

Yao (Yolanda) Fu, PHD

Assistant Professor

Department of Aerospace Engineering & Engineering Mechanics, University of Cincinnati
Secondary Appointment, Materials Science & Engineering Program, University of Cincinnati

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Email: yao.fu@uc.edu; fuyaoimrcas@gmail.com**EDUCATION**

Ph.D.	Mechanical Engineering, University of Pittsburgh Pittsburgh, PA <i>Advisor:</i> Professor Albert C. To	08/2013
M.S.	Materials Science & Engineering, Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China <i>Advisor:</i> Dr. Wei Ke, Dr. Xinqiang Wu	08/2009
B.S.	Materials Science & Engineering, Hefei University of Technology	08/2006

ACADEMIC APPOINTMENT

Assistant Professor	Department of Aerospace Engineering & Engineering Mechanics, University of Cincinnati	01/2017- Current
Secondary Appointment	Materials Science & Engineering Program, Department of Mechanical and Materials Engineering, University of Cincinnati	01/2018- Current
Postdoctoral Research Fellow	Center for Nanophase Materials Science, Oak Ridge National Laboratory <i>Advisor:</i> Bobby Sumpter, Rajeev Kumar, Brad Lokitz	03/2016- 12/2016
Research Associate	University of Colorado Boulder <i>Advisor:</i> Jeong-Hoon Song	09/2014- 03/2016
Postdoctoral Research Fellow	University of South Carolina <i>Advisor:</i> Jeong-Hoon Song	09/2013- 08/2014
Graduate Research Assistant	University of Pittsburgh <i>Advisor:</i> Albert C. To	09/2009- 08/2013
Graduate Research Assistant	Institute of Metal Research, CAS <i>Advisor:</i> Wei Ke, Xinqiang Wu	09/2006- 07/2009

RESEARCH INTEREST

Environment-assisted fracture and fatigue behavior; Computationally guided innovative materials and manufacturing design; Multi-scale simulation modeling of microstructural evolution in additive manufacturing process

PROFESSIONAL & SERVICE ACTIVITIES

Society Affiliations	Member, International Association for Computational Mechanics (IACM) Member, United States Association for Computational Mechanics (USACM) Member, Minerals, Metals & Materials Society (TMS)
Conferences Organizer	Symposium Co-organizer, 2020 ASME International Manufacturing Science and Engineering Conference (MSEC), Cincinnati, Ohio (2020) Minisymposium Co-organizer, 14th U.S. National Congress on Computational Mechanics, Montreal, Canada (2017) Minisymposium Co-organizer, 13th U.S. National Congress on Computational Mechanics, San Diego, California (2015)
Proposal Reviewer	DOE Office of Fusion Energy Sciences SBIR (2021) NSF MOMS Program Soft Materials Panel (2018)
Journal Reviewer	Journal of Physics and Chemistry of Solids, Computational Material Science, Journal of Applied Physics, Materials & Design, Philosophical Magazine, Physica E, Nanoscale, Polymers, Composite Part B, Additive Manufacturing, Corrosion Science, Optics and laser Technology, Metals, Journal of Alloys and Compounds, International Journal of Impact Engineering, Applied Sciences, Advances in Space Research, Mechanics Research Communication, Frontiers of Structural and Civil Engineering
Department, College Committee	Advisor of Women in Flight Club (since 2019 Fall) URC proposal review committee (2020-2022) RT Davis committee (2021 Spring) Common statics course committee (2020 Spring) Faculty search committee (2019 Fall – 2020 Spring) Department head search committee (2019 Fall – 2021 Spring) 2019 Class advisor Curriculum committee of Year 2019
Guest Speaker	Introduction to Aerospace Engineering (AEEM 1022C), since 2017 Materials Selection in Design (MTEN 3076), 2019 and 2020 CEAS Women in Engineering Day, since 2017
Judge	Walnut Hill High School Science Fair 2019

AWARDS & HONORS

- Faculty Research Cost Support Award, University Research Center, Cincinnati, OH (2019).
- Faculty Development Award, College of Engineering and Applied Sciences, Cincinnati, OH (2019).
- Best Poster Award, Oak Ridge National Lab, Oak Ridge, TN (2017).
- NSF summer institute for attending NEMB2010 (NanoEngineering for Medicine and Biology), Houston, TX (2010).
- Outstanding Master Thesis Award in Liaoning Province, Institute of Metal Research, Chinese Academy of Science (CAS), China (2010).
- 1st degree Shichangxu research prize for graduate students, Institute of Metal Research, Chinese Academy of Science (CAS), China (2009).

