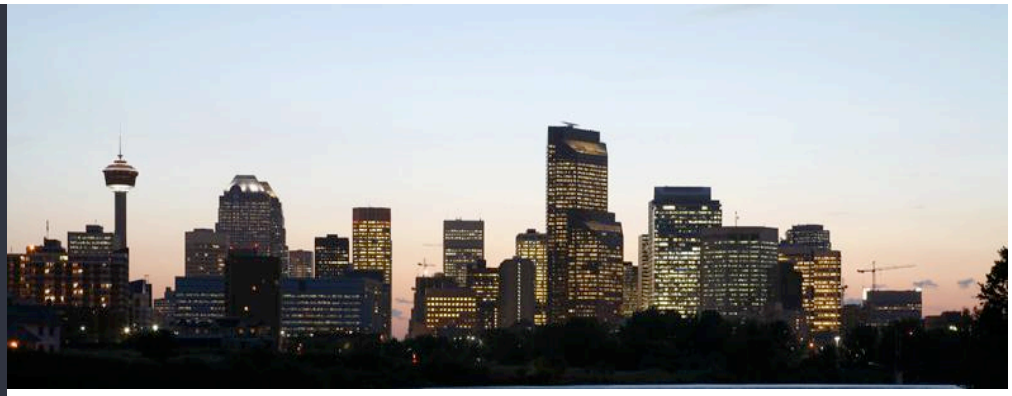

IEEE Southern Alberta Section

Upcoming Talks 2-7

- Improved access to virtual information and
- Optimizing Linux server performance by Dr. Sandra K. Johnson,
Mobile communications Networks by Dr. Abbas Jamalipour,

Dr. Pierre Bourque is giving two talks on software engineering.

Matt M. Eskandar presents real time monitoring and control software

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The 4th IEEE (Industry Applications Society) IAS, Electrical Safety, Technical & Mega Projects Workshop will be held on March 29-31, 2010, at the Hyatt Hotel in Calgary. This workshop has technical presentations, a keynote speaker, vendor exhibition, panel discussions and tutorials. Registration will open in late October 2009. Please see the conference website: www.ieee.org/estmp

Contact Mahmoud (Maz) Mazadi (mmazadi@ucalgary.ca) for feedback and submissions for future newsletters.

The IEEE South Alberta Section's Computer Society
presents a seminar titled:

Methodologies for Optimizing Linux Server Performance

Speaker: Dr. Sandra K. Johnson
From IBM's Systems and Technology Group, based in North Carolina, USA

Tuesday, October 13, 2009 @ 3:15 pm – 5:15 pm

WHO SHOULD ATTEND? Persons who are interested in performance tuning and performance engineering of Linux servers.

LOCATION: Room ENA 201, University of Calgary

COST: Free to IEEE members (please bring your membership card). $3 non-members.

Abstract:

The Linux operating system has gained significant popularity in the past several years as a platform for a diverse set of client and server computing machines. This talk describes the various methodologies used to improve the performance of the Linux kernel on high-end enterprise server machines. Described are methodologies for measuring, analyzing, and improving the performance and scalability of the Linux kernel, focusing on platform-independent issues. A diverse set of workloads are described, including web serving, database, and file serving. In addition, various components of the Linux kernel (e.g., disk IO subsystem) are examined. Several well-known benchmarks are used to quantify Linux performance for these workloads and system components. The results show significant improvements in the Linux kernel for enterprise servers with 2 to 16 computing units.

Speaker's Biography:

Sandra K. Johnson is a Senior Technical Staff Member at IBM. Her previous assignments include working as the Chief Technology Officer, Global Small and Medium Business for IBM Systems and Technology Group, the Linux Performance Architect, and managing the Linux Performance, WebSphere Database Development, and Java Server Performance teams within IBM development and research organizations. She has conducted research in a number of computer related areas and was part of the design team that developed the prototype for the IBM Scalable Parallel Processor (SP2), the base machine for "Deep Blue", IBM's world famous chess machine.

Dr. Johnson is a member of the IBM Academy of Technology, which consists of the top 300 of IBM's over 250,000 technical professionals. She has received numerous technical and professional awards, and is a Master Inventor, with over 40 patents issued and pending. She has authored and co-authored over 80 publications, is Editor-in-Chief of the book Performance Tuning for Linux Servers, and is author of Inspirational Nuggets and GREGORY: The Life of a Lupus Warrior.

