Xiaochuan Tian

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GOOGLE SCHOLAR page is Here

POSITIONS

2020.7-	**Assistant Professor**,	University of California, San Diego, CA, USA
2017.8-2020.5	**R. H. Bing instructor**,	University of Texas at Austin, TX, USA
2017.2-2017.8	**Postdoctoral research scientist**,	Columbia University, NY, USA

EDUCATION

2014.9- 2017.2	Ph.D in Applied Mathematics, Columbia University, NY, USA.
2011.9-2014.8	M.A. in Mathematics, Penn State University, PA, USA.
2007.8-2011.5	B.S. in Mathematics, Special Class for the Gifted Young, University of Science and Technology of China, Hefei, China.

HONORS AND AWARDS

2023	Alfred P. Sloan Research Fellowship
2023	National Science Foundation CAREER Award
2021	Springer Nature 2020 research highlights in Mathematics.
2019	SIAM Review SIGEST Award.
2019	New World Mathematics Awards: honorable mention for PhD thesis.
2018	Association for Women in Mathematics (AWM) Dissertation Prize.
2016	SIAM Outstanding Paper Prize.
2016	Best Poster Award, *Conference in honor of David Kinderlehrer's 75th birthday*, Pittsburgh, PA.
2016	SIAM Student Travel Award.
2015	8th International Congress on Industrial & Applied Mathematics Travel Award.
2010	Outstanding Undergraduate Research Project Award, USTC, China.

GRANTS

Title: Alfred P. Sloan Research Fellowship;
Source: Alfred P. Sloan Foundation;
Amount: $75,000.00;
Grant Periods: 09/23/2023-09/15/2025.

Title: CAREER: Numerical Analysis for Meshfree and Particle Methods via Nonlocal Models;
Source: Division of Mathematical Sciences, National Science Foundation;
Amount: $467,078.00;
Grant Periods: 07/01/2023-06/30/2028.

Title: Numerical methods for nonlocal models with applications to multiscale and nonlinear problems;
Source: Division of Mathematical Sciences, National Science Foundation;
Amount: $200,000.00;
Grant Periods: 07/01/2021-06/30/2024.

Title: Mathematical Analysis and Numerical Methods for Peridynamics and Nonlocal Models;
Source: Division of Mathematical Sciences, National Science Foundation;
Amount: $119,644.00;
Grant Periods: 07/01/2018-06/30/2021.

Title: AMS ICM 2018 Travel Grant.

RESEARCH INTERESTS

Numerical Analysis, Applied PDEs, Calculus of Variations, Nonlocal Models, Fractional PDEs, Multiscale Modeling

PUBLICATIONS

Refereed Journal Papers:

[35] Z. Han (PhD student) and **X. Tian**, *Nonlocal half-ball vector operators on bounded domains: Poincaré inequality and its applications*, accepted by **Math. Models Methods Appl. Sci.**, 2023. [Arxiv].

[34] Q. Du, T. Mengesha and **X. Tian**, *L^p compactness criteria with an application to variational convergence of some nonlocal energy functionals*, **Math. Eng.**, 5(6): 1-31, 2023. [DOI: 10.3934/mine.2023097]

[33] Q. Ye (PhD student) and **X. Tian**, *Monotone meshfree methods for linear elliptic equations in non-divergence form via nonlocal relaxation*, **J. Sci. Comput.**, 96(3), 85, 2023. [DOI: 10.1007/s10915-023-02294-3]

[32] Q. Du, **X. Tian** and Z. Zhou, Nonlocal diffusion models with consistent local and fractional limits, A³N²M: Approximation, Applications, and Analysis of Nonlocal, Nonlinear Models: Proceedings of the 50th John H. Barrett Memorial Lectures,175-213, 2023 [DOI: 10.1007/978-3-031-34089-5_5].