TEACHING EXPERIENCE (As A FULL INSTRUCTOR ONLY)

- AEEM 5101/6001 Advanced Strength of Materials, Fall Semester (2020), University of Cincinnati
- AEEM 5105/6005 Aerospace Materials and Modeling Techniques, Spring Semester (2020, 2021), University of Cincinnati
- AEEM 1001 Statics and Basic Strength of Materials, Fall Semester (2018, 2019, 2020), University of Cincinnati
- AEEM 3058 Solid Mechanics I, Spring Semester (2017-2019), University of Cincinnati

MENTORING EXPERIENCE

Visiting Scholar	<p><i>Supervisor</i></p> <p>Zhimiao Li, Aerospace Engineering and Engineering Mechanics, University of Cincinnati, Oct. 2017-Sep. 2018</p>
Graduate Student-Doctoral	<p><i>Supervisor</i></p> <ul style="list-style-type: none"> • Mengze Ma, <i>Modeling statics and dynamics behavior of ionic block copolymer via coarse-grained molecular dynamics simulation</i>, Aerospace Engineering and Engineering Mechanics, University of Cincinnati, Jan. 2017-June 2021 (defense completed) • Balachander Gnanasekaran, <i>Microstructure effects on corrosion properties of laser powder bed fused 316L stainless steels</i>, Aerospace Engineering and Engineering Mechanics, University of Cincinnati, Jan. 2019-Current <p><i>Committee</i></p> <ul style="list-style-type: none"> • Cuiyuan Li, University of Cincinnati, 2022 (expected); Anurga Sharma, University of Cincinnati, 2021 (expected); Sauradeep Bhowmick, University of Cincinnati, 2021; Huyan Li, University of Cincinnati, 2021; Dheeraj Velicheti, University of Cincinnati, 2021; Wenting Xu, University of Cincinnati, 2020
Graduate Student-Master	<p><i>Committee</i></p> <ul style="list-style-type: none"> • Xu Huang, University of Cincinnati, 2017; Zimo Zhu, University of Cincinnati, 2017; Kuldeep Singh Sidhu, University of Cincinnati, 2018; Devika Chauhan, University of Cincinnati, Aug. 2018; Nathanael Bodine, University of Cincinnati, Dec. 2019; Varun Guduguntla, University of Cincinnati, Dec. 2019.
Undergraduate Student	<p><i>Supervisor</i></p> <ul style="list-style-type: none"> • Huu Tri Ngyugen, Aerospace Engineering and Engineering Mechanics, University of Cincinnati, Dec. 2020-current • Karlee Birchfield, Aerospace Engineering and Engineering Mechanics, University of Cincinnati, Jan. 2019-current • Mikele Boyd, Aerospace Engineering and Engineering Mechanics, University of Cincinnati, May 2020-Sep. 2020 • Kanyinsola Oladejo-Lawal, Mechanical Engineering and Materials Science, University of Cincinnati, Sep. 2019-Sep. 2020 • David Krok, Aerospace Engineering and Engineering Mechanics, University of Cincinnati, May. 2017-Jan. 2018

RESEARCH FUNDING

Sponsor	Project Title	Budget Period	Role	Fund requested	Status
NSF	CAREER: Understanding the Corrosion Fatigue Behavior of Additively Processed Metallic Alloys	10/01/2021-09/30/2026	PI	\$594,948	Funded
ONR	Advancing Fundamental Understanding of Passive Film Formation and Stability in Multi-Principal Element Alloys	4/01/20-3/31/21	Single-PI	\$277,079	Funded
NSF	Anisotropic Strengthening by Stress-Aided Oriented Coherent Precipitation	7/1/21-6/30/24	PI	\$445,043	Pending
NSF	Fundamental Mechanisms in Stress-Aided Variant Selection of Nanoscale Precipitation	8/1/21-7/30/24	PI	\$425,201	Pending

