

Symposium on Plasma And Nuclear Systems SPANS-2018

Notice: 16-Aug-2018

Room: UA1240

UOIT – Oshawa, ON, Canada

**Sponsors: IEEE-Toronto, NPSS Chapter, CNS – UOIT Chapter,
CNS – Fusion Science and Technology Division, CAP – Plasma Physics Division, IEEE-Canada**

Chair: Professor Hossam A.Gabbar (UOIT),

Contacts: Hossam.Gaber@uoit.ca

Information and updates, please visit: www.sege-conference.com/SPANS18CFP.pdf

Canadian Nuclear Society, SEGE

Message from SPANS Chair, Dr. Hossam A. Gabbar



Professor in the Faculty of Energy Systems and Nuclear Science, and cross appointed in the Faculty of Engineering and Applied Science, UOIT

UOIT is welcoming all attendees at SPANS. IEEE NPSS (Nuclear and Plasma Sciences Society), Toronto Chapter has been active in organizing workshops in plasma and nuclear systems since its establishment. The recent workshop was on Real Time Measurement, Instrumentation, and Control (RTMIC). This has been extended with the collaboration with CNS-Fusion Science and Technology Division, CAP – Plasma Physics Division to organize SPANS or Symposium on Plasma and Nuclear Systems. This symposium provides a unique opportunity for fruitful discussions and collaboration between industries and academia. In addition it provides great opportunities for students to present their work and have closer discussions with researchers, scientists, and professionals from industries to add great values to their skills and awareness of real industrial projects.

Modelling Compact Toroid Injection into the ITER Tokamak, Jordan Morelli, Adam Banks, and Solomon Segal, Queen's University



Professor Jordan Morelli, Ph.D., P. Eng.

Jordan Morelli received his B.Eng. Degree in Electrical Engineering from the Royal Military College of Canada in 1996, his M.A.Sc. in Electrical Engineering from the University of Windsor in 1998 and his Ph.D. degree in Electrical Engineering from the University of Saskatchewan in 2003. He joined the Department of Physics, Engineering Physics, and Astronomy at Queen's University in 2003 and has been a registered Professional Engineer in the Province of Ontario since 2004. He has won numerous teaching Awards, including the Golden Apple Award and the Excellence in Instruction in the Engineering Physics Program Award. He has been working in the field of electrical distribution system optimization since 1996, and the field of controlled thermonuclear fusion since 1998. Jordan is a strong advocate for sustainable energy and is well versed in public policy and regulations particularly regarding wind and solar technologies. Jordan is a Certificate of Authorization license holder and provides engineering consulting services in the general fields of electrical engineering and sustainable energy systems. He is a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE), and a member of the Division of Plasma Physics of the Canadian Association of Physicists. Jordan is the proud father of Edwin, Aziz, and Seneca.

RM Innovations Strategic Core, Dr. Hassan Hassan, IRI, OPG

Hassan A. Hassan, Ph.D., P.Eng., PMP

IRI, Reactor Innovation ,

Tel. (905) 839-1151 Ext 5902

Email: Hassan.Hassan@opg.com



Student Innovation Competition

- The event will include student competition, please submit your abstract and author list to: Hossam.gabbar@uoit.ca by 1-Jul-2018, and complete the registration (at least one author)

TOPICS

- **Plasma Devices and Applications.**
- **Plasma Experiments, Diagnostics and Control.**
- **Plasma Simulation and Modeling.**
- **Nuclear Power Plant Safety Systems.**
- **Nuclear Power Plant Control Systems.**
- **Nuclear Power Plant Monitoring and Measurement Systems.**

Objectives of Symposium

- **This symposium is providing forum for researchers from academia and industry to present and discuss latest research innovations in nuclear and plasma systems.**
- **SPANS will provide attendees with state-of-the-art research and technologies and engage in active discussions with industry. Also it will provide industry with opportunities to promote their products and business cases.**
- **Attendees from regulators and standards will engage in fruitful discussions on how R&D is linked with regulations and standards.**

Bio – Professor Jordan Morelli, Ph.D., P.Eng.