Dr. Johnson earned B.S. (summa cum laude), M.S. and Ph.D. degrees, all in electrical engineering, from Southern University, Stanford University, and Rice University, respectively. She is a member of the Institute of Electrical and Electronics Engineers (IEEE) and the Association for Computing Machinery (ACM). She is also an IEEE Fellow and an ACM Distinguished Engineer.

Seminar Coordinator:

Dr. Vahid Garousi, PEng, vgarousi@ucalgary.ca, Computer Chapter Chair of the IEEE South Alberta Section. For more information, visit: http://sas.ieee.ca/computer

Did you know?

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The IEEE South Alberta Section's Computer Society
presents a seminar titled:

Haleakala: Providing Improved Access to Virtual Information

Speaker: Dr. Sandra K. Johnson
From IBM's Systems and Technology Group, based in North Carolina, USA

Wednesday, October 14, 2009 @ 3:00pm – 5:00 pm

WHO SHOULD ATTEND? Persons who are interested in information and knowledge discovery.

LOCATION: Room ENA 201, University of Calgary

COST: Free to IEEE members (please bring your membership card). $3 non-members.

Abstract:

Today there is a plethora of information located in a seemingly unlimited number of knowledge repositories worldwide. While there are many search engines available that provide great access to this information, it is sometimes difficult to associate keywords with the relevant desired information. One solution to this issue, is to focus on the structures used to contain the information in such a way that new optimizations and targeted searches can be leveraged. Presented in this talk is an information enablement methodology that provides a novel structure for providing access to information in various disparate locations, facilitating a virtual integration of information. This structure is designed to provide new types of search algorithms that leverage existing algorithms, and enables more targeted searches. The structure also facilitates a better analysis of virtual information.

Speaker's Biography:

Sandra K. Johnson is a Senior Technical Staff Member at IBM. Her previous assignments include working as the Chief Technology Officer, Global Small and Medium Business for IBM Systems and Technology Group, the Linux Performance Architect, and managing the Linux Performance, WebSphere Database Development, and Java Server Performance teams within IBM development and research organizations. She has conducted research in a number of computer related areas and was part of the design team that developed the prototype for the IBM Scalable Parallel Processor (SP2), the base machine for "Deep Blue", IBM's world famous chess machine.

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Dr. Johnson earned B.S. (summa cum laude), M.S. and Ph.D. degrees, all in electrical engineering, from Southern University, Stanford University, and Rice University, respectively. She is a member of the Institute of Electrical and Electronics Engineers (IEEE) and the Association for Computing Machinery (ACM). She is also an IEEE Fellow and an ACM Distinguished Engineer.

Seminar Coordinator:

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Mobile Communications Networks

Evolving through Biologically-Inspired Technologies

Speaker: Abbas Jamalipour, ***PhD; Fellow IEEE, Fellow IEAust,***

Distinguished Lecturer, IEEE Communications Society (Email: a.jamalipour@ieee.org)

Place: ICT 116 Date: October 15, 2009 Time: 5-6 pm

Abstract: Mobile communications networks have been evolved through multiple technologies over a period of several decades, to a stage that they become very complicated in the context of resource control and management. The heterogeneous next generation mobile network (NGMN) now includes a variety of network technologies and topologies incorporating with one another to provide a wide range of services; operate in a variety of channel conditions and environments; and within a single universal end user device. NGMN will need to be offered as an integrated system, and to promote interoperability among networks, offer global coverage and seamless mobility, enable the use of a universal handheld terminal, and enhance service quality compared to current wired networks. NGMN will be the infrastructure of the true mobile Internet.

Biologically inspired technologies seem to be a promising candidate to initiate further evolvement of the NGMN in a way that it can be operated much more efficiently and resource controlled in the heterogeneous and cooperative environment. There are certain similarities between the biological systems and the NGMN that show some principles in one system could be adapted to the other one and make the NGMN network management more flexible and operational. In this talk, the NGMN will be explained and its functionalities mapped with the biological systems using the examples of the speaker's previous research works in the areas of NGMN architecture design, mobility and traffic management for cellular networks, NGMN security, mobile ad hoc and mesh networks, wireless sensor networks, and vehicular communications. The talk should be able to inspire the audience on new techniques accessible from the nature for a better design of architecture and network operation in future mobile communications networks than the conventional approaches.