[31] Y. Fan, H. You, **X. Tian**, X. Yang, X.H. Li, N. Prakash and Y. Yu, *A meshfree peridynamic model for brittle fracture in randomly heterogeneous materials*, **Comput. Methods Appl. Mech. Eng.**, 399, 115340, 2022. [DOI: 10.1016/j.cma.2022.115340]

[30] Y. Fan, **X. Tian**, X. Yang, X.H. Li, C. Webster and Y. Yu, *An asymptotically compatible probabilistic collocation method for randomly heterogeneous nonlocal problems*, **J. Comput. Phys.**, 111376, 2022. [DOI: 10.1016/j.jcp.2022.111376]

[29] M. Pasetto, Z. Shen, M. D'Elia, **X. Tian**, N.Trask and D. Kamensky, *Efficient optimization-based quadrature for variational discretization of nonlocal problems*, **Comput. Methods Appl. Mech. Eng.**, 396, 115104, 2022. [DOI: 10.1016/j.cma.2022.115104]

[28] Q. Du, **X. Tian**, C. Wright and Y. Yu, *Nonlocal trace spaces and extension results for nonlocal calculus*, **J. Funct. Anal.**, 282(12), 109453, 2022. [DOI: 10.1016/j.jfa.2022.109453]

[27] Q. Du, T. Mengesha and **X. Tian**, *Fractional Hardy-type and trace theorems for nonlocal function spaces with heterogeneous localizations*, **Anal. Appl.**, 20(3), 579-614, 2022. [DOI: 10.1142/s0219530521500329]

[26] M. D'Elia, X.H. Li, P. Seleson, **X. Tian**, and Y. Yu, *A review of local-to-nonlocal coupling methods in nonlocal diffusion and nonlocal mechanics*, **J. Peridyn. Nonlocal Model.**, 4, 1-50, 2022. [DOI: 10.1007/s42102-020-00038-7]

[25] Y. Leng (PhD student), **X. Tian**, L. Demkowicz, H. Gomez and J. Foster, *A Petrov-Galerkin method for nonlocal convection-dominated diffusion problems*, **J. Comput. Phys.**, 425, 110919, 2021. [DOI: 10.1016/j.jcp.2021.110919]

[24] Y. Leng (PhD student), **X. Tian**, N. Trask and J. Foster, *Asymptotically compatible reproducing kernel collocation and meshfree integration for nonlocal diffusion*, **SIAM J. Numer. Anal.**, 59(1), 88-118, 2021. [DOI: 10.1137/19m1277801]

[23] L. Demkowicz, T. Fuhrer, N. Heuer, and **X. Tian**, *The double adaptivity paradigm (how to circumvent the discrete inf-sup conditions of Babuška and Brezzi)*, **Comput. Math. with Appl.**, 95, 41-66, 2021. [DOI: 10.1016/j.camwa.2020.10.002]

[22] M. D'Elia, Q. Du, C. Glusa, M. Gunzburger, **X. Tian**, and Z. Zhou, *Numerical methods for nonlocal and fractional models*, **Acta Numerica**, 29, 1-124, 2020. [DOI: 10.1017/s096249292000001x]

[21] Y. Leng (PhD student), **X. Tian**, N. Trask and J. Foster, Asymptotically compatible reproducing kernel collocation and meshfree integration for the peridynamic Navier equation, **Comput. Methods Appl. Mech. Eng.**, 370, 113264, 2020. [DOI: 10.1016/j.cma.2020.113264]

[20] M. D'Elia, **X. Tian**, and Y. Yu, *A physically-consistent, flexible and efficient strategy to convert local boundary conditions into nonlocal volume constraints*, **SIAM J. Sci. Comput.**, 42(4), A1935-A1949, 2020. [DOI: 10.1137/19M1266617]

[19] **X. Tian** and Q. Du, *Asymptotically compatible schemes for robust discretization of parametrized problems with applications to nonlocal models*, **SIAM Rev.**, 62(1), 199-227, 2020 (***SIAM Review SIGEST Award***). [DOI: 10.1137/19m1296720]

[18] Q. Du, L. Ju, J. Lu, and **X. Tian**. A discontinuous Galerkin method with penalty for one-dimensional nonlocal diffusion problems. **Comm. Appl. Math. Comput.**, 2(1), 31-55, 2020. [DOI: 10.1007/s42967-019-00024-x]

