Jin Yang, Ph.D.

Department of Aerospace Engineering and Engineering Mechanics
Cockrell School of Engineering
The University of Texas at Austin
2617 Wichita St, Austin, TX, 78712

EDUCATION

California Institute of Technology	Mechanical Engineering	Ph.D.	2019
California Institute of Technology	Mechanical Engineering	M.S.	2014
Tsinghua University	Aerospace Engineering	B.Eng.	2013

ACADEMIC POSITIONS

Assistant Professor, The University of Texas at Austin   August 2022 – Present
Department of Aerospace Engineering and Engineering Mechanics

Postdoc Research Associate, University of Wisconsin-Madison   October 2018 – August 2022
Department of Mechanical Engineering,

Research Assistant, California Institute of Technology   September 2013 – October 2018
Department of Mechanical Engineering

RESEARCH TOPICS

- Experimental mechanics: machine learning & data-driven material characterization
- Full-field measurements: digital image correlation, digital volume correlation, and particle tracking
- Laser-induced inertial cavitation in hydrogels and bio-soft matter
- Viscoelastic material behaviors at extremely-high loading rates and dynamic instability problems

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HONORS AND AWARDS

2022-2024	The University of Texas at Austin VPR Special Research Grant
2022-2024	The University of Texas at Austin Faculty Travel Grant
2022	Haythornthwaite Foundation Research Initiation Grant from the Applied Mechanics Division of ASME (American Society of Mechanical Engineers)
2021	Second place best poster award at the 6th University of Wisconsin-Madison Annual Postdoctoral Research Symposium
2021	Attendee fellowship at the 25th International Congress of Theoretical and Applied Mechanics (ICTAM 2020+1) Conference
2020	Best poster award at the 5th University of Wisconsin-Madison Annual Postdoctoral Research Symposium

2014	First-year fellowship in the Department of Mechanical & Civil Engineering at the California Institute of Technology
2013	Tsien Hsue-Shen Mechanics Elite Program Honor Degree, Tsinghua University, Beijing, China
2013	First prize (rank #7 nationwide), 9th National Zhou Pei-Yuan Mechanics Competition, China
2010-2013	Tsien Hsue-Shen Mechanics Elite Program Scholarship, Tsinghua University, Beijing, China
2011-2012	Tsinghua University Science and Technology Scholarship, Beijing, China
2011	First prize, Beijing Universities' Physics Competition, Beijing, China

RESEARCH EXPERIENCES

High strain-rate inertial micro-cavitation in viscoelastic materials   UT-Austin, UW-Madison
Postdoc advisor: Prof. Christian Franck   2018 - Present
- Laser and ultrasound induced inertial micro-cavitation in soft matter is used to characterize the dynamic behavior of surrounding viscoelastic materials at ballistic to ultra-high strain-rates.
- Investigate the critical condition of the onset of dynamic instabilities
- Apply full-field deformation measurement techniques to high strain-rate cavitation events

Algorithms of Digital Image/Volume Correlation (DIC/DVC)   UT-Austin, UW-Madison,
Advisors: Prof. Kaushik Bhattacharya, Prof. Christian Franck   Caltech, 2014 - Present
- A new *fast*, *accurate*, and *adaptive mesh* DIC/DVC algorithm, augmented Lagrangian (AL-DIC/DVC) method, is developed to measure full-field heterogeneous displacement and strain fields, which takes advantages of both local subset DIC/DVC method (fast computation speed and parallel computing) and finite element-based global DIC/DVC method (accurate and incorporated kinematic compatibility).

Phase transformation in shape memory alloys   Caltech
Advisors: Prof. Kaushik Bhattacharya, Prof. Aaron Stebner   2013 - 2014
- A combined experimental and theoretical investigation was conducted to study the phase transformation temperature and transformation strain behaviors of a promising new NiTiHf high-temperature shape memory alloy.

Capillary interfacial phenomenon   Tsinghua University
Advisor: Prof. Quanshui Zheng   2011 - 2013
- A type of water top surface bubble was found lasting over months, which was stabilized by a monolayer of micro-particles.
- Curvature of air-water-particle interface was theoretically analyzed, which produces negative capillary pressure to pump water flow from bubble bottom to the top and stabilizes the bubble.