PROFESSIONAL SKILLS

Molecular dynamic (MD) simulations; Phase field modelling; Programming skills (C, C++, and Fortran); MATLAB; Scanning Electron Microscopy (SEM); Metallographic Microscopy; X-ray Diffraction (XRD); X-ray Photoelectron Spectroscopy (XPS); Electrochemical Linear Polarization; Potentiodynamic Polarization (PDP); Electrochemical Impedance Spectroscopy (EIS)

RELATED COURSES

Computational Nanomechanics; Computational Physics; Numerical Analysis; Fundamental of Thermodynamics; Elasticity; Principle of Corrosion Electrochemistry; Materials Structure and Physical Nature; Materials Structure and Mechanical Nature

PUBLICATIONS

- **Peer-reviewed journal publications** (*denotes corresponding author, _ denotes graduate students)
 1. M. Ma, **Y. Fu***, “Molecular dynamics study of the mechanical properties of ionic copolymers during tension-recovery deformation”, *Macromolecular Theory and Simulations*, 2000081 (2020) <https://doi.org/10.1002/mats.202000081>.
 2. X. Yang*, X. Wang, W. Wang, **Y. Fu***, Q. Xie, “Atomic-scale insights into interface thermal resistance between epoxy and boron nitride in nanocomposites”, *International Journal of Heat Mass Transfer*, 159 (2020) 120105.
 3. B. Donkor, J. Song*, **Y. Fu**, M. Kattoura, S. R. Mannava, M. A. Steiner, and V. K. Vasudevan*, “Accelerated g-FCC to e-HCP Massive Transformation in a Laser Powder Bed Fusion Additively Manufactured Co-29Cr-5Mo Alloy”, *Scripta Materialia*, 179 (2020) 65-69.
 4. Qinan Li, B. Gnanasekaran, **Y. Fu***, G.R. Liu*, "Prediction of Thermal Residual Stress and Microstructure of Additive Manufacturing Processes of Direct Laser Metal Deposition via a Coupled Finite Element and Multiphase Field Framework", *JOM* 72 (2019) 496-508.

