



Center for Hierarchical Materials Design

PHASE FIELD METHODS VIII
Workshop

NORTHWESTERN UNIVERSITY

CHIMAD.NORTHWESTERN.EDU

April 23-25, 2019



Center for Hierarchical Materials Design (CHiMaD) is a NIST-sponsored center of excellence for advanced materials research focusing on developing the next generation of computational tools, databases and experimental techniques in order to enable the accelerated design of novel materials and their integration to industry, one of the primary goals of the U.S. administration's Materials Genome Initiative (MGI).

This Chicago-based consortium includes Northwestern University as the lead, University of Chicago, Argonne National Laboratory, and Northwestern-Argonne Institute for Science and Engineering (NAISE), a partnership between Northwestern University. The consortium is also partnered with QuesTek Innovations LLC, a pioneering materials design company, ASM International and Fayetteville State University.

Designing novel materials of specific properties for a particular application requires simultaneously utilizing physical theory, advanced computational methods and models, materials properties databases and complex calculations. This approach stands in contrast to the traditional trial-and-error method of materials discovery. CHiMaD aims to focus this approach on the creation of novel hierarchical materials which exploit distinct structural details at various scales, from the atomic on up, to obtain enhanced properties. The center's research focuses on both organic and inorganic advanced materials in fields as diverse as self-assembled biomaterials, smart materials for self-assembled circuit designs, organic photovoltaic materials, advanced ceramics and metal alloys.

For more information, please visit chimad.northwestern.edu
CHiMaD Contact: *E. Begum Gulsoy*, e-gulsoy@northwestern.edu

Preliminary Agenda

Phase Field Methods VIII

April 23-25, 2019

Tuesday, April 23, 2019

CHiMaD Headquarters

12:00PM – 1:00 PM	Registration & Informal Kickoff Lunch
1:00 PM – 1:15 PM	Welcome & Goals of Workshop <i>Olle Heinonen</i>
1:15 PM – 1:45 PM	Updates: Benchmark problems, PFHub <i>Olle Heinonen, Daniel Wheeler</i>
1:45 PM – 2:30 PM	Issues/Review of Nucleation Theory <i>Tamas Pustai, Laszlo Granasy</i>
2:30 PM – 2:45 PM	Goals for Breakout Sessions
2:45 PM – 3:00 PM	Break
3:00 PM – 5:00 PM	Breakout Sessions
5:00 PM – Later	Reconvene & Beer and Dinner on our own

Wednesday, April 24, 2019

CHiMaD Headquarters

8:45 AM	Breakfast
9:00 AM – 11:00 AM	Breakout Sessions
11:00AM – 12:00PM	Reconvene
12:00 PM – 12:10PM	Group Photo
12:10 PM – 1:00PM	Lunch
1:00 PM – 3:00 PM	Breakout Presentations
3:00 PM – 3:15 PM	Break
3:15 PM – 4:00 PM	Breakout Discussions
4:00 PM – 5:00 PM	Machine Learning, Uncertainty Quantification, and Phase Field <i>Raymundo Arroyave</i>
5:30 PM – 7:00PM	Workshop Reception

Thursday, April 25, 2019

8:45 AM

Breakfast

9:00 AM – 9:45 AM

Annual Review of Materials Research Review of Phase Field
Mike Tonks

9:45 AM – 10:45 AM

Phase Field and Fracture
Blaise Bourdin

10:45 AM – 11:00 AM

Break

11:00 AM – 12:00 PM

Wrap-up discussion, what's next?

12:00 PM

Boxed Lunches to-go & Until next time!

Logistics
Phase Field Methods VIII
April 23-25, 2019

Workshop Location

CHiMaD Headquarters

Hogan Building, Suite 1160
Northwestern University
2205 Tech Drive
Evanston, IL 60208

Registration: <https://victoriafonseca.wufoo.com/forms/chimad-phase-field-methods-viii-registration/>

Parking Information

North Campus Parking Garage

2311 North Campus Drive
Evanston, IL, 60208

If driving, please park at the North Garage, and take a ticket as you enter. Validation tickets will be available at CHiMaD Headquarters, see *Victoria Fonseca* to obtain a validation ticket.

Hotel & Shuttle Information

Hilton Orrington

1710 Orrington Ave
Evanston, IL 60201

Block Code: PV8
Cut-off Deadline: March 29

A shuttle is available to the workshop, but you are also welcome to walk if you prefer. Please see the map on the next page for locations.

Reimbursements

Please contact *Victoria Fonseca*, victoria.fonseca@northwestern.edu for details.