PUBLICATIONS

Refereed Journal Publications

Total first & corresponding author peer-reviewed journal papers: 12
Symbols: (i) *: corresponding author; (ii) †: co-first author;

24   Elizabeth S. Bremer-Sai, **Jin Yang**, Alexander McGhee, Christian Franck. "Ballistic and Blast-relevant, High-rate Material Properties of Physically and Chemically Crosslinked Hydrogels." *Experimental Mechanics*, in press, 2024.

23   **Jin Yang***, Alexander McGhee, Griffin Radtke, Mauro Rodriguez Jr., Christian Franck. "Estimating viscoelastic, soft material properties using a modified Rayleigh cavitation bubble collapse time." *Physics of Fluids*, 36 (1), 2024.

22   Luke Summey, Jing Zhang, Alexander K. Landauer, Jamie Sergay, **Jin Yang**, Annalise Daul, Jialiang Tao, Jessica Park, Alexander McGhee, Christian Franck. "Open-source, In-situ, Intermediate Strain Rate Tensile Impact Device for Soft Materials and Cell Culture Systems." *Experimental Mechanics*, 63, 1445-1460, 2023.

21   Allison N. Ramey-Ward, Yixiao Dong, **Jin Yang**, Hiroaki Ogasawara, Elizabeth Bremmer, Ogla Brazhkina, Christian Franck, Michael Davis, Khalid Saliata. "An Optomechanically Actuated 3D Hydrogel Platform for Cell Culture with High Spatial and Temporal Resolution." *ACS Biomaterials Science & Engineering*, 9, 5361-5375, 2023.

20   Anastasia Tzoumaka, **Jin Yang**, Selda Buyukozturk, Christian Franck, David L. Henann. "Modeling high strain-rate microcavitation in soft materials: the role of material behavior in bubble dynamics." *Soft Matter*, 19, 3895-3909, 2023.

19   Gabriella P. Sugerman, **Jin Yang**, Manuel K. Rausch. "A Speckling Technique for DIC on Ultra-Soft, Highly Hydrated Materials." *Experimental Mechanics*, 63, 585-590, 2023.

18   **Jin Yang**, Yue Yin, Alexander K. Landauer, Selda Buyukozturk, Jing Zhang, Luke Summey, Alexander McGhee, Matt K. Fu, John O. Dabiri, Christian Franck. "SerialTrack: ScalE and Rotation Invariant Augmented Lagrangian Particle Tracking." *SoftwareX*, 19, 101204, 2022.

17   Alexander McGhee[†], **Jin Yang**[†], Elizabeth C. Bremer, Zhiqin Xu, Harry C Cramer III, Jonathan, B. Estrada, David L. Henann, Christian Franck. "High-speed, full-field deformation measurements near inertial microcavitation bubbles inside viscoelastic hydrogels." *Experimental Mechanics*, 63, 63-78, 2023 ([†]: equal contributions).

16   **Jin Yang***, Vito Rubino, Zhan Ma, Jialiang Tao, Yue Yin, Alexander McGhee, Wenxiao Pan, Christian Franck. "SpatioTemporally Adaptive Quadtree mesh (STAQ) Digital Image Correlation for resolving large deformations around complex geometries and discontinuities." *Experimental Mechanics*, 62, 1191-1215, 2022.

15   **Jin Yang***, Harry C Cramer III, Elizabeth Bremer, Selda Buyukozturk, Yue Yin, Christian Franck. "Mechanical Characterization of Agarose Hydrogels and their Inherent Dynamic Instabilities at Ballistic to Ultra-high Strain-rates via Inertial Microcavitation." *Extreme Mechanics Letters*, 101572, 2022.