[17] Q. Du, and **X. Tian**. Mathematics of smoothed particle hydrodynamics: a study via nonlocal stokes equations, **Foundations of Computational Mathematics**, 20, 801-826, 2020. [DOI: 10.1007/s10208-019-09432-0]

[16] Q. Du, B. Engquist and **X. Tian**, *Multiscale modeling, homogenization and nonlocal effects: mathematical and computational issues*, **Contemporary Mathematics**, 754, 115-140, 2020.
[DOI: 10.1090/conm/754/15175]

[15] Y. Tao, **X. Tian** and Q. Du, Nonlocal models with heterogeneous localization and their application to seamless local-nonlocal coupling, **Multiscale Modeling and Simulation**, 17(3), 1052-1075, 2019. [DOI: 10.1137/18m1184576]

[14] **X. Tian** and B. Engquist, *Fast algorithm for computing nonlocal operators with finite interaction distance*, **Comm. Math. Sci.**, 17(6), 1653 -1670, 2019. [DOI: 10.4310/cms.2019.v17.n6.a7]

[13] Y. Leng (PhD student), **X. Tian** and J. Foster. *Super-convergence of reproducing kernel approximation*, **Comput. Methods Appl. Mech. Eng.**, 352(1):488-507, 2019. [DOI: 10.1016/j.cma.2019.04.038]

[12] Q. Du, and **X. Tian**. *Stability of nonlocal Dirichlet integrals and implications for peridynamic correspondence material modeling*, **SIAM J. Appl. Math.**, 78(3), 1536-1552 , 2018. [DOI: 10.1137/17m1139874]

[11] Q. Du, Y. Tao, **X. Tian** and J. Yang. *Asymptotically compatible numerical approximations of multidimensional nonlocal diffusion models and nonlocal Green's functions*, **IMA J. Numer. Anal.**, 39(2),607-625, 2018. [DOI: 10.1093/imanum/dry011]

[10] Q. Du, X.H. Li, J. Lu, and **X. Tian**. *A quasinonlocal coupling method for nonlocal and local diffusion models*, **SIAM J. Numer. Anal.**, 56(3), 1386-1404, 2018. [DOI: 10.1137/17m1124012]

[9] Q. Du, Y. Tao, and **X. Tian**. *A peridynamic model of fracture mechanics with bond-breaking*, **J. Elast.**, 132(2), 197-218, 2018. [DOI: 10.1007/s10659-017-9661-2]

[8] **X. Tian** and Q. Du, *Trace theorems for some nonlocal function spaces with heterogeneous localization*, **SIAM J. Math. Anal.**, 49(2), 1621-1644, 2017. [DOI: 10.1137/16m1078811]

[7] Y. Tao, **X. Tian** and Q. Du, *Nonlocal diffusion and peridynamic models with Neumann type constraints and their numerical approximations*, **Appl. Math. Comput.**, 305:282-298, 2017.
[DOI: 10.1016/j.amc.2017.01.061]

[6] Q. Du, Y. Tao, **X. Tian**, and J. Yang, *Robust a posteriori stress analysis for approximations of nonlocal models via nonlocal gradients*, **Comput. Methods in Appl. Mech. Eng.**, 310:605-627, 2016. [DOI: 10.1016/j.cma.2016.07.023]

[5] **X. Tian** and Q. Du, *A class of high order nonlocal operators*, **Arch Rat. Mech. Anal.**, 222(3):1521-1553, 2016. [DOI: 10.1007/s00205-016-1025-8]

[4] **X. Tian**, Q. Du and M. Gunzburger, *Asymptotically compatible schemes for the approximation of fractional Laplacian and related nonlocal diffusion problems on bounded domains*, **Advances in Comp. Math.**, 42(6):1363-1380, 2016. [DOI: 10.1007/s10444-016-9466-z]

[3] **X. Tian** and Q. Du, *Nonconforming discontinuous Galerkin methods for nonlocal varational problems*, **SIAM J. Numer. Anal.**, 53 (2015), 762-781. [DOI: 10.1137/140978831]

