



## The Department of MECHANICAL ENGINEERING



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## Kiger, Kenneth



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Keystone Professor  
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### Research Interests

Fluid mechanics and experimental techniques, specifically in the topics of multi-phase flows, particle/turbulence interaction, and turbulent mixing in complex geometries.

Current project topics include applying Particle Image Velocimetry (PIV) to the suspension of sediment in turbulent channel flows, air entrainment by plunging liquid jets, fundamental dynamics of spray cooling for electronic applications, and the effects of turbulent mixing on safety issues within Pressurized Water Reactors of nuclear power plants.

### Education

Ph.D., University of California, San Diego, 1995

### Honors and Awards

National Science Foundation CAREER Initiation Award, 1997.

### Professional Memberships and Service

Reviewer for National Science Foundation

Referee for the Journal of Fluid Mechanics, Physics of Fluids, ASME Journal of Fluids Engineering, Experiments in Fluids, International Journal of Multiphase Flow

Experimental Thermal and Fluid Sciences

Organizing Committee for the APS Division of Fluid Dynamics Annual Meeting, Washington, DC (2000)

### Selected Publications

2001

Lee, J., J. Kim, and K.T. Kiger, "Time and Space Resolved Heat Transfer Characteristics of Single Droplet Cooling Using Microscale Heater Arrays," *Intl. J. of Heat and Fluid Flow*, Vol. 22, No. 2, pp. 188-200, 2001.

Kiger, K. T., and F. Gavelli, "Boron Mixing in Complex Geometries: Flow Structure Details," *Nuclear Engineering and Design*, 208, pp. 67-85, 2001.

2000

Gavelli F., and K.T. Kiger, "High Resolution Boron Dilution Measurements Using Laser Induced Fluorescence (LIF)," *Nuclear Engineering and Design*, Vol. 195, pp 13-25, 2000.

Chirichella, D., R. Gomez-Ledesma, K.T. Kiger, and J.H. Duncan, "Air Entrainment by a Plunging Liquid Jet Translating Over a Free Surface," *Physics of Fluids (Gallery of Fluid Motion, photographs*

*and abstract*), Vol. 12, No. 9, pp. S4, 2000.

Kiger, K.T., and C. Pan, "PIV Technique for Simultaneous Measurement of Dilute Two-phase Flows," *Journal of Fluids Engineering*, Vol. 122, pp. 811–818, 2000.

### Related News

#### **Chow and Niezelski Named 2015–2016 Philip Merrill Presidential Scholars**

Mechanical Engineering seniors Ryan Chow and Sarah Niezelski selected as 2015–2016 scholars. October 15, 2015

#### **Alumni Help Students Explore Career Paths in Mechanical Engineering**

Mechanical Engineering thanks alumni who participated in the Fall 2014 Career Paths course. January 8, 2015

#### **Fischell Department of Bioengineering to Host 7th Fischell Festival**

Annual event invites everyone to learn more about biomedical engineering. October 1, 2013

#### **Duncan Receives Wilson H. Elkins Professorship**

Mechanical Engineering Professor James Duncan awarded professorship to expand research in hydrodynamics. September 4, 2013

#### **Terry Island Receives the Provost's Academic Advisor of the Year Award**

Mechanical Engineering staff member honored for restructuring undergrad student advising, improving retention and graduation rates. August 19, 2013

#### **Kiger Promoted to Full Professor and Director of Undergraduate Studies**

Kenneth Kiger's promotion and appointment reflect the positive impact of his teaching and research. June 11, 2012

#### **Two Mechanical Engineering Professors Awarded ADVANCE Grants**

Profs. Sarah Bergbreiter and Kenneth Kiger collaborate with faculty from a variety of disciplines on research projects with engineering applications. June 6, 2012

#### **Regents Recognize Kiger for Teaching**

Mechanical engineering professor receives one of the Board of Regents' highest honors. February 28, 2012

#### **Spring Engineering Commencement Ends on a Delightful Note**

ME department says a fond farewell to 2009 graduates. June 9, 2009

#### **Clark School Holds 2009 Commencement**

Conservation advocate Philip Hannam serves as student speaker. May 27, 2009