14   Philip L. Reu, Benoît Blaysat, Edward Andò, Kaushik Bhattacharya, Cyrille Couture, Vincent Couty, Debasis Deb, Samuel Saiid Fayad, Mark A. Iadicola, Stéphanie Jaminion, Markus Klein, Alexander

K. Landauer, Pascal Lava, Mengying Liu, Li-Kang Luan, Sindre N. Olufsen, Julien Réthoré, Emmanuel Roubin, Daniel T. Seidl, Thorsten Siebert, Olga Stamati, Evelyne Toussaint, Daniel Turner, Chamanth Sai R. Vemulapati, Thorsten Weikert, Jean-François Witz, Oliver Witzel, **Jin Yang**. "DIC Challenge 2.0: Developing images and guidelines for evaluating accuracy and resolution of 2D analyses – Focus on the metrological efficiency indicator." *Experimental Mechanics*, 62, 639-654, 2022.

13   **Jin Yang***, Anastasia Tzoumaka, David Henann, Kazuya Murakami, Eric Johnsen, Christian Franck. Predicting Complex Nonspherical Instability Shapes of Inertial Cavitation Bubbles in Viscoelastic Soft Matter. *Physical Review E*, 104, 045108, 2021.

12   Jean-Sebastien Spratt, Mauro Rodriguez, Kevin Schmidmayer, Spencer Bryngelson, **Jin Yang**, Christian Franck, Tim Colonius. Characterizing viscoelastic materials via ensemble-based data assimilation of bubble collapse observations. *Journal of the Mechanics and Physics of Solids*, 152, 104455, 2021.

11   **Jin Yang**[†], Jialiang Tao[†], Christian Franck. Smart digital image correlation pattern design via 3D printing technique. *Experimental Mechanics*, 61, 1181-1191, *2021* ([†]: equal contributions).

10   Lauren Mancia, **Jin Yang**, Jean-Sebastien Spratt, Jonathan R. Sukovich, Zhen Xu, Tim Colonius, Christian Franck, Eric Johnsen. Acoustic Cavitation Rheometry. *Soft Matter,* 17(10), 2931-2941, 2021.

9   **Jin Yang**, Kaushik Bhattacharya. Fast adaptive augmented Lagrangian Digital Image Correlation. *Experimental Mechanics*, 61, 719-735, 2021.

8   Ali Necdet Özdür, Buğra Üçel, **Jin Yang**, and Cahit Can Aydiner. Residual Intensity as a Morphological Identifier of Twinning Fields in Microscopic Image Correlation. *Experimental Mechanics*, 61, 499-514, 2020.

7   **Jin Yang**, Harry C. Cramer III, Christian Franck. Extracting Non-linear Viscoelastic Material Properties from Violently-collapsing Cavitation Bubbles. *Extreme Mechanics Letters*, 39:100839, 2020.

6   Lauren Hazlett, Alexander K. Landauer, Mohak Patel, Hadley A. Witt, **Jin Yang**, Jonathan S. Reichner, and Christian Franck. Epifluorescence-based three-dimensional traction force microscopy. *Scientific Reports*, 10:16599, 2020.

5   **Jin Yang***, Lauren Hazlett, Alexander K. Landauer, Christian Franck*****. Augmented Lagrangian Digital Volume Correlation (ALDVC). *Experimental Mechanics*, 60, 1205-1223, 2020.

4   **Jin Yang**, Kaushik Bhattacharya. Combining image compression with Digital Image Correlation. *Experimental Mechanics*, 59, 629-642, 2019.

3   **Jin Yang**, Kaushik Bhattacharya. Augmented Lagrangian Digital Image Correlation. *Experimental Mechanics*, 59, 187-205, 2019.

2   **Jin Yang**, Ao Wang, Quanshui Zheng. Ultra-long lifetime water bubbles stabilized by negative pressure generated between microparticles. *Soft Matter*, vol 13(44), 8202-9208, 2017.

1   Aaron P. Stebner, Glen S. Bigelow, **Jin Yang**, Dhwanil P. Shukla, Sayed M. Saghaian, Richard Rogers, Anita Garg, Haluk E. Karaca, Yuriy Chumlyakov, Kaushik Bhattacharya, Ronald D. Noebe. Transformation strains and temperatures of a nickel–titanium–hafnium high temperature shape memory alloy. *Acta Materialia*, vol 76, 40-53, 2014.

