# Xi DENG

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## EDUCATION

*Sep. 2009 - Jul. 2013* **BEng.** Beijing University of Aeronautics and Astronautics (BUAA)
**Major** Environment Engineering

*Oct. 2013 - Present* **Ph.D. Candidate** Tokyo Institute of Technology(TITECH)
**Major** Energy Sciences

*Jan.2016 – Mar.2016* **Visiting Researcher** Cardiff University, UK

## EMPLOYMENT

*Apr. 2014 - Present* **Research Assistant** Academy for Co-creative Education of Environment and Energy Science(ACEEES)

## RESEARCH INTERESTS

- Numerical Methods for Compressible Reacting Multi-components Flow
- High Performance Computing
- Mach Uniform Algorithm

## PUBILICATIONS

1. Deng, X., Sun, Z., Xie, B., Yokoi, K., Chen, C. and Xiao, F., 2017. A Non-oscillatory Multi-Moment Finite Volume Scheme with Boundary Gradient Switching. *Journal of Scientific Computing*, pp.1-23.

2. Deng, X., Xie, B. and Xiao, F., 2017. Multi-Moment Finite Volume Solver for Euler Equations on Unstructured Grids. *AIAA Journal*.

3. Deng, X., Xie, B. and Xiao, F., 2017. A finite volume multi-moment method with boundary variation diminishing principle for Euler equation on three-dimensional hybrid unstructured grids. *Computers & Fluids, 153*, pp.85-101.

4. Xie, B., Deng, X., Sun, Z. and Xiao, F., 2017. A hybrid pressure–density-based Mach uniform algorithm for 2D Euler equations on unstructured grids by using multi-moment finite volume method. *Journal of Computational Physics*, 335, pp.637-663.

5. Li, Q., Omar, S., Deng, X. and Xiao, F., 2017. Constrained interpolation profile conservative semi-Lagrangian scheme based on third-order polynomial functions and essentially non-oscillatory (CIP-CSL3ENO) scheme. *Communications in Computational Physics*.

6. Deng, X., Xie, B., Xiao, F. and Teng, H.H., New accurate and efficient method for stiff detonation capturing. *AIAA Journal*. (Under review)

7. Jin, P., Deng, X.* and Xiao, F., A direct ALE multi-moment finite volume scheme for the compressible Euler equations. *Communications in Computational Physics*. (Accepted)

8. Deng, X., Ina, B., Xie, B., Shyue, K.M. and Xiao, F., High fidelity discontinuity-resolving reconstruction for compressible multiphase flows with moving interfaces. *Journal of Computational Physics*. (In minor revision)

9. Deng, X., Xie, B., Loubère, R., and Xiao, F., Limiter-free discontinuity-capturing scheme for compressible gas dynamics with reactive fronts. *Computer Physics Communications*. (Under review)

10. Deng, X., and Xiao, F., Shock Stable Contact Resolving HLL-type Riemann Solvers. (In

preparation)

## CONFERENCES

1. Deng, X., Xie, B. and Xiao, F., Development of accurate and robust multi-moment based compressible solvers on hybrid unstructured grids, 11th Asian Computational Fluid Dynamics Conference, Dalian, China, 2016
2. Deng, X., Xie, B. and Xiao, F., Novel Numerical models for multi-component/phase compressible flows with moving interfaces and chemical reactions, 2017 Engineering Mechanics Institute Conference, San Diego, USA
3. Deng, X., Shyue, K. and Xiao, F., Simulation of Compressible Multiphase Flows with BVD-WENO-THINC Algorithm, The 3rd International Conference on Numerical Methods in Multiphase Flows, Tokyo, Japan, 2017
4. Deng, X. and Xiao, F., A Novel Solver for Multi-component/phase Compressible Flows with Advanced Discretized Schemes on Unstructured Grids, 14th U.S. National Congress for Computational Mechanics, Montreal, Canada, 2017

## HONORS AND AWARDS

- Scholarship for Achieving Excellent Grades, BUAA, 2012
- Japanese Government (Monbukagakusho:MEXT) Scholarship, 2013-2018
- Best Collaboration Award of The Fourth International Education Forum on Environment and Energy Science, Hawaii, USA, 2015
- Leading Program Educational Research Fund, 2016-2017
- Best Collaboration Award of The Fifth International Education Forum on Environment and Energy Science, San Diego, USA, 2016

## LANGUAGE SKILLS

- English Japanese (JLPT: N1)