Judit

Zádor

Senior Member of Technical Staff
Combustion Chemistry Department

Sandia National Laboratories
P.O. Box 969
Livermore, CA 94551-0969

Phone: +1 (925) 294-3603
E-mail: jzador@sandia.gov

Judit Zádor

SHORT BIO:

I was born and raised in Budapest, Hungary, except for a few early years that I lived in Moscow, Russia. While obtaining a Degree in Chemistry at the Eötvös University, I worked in the group of Prof. Tamás Turányi to study correlations and uncertainties in combustion kinetic models. I spent the last year of my undergraduate studies in Leeds, U.K., as an Erasmus student working with Prof. Mike Pilling, who introduced me to atmospheric chemistry. After completing my PhD in Hungary on further analysis of chemical kinetic models, I spent a year doing discharge flow experiments at the Chemical Research Centre of the Hungarian Academy of Sciences, mentored by Dr. Sándor Dóbé. I started working at the Combustion Chemistry Department of Sandia in 2007 under the supervision of Dr. Craig A. Taatjes and Dr. James A. Miller (now at Argonne), studying a wide variety of combustion relevant elementary reactions, mostly using theoretical methods. I was hired as a senior staff member in the Chemistry Department in 2010.

RESEARCH INTERESTS

Theoretical reaction kinetics; Combustion chemistry; Atmospheric chemistry; Uncertainty analysis; Automatic reaction pathway search

EDUCATION

PhD in Physical Chemistry, Eötvös University, Budapest, Hungary (2006); Chemistry Diploma, Eötvös University, Budapest, Hungary (2002); Erasmus student, Univeristy of Leeds, Leeds, United Kingdom (2005-6)

AWARDS, HONORS AND MEMBERSHIPS

Distinguished Paper on Reaction Kinetics at the 32nd International Combustion Symposium (2009); Hungarian Chemical Society's Award for Outstanding Master Theses (2002); 1st in the Hungarian National High School Chemistry Contest (1997)

Combustion Institute (2007-); Reaction Kinetics and Photochemistry Working Committee of the Hungarian Academy of Sciences (2000-); Royal Society of Chemistry (2005-)

MENTEES

Brian D. Busemeyer, summer intern, 2012, now PhD student
Ewa Papajak, postdoctoral associate, 2012-
Xiaohu Li, postdoctoral associate, 2012-
Justin Kwok, summer intern, 2013

SELECTED PUBLICATIONS & PATENTS

1. **Zádor, J.**, Huang, H., Welz, O., Zetterberg, J., Osborn, D.L., Taatjes, C.A.: *Directly measuring reaction kinetics of QOOH – a crucial but elusive intermediate in hydrocarbon autoignition*. Physical Chemistry Chemical Physics, **2013** 15 10753-10760.
2. Welz, O., Klippenstein, S.J., Harding, L.B., Taatjes, C.A., **Zádor, J.**: *Unconventional peroxy chemistry in alcohol oxidation: The water elimination pathway*. Journal of Physical Chemistry Letters, **2013** 4 350-354.
3. **Zádor, J.**, Taatjes, C.A., and Fernandes, R.X.: *Kinetics of elementary reactions in low-temperature autoignition chemistry*. Progress in Energy and Combustion Science, **2011** 37 371-421.
4. **Zádor, J.**, Jasper, A.W., and Miller, J.A.: *The reaction between propene and hydroxyl*. Physical Chemistry Chemical Physics, **2009** 11 11040–11053.
5. Fernandes, R.X., **Zádor, J.**, Jusinski, L.E., Taatjes, C.A., and Miller, J.A.: *Formally direct pathways and low-temperature chain branching in hydrocarbon autoignition: The cyclohexyl + O_2 reaction at high pressure*. Physical Chemistry Chemical Physics, **2009** 11 1320-1327.
6. **Zádor, J.**, Fernandes, R.X., Georgievskii, Y., Meloni, G., Taatjes, C.A., and Miller, J.A.: *The reaction of hydroxyethyl radicals with O_2: A theoretical analysis and experimental product study.* Proceedings of the Combustion Institute, **2009** 32 271-277.
7. Kovács, G., **Zádor, J.**, Farkas, E., Nádasdi, R., Szilágyi, I., Dóbé, S., Bérces, T., Márta, F., and Lendvay, G.: *Kinetics and mechanism of the reactions of CH_3CO and $CH_3C(O)CH_2$ radicals with O_2. Low-pressure discharge flow experiments and quantum chemical computations.* Physical Chemistry Chemical Physics, **2007** 9 4142-4154.
8. **Zádor, J.**, Wagner, V., Wirtz, K., and Pilling, M.J.: *Quantitative assessment of uncertainties for a model of tropospheric ethene oxidation using the European Photoreactor (EUPHORE).* Atmospheric Environment, **2005** 39 2805-2817.
9. Zsély, I.G., **Zádor, J.**, and Turányi, T.: *Similarity of sensitivity functions of reaction kinetic models.* Journal of Physical Chemistry A, **2003** 107 2216-2238.