[2] **X. Tian** and Q. Du, *Asymptotically compatible schemes and applications to robust discretization of nonlocal models*, **SIAM J. Numer. Anal.** 52:1641-1665, 2014. [DOI: 10.1137/130942644]

[1] **X. Tian** and Q. Du, *Analysis and comparison of different approximations to nonlocal diffusion and linear peridynamic equations*, **SIAM J. Numer. Anal.**, 51: 3458-3482, 2013. (***SIAM Outstanding Paper Prize in 2016***) [DOI: 10.1137/13091631x]

Conference proceedings:

[3] Q. Du and **X. Tian**, *Heterogeneously localized nonlocal operators, boundary traces and variational problems*, Proceedings of the International Congress of Chinese Mathematicians, International Press, 2018.

[2] Q. Du and **X. Tian**, *Robust discretization of nonlocal models related to peridynamics*, in Meshfree Methods for Partial Differential Equations VII, 97-113, 2015.

[1] Q. Du and **X. Tian**, *Asymptotically compatible schemes for peridynamics based on numerical quadrature*, Proc. ASME 2014.

SEMINAR AND COLLOQUIUM TALKS

- Ocean University of China (virtual talk), Nov 25, 2022
- University of California, Santa Barbara (virtual talk), May 12, 2022.
- Tsinghua University (virtual talk), Mar 31, 2022.
- University of Houston (virtual talk), Mar 21, 2022.
- University of Maryland Baltimore County (virtual talk), Dec 3, 2021.
- University of South Carolina (virtual talk), Nov 12, 2021.
- California State University Long Beach (virtual talk), Sep 10, 2021.
- University of Nebraska-Lincoln (virtual talk), Feb 4, 2021.
- UC San Diego Graduate Colloquium (virtual talk), Feb 2, 2021.
- UC San Diego CCOM seminar (virtual talk), Jan 16, 2021.
- University of North Carolina at Charlotte (virtual talk), Dec 10, 2020.
- Old Dominion University (virtual talk), Dec 3, 2020.
- Brown University (virtual talk), Nov 7, 2020.
- UC Berkeley (virtual talk), Nov 4, 2020.
- Hong Kong Polytechnic University (virtual talk), Nov 4, 2020.
- California Institute of Technology, Jan 21, 2020.
- Duke University, Jan 13, 2020.
- UC San Diego, Jan 10, 2020.
- Georgia Institute of Technology, Jan 7, 2020.
- University of Texas at Dallas, Dec 13, 2019.
- Washington University in St. Louis, Dec 10, 2019.
- Duke University, Oct 1, 2019
- Beijing Computational Science Research Center, Jun 27, 2017.
- Peking University, Jun 26, 2017.
- University of Science and Technology of China, Jun 19, 2017.
- Duke University, May 26, 2017.
- Bielefeld University, Apr 20, 2017, Bielefeld, Germany.
- University of North Carolina at Chapel Hill, Jan 20, 2017.
- University of North Carolina at Charlotte, Sep 16, 2016.
- Oak Ridge National Lab, Jun 23, 2016.

CONFERENCE PRESENTATIONS

- Minisymposium talk at the second HKSIAM Biennial Conference, Aug 28 - Sep 1, 2023.
- Minisymposium talk at 10th International Congress on Industrial and Applied Mathematics, Waseda University, Tokyo, Japan, August 20-25, 2023.
- Minisymposium talk at 17th U. S. National Congress on Computational Mechanics, Albuquerque, New Mexico, July 23-27, 2023.
- Minisymposium talk at Engineering Mechanics Institute Conference, June 6-9, 2023.

- Minisymposium talk at the 13th AIMS Conference on Dynamical Systems, Differential Equations and Applications, May 31 - June 4, 2023.

- Minisymposium talk at Joint Mathematics Meetings, Jan 4-7, 2023.

