



Summer Course on

Exergy and Its Applications for Better Environment and Sustainability

University of Ontario Institute of Technology (UOIT)
Oshawa, Ontario, Canada
April 30-May 4, 2012

OVERVIEW

Recently, exergy has become a new distinct discipline for system design, analysis, optimization and performance evaluation; and its use has been expanded drastically. Many researchers and practicing engineers refer to exergy methods as powerful tools for analyzing, assessing, designing, improving and optimizing systems and processes.

Exergy analysis appears to be an important tool to industry in: (a) addressing the impact of energy resource utilization on the environment and economics, (b) furthering the goal of more efficient energy resource utilization, (c) determining locations, types and true magnitudes of wastes and losses, (d) revealing whether or not and how much it is possible to design more efficient energy systems by reducing the inefficiencies, and (e) providing a sustainable development as a result of sustainably supply of energy resources.

This workshop will enable the attendees to increase their knowledge on system design, analysis, optimization, and performance evaluation of a large number of applications, including power cycles, renewable energy, hydrogen energy, fuel cells, cryogenics, refrigeration, energy storage, chemical processes, distillation, desalination, hybrid and integrated systems, and many more. There will be an opportunity for them to learn about new exergy methods, such as advanced exergy, exergo-environmental and exergo-enviro-economic, etc. The topics will be extended to global warming and sustainability issues to discuss how exergy will help combat global warming and provide sustainability.

The attendees will also actively participate in the discussions on the applicability and benefits of the exergy methods during the interactive discussion sessions and networking breaks. They will also have a chance to interact with the principal lecturers, who are the leading figures in the area of thermodynamics and exergy. In addition to the lectures, limited contributions as oral presentations from the participants will be accepted.

Furthermore, there will be social events for better interacting and networking opportunities through breakfasts, lunches, coffee breaks and dinners.

WHO SHOULD ATTEND?

This timely course is intended to provide training for postdoctoral researchers, graduate students, researchers, scientists and engineers on the theory and methods of exergy analysis and its applications to the a large variety of systems through several lectures given by the leadings experts in this field.

PRINCIPAL LECTURERS

For this first-ever summer course on “Exergy and its application for better environment and sustainability” the following internationally well-recognized experts are invited as principal lecturers to deliver the lectures:

- Professor **Ozer Arnas**, United States Military Academy at West Point, USA
- Professor **Ibrahim Dincer**, UOIT, Canada
- Professor **Yunus A. Cengel**, University of Nevada at Reno, USA



- Professor **Greg F. Naterer**, UOIT, Canada
- Professor **Marc A. Rosen**, UOIT, Canada
- Professor **Enrico Sciubba**, University of Roma-I, Italy
- Mr. **David P.W. Solberg**, Thermo-Environmental Systems, L.L.C., USA
- Professor **George Tsatsaronis**, Berlin Technical University, Germany

This will give an ample opportunity to the participants to interact with leaders in the field and gain real understanding about this important and fast-developing field. For details, see www.exergycourse.org. In addition, there will be some more lecturers to deliver some cutting-edge presentations on the related topics.

COURSE TOPICS

A wide range of exergy related topics will be covered in the course in addition to some applications/ tutorial sessions. Their details and the technical program are available on the website.

CONTRIBUTIONS FROM PARTICIPANTS

A limited number of contributions for some oral and poster presentations from the participants are possible. Those who are interested in can contact the Organizing Committee at info@exergycourse.org for details.

REGISTRATION

To participate and attend, all must pre-register through our website. We have limited seating capacity and attendance will be on a first-come-first-serve basis by pre-registration.

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|------------------------|----------|
| Non-academic delegate | CA\$1500 |
| Full academic delegate | CA\$250 |
| Student delegate | CA\$100 |

The registration fees include:

- Participation in all lectures and discussion sessions
- Lecture notes and other relevant materials
- All meals including breakfast, coffee breaks, and lunch for all days as well as welcoming reception.

ACCOMMODATION

There will be rooms available at the UOIT campus residences. More information on accommodation options is available at www.exergycourse.org.

SPONSOR

The main sponsor for this training event is Mitacs.

ORGANIZING COMMITTEE

Professor Ibrahim Dincer (Course coordinator), UOIT

C. Ozgur Colpan (Assistant coordinator), Ryerson University

Siamak Farhad, Ryerson University

Ehsan Baniasadi, UOIT

Halil Hamut, UOIT

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FOR MORE INFORMATION

Course Secretariat

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