



## **Smart Energy Seminar Series**

24-November-2022, 8am – 4pm

Location: Room (SHA 024), Ontario Tech University, 2000 Simcoe Street North, Oshawa, ON L1G 0C5 (map below)

### **Seminar on Computational Intelligence and Data-Driven Procedures for Energy Engineering**

**Professor Maurizio Repetto**  
Politecnico di Torino, Italy

#### **Summary**

This seminar will cover computational intelligence techniques and data analysis methods to support optimum deployment of energy systems. The seminar will discuss statistical analysis, regression, and classification methods, neural network training and applications on PV forecasting, heat and electricity load analysis.

To Register: please send an email to:

Dr. Hossam Gaber, [hossam.gaber@ontariotechu.ca](mailto:hossam.gaber@ontariotechu.ca)

## Schedule

8:00 - 9:30am	Session-1	Introduction to AI in energy and industry, recalls of statistics and of optimization
9:30 - 10:00am	Break	
10:00 - 11:30am	Session-2	Supervised learning and regression
11:30 - 2:00pm	Break	
02:00 - 3:30pm	Session-3	Unsupervised learning and clustering; artificial neural network
3:30 – 4:00pm	Discussions	

## SHORT BIO

Maurizio Repetto (Genova, Italy, 1960) received his Master and Ph. D. degrees in Electrical Engineering from the University of Genova.

Since year 2000 is full professor of Principle of Electrical Engineering at the Department of Energy "Galileo Ferraris" of the Politecnico di Torino.

From 2013 to 2017, Honorary Professor in the School of Information Technology and Electrical Engineering, The University of Queensland, Brisbane, Australia.

In 2018 visiting researcher at the University of Ontario Institute of Technology in Oshawa, Canada.

From October 2015 to September 2018 Coordinator of the Electrical Engineering curriculum at the Politecnico di Torino. Since October 2018 he is elected member for Europe in the Board of the International Compumag Society.

In February 2019 has been selected as expert for the Horizontal Working Group (HWG) on *100% Renewable Energy Districts* of the of the Renewable Heating and Cooling (RHC) European Platform.

Since July 2020, designated as Alternate Representative for Italy in the Executive Committee of the International Energy Agency Implementing Agreement on District Heating & Cooling, including Combined Heat and Power (IEA DHC-TCP).

His research and consulting activity are focused on the numerical analysis of electromagnetic fields, on the modelling of magnetic materials, on the optimisation applied to the design of industrial devices and on the simulation and optimization of complex and hybrid energy systems with integration of renewable energy sources.

He is author of 219 publications and of five patents. Bibliometrics, listed in the major research databases (Scopus – accessed Jan 4<sup>th</sup>, 2022), attribute more than 2300 citations (h-index 26).



2000 Simcoe Street North  
Oshawa, Ontario L1G 0C5  
Canada



## North Oshawa Location

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- |                                   |  |   |                                   |
|-----------------------------------|--|---|-----------------------------------|
| Ontario Tech University buildings | ACE<br>ACE   | ERC<br>Energy Systems and Nuclear Science Research Centre | SR<br>Simcoe Village Residence    |
| Durham College buildings          | CC<br>Campus Corners                                 | GWB<br>Gordon Willey Building                             | SSB<br>Student Services Building  |
| Shared buildings                  | CCE<br>Centre for Collaborative Education            | JW<br>J Wing  | SVDH<br>South Village Dining Hall |
| Parking                           | CERL<br>Clean Energy Research Lab                    | JSTW<br>Justice Wing                                      | SVR<br>South Village Residence    |
| Accessible parking                | CFH<br>Campus Fieldhouse                             | LIB<br>Library  | SW<br>South Wing                  |
| Visitors' parking                 | CIC<br>Campus Ice Centre                             | RT<br>Residence Townhouses                                | U5<br>U5 Offices                  |
| Information                       | CRWC<br>Campus Recreation and Wellness Centre        | SC<br>Student Centre                                      | UA<br>Science Building            |
| Bus stops                         | ENG<br>Ontario Power Generation Engineering Building | SHA<br>Shawenjigewining Hall                              | UB<br>Business and IT Building    |
|                                   |  | SIRC<br>Software and Informatics Research Centre          | UL<br>UL Offices                  |
|                                   |  |   | UP<br>Pavilion                    |

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