

Lingqi Yang, Ph.D. Candidate

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PROFESSIONAL SUMMARY

Diligent and highly motivated Ph.D. candidate with **seven years** of specialized experiences in atomic and particle-based simulation, mixing of granular material and fabrication of functional graded material. Excellent in **solid and fluid mechanics** with extensive theoretical, numerical and experimental background. An excellent software engineer known for the development of the **parallel computing software Particle Dynamics Parallel Simulator (PDPS)**, chosen for the Air Force ongoing project, and also an **Android App Developer** with a published [App](#) in Google Play Store.

CORE SKILLS

- Academia Background: **Solid and Fluid Mechanics**, Granular Materials Mixing, Functional Graded Material
- Research Expertise: Atomic and Particle-based Dynamics Simulation, FEM
- Programming Experience: **C++, C, Fortran**, Matlab, Java, Web Development, **Android**
- Parallel Computing Experience: **MPI, OpenMP, Pthreads**
- Software Proficiency: **ABAQUS**, AutoCAD, **Latex, Linux**
- Languages and Other Specialty: English and **Italian**, Soccer

EDUCATION

Ph.D.	Civil Eng. and Eng. Mechanics	Columbia University (GPA: 4.0/4.0)	2012 - 2015
MS.	Mechanical Engineering	Purdue University, (GPA: 3.8/4.0)	2010 - 2012
MS.	Mechanical and Aerospace Eng.	University of Missouri (GPA: 4.0/4.0)	2008 - 2010
BS.	Civil Eng. and Mechanics	Huazhong University of Sci. & Tec.,	2004 - 2008

AWARDS AND HONORS

- 2014 **Air Force Office of Scientific Research Award on the Topic "Particulate Composite Mixing Processes"**
- 2014 **First Place of Poster Award in 2014 Engineering Mechanics Institute (EMI) Conference of the American Society of Civil Engineers (ASCE)**
- 2013 **Li Memorial Fellowship at The Fu Foundation School of Engineering and Applied Science, Columbia University**
- 2010 – 2011 **Lynn Fellowship at Purdue University**
- 2007 **Advanced Sports Individual, Huazhong University of Sci. & Tec.**
- 2004 – 2005 **Excellent Student Leader, Huazhong University of Sci. & Tec.**
- 2004 – 2005 **Excellent Academic Scholarship, Huazhong University of Sci. & Tec.**
- 2001 **Third Prize of the Chinese Mathematics Olympiad at National Level**

PROFESSIONAL WORK EXPERIENCE

- **Software Development**
 - Particle Dynamics Parallel Simulator (PDPS)
 - C++, MPI, Linux platform, command script input, highly modular structure, over 20,000 lines
 - http://www.columbia.edu/cu/civileng/yin/PDPS_Website/pdps.html
 - Android App: Volume Locker +

- Java, personal designed user-friendly interface, maximum media volume control
- <https://play.google.com/store/apps/details?id=com.nickyang.volumelockerplus&hl=en>
- **Graduate Research Assistant**
 - Columbia University (2012 – 2015)
 - Granular particle mixing under high shear environment (Cooperating with **Global Engineering and Materials, Inc.**, and sponsored by **Air Force Office of Scientific Research Award Project: Particulate Composite Mixing Processes**)
 - Particle dynamics simulation towards the fabrication of functional graded material (Sponsored by the **NSF Career Award project: Energy in sustainable infrastructure – multi-scale/physical approach to a novel hybrid solar roofing panel**)
 - Accelerated life testing of adhesive anchoring system
 - Purdue University (2010 – 2012)
 - Multi-scale simulation of nanoindentation
 - Design of journal bearing, tribology
 - University of Missouri (2008 – 2010)
 - Molecular dynamics simulation of laser sintering
 - A novel solution to ablation of two-layer composite with a temporal Gaussian heat flux
- **Graduate Teaching Assistant**
 - Real Estate Finance, Fall 2012 and Fall 2013, Columbia University
 - Fluid Mechanics, Fall 2011, Purdue University (**with teaching experience**)

PUBLICATION

- **Dissertation**
 - L. Yang, “Multi-scale simulation of nanoindentation,” PURDUE UNIVERSITY, 2012
 - L. Yang, “Molecular dynamics simulation of nanosintering processes,” University of Missouri, 2010
- **Journal Articles**
 - L. Yang and H. Yin, “Parametric study of particle sedimentation by dissipative particle dynamics simulation,” *Phys. Rev. E*, vol. 90, no. 3, p. 033311, Sep. 2014
 - L. Yang and A. Martini, “Nano-scale roughness effects on hysteresis in micro-scale adhesive contact,” *Tribology International*, vol. 58, pp. 40–46, Feb. 2013
 - L. Yang, Y. Zhang, and J. Chen, “Molecular dynamics simulation of deposition of nickel nanocluster on copper surface,” *Journal of Nanoparticle Research*, vol. 13, no. 10, pp. 4479–4489, Oct. 2011
 - L. Yang, Y. Gan, Y. Zhang, and J. Chen, “Molecular dynamics simulation of neck growth in laser sintering of different-sized gold nanoparticles under different heating rates,” *Applied Physics A: Materials Science & Processing*, vol. 106, no. 3, pp. 725–735, Mar. 2012
 - L. Yang, Y. Zhang, and J. K. Chen, “An Integral Approximate Solution to Ablation of a Two-Layer Composite with a Temporal Gaussian Heat Flux,” *Heat Transfer Engineering*, vol. 32, no. 5, pp. 418–428, 2011
- **Conference Presentation**
 - L.Q. Yang and H.M. Yin, 2013, “Dissipative particle dynamics simulation of size effect on particle sedimentation toward functionally graded material fabrication”, Engineering Mechanics Institute 2013, August 4-7, Chicago, IL
 - L.Q. Yang, Y.J. Liu, P.-H. Lee, H.M. Yin, 2013, “Dissipative particle dynamics simulation of particle sedimentation toward functionally graded material fabrication”, Engineering Mechanics Institute 2013, August 4-7, Chicago, IL
 - L.Q. Yang, P.A. Prieto-Muñoz, H.M. Yin, 2013, “Characterization of the creep behavior of an adhesive anchor system”, Engineering Mechanics Institute 2013, August 4-7, Chicago, IL
 - L.Q. Yang, Y.J. Liu, P.H. Lee, H.M. Yin, 2013, “Dissipative particle dynamics simulation of particle sedimentation toward functionally graded material fabrication”, 12th U.S. National Congress on Computational Mechanics. July 22-25, Raleigh, NC