Submitted Refereed Journal Publications

1.   Kolade Adebowale, Byung Hang Ha, Aashrith Saraswathibhatla, Dhiraj Indana, Medeea Popescu, Sally Demirdjian, **Jin Yang**, Michael C. Bassik, Christian Franck, Paul L. Bollyky, Ovijit Chaudhuri. Monocytes use protrusive forces to generate migration paths in viscoelastic collagen-based extracellular matrices. *Under review*.

2.   Elizabeth C. Bremer-Sai, **Jin Yang**, Alexander McGhee, Christian Franck. Ballistic and Blast-Relevant, High-Rate Material Properties of Physically and Chemically Crosslinked Hydrogels. *Under review*.

Refereed Conference Proceedings

1.   **Jin Yang**, Kaushik Bhattacharya. Fast adaptive global Digital Image Correlation. In *Advancement of Optical Methods & Digital Image Correlation in Experimental Mechanics*, volume 3, 2019.

2.   **Jin Yang**, Christian Franck. Strain hardening effects of soft viscoelastic materials in inertial microcavitation. In *Dynamic Behavior of Materials in Conference Proceedings of the Society for Experimental Mechanics*, volume 1, 2020.

3.   **Jin Yang**, Harry C. Crammer III, Christian Franck. Dynamic Rugae Strain Localizations and Instabilities in Soft Viscoelastic Materials During Inertial Microcavitation. In *Conference Proceedings of the Society for Experimental Mechanics*, 2021.

4.   **Jin Yang**, Yue Yin, Harry C. Crammer III, Christian Franck. The Penetration Dynamics of a Violent Cavitation Bubble through a Hydrogel-water Interface. In *Conference Proceedings of the Society for Experimental Mechanics*, 2022.

5.   **Jin Yang**, Harry C. Crammer III, Selda Buyukozturk, Christian Franck. Probing Material Damage after Violently Collapsing Cavitation in Soft Viscoelastic Materials. In *Conference Proceedings of the Society for Experimental Mechanics*, 2022.

6.   Zixiang Tong, Sophie Polidoro, Zhaobang Hou, **Jin Yang***. Exploring the Interplay of Alveolar Mechanics and Fluid Accumulation in Pulmonary Edema: Insights from Soft Metamaterials 3D Printing and Mechanical Testing. In *Conference Proceedings of the Society for Experimental Mechanics*, in press, 2024.

7.   Lehu Bu, Zhaobang Hou, Sophie Polidoro, **Jin Yang***. High-Speed, Full-Field Measurement of Large Deformations Near Needle-Induced Cavitation Bubbles within Biological Soft Materials. In *Conference Proceedings of the Society for Experimental Mechanics*, in press, 2024.

Book Chapters (Authored/Co-Authored, Edited/Co-Edited)

1.   Benoît Blaysat, Michel Coret, François Hild, Pascal Lava, Florent Mathieu, Jean-Charles Passieux, Jean-Noël Périé, Julien Réthoré, Nicolas Swiergiel, **Jin Yang**. Global DIC appendix of "International Digital Image Correlation Society, Jones, E.M.C. and Iadicola, M.A. (Eds.) (2018). A Good Practices Guide for Digital Image Correlation. DOI: 10.32720/idics/gpg.ed1". *Under review*.

Patents

1. Christian Franck, **Jin Yang**, Jialiang Tao. Systems and Methods for Printing Patterns.

2. **Jin Yang**, Quanshui Zheng. Method for Preparing a Persistent Bubble.

ORAL PRESENTATIONS

[43]   ASME 2023 International Mechanical Engineering Congress and Exposition (IMECE2023)
Probing Material Damage After Violently Collapsing Cavitation in Soft Viscoelastic Materials

11/2023
New Orleans, LA, United States

[42]   2023 Society of Engineering Science (SES) Annual Technical Meeting
Probing Material Damage After Violently Collapsing Cavitation in Soft Viscoelastic Materials

10/2023
Minneapolis, MN, United States

[41]   2023 Society for Experimental Mechanics Annual Conference (SEM)
SpatioTemporally Adaptive Quadtree mesh (STAQ) Digital Image Correlation for resolving large deformations around complex geometries and discontinuities