- Minisymposium talk at the 7th SIAM Central States Annual Meeting, October 1-2, 2022

- Minisymposium talk on *Nonlocal models in computational mechanics: perspectives, challenges, and applications* at 15th World Congress on Computation Mechanics & 8th Asian Pacific Congress on Computation Mechanics, Jul 31 - Aug 5, 2022.

- Minisymposium talk on *Recent Advances in Peridynamics Materials Modeling and Analysis* at the SIAM Annual Meeting, Jul 11-15, 2022.

- Minisymposium talk on *Uncertainty in Material Modeling and Design* at the SIAM Conference on Uncertainty Quantification, Apr 12-15, 2022.

- Minisymposium talk on *Recent Developments in Nonlocal Modeling and Analysis* at the Joint Mathematics Meetings, Apr 4-9, 2022.

- Invited talk at the IMS workshop on Computation, Analysis & Applications of PDEs with Nonlocal and Singular Operators, Feb 4 - Mar 4, 2022.

- Minisymposium talk on *Advances in Coupling Techniques and Treatment of Interfaces in Nonlocal Mechanics and Diffusion* at the 16th US National Congress on Computational Mechanics, July 25-29, 2021.

- Minisymposium talk on *Nonlocality in data-driven and physics-based materials modeling* at SIAM MS21, May 17-28, 2021.

- Invited talk at The 50th John H. Barrett Memorial Lectures on *Approximation, Applications, and Analysis of Nonlocal, Nonlinear Models*, University of Tennessee, Knoxville, May 17-19, 2021.

- Invited talk at online conference on *Nonlocal models: theory and computation*, Central China Normal University & Wuhan University, China, Apr 15-18, 2021.

- Minisymposium talk on *Nonlocal Models in Computational Science and Engineering* at SIAM CSE21, Mar 1-5, 2021.

- Invited talk at the *IMSI Mathematical and Computational Materials Science Workshop*, Feb 15-19, 2021.

- Invited talk at the online conference on *Recent Progress in Nonlocal Modeling, Analysis, and Computation*, Southern University of Science and Technology, China, June 14-18, 2020.

- Poster presentation at the *Workshop on Experimental and Computational Fracture Mechanics*, Baton Rouge, LA, Feb 26-28, 2020.

- Invited talk at the *Applied Math Youth Forum*, Dec 21-22, 2019, Peking University, Beijing, China.

- Minisymposium talk on *Numerical Methods for Waves: Nonlinear, Nonlocal, and Multiscale Problems* at SIAM TX-LA Sectional Meeting, Dallas, TX, Nov 1-3, 2019.

- Invited talk at the *Young Researchers Workshop: Ki-Net 2012-2019*, Oct 21 - 25, 2019, CSCMM, Maryland, MD.

- Invited talk at the Third Conference on Scientific and Engineering Computing for Young Chinese Scientists, Xiangshan, Beijing, Aug 17-21, 2019.

- Two minisymposium talks on *Multiphysics and Multiscale problems* and *WIMM Special Session* at the AWM Research Symposium 2019, Houston, TX, Apr 6-7, 2019.

- Minisymposium talk on *Theoretical and Computational Aspects in Nonlocal and Material Science Modeling* at the SIAM CSE meetings, Spokane, WA, 2019.

- Minisymposium talk on *Advances in mathematical modeling of complex materials systems* at the Joint Mathematics Meetings, Baltimore, January 16 - 19, 2019.

- Minisymposium talk on *Nonlocal PDEs via Harmonic Analysis* at the AMS Western section meeting, San Francisco,October 27-28, 2018.

- Two minisymposium talks on *Numerical approximation of fractional differential equations* and *Mathematical and computational aspects of fracture* at SIAM TX-LA Sectional Meeting, Baton Rouge, LA, Oct 5 - 7, 2018.

- Minisymposium talk on *Local-Nonlocal Coupling Methods for Nonlocal Models* at the 2018 13th World Congress on Computational Mechanics / 2nd Pan American Congress on Computational Mechanics, New York City, Jul. 22-27, 2018.