Jordan Morelli received his B.Eng. Degree in Electrical Engineering from the Royal Military College of Canada in 1996, his [M.A.Sc.](#) in Electrical Engineering from the University of Windsor in 1998 and his Ph.D. degree in Electrical Engineering from the University of Saskatchewan in 2003. He joined the Department of Physics, Engineering Physics, and Astronomy at Queen's University in 2003 and has been a registered Professional Engineer in the Province of Ontario since 2004. He has won numerous teaching Awards, including the Golden Apple Award and the Excellence in Instruction in the Engineering Physics Program Award. He has been working in the field of electrical distribution system optimization since 1996, and the field of controlled thermonuclear fusion since 1998. Jordan is a strong advocate for sustainable energy and is well versed in public policy and regulations particularly regarding wind and solar technologies. Jordan is a Certificate of Authorization license holder and provides engineering consulting services in the general fields of electrical engineering and sustainable energy systems. He is a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE), and a member of the Division of Plasma Physics of the Canadian Association of Physicists. Jordan is the proud father of Edwin, Aziz, and Seneca.

Bio - HASSAN A. HASSAN, Ph. D., P. ENG, PMP, Ontario Power Generation, IRI Projects

Dr. Hassan is currently working with the Innovation group, Inspection and Candu Innovation Projects, Ontario Power Generation. The Innovation group participates in different reactor inspection and maintenance projects such as Drone Inspection, Intelligent FME, Single Fuel Channel Replacement (SFCR), C/T replacement, BR projects, etc. Dr. Hassan was assigned to the role of helping the group to introducing new technologies which may result in better performance, reduced radiation and/or cost and enhance performance.

Dr. Hassan received his Ph.D. at 1990 in Industrial Automation. He was then selected to work as an assistant professor of industrial automation and robotic. Dr. Hassan worked as a head of the Robot Research Lab and he has several published researches.

At 1996, Dr. Hassan selected to switch from the academic career to the field of consultancy. He worked in several positions as an Engineering Consultant, until 2006, when he selected to join the nuclear industry, where his industrial and academic experience may be helpful.

Over his academic and industrial career, he has been active in various capacities with several professional organizations, including the Academy of Scientific Research, IEEE, The Canadian Society of Mechanical Engineers, The National Research Center, The Project Management Institute, and the Professional Engineers of Ontario.

Dr. Hassan had his M. Sc. Degree in Material Science (Composite Material) at 1986 and he graduated as a mechanical engineer at 1981. He can be reached at Tel. # (905) 428- 4000 ex. 6017, Or via email at: Hassan.hassan@opg.com

SPANS 2018 - Agenda, UA1240



- **08:30 - 09:00 Registration, Coffee**
- **09:00 – 09:20 Opening Message, Dr. Hossam A.Gabbar, SPANS Chair, IEEE Toronto NPSS Chapter Chair**
- **09:20 – 10:20 Keynote Speaker: Modelling Compact Toroid Injection into the ITER Tokamak, Jordan Morelli, Adam Banks, and Solomon Segal, Queen’s University**
- **10:20 – 10:50 Break**
- **10:50 – 11:50 Keynote Speaker: RM Innovations Strategic Core, Dr. Hassan A. Hassan, OPG**
- **11:50 – 13:00 Lunch**
- **13:00 – 14:00 Keynote Speaker: Advances in Safety and Control for Nuclear and Plasma Systems, Dr. Hossam Gaber, APEL, UOIT**
- **14:00 – 14:20 Plasma-based WTE, Mohamed Aboughaly, APEL, UOIT**
- **14:20 – 14:40 Plasma System Setup and Safety, Peter Sercl, APEL, UOIT**
- **14:40 – 15:00 Discussions, Projects, Opportunities**
- **15:00 – 15:30 Closing**

SPANS-2018

Call for Papers

Please send abstracts for papers to: hossam.gaber@uoit.ca

Presentations are organized by subtopics of this symposium

Abstract Deadline

1-July, 2018

SPANS-2018

Registration Fees: \$50

(Discount fee of \$30 for students, IEEE, CNS, and CAP Members)

Space is Limited (60 to 100 max)

(please send registration information to: hossam.gaber@uoit.ca)

Registration

For Registration:

www.sege-conference.com/SPANS.html

Public Transportation

- From Toronto:
GO Train from Union Station to Ajax GO Station,
Durham Transit Bus (No. 915 East) from Ajax Station
direct to UOIT Campus.

Train and Bus schedules are available at:

[GO Schedule](#)

[Durham Transit](#)

Select schedules from Toronto to Oshawa and vice versa. Choose "Lakeshore East" from the pull down menu.

Public Transportation

- From Airport:
You can use public transportation to move from airport to reach UOIT: [See Details](#)