06/2023
Orlando, FL, United States

[40]   Invited seminar: Department of Biomedical Engineering, UT-Austin
Laser-induced inertial cavitation in hydrogels

04/2023
Austin, TX, United States

[39]   2022 International Digital Image Correlation Society (iDICs) Annual Conference
SpatioTemporally Adaptive Quadtree mesh (STAQ) Digital Image Correlation for resolving large deformations around complex geometries and discontinuities

11/2022
Boston, MA, United States

[38]   2022 Society of Engineering Science (SES) Annual Technical Meeting
SpatioTemporally Adaptive Quadtree mesh (STAQ) Digital Image Correlation for resolving large deformations around complex geometries and discontinuities

10/2022
College Station, TX, United States

[37]   2022 The 6th International Conference on Dynamics, Vibration and Control
Laser-induced inertial cavitation in hydrogels: ultra-high strain-rate material characterization, dynamic instabilities, and full-field deformation measurements

10/2022
Virtual conference

[36]   2022 Closer Look Biomechanics Journal Club
SpatioTemporally Adaptive Quadtree mesh (STAQ) Digital Image Correlation for resolving large deformations around complex geometries and discontinuities

09/2022
Virtual webinar

[35]   U.S. National Congress on Theoretical and Applied Mechanics (USNC/TAM)

06/2022

Laser-induced inertial cavitation in hydrogels: ultra-high strain-rate material characterization, dynamic instabilities, and full-field deformation measurements | Austin, TX, United States

[34] 2022 Society for Experimental Mechanics Annual Conference (SEM)
SerialTrack: ScalE and Rotation Invariant Augmented Lagrangian Particle Tracking | 06/2022
Pittsburgh, PA
United States

[33] 2022 Society for Experimental Mechanics Annual Conference (SEM)
A new approach for resolving large deformations around complex geometries and discontinuities: Spatiotemporally adaptive quadtree mesh (STAQ) Digital Image Correlation | 06/2022
Pittsburgh, PA
Unites States

[32] Invited guest lecture: TAM 456 Experimental Stress Analysis, University of Illinois Urbana-Champaign
Recent developments in full-field measurement techniques | 05/2022
Virtual webinar

[31] Invited graduate student seminar: Department of Materials Science & Engineering, Johns Hopkins University
Laser-induced inertial cavitation in hydrogels and biomaterials | 04/2022
Virtual webinar

[30] Invited seminar: Department of Mechanical Engineering, Michigan State University
Laser-induced inertial cavitation in hydrogels and biomaterials | 04/2022
East Lansing, MI,
United States

[29] Invited seminar: Department of Aerospace Engineering & Engineering Mechanics, The University of Texas at Austin
Laser-induced inertial cavitation in hydrogels and biomaterials | 03/2022
Austin, TX,
United States

[28] Invited seminar: Department of Mechanical Engineering, University of Wisconsin-Madison
Understanding Dynamic and Damage Behavior of Soft Materials at Ultra-High Strain-Rates | 02/2022
Madison, WI
Unites States

[27] Invited seminar: Department of Aerospace Engineering & Mechanics, University of Minnesota-Twin Cities
Understanding Dynamic and Damage Behavior of Soft Materials at Ultra-High Strain-Rates | 02/2022
Minneapolis, MN
United States

[26] Invited seminar: Department of Mechanical Engineering – Engineering Mechanics, Michigan Technological University
Understanding Dynamic Behavior and Damage of Soft Materials at Ultra-High Strain-Rates | 01/2022
Houghton, MI,
United States

[25] Seminar: School of Engineering, Brown University
Laser-induced inertial cavitation in hydrogels: ultra-high strain-rate soft material characterization, dynamic instabilities, and full-field deformation measurements | 10/2021
Virtual conference

[24] 2021 SES (Virtual) Month
Probing Material Damage after Violently Collapsing Cavitation in Soft Viscoelastic Materials | 10/2021
Virtual conference