- Invited talk at the USACM Thematic Conference on *Nonlocal Methods in Fracture*, Jan 15-16, 2018, Austin, TX

- Invited talk at the *Young Researchers Workshop: Current trends in kinetic theory*, Oct 9-13, 2017, CSCMM, Maryland, MD.

- Invited talk at NSF/CBMS Regional Conference in the Mathematical Sciences on *Nonlocal Dynamics: Theory, Computation and Applications*, Jun 4-9, 2017, Chicago, IL.

- Invited talk at Workshop on Nonlocal Material Models and Concurrent Multiscale Methods, Apr 3-7, 2017, HIM, Bonn.

- Minisymposium talk on *Recent Advances on Modeling, Analysis and Computation of Nonlocal Problems* at SIAM-SEAS, Mar 18-19, 2017, Tallahassee, FL.

- Minisymposium talk on *Nonlocal Models in Computational Science and Engineering* at SIAM Conference on Computational Science and Engineering, Feb 21-Mar 3, 2017, Atlanta, GA.

- Minisymposium talk on *Materials Science* at the 13th Annual Conference on Frontiers in Applied and Computational Mathematics, June 3 - 4, 2016, Newark, NJ.

- Minisymposium talk on *Mathematical and Computational Aspects of Nonlocal Models in Materials Science* at SIAM Conference on Mathematical Aspects of Materials Science, May 8-12, 2016, Philadelphia, PA.

- Minisymposium talks on *Nonlocal Problems: Modeling, Analysis and Computation* and *Modeling, Applications, Numerical Methods, and Mathematical Analysis of Fractional Partial Differential Equations.* at the 8th international Congress on Industrial & Applied Mathematics, Aug 10-14, 2015, Beijing, China.

- Contributed talk at Mid Atlantic Numerical Analysis Day 2014, Nov 7, 2014, Temple University, PA.

- Minisymposium talk on *Nonlocal Models in PDEs and Applications* at SIAM Conference on Analysis of Partial Differential Equations, Dec 7-10, 2013, Lake Buena Vista, FL.

- Contributed talk at International Workshop on Computational and Applied Mathematics, May 20-24, 2013, Huangshan, China.

- Contributed talk at SIAM/MAA Fourth Mid-Atlantic Regional Applied Mathematics Student Conference, Apr 13, 2013, Shippensburg, PA.

WORKSHOPS

- American Institute of Mathematics (AIM) Structured Quartet Research Ensembles (SQuaREs), 2023-2025.

- Women in Mathematics of Materials (WIMM) Workshop, May 14-18 2018, MCAIM, University of Michigan-Ann Arbor, MI.

- Nonlocal School on Fractional Equations, August 17-19, 2017, Iowa State University, Ames, Iowa.

- Hausdorff Trimester Program on Multiscale Problems: Algorithms, Numerical Analysis and Computation, January 3 - April 21, 2017.

- KI-NET Summer School on *Calculus of Variations and Nonlinear Partial Differential Equations*, May 18-29, 2015, UT Austin, TX.

- KI-NET Summer School on *Dymanics and Numerics for Nonlocal PDEs and Related Equations in the Physical and Biological Sciences*, May 4-7, 2014, Iowa State University, Ames, Iowa.

- PI Summer Graduate Program on *Flow, Geometric Motion, Deformation, and Mass Transport in Physiological Processes*, Jul 15-Aug 2, 2013, University of Minnesota, Minneapolis, MN.

TEACHING

Instructor (responsible for all the lectures of a course):

- MATH 270A *Numerical Linear Algebra*, FALL 2023, UC San Diego.

- MATH 273A *Advanced Techniques in Computational Mathematics*, WINTER 2023, UC San Diego.

- MATH 175/275 *Numerical Methods for Partial Differential Equations*, WINTER 2023, UC San Diego.

- MATH 272A *Numerical Partial Differential Equations*, FALL 2022, UC San Diego.

- MATH 175/275 *Numerical Methods for Partial Differential Equations*, WINTER 2022, UC San Diego.

- MATH 273A *Advanced Techniques in Computational Mathematics*, FALL 2021, UC San Diego.

