

MICHAEL ORTIZ - SHORT CURRICULUM VITAE (September 2019)

PERSONAL INFORMATION

Family name, First name: ORTIZ, MICHAEL.
Date of birth: August 6, 1954. Nationality: USA.
Website URL: <http://www.ortiz.caltech.edu>

EDUCATION

1982 Philosophy Doctor (Ph. D.), University of California, Berkeley, USA.
1978 Master of Science (M.S.), University of California, Berkeley, USA.
1977 Bachelor of Science (B.S.), Polytechnic University, Madrid, Spain.

CURRENT POSITIONS

2016 – Present Bonn Research Chair, Institute for Applied Mathematics, Bonn University, Germany.
1995 – Present Professor, Engineering and Applied Science, California Institute of Technology, USA.

PREVIOUS POSITIONS

1990 – 1995 Professor, Division of Engineering, Brown University, USA.
1987 – 1990 Associate Professor, Division of Engineering, Brown University, USA.
1984 – 1987 Assistant Professor, Division of Engineering, Brown University, USA.

FELLOWSHIPS AND HONORS

2019 John von Neumann Medal, US Association for Computational Mechanics (USACM).
2019 Doctor Honoris Causa, Universidad Politécnica de Madrid, Spain.
2018 Inducted, UC Berkeley Academy of Distinguished Civil and Environmental Alumni.
2016 Journal of the Mechanics and Physics of Solids (JMPS) 60th Birthday Special Volume.
2015 Timoshenko Medal, American Society of Mechanical Engineers (ASME).
2014 IUTAM Symposium in honor of 60th birthday, Burg Schnellenberg (Germany).
2011 Prize of the Spanish Association for Numerical Methods in Engineering (SEMNI).
2010 Hans Fischer Senior Fellowship, Institute for Advanced Study, Tech. U. Munich (Germany).
2008 Rodney Hill Prize, International Union of Theoretical and Applied Mechanics (IUTAM).
2007 USACM Computational Structural Mechanics Award (USACM).
2002 Computational Mechanics Award for Research (IACM).
2002 Humboldt Research Award for Senior U.S. Scientists, A. von Humboldt Stiftung (Germany).
1998 Southwest Mechanics Lecture Series (USA).
1995-1996 Midwest Mechanics Seminar (USA).
1994-1995 Sherman Fairchild Distinguished Scholar, California Institute of Technology.
1977-1978 Fulbright Scholarship University of California, Berkeley.

ACADEMY MEMBERSHIP

2013 Elected Member of the U.S. National Academy of Engineering (NAE).
2007 Elected Fellow of the American Academy of Arts & Sciences (AAAS).
1999 Corresponding Member, Spanish Academy of Engineering.

SOCIETY MEMBERSHIP

2008 Founding member, Activity Group on Mathematical Aspects of Materials Science, U. S. Society for Industrial and Applied Mathematics (SIAM).
2002 Fellow of the International Association for Computational Mechanics (IACM).
1999 Founding member, Spanish Society of Numerical Methods in Engineering (SEMNI).
1997 Fellow, U. S. Association for Computational Mechanics (USACM).

SELECTED COMMITTEES

2014 – 2018 U. S. National Academy of Engineering (NAE): Section 10 Mechanical Engr. (presently Chair)
2010 U. S. National Academy of Sciences (NAS): Committee on Opportunities in Protection Materials Science and Technology for Future Army Applications.
2008 – 2009 Lawrence Livermore National Laboratory (LLNL): Chemistry, Materials Earth and Life Sciences Directorate Review Panel.
2007 U. S. National Research Council (NRC): Committee for the Evaluation of QMU.
2006 – 2013 U. S. National Nuclear Safety Agency (NNSA): Predictive Science Panel (PSP).

2006 – 2009 Sandia National Laboratories (SNL): Engineering Sciences External Review Panel.
 2004 – 2008 Lawrence Livermore National Laboratory (LLNL): Engr. Directorate Review Committee.
 2004 – 2006 Los Alamos National Laboratory (LANL): Theoretical Division Review Committee
 2002 – 2007 Office of the President of the University of California (OPUC): Science & Tech. Panel.
 2000 – 2008 U. S. Association for Computational Mechanics (USACM): Executive Committee.

PRESENT EDITORIAL BOARDS

1999 Archive for Rational Mechanics and Analysis (ARMA).
 1999 Journal of the Mechanics and Physics of Solids (JMPS).
 1996 International Journal for Numerical Methods in Engineering (IJNME).
 1996 Computer Methods in Applied Mechanics and Engineering (CMAME).

PRINCIPAL ORGANISER OF SCIENTIFIC MEETINGS

2008 SIAM Conf. Math. Aspects of Materials Science, Philadelphia (USA), with S. Müller.
 1993 IUTAM Symp. Computational Mechanics of Materials, Providence (USA), with C. F. Shih.

RECENT INSTITUTIONAL RESPONSIBILITIES

2012 – 2016 Caltech Faculty Board, elected faculty representative.
 2008 – 2013 Director, Caltech's DoE/PSAAP Center for the Predictive Modelling and Simulation of High Energy Density Dynamic Response of Materials.

SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

Advised 35 postdoctoral fellows (leading to joint publications).
 Advised and graduated 53 PhD students (supervised Ph. D. theses).

PUBLICATIONS (as of September 2017)

Career total of 344 articles indexed in the Web of Science Core Collection, 16,796 citations

(excluding self-citations), h-index 65. Top five publications by number of citations (acc. Web of Science):

1. Camacho, G. T. and Ortiz M., "Computational modelling of impact damage in brittle materials," *International Journal of Solids and Structures*, **33** (20-22): 2899-2938, 1996. **Citations: 1,159.**
2. Tadmor, E. B., Ortiz, M. and Phillips R., "Quasicontinuum analysis of defects in solids," *Philosophical Magazine A*, **73** (6): 1529-1563, 1996. **Citations: 1,059.**
3. Ortiz, M. and Pandolfi, A., "Finite-deformation irreversible cohesive elements for three-dimensional crack-propagation analysis," *International Journal for Numerical Methods in Engineering*, **44** (9): 1267-1282, 1999. **Citations: 764.**
4. Ortiz, M. and Simo, J. C., "An Analysis of a New Class of Integration Algorithms for Elastoplastic Constitutive Relations," *International Journal for Numerical Methods in Engineering*, **23** (3): 353-366, 1986. **Citations: 481.**
5. Shenoy, V. B., Miller, R., Tadmor, E. B., Rodney, D., Phillips, R. and Ortiz, M., "An adaptive finite element approach to atomic-scale mechanics - The quasicontinuum method," *Journal of the Mechanics and Physics of Solids*, **47** (3): 611-642, 1999. **Citations: 462.**

RECENT PLENARY LECTURES

- 2019 COMPLAS XV International Conference on Computational Plasticity, Fundamentals and Applications, Barcelona, Spain
- 2019 First Colloquium of the Spanish Theoretical and Applied Mechanics Society (STAMS), Madrid, Spain
- 2019 Century Fracture Mechanics Summit (CFMS), Singapore
- 2019 UC3M EUROMECH Colloquium Damage and Failure of Engineering Materials under Extreme Loading Conditions, Madrid, Spain
- 2019 2nd International Workshop of the SFB 986, Hamburg, Germany
- 2019 USACM Thematic Conference on Uncertainty Quantification in Solid and Structural Materials Modeling, University of Pennsylvania, Philadelphia, PA
- 2019 Distinguished Lecture, ECCOMAS, Computational Modelling of Complex Materials Across the Scales (CMCS 2019), Glasgow, UK