5. M. Ma, **Y. Fu***, “Structural and Mechanical Properties of Ionic Polymers via a Molecular Dynamics Approach”, *Polymers* 11 (2019) 1546.
6. B. Gnanasekaran*, G.R. Liu, **Y. Fu**, G. Wang, W. Niu, T. Lin, " A Smoothed Particle Hydrodynamics (SPH) Procedure for Simulating Cold Spray Process - a study using particles", *Surface and Coating Technology* 377 (2019) 124812.
7. X. Yang*, Y. Wan, X. Wang, **Y. Fu***, Z. Huang, Q. Xie, "Molecular Dynamics Studies of the Mechanical Behaviors and Thermal Conductivity of the DGEBA/MTHPA/CNB Composites", *Composites Part B* 164 (2019) 659-666.
8. J. Song*, R. Field, A. Clarke, **Y. Fu***, M. Kaufman, "Variant Selection of Intragranular Ni₂(Mo,Cr) Precipitates in the Ni-Mo-Cr-W alloy", *Acta Materialia* 165 (2019) 362-372.
9. **Y. Fu***, J.G. Michopoulos, B. Gnanakaran, “Microstructure Evolution under Isothermal and Continuous Cooling Condition via a Combined Multiphase Field and Nucleation Approach”, *Computational Materials Science*, 155 (2018) 457-465.
10. V. Bocharova*, Z. Wojnarowska, P. Cao, **Y. Fu**, R. Kumar, V. N. Novikov, S. Zhao, A. Kisliuk, T. Saito, J. W. Mays, A. P. Sokolov. “The Influence of Chain Rigidity and Dielectric Constant on the Glass Transition Temperature in Polymerized Ionic Liquids”, *The Journal of Physical Chemistry B* 121 (2017) 11511-11519.
11. J.H. Song*, **Y. Fu**, T.-Y. Kim, Y.-C. Yoon, J. Michopoulos and T. Rabczuk. “Phase field simulations of coupled microstructure solidification problems via the strong form particle difference method”, *International Journal of Mechanics and Materials in Design*, 14 (2018) 491-509.
12. **Y. Fu**, V. Bocharova, M. Ma, A. P. Sokolov, B. G. Sumpter, and R. Kumar*. “Effects of counterion size and backbone rigidity on dynamics of ionic polymer melts and glasses”, *Physical Chemistry Chemical Physics*, 19 (2017) 27442-27451.
13. Z. Wojnarowska*, H. Feng, **Y. Fu**, S. Cheng, B. Carroll, R. Kumar, V. N. Novikov, A. M. Kisliuk, T. Saito, N-G Kang, J. W. Mays, A. P. Sokolov, and V. Bocharova. “Effect of chain rigidity on the decoupling of ion motion from segmental relaxation in polymerized ionic liquids: ambient and elevated pressure studies”, *Macromolecules*, 50 (2017) 6710–6721.
14. **Y. Fu**, J. Michopoulos and J.H. Song*. “Bridging the multi phase-field and molecular dynamics models for the solidification of nano-crystals”, *Journal of Computational Science*, 20 (2017) 187-197.
15. **Y. Fu***, J. Michopoulos and J.H. Song*. “On Investigating the thermomechanical properties of cross-linked epoxy via molecular dynamics analysis”, *Nanoscale and Microscale Thermophysical Engineering*, 21 (2017) 8-25.
16. X. Wu*, **Y. Fu**, W. Ke, S. Xu, B. Feng, B. Hu, J. Lu. “Corrosion behavior of high nitrogen austenitic stainless steels”, *Journal of Chinese Society for Corrosion and Protection*, 36 (2016) 197-204.
17. K. C. Hoang, **Y. Fu**, and J. H. Song*. “An hp-proper orthogonal decomposition-moving least squares approach for molecular dynamics simulation”, *Computer Methods in Applied Mechanics and Engineering*, 298 (2015) 548-575.
18. **Y. Fu***, J. Michopoulos and J.H. Song*. “Dynamic response of glassy polyethylene polymer nanocomposites to shock wave loading”, *Journal of Polymer Science Part B: Polymer Physics*, 53 (2015) 1292–1302.
19. **Y. Fu*** and J.H. Song*. “Heat flux expressions that satisfy the conservation laws in atomistic system involving multibody potentials”. *Journal of Computational Physics*, 294 (2015) 191.
20. **Y. Fu***, J. Michopoulos, and J.H. Song*. “Coarse-grained molecular dynamics simulations of epoxy resin during the curing process”. *Computational Materials Science*, 107 (2015) 24.
21. **Y. Fu** and J.H. Song*. “Large deformation mechanism of glassy polyethylene polymer nanocomposites: coarse grain molecular dynamics study”. *Computational Materials Science*, 96 (2015) 485.
22. X. Q. Wu*, **Y. Fu**, W. Ke, S. Xu, B. Feng, B. Hu. “Effects of nitrogen on passivity of nickel-free stainless steels by electrochemical impedance spectroscopy analysis”. *Journal of Materials Engineering and Performance*, 24 (2015) 3607.

