

2013 CNA Summer School

Topics in Nonlinear PDEs and Calculus of Variations,
and Applications in Materials Science

Center for Nonlinear Analysis

Carnegie Mellon University, Pittsburgh, PA
May 30–June 7, 2013



Lecturers and Topics:

John Ball, University of Oxford (UK)

- ▶ Microstructure Genesis and Morphology

Bernard Dacorogna, École Polytechnique Fédérale de Lausanne (Switzerland)

- ▶ The Pullback Equation for Differential Forms

Nicola Fusco, Università degli Studi di Napoli Federico II (Italy)

- ▶ Stability for Inequalities of Isoperimetric Type

Richard James, University of Minnesota (USA)

- ▶ Compatibility, Hysteresis and Energy Conversion

Sylvia Serfaty, Université Pierre et Marie Curie (France)

- ▶ Point Systems with Coulomb Interaction: From Variational Study to Statistical Mechanics



Nonclassical austenite-martensite interfaces. Thanks to Hanus Seiner.

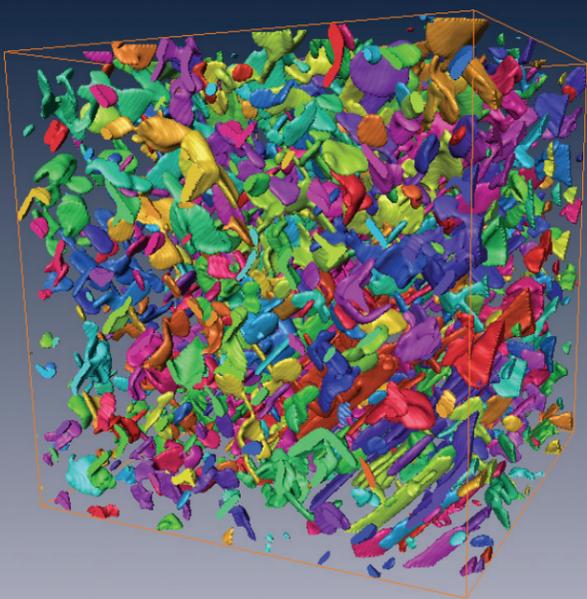
Center for Nonlinear Analysis

Carnegie Mellon University
Department of Mathematical Sciences
Pittsburgh, PA 15213

Telephone: 412-268-2545

Fax: 412-268-6380

email: cna@math.cmu.edu



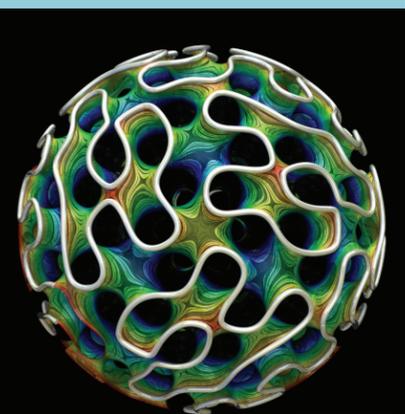
Microstructure of precipitates of a thermoelectric alloy ($Sb_{2.5}Te_{3.5}$ precipitates in a $PbTe$ matrix) Thanks to S. Cao, D. Schryvers, X. Chen and R. D. James.

The mini-courses will be complemented by one-hour talks by leading researchers in related fields. The list includes:

- ▶ **Kaushik Dayal**, Carnegie Mellon University
- ▶ **Alessio Figalli**, University of Texas at Austin
- ▶ **Rupert Frank**, California Institute of Technology

Advanced graduate students and postdocs are invited to submit a title and an abstract for a poster. A cv will also be required. Each poster will be individually introduced with a five minute oral presentation. **The deadline for submission of posters is April 15, 2013.**

Advanced undergraduate students, graduate students, and postdoctoral fellows are encouraged to apply for financial support. **The deadline for applications is April 15, 2013.**



Gyroid. Thanks to Paul Nylander, bugman123.com.

<http://www.math.cmu.edu/cna/Summer13>

This conference is sponsored by the Department of Mathematical Sciences at Carnegie Mellon University and by the National Science Foundation.

Organizers: Irene Fonseca, Giovanni Leoni and Ian Tice

Carnegie Mellon

CNA Center for Nonlinear Analysis