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SHORT BIO:

Craig Taatzjes is a Distinguished Member of the Technical Staff at Sandia National Laboratories' Combustion Research Facility in Livermore, California. After a PhD in 1991 from the University of Colorado, and postdoctoral research in Amsterdam with Steven Stolte (Vrije Universiteit) and Aart Kleyn (AMOLF), he joined the staff of the Combustion Research Facility in 1994. He has been a visiting fellow of JILA and a Benjamin Meaker visiting professor at the University of Bristol. His research focuses on kinetics and mechanisms of fundamental chemical reactions that are important in combustion and hydrocarbon oxidation.

RESEARCH INTERESTS

Chemical Kinetics; Combustion Chemistry; Atmospheric Chemistry

EDUCATION

Ph.D. Chemical Physics, 1991, University of Colorado

Laser Investigations of Vibrational, Rotational, and Translational Energy Transfer

Thesis advisor: Prof. Stephen R. Leone

B.S. Chemistry, 1985, Calvin College

AWARDS, HONORS AND MEMBERSHIPS

Editor in Chief, *International Journal of Chemical Kinetics*

Polanyi Medal and Lecturer, International Symposium on Gas Kinetics, 2014

Benjamin Meaker Visiting Professor, Institute for Advanced Studies, University of Bristol, 2013

Two-time winner, David A. Shirley Award for outstanding scientific achievement at the Advanced Light Source, 2005 & 2012.

Morino lecturer (Morino Foundation for Molecular Science, Japan), 2010

Fellow of the American Physical Society (elected 2010)

O. W. Adams Award for outstanding achievement in combustion science, (Combustion Research Facility, Sandia National Laboratories), 2010
Lockheed Martin NOVA award for Individual Technical Excellence, 2006.
JILA visiting fellow, 2004-2005.

SELECTED PUBLICATIONS & PATENTS

1. Oliver Welz, Arkke J. Eskola, Leonid Sheps, Brandon Rotavera, John D. Savee, Adam M. Scheer, David L. Osborn, Douglas Lowe, A. Murray Booth, Ping Xiao, M. Anwar H. Khan, Carl J. Percival, Dudley E. Shallcross, and Craig A. Taatjes, "Rate coefficients of Criegee Intermediate (CH_2OO and CH_3CHOO) reactions with formic and acetic acid are close to their collision limit: Direct kinetics measurements and atmospheric implications," *Angew. Chem.* **in press** doi:10.1002/anie.201400964 (2014).
2. Craig A. Taatjes, Dudley E. Shallcross, and Carl J. Percival, "Research frontiers in the chemistry of Criegee intermediates and tropospheric ozonolysis," *Phys. Chem. Chem. Phys.* **16**, 1704–1718 doi:10.1039/C3CP52842A (2014).
3. Joshua W. Allen, Adam M. Scheer, Connie Gao, Shamel S. Merchant, Subith S. Vasu, Oliver Welz, John D. Savee, David L. Osborn, Changyoul Lee, Stijn Vranckx, Zhandong Wang, Fei Qi, Ravi X. Fernandes, William H. Green, Masood Z. Hadi, and Craig A. Taatjes, "A Coordinated Investigation of the Combustion Chemistry of Diisopropyl Ketone, a Prototype for Biofuels Produced by Endophytic Fungi," *Combust. Flame* **161**, 711–724 doi:10.1016/j.combustflame.2013.10.019 (2014).
4. Arkke J. Eskola, Oliver Welz, John D. Savee, David L. Osborn, and Craig A. Taatjes, "Measurements of product formation in low-temperature *n*-butane oxidation: Towards fundamental understanding of autoignition and $n\text{-C}_4\text{H}_9 + \text{O}_2$ / *sec*- $\text{C}_4\text{H}_9 + \text{O}_2$ reactions," *J. Phys. Chem. A* **117** 12216–12235 doi:10.1021/jp408467g (2013).
5. Oliver Welz, Judit Zádor, John D. Savee, Leonid Sheps, David L. Osborn, and Craig A. Taatjes, "Low-Temperature Combustion Chemistry of Biofuels: Principal Oxidation Pathways for Hydroxybutyl Radicals Derived from *n*-Butanol," *J. Phys. Chem. A* **117**, 11983–12001, doi: 10.1021/jp403792t (2013).
6. Craig A. Taatjes, Oliver Welz, Arkke J. Eskola, John D. Savee, Dudley E. Shallcross, Adam M. Scheer, Brandon Rotavera, Edmond P. F. Lee, John M. Dyke, Daniel K. W. Mok, David L. Osborn, and Carl J. Percival, "Direct Measurements of Conformer-Dependent Reactivity of the Criegee intermediate CH_3CHOO ," *Science* **340**, 177–180 doi:10.1126/science.1234689 (2013).
7. Judit Zádor, Craig A. Taatjes, Ravi X. Fernandes, "Kinetics of Elementary Reactions in Low-Temperature Autoignition Chemistry," *Prog. Energy Combust. Sci.* **37**, 371–421 doi:10.1016/j.pecs.2010.06.006 (2011).
8. Judit Zádor, Ravi X. Fernandes, Yuri Georgievskii, Giovanni Meloni, Craig A. Taatjes, and James A. Miller, "The reaction of hydroxyethyl radicals with O_2 : a theoretical analysis and experimental product study," *Proc. Combust. Inst.* **32**, 271–277 doi:10.1016/j.proci.2008.05.020 (2009)
9. Giovanni Meloni, Talitha M. Selby, Fabien Goulay, Stephen R. Leone, David L. Osborn, and Craig A. Taatjes, "Photoionization of 1-alkenylperoxy and alkylperoxy radicals and a general rule for the stability of their cations," *J. Am. Chem. Soc.* **129**, 14019–14025 (2007) DOI: 10.1021/ja075130n.
10. Craig A. Taatjes, Nils Hansen, Andrew McIlroy, James A. Miller, Juan P. Senosiain, Stephen J. Klippenstein, Fei Qi, Liusi Sheng, Yunwu Zhang, Terrill A. Cool, Juan Wang, Phillip R. Westmoreland, Matthew E. Law, Tina Kasper, Katharina Kohse-Höinghaus, "Enols Are Common Intermediates in Hydrocarbon Oxidation," *Science* **309**, 1887–1889 doi: 10.1126/science.1112532] (2005).