23. **Y. Fu*** and J.H. Song*. “On computing stress in polymer systems involving multi-body potentials from molecular dynamics simulation”. *Journal of Chemical Physics*, 141 (2014) 054108.
 24. **Y. Fu** and A. C. To*. “A modification to Hardy’s thermomechanical theory that conserves fundamental properties more accurately: tensile and shear failures in iron”. *Modelling and Simulation in Materials Science and Engineering*, 22 (2014) 015010.
 25. **Y. Fu** and A. C. To*. “A modification to Hardy’s thermomechanical theory that conserves fundamental properties more accurately”. *Journal of Applied Physics*, 113 (2013) 233505.
 26. **Y. Fu** and A. C. To*. “On the evaluation of continuum thermomechanical quantities using ensemble and time averaging”. *Modelling and Simulation in Materials Science and Engineering*, 21 (2013) 055015.
 27. B. A. Stormer, N. M. Piper, X. M. Yang, J. Tao, Y. Fu, M. Kirca, and A. C. To*. “Mechanical properties of SWNT X-Junctions through molecular dynamics simulation”. *International Journal of Smart and Nano Materials*, iFirst (2011) 1.
 28. **Y. Fu**, M. Kirca, and A. C. To*. “On determining the thermal state of individual atoms in molecular dynamics simulations of nonequilibrium processes in solids”. *Chemical Physics Letters*, 506 (2011) 290.
 29. A. C. To*, **Y. Fu**, and W. K. Liu. “Denoising methods for thermomechanical decomposition for quasi-equilibrium molecular dynamics simulations”. *Computer Methods in Applied Mechanics and Engineering*, 200 (2011) 1979.
 30. N. M. Piper, **Y. Fu**, J. Tao, X. Yang, and A. C. To*. “Vibration promotes heat welding of single-walled carbon nanotubes”. *Chemical Physics Letters*, 502 (2011) 231.
 31. A. Datta, M. Kirca, **Y. Fu**, and A. C. To*. “Surface structure and properties of functionalized nanodiamonds: a first-principles study”. *Nanotechnology*, 22 (2011) 065706.
 32. **Y. Fu**, X. Q. Wu*, E. Han, W. Ke, K. Yang, and Z. Jiang. “Effects of cold work and sensitization treatment on corrosion resistance of a high nitrogen stainless steel in chloride solutions”. *Electrochimica Acta*, 54 (2009) 1618.
 33. **Y. Fu**, X. Q. Wu*, E. Han, W. Ke, K. Yang, and Z. Jiang. “The effects of nitrogen on the passivation of high nitrogen stainless steels in acidic chloride solutions”. *Electrochimica Acta*, 54 (2009) 4005.
 34. X. Q. Wu*, **Y. Fu**, J. B. Huang, W. Ke, K. Yang, and Z. H. Jiang. “Investigation on pitting corrosion of nickel free and manganese alloyed high nitrogen stainless steels”. *Journal of Materials Engineering and Performance*, 18 (2009) 287.
 35. **Y. Fu**, X. Q. Wu*, E. Han, W. Ke, K. Yang, and Z. Jiang. “Influence of cold work on pitting corrosion behavior of a high nitrogen stainless steel”. *Journal of the Electrochemical Society*, 155 (2008) C455.
- **Journal publications under review**
 36. X. Yang*, F. Meng, X. Zhang, B. Cao, **Y. Fu***, “Mesoscopic simulation of thermal conductivities of 3D carbon nanotubes, graphene and their epoxy resin based composites”, *International Journal of Thermal Sciences* (2021), under review.
 37. X. Yang*, J. Cui, K. Xue, **Y. Fu**, H. Li, “Thermal conductivity and thermoelectric properties in 3D macroscopic pure carbon nanotube materials”, *Journal of Physics and Chemistry of Solids* (2021), under review.
 38. M. Ma, **Y. Fu***, “Electromechanical Response of Lamellar Forming Ionic Diblock Copolymer Thin Films”, *Chemical Physics Letter* (2021), under review.
 39. B. Gnanasekaran, B.T. Donkor, J. Song*, V. Vasudevan, **Y. Fu***, “Microstructures and Corrosion Characteristics of 316L Stainless Steel Fabricated by Laser Powder Bed Fusion Process”, *Corrosion Science* (2021), submitted.
 - **Chapters in book**
 - **Y. Fu** and A. C. To. Application of many-realization molecular dynamics method to understand the physics of nonequilibrium processes in solids. *Multiscale Simulations and Mechanics of Biological Materials*, S. Li and D. Qian (Eds.), John Wiley & Sons, pp. 59-76 (2013).