Biography: Abbas Jamalipour holds a PhD from Nagoya University, Japan. He is the author of the first book on wireless IP and three other books, and has co-authored nine books and over 190 technical papers, all in the field of mobile communications networks. He is a Fellow of IEEE (for contributions to next generation networks for traffic control), a Fellow of Institute of Engineers Australia; an IEEE Distinguished Lecturer and a Technical Editor of several scholarly journals including IEEE Communications, Wiley International Journal of Communication Systems, Journal of Communication Network, etc. He was the Editor-in-Chief of the IEEE Wireless Communications between Dec 2005 and Feb 2009. His areas of research are wireless data communication networks, wireless IP networks, next generation mobile networks, traffic, network security and management, and satellite systems. He was one of the first researchers to disseminate the fundamental concepts of the next generation mobile networks and broadband convergence networks as well as the integration of wireless LAN and cellular networks; some of which are being gradually deployed by industry and included in the ITU-T standards. Dr Jamalipour has authored several invited papers and been a keynote speaker in many prestigious conferences. He served as the Chair of the Satellite and Space Communications Technical Committee (2004-06); and currently is the Vice Chair of Communications Switching and Routing TC; and Chair of Chapters Coordinating Committee, Asia-Pacific Board, all from the IEEE Communications Society. He is a voting member of the IEEE GITC and IEEE WCNC Steering Committee. He has been a Vice Chair of IEEE WCNC2003 to 2006, Program Chair of SPECTS2004, Chair of symposiums at IEEE GLOBECOM2005 to 2007 and IEEE ICC2005 to 2008, Program Co-Chair of IEEE RWS2008, General Co-Chair IEEE RWS2009, among many conference leadership roles. Currently he is the General Chair of IEEE WCNC2010 to be held in Sydney, Australia, Workshops Chair of the IEEE ICC2010 and a Symposium Chair and Vice TPC Chair of the IEEE Globecom2010. He has received several prestigious awards, such as the 2006 IEEE Distinguished Contribution to Satellite Communications Award, the 2006 IEEE Communications Society Best Tutorial Paper Award, and the 2005 Telstra Award for Excellence in Teaching. **For further information: Dr. E. Fear (fear@ucalgary.ca) Dr. S. Muruganathan (sdmuruga@ucalgary.ca)**

Co-sponsored by: MTT-S IEEE Southern Alberta Section AP/S

IEEE COMMUNICATIONS SOCIETY

The IEEE South Alberta Section's Computer Society
presents a seminar titled:

New Generation of Real-Time Monitoring and Control Software

Speaker: Matt M. Eskandar, P.Eng.
CEO, MR Control Systems International Inc.

Thursday, October 22, 2009, 6-8 PM

WHO SHOULD ATTEND? Those who are interested in software-intensive SCADA systems.

LOCATION: Room ENA 101 (Engineering A block), University of Calgary

COST: Free to IEEE members (please bring your membership card). $3 non-members. Refreshments will be served.

Abstract:

Fueled by advances in the telecommunication, computer hardware and software technologies over the last 20 years, monitoring and control systems have evolved far beyond simply reading and writing bits and bytes. This evolution has created a whole new breed of monitoring and control system that provides integrated features and capabilities that were once exclusively in the domain of separate dedicated systems. Discussion will center on key features of this next generation monitoring and control system and how such a system can be applied to solve diverse problems even in economically sensitive areas.

Speaker's Biography:

Matt graduated from the University of Alberta with a degree in Electrical Engineering in 1991. After working in Water Resources, Power Utility and Petroleum industries for 8 years, Matt founded MR Control Systems International Inc. (www.mrcsi.com) in1999. MR Control Systems has established itself as a highly reputable and advanced SCADA system integration and software development company. Matt has been involved in the execution and management of hundreds of monitoring and control projects worldwide in Water Resources, Wind Energy, Power Utility, Energy Management and Oil and Gas industries.

