

Travel Information

Location: Hamilton is situated midway between Toronto and Niagara Falls. McMaster University is located in the west end of the city.

Getting Here: The nearest large airport is Pearson International in Toronto. Frequent limousine or bus service is available and it takes about one hour. There are also flights to Buffalo NY which is approximately 120 km from Hamilton.

How to Get to McMaster:

Please go to:

<http://www.mcmaster.ca/welcome/directions.cfm>

Course Parking: Lot I

Parking Fee: \$5.00/day if paid in advanced.

Paid parking passes will be available at welcome reception on Sunday, June 10.

Contact:

Carolina Castellanos
McMaster University

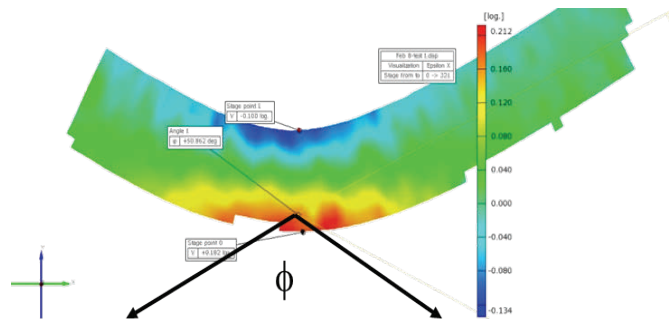
1280 Main Street West JHE 213
Hamilton ON L8S 4L7

Phone: (905) 525-9140 X24984

Fax: (905) 526-8404

MODERN STRUCTURAL STEELS AND THEIR MECHANICAL PROPERTIES

McMaster University
June 11 to 15, 2012



<http://training.mcmaster.ca/index.html>



Course Objectives

In the past decade there have been many developments in new structural steels aimed at a variety of applications such as automotive structures, pipelines and building construction. This course will be aimed at linking a fundamental understanding of the compositions and heat treatments required to produce a variety of materials such as Dual Phase steels, TRIP and TWIP steels, nanograined steels, high strength bainitic steels and new martensitic grades to their mechanical properties.

The course is open to academic and industrial participants.

Course Structure

The course will be divided into 3 modules dealing with:

- A) The development and characterization of modern structural steels in terms of the factors controlling their microstructures, their characteristic length scales and their relationship to engineering requirements.
- B) A module will be devoted to descriptions of the strengthening mechanisms of these steels including modeling of their mechanical response at the continuum and dislocation levels. The models will include consideration of the combinations of yield strength, workhardening and Bauschinger effects in a wide range of steels.
- C) The third module will be devoted to a treatment of basic fracture mechanics and its application to structural steels using both Linear Elastic Fracture mechanics and Elasto-plastic models to discuss a variety of toughness parameters and their application to engineering design requirements.

Lectures will run June 11 to June 15, 2012 from 4:00 to 8:00 pm.

A Welcome Reception will be held at 7:00 pm on Sunday June 10, 2012.

Lecturers



J. David Embury, PhD from the University of Cambridge in 1963 and appointed at McMaster University in 1966.

He twice served as Chair of the Department of

Materials Science and Engineering. He holds the prestigious title of "University Professor". He is also a Fellow of the Royal Society of Canada and the American Institute of Mining and Metallurgy. He held a number of prestigious visiting professorships NTNU (Norway), UCL (Belgium), Los Alamos (USA) and Cambridge University (UK). He is co-author of over 250 refereed publications.



Olivier Bouaziz, Ph. D. from Joseph Fourier University (Grenoble)

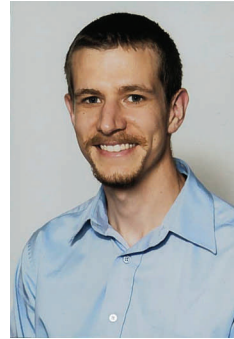
Leader for research on "Microstructure-Mechanical behaviour relationships" for internal studies and for the alliance between ArcelorMittal and Nippon

Steel

Scientific expert since January 2008 for short and mid-term product development

Breakthrough solutions: Ultra-fine grain steels, steel matrix composites, functionally.

Exploratory research leader (2005-2008).

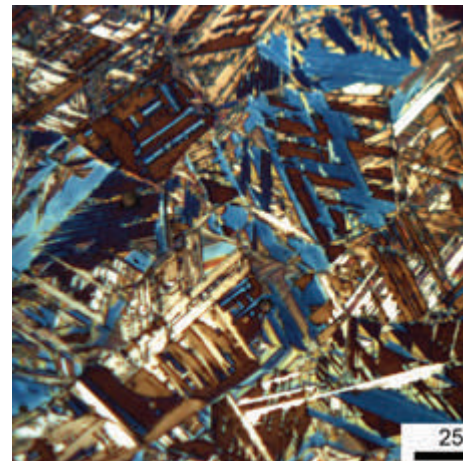


Arnaud Weck, PhD from University of Ottawa.

A highly accomplished young researcher with an impressive publication record focused on the relationship between microstructure and mechanical properties in materials.

In particular, Dr. Weck has

performed very innovative work on experimentally investigating the strength and ductile fracture response of materials. His expertise also includes modelling the ductile fracture process using analytical models as well as numerical tools (finite element method) coupled with local and nonlocal damage models.



Microstructure of Fe-24Mn steel consisting of austenite and epsilon martensite.

Course Information

There is an enrollment limit of 60 registrants. The course fee is 500.00 CDN, this includes lectures, course notes, Sunday Reception and coffee break.

Registration:

To register for the course complete and return the attached registration form with payment details.

Daily Lectures

Monday to Friday

Time: 4:00 to 8:00 pm

McMaster University Main Campus

Burke Science Building (BSB) Room TBD

Welcome Reception, Sunday June 10

A Welcome Reception will be held from 7 - 9 p.m. on Sunday, June 10 at the David Braley Centre – Fitzhenry Studio (2nd floor). Registrants are invited to meet lecturers and fellow participants.

For updates and campus map, please visit:

<http://training.mcmaster.ca/index.html>

Registration Form

Please Complete this Form and Fax it to:
(905) 526-8404

Name

Company Name

Address

Phone

E-mail

Course Fee: \$ 500.00

Tax (13%): \$ 65.00

Parking @ \$5:00/day (if paid in advance)

Parking free on Sunday

Total

Paid parking tickets will be available at Welcome Reception on Sunday, June 10.

Payment Options

Cheque (Payable to McMaster University. Mail to: Carolina Castellanos, McMaster University, 1800 Main St. W JHE 213, Hamilton ON L8S 4L7

Visa

MasterCard

American Express

Credit Card #

Exp. date

Signature

To protect your credit card information, registration by credit card can be made only by fax. Please fax completed form to (905) 526-8404

Cancellation Policy

May 28, 2012 refund 50%; there will be no refunds after June 4, 2012. Substitutions can be made. Receipt of payment is the only guarantee of registration.