[23] 2021 6th UW-Madison Annual Postdoctoral Research Symposium | 09/2021

	Fast Adaptive Mesh Augmented Lagrangian Digital Image/Volume Correlation	Virtual conference
[22]	2021 Computing in Engineering Forum Fast Adaptive Mesh Augmented Lagrangian Digital Image/Volume Correlation	09/2021 Virtual conference
[21]	2021 Society for Experimental Mechanics Annual Conference (SEM) Probing Material Damage after Violently Collapsing Cavitation in Soft Viscoelastic Materials	06/2021 Virtual conference
[20]	2021 Society for Experimental Mechanics Annual Conference (SEM) The Penetration Dynamics of a Violent Cavitation Bubble through a Hydrogel-water Interface	06/2021 Virtual conference
[19]	2021 Society for Experimental Mechanics Annual Conference (SEM) Optimal DIC Pattern Design on Highly Compliant and Complex Surfaces via 3D Printing	06/2021 Virtual conference
[18]	GAIM meeting (Univ. of Minnesota, Twin cities & UW-Madison, invited) Augmented Lagrangian Digital Image/Volume Correlation Invited by Prof. Colleen Witzenburg and Prof. Victor Barocas	06/2021 Virtual webinar
[17]	UW-Madison Imaging and Visualization 2020 Virtual Workshop Augmented Lagrangian Digital Image/Volume Correlation	10/2020 Virtual conference
[16]	Engineering and Applied Science Forum (EASF) Young webinar Fast Adaptive Augmented Lagrangian Digital Image/Volume Correlation	10/2020 Virtual conference
[15]	Seminar, Dept. of Mechanical Engineering, Univ. of Wisconsin-Madison Dynamic Rugae Strain Localizations and Instabilities in Soft Viscoelastic Materials During Inertial Microcavitation	10/2020 Virtual conference
[14]	2020 Society of Engineering Science (SES), Virtual conference Dynamic Rugae Strain Localizations and Instabilities in Soft Viscoelastic Materials During Inertial Microcavitation	10/2020 Virtual conference
[13]	2020 5th UW-Madison Annual Postdoctoral Research Symposium Extracting nonlinear viscoelastic soft material properties from inertial micro-cavitation bubbles	09/2020 Virtual conference
[12]	2020 Society for Experimental Mechanics Annual Conference (SEM) Dynamic Rugae Strain Localizations and Instabilities in Soft Viscoelastic Materials During Inertial Microcavitation	09/2020 Virtual conference
[11]	Seminar, Department of Mechanical Engineering, University of Wisconsin-Madison Characterizing Strain Localization and Dynamic Instabilities in Soft Materials	02/2020 Madison, WI, United States
[10]	Seminar, Department of Aerospace Engineering, Georgia Institute of Technology Characterizing Strain Localization and Dynamic Instabilities in Soft Materials	01/2020 Atlanta, GA, United States
[9]	2019 International Digital Image Correlation Society (iDICs)	10/2019

	Fast augmented Lagrangian digital volume correlation	Portland, OR, United States
[8]	2019 Society of Engineering Science (SES) Strain stiffening effects of soft viscoelastic materials in inertial microcavitation	10/2019 St.Louis, MO, United States
[7]	2019 Society for Experimental Mechanics Annual Conference (SEM) Strain hardening effects of soft viscoelastic materials in inertial microcavitation	06/2019 Reno, NV, United States
[6]	16th Pan American Congress of Applied Mechanics (PACAM XVI) Strain hardening effects of soft viscoelastic materials in inertial microcavitation	05/2019 Ann Arbor, MI, United States
[5]	2018 Society for Experimental Mechanics Annual Conference (SEM) Adaptive mesh global Digital Image Correlation	06/2018 Greenville, SC, United States
[4]	James K. Knowles Lecture and Caltech Solid Mechanics Symposium Fast Adaptive Global Digital Image Correlation	05/2018 Pasadena, CA, United States
[3]	Southern California Applied Mathematics Symposium Efficient Digital Image Correlation (AL-DIC) To Obtain Deformation Fields	04/2018 Santa Barbara, CA, United States
[2]	6th World Congress on Adhesion and Related Phenomena Ultra-long lifetime water bubbles stabilized by negative pressure generated between micro particles	03/2018 San Diego, CA, United States
[1]	2017 Society for Experimental Mechanics Annual Conference (SEM) Efficient Digital Image Correlation to Obtain Deformation Fields	06/2017 Indianapolis, IN, United States