Seminar Coordinator:

Dr. Vahid Garousi, PEng, vgarousi@ucalgary.ca, Computer Society Chair of the IEEE South Alberta Section. For more information, visit: http://sas.ieee.ca

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The IEEE South Alberta Section's Computer Society
presents a seminar titled:

The Maturation of Software Engineering as a Discipline and Recognized Profession

Speaker: Dr. Pierre Bourque
École de Technologie Supérieure (ETS, School of Higher Technology), Montreal

Monday, October 26, 2009 @ 3–5 pm

WHO SHOULD ATTEND? Persons who are interested in software engineering.

LOCATION: Room ENA 201, University of Calgary

COST: Free to IEEE members (please bring your membership card). $3 non-members.

Abstract:

In spite of the millions of software professionals worldwide and the ubiquitous presence of software in our society, software engineering has only recently begun to reach the status of a legitimate engineering discipline and a recognized profession. This is due notably to the concerted effort of the international software engineering community over the past 10 years. The speaker has participated very actively in some of these efforts.

In this talk, the speaker will seek to answer some fundamental questions such as what is discipline, what are the components of a recognized profession, how does software engineering stand in regard to the components of a recognized profession, is software engineering truly an engineering discipline, how does software engineering relate to computer science, to computer engineering, to project management, and is licensing necessary to be recognized profession. The talk will then provide an overview of the Guide to the Software Engineering Body of Knowledge (SWEBOK) and show its role in regard to the maturation of software engineering as a discipline and a recognized profession.

Speaker's Biography:

Pierre Bourque is an associate professor and the director of a professional master's degree program in software engineering at École de technologie supérieure, Université du Québec, Canada. He is coeditor of the 2001 and 2004 versions of the Guide to the Software Engineering Body of Knowledge (SWEBOK) project, sponsored by the IEEE Computer Society and funded by numerous industrial partners. The SWEBOK Guide is recognized as an ISO Technical Report. He is also coeditor of the upcoming 2010 version of the SWEBOK Guide. He is currently a member of the Computer Society's Professional Activities Board and acts as liaison to the Educational Activities Board. He is a member of the Distinguished Visitor Program and was the recipient of an Outstanding Contribution Award from the Computer Society in 2001. He is currently running as a candidate to be member of the Board of the Governors of the IEEE Computer Society.

Seminar Coordinator:

Dr. Vahid Garousi, PEng, vgarousi@ucalgary.ca, Computer Chapter Chair of the IEEE South Alberta Section.

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The IEEE South Alberta Section's Computer Society
presents a seminar titled:

Estimating Effort and Duration of Software Projects - ISBSG A Multi-Organizational Project Data Repository for Project Estimation and Benchmarking

Speaker: Dr. Pierre Bourque
École de Technologie Supérieure (ETS, School of Higher Technology), Montreal

Tuesday, October 27, 2009 @ 3–5 pm

WHO SHOULD ATTEND? Persons who are interested in software engineering.

LOCATION: Room ENA 201, University of Calgary

COST: Free to IEEE members (please bring your membership card). $3 non-members.

Abstract:

The construction of an estimation model, whatever estimation method is used, usually requires a set of completed projects from which an estimation model is derived and which is used thereafter as the basis for the estimation of future projects. Until fairly recently, for those organizations without their own historical data sets for building estimation models themselves, and who could not afford the long lead time to do so, few alternatives were widely available. The International Software Benchmarking Standards Group (ISBSG) is dedicated to the development and management of a multi-organizational repository of software project data. This talk presents the resources available from ISBSG and how to leverage them in your own context for benchmarking and estimation purposes. An example of building project duration models and a case study of a "reality check" of estimates developed otherwise will illustrate how ISBSG can be used in your projects.

Speaker's Biography:

Pierre Bourque is an associate professor and the director of a professional master's degree program in software engineering at École de technologie supérieure, Université du Québec, Canada. He is coeditor of the 2001 and 2004 versions of the Guide to the Software Engineering Body of Knowledge (SWEBOK) project, sponsored by the IEEE Computer Society and funded by numerous industrial partners. The SWEBOK Guide is recognized as an ISO Technical Report. He is also coeditor of the upcoming 2010 version of the SWEBOK Guide. He is currently a member of the Computer Society's Professional Activities Board and acts as liaison to the Educational Activities Board. He is a member of the Distinguished Visitor Program and was the recipient of an Outstanding Contribution Award from the Computer Society in 2001. He is currently running as a candidate to be member of the Board of the Governors of the IEEE Computer Society.

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