Matthew Kasemer

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EDUCATION

Doctor of Philosopy 2018
Cornell University
Title: On the Implementation of a Model of Deformation Induced Twinning in a Crystal Plasticity Finite Element Framework
Advisor: Prof. Paul Dawson
Focus: Solid mechanics, plasticity, numerical methods

Master of Science 2015
Cornell University
Title: The Influence of Mechanical Constraints Introduced by β Annealed Microstructures on the Yield Strength and Ductility of Ti-6Al-4V
Advisor: Prof. Paul Dawson

Bachelor of Science 2012
Rochester Institute of Technology
Highest Honors, Honors Program

RESEARCH EXPERIENCE

Cornell High Energy Synchrotron Source Aug 2012 – Dec 2017
Graduate Research Assistant
Project: Graduate theses

Rochester Institute of Technology Jan 2012 – May 2012
Undergraduate Researcher, Mechanics Laboratory
Project: Laboratory Activities to Illustrate the Importance of Low Cycle Fatigue
Supervisors: Prof. Elizabeth DeBartolo, Prof. Stephen Boedo
Focus: Solid mechanics, experimental fatigue and failure

NASA Glenn Research Center Jan 2011 – Jan 2012
Undergraduate Researcher, Mechanics and Life Prediction Branch
Project: Viscoelastoplastic Deformation and Damage Response of Titanium Alloy, Ti-6Al-4V, at Elevated Temperatures
Supervisor: Dr. Steven Arnold
Focus: Solid mechanics, plasticity under extreme conditions, numerical methods

PUBLICATIONS

PUBLISHED

[2] M. Kasemer, M.P. Echlin, J.C. Stinville, T.M. Pollock, and P. Dawson, "On Slip Initiation in Equiaxed α/β Ti-6Al-4V," *Acta Materialia*, vol. 136C, pp. 288–302, Jun 2017.

[1] M. Kasemer, R. Quey, and P. Dawson, "The Influence of Mechanical Constraints Introduced by β Annealed Microstructures on the Yield Strength and Ductility of Ti-6Al-4V," *Journal of the Mechanics and Physics of Solids*, vol. 103C, pp. 179–198, Mar 2017.

IN PREPARATION

[3] M.P. Echlin, M. Kasemer, J.C. Stinville, W.C. Lenthe, M. Johnson, A. Trenkle, D. Boyce, T.M. Pollock, and P. Dawson, "Defining a Representative Volume Element for Yield Strength and Ductility in Titanium 6Al-4V," In preparation, 2017.

[2] R. Quey, M. Kasemer, and P. Dawson, "Multiscale Polycrystals for the Finite Element Method: Generation and Meshing," In preparation, 2017.

[1] E. Zepeda-Alarcón, M. Kasemer, P. Dawson, and H.R. Wenk, "Texture Development in a Dual Phase Bridgmanite/Periclase Mineral Aggregate," In preparation, 2017.

CONFERENCES

CONFERENCE PRESENTATIONS

[2] M. Kasemer, R. Quey, D. Boyce and P. Dawson, "Investigating the Influence of Microstructural Features on the Yield Strength and Ductility of Ti-6Al-4V," at *International Workshop on Mechanistic Behaviour of HCP Alloys*, University of Oxford, Oxford, England, UK, Mar 2016.

[1] M. Kasemer, E. Wielewski, R. Quey, and P. Dawson, "Investigating the Influence of Microstructural Features on Strength and Ductility of β Annealed Ti-6Al-4V," at *3rd World Congress on Integrated Computational Materials Engineering*, Colorado Springs, Colorado, USA, Jun 2015.

CONFERENCE PROCEEDINGS

[2] S. Boedo, E. DeBartolo, and M. Kasemer, "Laboratory Activities to Illustrate the Importance of Low Cycle Fatigue," *2013 ASEE Annual Conference & Exposition*, Atlanta, Georgia, USA, Jun 2013.

[1] S. Arnold, B. Lerch, A. Saleeb, and M. Kasemer, "Viscoelastoplastic Deformation and Damage Response of Titanium Alloy, Ti-6Al-4V, at Elevated Temperatures," *International Symposium on Plasticity and its Current Applications*, Nassau, Bahamas, Jan 2013.

TEACHING EXPERIENCE

GRADUATE TEACHING ASSISTANT

MAE3280: Experimental and Applied Mechanics of Structures — Spring 2018
Cornell University, Prof. Matt Miller

WORKSHOPS

InSitμ Workshop — Fall 2017
Cornell High Energy Synchrotron Source, Cornell University

Invited Speaker — Apr 2017
University of California, Santa Barbara

Modelling the Micromechanics of Polycrystalline Materials Workshop — Apr 2016
University of Glasgow

InSitμ Workshop — Jun 2014
Cornell High Energy Synchrotron Source, Cornell University

STUDENT MENTORSHIP

Kayleigh Nelson — Sep 2016 – Dec 2016
University of Glasgow
Doctoral student of Prof. Euan Wielewski

Eloisa Zepeda-Alarcón — May 2015 – Aug 2015
University of California, Berkeley
Doctoral student of Prof. Hans-Rudolf Wenk

Joshua Ren — Jan 2015 – May 2015
Cornell University
Mechanical engineering undergraduate student

GRANTS & AWARDS

Cornell University International Graduate Research Grant — Mar 2016
Cornell University Conference Grant — Mar 2016
Cornell University Conference Grant — Jun 2015

PROFESSIONAL MEMBERSHIPS

The Materials, Metals, and Minerals Society
American Society of Mechanical Engineers
Tau Beta Pi

OTHER WORK EXPERIENCE

LORD Corporation — Sep 2009 – May 2010
Engineering Design Intern

[*CV compiled on 2017-09-30*]