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TEACHING EXPERIENCES

Instructor: ASE 324L Aerospace Materials Lab	UT-Austin, 2023 Fall
Instructor: EM 306 Statics	UT-Austin, 2022 Fall, 2024 Spring
Workshop: DIC/DVC/TPT training sessions https://www.youtube.com/channel/UCbSV0CFsPYZbElq0B481C8g	UW-Madison Franck lab & Stanford Chaudhuri lab, 2021-22
Guest lecture: TAM 456 Experimental Stress Analysis Instructor: Prof. Shelby Hutchens	UIUC 2022 Spring
Guest lecture: ME 570 Experimental Mechanics Instructor: Prof. Christian Franck	UW-Madison 2020 Fall
Teaching assistant: Micromechanics Instructor: Prof. Kaushik Bhattacharya	Caltech 2018 Spring

Teaching assistant: Solid mechanics & continuum mechanics   Caltech
Instructor: Prof. Nadia Lapusta   2017 & 2018 Fall

MENTORING EXPERIENCES

Graduate students

- Zixiang (Zach) Tong, Graduate Student, 2023 Aug--Present
  The University of Texas at Austin, Aerospace Engineering & Engineering Mechanics

- Lehu Bu, Graduate Student, 2023 Aug--Present
  The University of Texas at Austin, Aerospace Engineering & Engineering Mechanics

- Dan Froklin, Graduate student, 2023 Aug--Present,
  The University of Texas at Austin, Aerospace Engineering & Engineering Mechanics

Undergraduate students

- Nathaniel C. Beasley, Undergraduate Research Student, 2024 Jan--Present
  Current position: Undergraduate at The University of Texas at Austin, Aerospace Engineering.

- Yi-Chung (Sam) Wang, Undergraduate Research Student, 2024 Jan--Present
  Current position: Undergraduate at The University of Texas at Austin, Aerospace Engineering.

- Junyoung (Joey) Kim, Undergraduate Research Student, 2024 Jan--Present
  Current position: Undergraduate at The University of Texas at Austin, Aerospace Engineering.

- Andrew Doty, Undergraduate Research Student, 2024 Jan--Present
  Current position: Undergraduate at The University of Texas at Austin, Aerospace Engineering.

- Zane Hong Zheng, Undergraduate Research Student, 2023 Aug--Present
  Current position: Undergraduate at The University of Texas at Austin, Mechanical Engineering.

- Ethan Alphonso, Undergraduate Research Student, 2023 Jan--Present
  Current position: Undergraduate at The University of Texas at Austin, Petroleum Engineering.

- Inoo Jo, Undergraduate Research Student, 2023 Jan--Present
  Current position: Undergraduate at The University of Texas at Austin, Mechanical Engineering.

- Jeffrey Leu, Undergraduate Research Student, 2022 Aug--Present
  Current position: Undergraduate at The University of Texas at Austin, Mechanical Engineering.

- Gautam Bhaskar, Undergraduate Research Student, 2022 Aug--Present
  Current position: Undergraduate at The University of Texas at Austin, Aerospace Engineering.

- Vaidehi Joshi, Undergraduate Research Student, 2022 Aug—2023 June
  Current position: Undergraduate at The University of Texas at Austin, Aerospace Engineering.

- Yehjune Heo, Undergraduate Research Student, 2022 Aug—2023 June
  Current position: Undergraduate at UT-Austin, Electrical and Computer Engineering.

- Zhaobang Hou, Visiting Undergraduate Research Student, 2023 Summer
  Current position: Undergraduate at Tsinghua University, Engineering Mechanics.

- Sophie Polidoro, Visiting Caltech SURF Undergraduate Research Student, 2023 Summer

Current position: Undergraduate at Caltech, Mechanical Engineering.

- Kaixin Zhan, Visiting Undergraduate Research Student, UT-Austin 2022 Aug— 2023 June.
  Current position: PhD student at Carnegie Mellon University.