- J. Michopoulos, A. Iliopoulos, J. Steuben, A. Birnbaum, J.-H. Song, **Y. Fu**, A. Achuthan, R. Saunders, A. Bagchi, R. Fonda, D. Rowenhorst and S. Olig, F. Martin, J. Moran, A. Beckwith, Multiphysics Integrated Computational Materials Engineering Linking Additive Manufacturing Process Parameters with Part Performance, Chapter in “Advances in Computers and Information in Engineering Research”, vol. 2, John G. Michopoulos, David W. Rosen, Christiaan J.J. Paredis, Judy M. Vance Editors, ASME, in print.
- **Conference proceedings**
 - M. Ma, **Y. Fu**. “Investigation of the mechanical behavior of ionic deblock copolymer via molecular dynamics simulation.” *Materials Science & Technology (MS&T) 2018*, Columbus, OH. October 14-18, 2018.
 - J. G. Michopoulos, A. P. Iliopoulos, J. C. Steuben, A. J. Birnbaum, **Y. Fu**, and J-H Song. “Towards computational synthesis of microstructural crystalline morphologies for additive manufacturing Applications.” *ASME 2017 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, Cleveland, OH. August 6-9, 2017.
 - A. Datta, **Y. Fu**, M. Kirca, and A. C. To. Structure and surface properties of nanodiamonds: a first-principles multiscale approach. *ASME 2010 First Global Congress on NanoEngineering for Medicine and Biology*, Houston, TX. February 7-10, 2010.

INVITED SEMINARS

1. Y. Fu, “Understanding the microstructural, mechanical and corrosion properties of advanced materials using integrated computational engineering approach”, *Department of Aerospace and Mechanical Engineering, University of Arizona*, Tuscon, AZ, 2021.
2. Y. Fu, “Multiphysics framework and its applications in materials design and processing”, *Department of Chemical and Environmental Engineering, University of Cincinnati*, Cincinnati, Ohio, 2020
3. Y. Fu, “Understanding advanced materials and manufacturing process using multiscale multiphysics computational approaches”, *Air Force Research Laboratory*, Dayton, 2019.
4. Y. Fu, “Multiphysics framework and its applications in materials processing”, *Naval Research Laboratory*, Washington, DC, 2018.
5. Y. Fu, “First-principles based multiscale multiphysics approaches for integrated computational materials engineering”, *Department of Mechanical and Materials Engineering, University of Cincinnati*, Cincinnati, Ohio, 2017.
6. Y. Fu, “First-principles based multiscale multiphysics approaches for integrated computational materials engineering”, *Department of Aerospace Engineering and Engineering Mechanics, University of Cincinnati*, Cincinnati, Ohio, 2016.
7. Y. Fu, “Multiscale computational design and manufacturing of polymeric materials”, *Center for Nanophase Materials Science Division, Oak Ridge National Laboratory*, Oak Ridge, Tennessee, 2016.
8. Y. Fu, “First-principles based multiscale multiphysics approaches for integrated computational materials engineering”, *Department of Mechanical Engineering, Colorado State University*, Fort Collins, Colorado, 2016.
9. Y. Fu, “Multiscale computational design of polymeric materials”, *Department of Architectural & Environmental Engineering, University of Colorado Boulder*, Boulder, Colorado, 2015.

CONFERENCE ABSTRACTS & PRESENTATIONS

1. **Y. Fu**, J. Michopoulos, B. Gnanasekaran. Phase field modeling for microstructure evolution under isothermal and continuous cooling condition. *USNCCM19*, Austin, TX, July 30-Aug. 1, 2019.
2. **Y. Fu**, J. Song, R. Field, M. Kaufman. Phase field modeling for microstructure evolution under isothermal and continuous cooling condition. *ICME2019*, Indianapolis, IN, July 21-25, 2019.

