such an evolution suggests promising solutions based on either RFID-derived or breakthrough technologies. To conclude, it is remembered that, while microwaves suffer no competition in the field of

communications, they are losing this comfortable privilege for Industrial Scientific Medical (ISM) applications where they must compete with many other efficient and already well-established modalities. In this competition, new modulated scattering technologies are reasonably expected contributing to valorize the specific advantages already recognized to RF- and microwave-based sensing modalities.

8. From Biometrics to Writer Identification: Methods, Applications, and Issues

Speaker(s): Prof. Kurban Ubal

Date/Time: 4 April / 6:00 PM-7.30 PM

Location: ME4236, Carleton University

Parking: Paid parking

Registration: Free

Organizer: Prof. Yuu Ono, Vice Chair, Ottawa EMBS

Organized by: IEEE EMBS

Url: www.ieeeottawa.ca/embs

Abstract: Biometric identification offers reliable solution to better security, higher efficiency, and, in many instances, increased user convenience. Consequently, biometrics-based personal identification systems are being widely used in every aspect of society including governmental, commercial and civilian sections. This talk will give an overview of biometric identification technologies, especially handwriting based writer identification, signature recognition and verification. The lecture will discuss their strengths, weaknesses, u

sability, efficiency
and tendency. The speaker will give his opinions on
these issues, as well
as research works about Uyghur handwriting (similar
to Arabic and Persian)
based writer identification and signature recognition
as a case study.

9. IEEE International Conference on Communications - 2012

CONNECT • COMMUNICATE • COLLABORATE

The conference committee is very proud to announce
that ICC2012 will be a Paperless conference, the
first of its kind.

All conference participants with full registration
will receive a complimentary BlackBerry Playbook.

The registration is now open for the 2012 IEEE International Conference on Communications from 10-15
June 2012

at the new Ottawa Convention Center.

To register please follow <http://ieee-icc.org/2012/registration.html>

The advanced program for the ICC 2012 is now available online. It features the following keynote and plenary speakers:

Eros Spadotto (EVP, TELUS)
Matt Bross (CTO & Vice Chairman, Huawei)
Marcus Weldon (CTO, Alcatel-Lucent)
Lucy Hood (ED, CTM)
Mike Hill (VP, IBM)
Ian Akyildiz (Georgia Tech)
Victor Bahl (Microsoft)
H. Vincent Poor (Princeton)
Raj Jain (Washington University)
P. R. Kumar (Texas A&M University)

The conference will offer 17 technical symposia, 16 industrial forums, keynote presentations, 27 workshops, and 12 tutorials.

The program will be updated on a weekly basis up until the conference.

To view or download the latest version of the Advanced Program please visit

http://ieee-icc.org/downloads/ICC2012_AP.pdf

For exhibition information please visit:

Exhibitor Information

<http://www.ieee-icc.org/cfe.html>

B. IEEE News

1. Engineer Wellness GoodLife Fitness Corporate Program

Staying fit is the key to reducing stress, feeling healthy, increasing your energy and enjoying an excellent quality of life. Members of Engineering Institute of Canada (EIC) Societies, which includes IEEE, students and family, can access the benefits of exercise and healthy living at discount of more than 55% off regular prices to GoodLife Fitness (Energie Cardio in Quebec and Nubody).

Please visit www.engineergoodlife.ca (username = eic and password = goodlife) for details.

2. IEEE Member Group Insurance Program - Life, Prof

essional Liability,
Accident, Disability and Travel

IEEE Member Group Insurance Program - Life, Professional Liability,
Accident, Disability and Travel (www.ieeeinsurance.com/canada):

Regardless of employment status, these plans stay with you—whether you are starting, switching or maturing in your career.

As an IEEE member, you benefit from the group buying power of the IEEE membership base. Take a few minutes today to learn how these affordable plans, available exclusively to IEEE members, can help make sure you have adequate financial resources as your life changes and responsibilities grow. I think you will agree, the time invested will be worthwhile.

3. New members orientation webinars

All new higher grade IEEE members are invited to participate in a New Member Orientation Webinar session designed to help members get the most out of their membership. These live Webinars, which include a 30 minute formal presentation followed by Q&A, provide an overview of IEEE membership and access instructions for members-only benefits and services. Topics include establishing a Web account, setting up a profile on memberNet, logging into myIEEE, networking opportunities, and much more.

Visit the Welcome to IEEE Web page (http://www.ieee.org/membership_services/membership/welcome.html) to register for a New Member Orientation Webinar, typically held on the fourth Thursday of each month in 2011: 24 March, 28 April, 26 May, 23 June, 28 July, 25 August, 22 September, 27 October, 22 November, and 20 December.

Webinars are held at both 9:00 AM ET and 3:00 PM ET on each day. Please e-mail Adrienne Hahn (a.hahn@ieee.org) for more information.

4. Nominations and Awards

IEEE is accepting nominations for 2012 EAB awards. April 30, 2012 is the last date for nominating a person, an organization or an IEEE Section for this award. Please visit http://www.ieee.org/education_careers/education/awards/index.html for further details.

C. Non-IEEE News and Events/Announcements

Engineering and Technology Summer Camps

Virtual Ventures offers weekly summer camps for youth that have completed Grades 1-10. Our camps focus on Engineering and Technology. We are located at Carleton University under the faculty of engineering and design therefore students get access to cutting edge university labs.

Camp activities include programming, web design, robotics (LEGO), animations, electronics, multimedia applications, engineering structures and other engineering challenges, etc. We also offer specialty camps: Girls only camps; Game Design camp; and an Engineering and Science week.

The camps will run from July 3rd until August 24th; 9am - 4pm with extended care option (8am - 5pm). For more information and to register, please visit www.virtualventures.ca or email director@vv.carleton.ca

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D. Manage Your Newsletter Subscription:

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