

## Pujan Biswas

Ph.D. Student in Mechanical Engineering, admitted Winter 2021

### Publications

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#### PUBLICATIONS

- **Experimental Measurement of the Rate Coefficient for OCS + M, with M = Ar, He, N<sub>2</sub>, CO<sub>2</sub> in a Shock Tube Using Laser Absorption Spectroscopy.** *The journal of physical chemistry. A*  
Panda, A., Biswas, P. A., Simitz, L. V., Streicher, J. W., Strand, C. L., Hanson, R. K.  
2026
- **IR-HyChem: Towards modeling the high-T combustion behavior of aviation fuels using infrared spectra** *PROCEEDINGS OF THE COMBUSTION INSTITUTE*  
Biswas, P., Boddapati, V., Klingberg, A. R., Panda, A., Wang, H., Hanson, R. K.  
2025; 41
- **LT-HyChem- A physics-based chemical kinetic modeling approach for low-temperature oxidation of real fuels I: Rationale, methodology, and application to a simple fuel mixture** *COMBUSTION AND FLAME*  
Choudhary, R., Biswas, P., Boddapati, V., Wang, H., Hanson, R. K.  
2025; 271
- **New insights into the effect of molecular structure on stable intermediate formation during the pyrolysis of normal and branched alkanes - II: Impact of carbon number and degree of branching** *FUEL*  
Boddapati, V., Biswas, P., Panda, A., Klingberg, A. R., Hanson, R. K.  
2024; 373
- **New insights into the effect of molecular structure on stable intermediate formation during the pyrolysis of normal and branched alkanes - I: Multi-species time history measurements** *FUEL*  
Boddapati, V., Biswas, P., Panda, A., Klingberg, A. R., Hanson, R. K.  
2024; 373
- **Experimental and numerical investigation of shock wave-based methane pyrolysis for clean H<sub>2</sub> production** *SHOCK WAVES*  
Ferris, A. M., Biswas, P., Choudhary, R., Hanson, R. K.  
2024
- **Understanding the impact of molecular structure on the formation of stable intermediates during the pyrolysis of monoalkylated cyclohexanes in a shock tube** *PROCEEDINGS OF THE COMBUSTION INSTITUTE*  
Boddapati, V., Biswas, P., Panda, A., Klingberg, A. R., Hanson, R. K.  
2024; 40 (1-4)
- **Towards characterizing the effect of sustainable gasoline additives on the low-T reactivity of n-heptane using CO speciation in a shock tube** *PROCEEDINGS OF THE COMBUSTION INSTITUTE*  
Biswas, P., Boddapati, V., Hanson, R. K.  
2024; 40 (1-4)
- **Multiwavelength Speciation in Pyrolysis of n-Pentane and Experimental Determination of the Rate Coefficient of nC<sub>5</sub>H<sub>12</sub> = nC<sub>3</sub>H<sub>7</sub> + C<sub>2</sub>H<sub>5</sub> in a Shock Tube.** *The journal of physical chemistry. A*  
Biswas, P., Choudhary, R., Hanson, R. K.  
2023
- **A laser-absorption sensor for in situ detection of biofuel blend vapor in engine intakes** *PROCEEDINGS OF THE COMBUSTION INSTITUTE*  
Clees, S., Cha, D. H., Biswas, P., Boddapati, V., Cassidy, S. J., Strand, C. L., Hanson, R. K., French, B., Gilmour, A., Hawk, K. C., Stitt, J. M., Ferlet, X.

2023; 39 (1): 1307-1316

- **A mid-IR laser absorption diagnostic for measuring formaldehyde at high pressures and its demonstration in shock tubes** *COMBUSTION AND FLAME*

Biswas, P., Choudhary, R., Panda, A., Davidson, D. F., Hanson, R. K.  
2022; 245

- **Thermometry and speciation for high-temperature and -pressure methane pyrolysis using shock tubes and dual-comb spectroscopy** *MEASUREMENT SCIENCE AND TECHNOLOGY*

Pinkowski, N. H., Biswas, P., Shao, J., Strand, C. L., Hanson, R. K.  
2021; 32 (12)