3. **Y. Fu**, J. Michopoulos, B. Gnanasekaran. Microstructure evolution under isothermal and continuous cooling condition via a combined multiphase field and nucleation approach. MS&T18, Columbus, OH, October 14-18, 2018.
4. M. Ma, **Y. Fu**. Mechanical Behaviors of Ionic Diblock Copolymer via Molecular Dynamics Simulation. MS&T18, Columbus, OH, October 14-18, 2018.
5. **Y. Fu**, J. Michopoulos, B. Gnanasekaran. Microstructure evolution under isothermal and continuous cooling condition via a combined multiphase field and nucleation approach. WCCM 2018, New York City, NY, July 23-27, 2018.
6. **Y. Fu**, First-principles based multiscale multiphysics approaches for integrated computational materials engineering, Mech Aero 2017, Las Vegas, Nevada, October 2-4, 2017.
7. **Y. Fu** and J.H. Song. Rheological behaviors of cross-linked epoxy resin via coarse-grained molecular dynamics. 13th U.S. National Congress on Computational Mechanics, San Diego, California. July 26-30, 2015.
8. **Y. Fu** and J.H. Song. On computing stress in polymer systems involving multi-body potentials from molecular dynamics simulation. 17th US National Congress of Theoretical and Applied Mechanics, East Lansing, MI. June 15-20, 2014.
9. A. C. To and **Y. Fu**. On the validity of Hardy's atomistic-continuum thermomechanical theory. Society of Engineering Science 50th Annual Meeting & ASME-AMD Annual Summer Meeting, Providence, RI. July 23-31, 2013.
10. **Y. Fu** and A. C. To. New insights into thermal nonequilibrium processes via studying their underlying atomic velocity distributions. ASME International Mechanical Engineering Congress and Exposition, Houston, TX. November 9-15, 2012.
11. **Y. Fu** and A. C. To. On determining the thermal state of individual atoms in molecular dynamics simulations of nonequilibrium processes in solids. Society of Engineering Science 2011 Annual Technical Conference, Evanston, IL. October 12-14, 2012.
12. **Y. Fu** and A. C. To. A novel averaging method for thermomechanical decomposition in nonequilibrium systems. ASME International Mechanical Engineering Congress and Exposition, Denver, CO. November 11-17, 2011.
13. **Y. Fu**, M. Kirca, and A. C. To. On determining the thermal state of individual atoms in molecular dynamics simulations of nonequilibrium processes in solids. 11th US National Congress on Computational Mechanics, Minneapolis, MN. July 25-28, 2011.
14. **Y. Fu**, M. Kirca, and A. C. To. On the extensible semiflexible harmonic chain model and its application to graphene nanoribbons. 16th US National Congress of Theoretical and Applied Mechanics, State College, PA. June 27-July 2, 2010.
15. M. Kirca, **Y. Fu**, and A. C. To. A method to determine the transient thermal & mechanical fields in non-equilibrium molecular dynamics simulation. 16th US National Congress of Theoretical and Applied Mechanics, State College, PA. June 27-July 2, 2010.
16. **Y. Fu**, M. Kirca, and A. C. To. Thermomechanical behavior of micrometer-long carbon nanotube. The 16th US National Congress on Theoretical and Applied Mechanics, Penn State University, University Park. June 27-July 2, 2010.
17. A. Datta, **Y. Fu**, and A. C. To. Stacking faults and twinning in fcc nanofilms: a density functional theory study. The 16th US National Congress on Theoretical and Applied Mechanics, Penn State University, University Park, PA. June 27-July 2, 2010.
18. **Y. Fu**, M. Kirca, and A. C. To. Mechanical behavior of carbon nanotube aerogel by directed assembly: a molecular dynamics study. Materials Research Society Spring Meeting, San Francisco, CA. April 5-9, 2010.
19. A. Datta, **Y. Fu**, M. Kirca, and A. C. To. Structure and surface properties of nanodiamonds: a first-principles multiscale approach. ASME 2010 First Global Congress on NanoEngineering for Medicine and Biology, Houston, TX. February 7-10, 2010.
20. **Y. Fu**, X. Q. Wu, E. Han, W. Ke and K. Yang. Influence of cold work and sensitization treatment on corrosion resistance of a high nitrogen stainless steel. 11 National Conference for Anti-corrosion Materials, Baotou, China. July 22-26, 2008.