- Yue (Sam) Yin, Undergraduate Research Student, University of Wisconsin-Madison, 2020.
  Current position: Master student at Carnegie Mellon University.

- Zhiqin (Echo) Xu, Undergraduate Research Student, University of Wisconsin-Madison, 2021.
  Current position: PhD student at Columbia University.

- Jialiang (Jay) Tao, Graduate Research Assistant, University of Wisconsin-Madison, 2020-2021.
  Current position: Final PhD year at the University of Wisconsin-Madison.

- Griffin B. Radtke, Undergraduate Research Student, University of Wisconsin-Madison, 2022.
  Current position: Third year undergraduate at the University of Wisconsin-Madison.

- Annalise M. Daul, Graduate Research Assistant, University of Wisconsin-Madison, 2022.
  Current position: Second year PhD student at the University of Wisconsin-Madison.

MEMBERSHIPS IN PROFESSIONAL AND HONORARY SOCIETIES

- Member, Society for Experimental Mechanics (SEM), 2016 – present
- Member, International Digital Image Correlation Society (iDICs), 2018 – present

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PROFESSIONAL SOCIETY AND MAJOR GOVERNMENTAL COMMITTEES, EDITORIAL BOARDS, AND CONFERENCES ORGANIZED/CHAIRED:

Outside Committees
- Member, iDICs Standardization Committee, 2018 – present
- Secretary, International Digital Image Correlation Society (iDICs) & Society for Experimental Mechanics (SEM) DIC Challenge, 2022 – present

Conference Activities
- Session chair, Society of Engineering Science (SES) Annual Technical Meeting, October 2023
- Session chair, Society for Experimental Mechanics (SEM) Annual Conference, June 2023
- Session chair, Annual International DIC (iDICs) Conference, November 2022
- Session chair, Society for Experimental Mechanics (SEM) Annual Conference, June 2022
- Session chair, 19th U.S. National Congress on Theoretical and Applied Mechanics (USNC/TAM), June 2022
- Co-organizer, Engineering and Applied Science Forum (EASF) webinar series, 2022
- Session chair, International Digital Image Correlation Society (iDICs) conference, September 2019
- Session chair, Pan American Congress of Applied Mechanics (PACAM), June 2019
- Co-organizer, 8th James K. Knowles Lecture and Caltech Solid Mechanics Symposium, 2017

Current Review Activities:
Journal paper reviewer:

Applied Science, Biophysical Journal, Experimental Mechanics, Experimental Techniques, Extreme Mechanics Letters, Frontiers in Materials, IEEE Transactions on Instrumentation & Measurement, International Journal of Solids and Structures, Journal of Applied Mechanics, Journal of Fluid Mechanics, Journal of Manufacturing Processes, Mechanics of Materials, MDPI Computation, MDPI Electronics, MDPI Materials, Proceedings of the Royal Society A, PNAS Nexus, Soft Matter

Proposal reviewer:
NSF reviewer, 2024
DoD NDSEG reviewer, 2024

Book reviewer:
iDICs Standardization Good Practices and Uncertainty Quantification,
iDICs High-Speed DIC guide

Jin Yang, Assistant Professor

The University of Texas at Austin
Department of Aerospace Engineering and Engineering Mechanics

Dr. Jin Yang joined the Department of Aerospace Engineering & Engineering Mechanics at UT-Austin as an assistant professor in Fall 2022. He received his B.En. in Engineering Mechanics from Tsinghua University in 2013. He received his doctorate in 2019 from the California Institute of Technology, where he developed fast, accurate, adaptive-mesh augmented Lagrangian digital image/volume correlation (ALDIC/ALDVC) methods to measure 2D/3D full-field deformations quantitatively. After his graduate studies, he was a Postdoctoral Research Associate at the University of Wisconsin-Madison between 2019 and 2022, where his research focused on developing a micro-cavitation-based rheometry method to characterize viscoelastic properties of soft gel-like materials at ultra-high strain rates by utilizing laser-induced cavitation experiments. He is the recipient of the US NSF grant, the Haythornthwaite Seed Grant from ASME and the International Congress of Theoretical and Applied Mechanics (ICTAM) fellowship.