- MATH 170B *Introduction to Numerical Analysis*, WINTER 2021, UC San Diego.
- MATH 20A *Calculus for Science and Engineering*, FALL 2020, UC San Diego.
- MATH 362M *Introduction to Stochastic Processes*, SPRING 2020, UT Austin.
- MATH 361K *Introduction to Real Analysis*, SPRING 2019, UT Austin.
- MATH 408D *Sequences, Series, and Multivariable Calculus*, FALL 2018&FALL 2019, UT Austin.
- MATH 427J *Differential Equations with Linear Algebra*, SPRING 2018, UT Austin.
- MATH 348 *Scientific Computation in Numerical Analysis*, FALL 2017, UT Austin.
- MATH 022 *College Algebra II and Analytic Geometry*, FALL 2013, Penn State University.

Recitation instructor (responsible for supporting lectures of a course):

- MATH 110, *Techniques of Calculus*, FALL 2012, Penn State University.

Teaching assistant:

- APMA E4302 *Parallel Scientific Computing*, Fall 2016, Columbia University.
- APMA E3102 *Partial Differential Equations*, Spring 2015, Columbia University.
- APMA E4150 *Applied functional analysis*, Fall 2014, Columbia University.
- MATH 456 *Introduction of Numerical Analysis*, Spring 2011, Penn State University.
- MATH 403 *Classical Analysis*, Fall 2011, Penn State University.

STUDENT ADVISING

PhD students

Zhaolong Han (current, since 2022, advanced in May 2023), UC San Diego.

Qihao Ye (current, since 2021, advanced in April 2023), UC San Diego.

Yimeng Zhang (current, since 2021, advanced in Dec 2022), UC San Diego.

Yu Leng (PhD 2020), UT Austin (co-advised with J. Foster). [First job: postdoctoral researcher at Purdue University]

Graduate Committee Member

Ru Xiang (PhD candidate), Mechanical and Aerospace Engineering, UC San Diego

Ryan Schlinkman (PhD candidate), Mechanical and Aerospace Engineering, UC San Diego

Daotong Ge (PhD candidate), Department of Mathematics, UC San Diego.

Gaojin He (PhD candidate), Department of Mathematics, UC San Diego.

Zehao Wang (PhD candidate), Department of Music, UC San Diego

Jennifer Ellen Fromm (PhD candidate), Mechanical and Aerospace Engineering, UC San Diego

Chuqing Shi (PhD candidate), Department of Mathematics, UC San Diego.

Hwi Lee (PhD 2021), Applied Math and Applied Physics, Columbia University.

Zhaoxiang Shen (MS 2021), Mechanical and Aerospace Engineering, UC San Diego.

ACADEMIC SERVICE

Journal and book refereeing:

SIAM Journal on Numerical Analysis; SIAM Journal on Scientific Computing; SIAM Journal on Mathematical Analysis; SIAM Journal on Applied Mathematics; Computer Methods in Applied Mechanics and Engineering; Journal of Computational Physics; Mathematical Models and Methods in Applied Sciences; Multiscale Modeling and Simulation; Nonlinear Analysis; Discrete and Continuous Dynamical Systems; Communications in Mathematical Sciences; IMA Journal on Numerical Analysis; ESAIM: Mathematical Modeling and Numerical Analysis; Computers and Mathematics with Applications; Numerical Methods for Partial Differential Equations; Applicable Analysis; Research in the Mathematical Sciences; Communications in Computational Physics; Acta Mechanica; Journal of Peridynamics and Nonlocal Modeling; Engineering Fracture Mechanics; International Journal of Mechanical Sciences

Book proposal reviewing for SIAM (2022)

Grant proposal refereeing:

National Science Foundation panelist (2018, 2022, 2023)

Minisymposia organization:

Techniques for multiscale materials modeling and computation, 2018 13th World Congress on Computational Mechanics, New York City, NY, July 22-27, 2018.

Recent Developments in Nonlocal Modeling and Analysis, AMS special session at the virtual Joint Mathematics Meetings, April 4-9, 2022.

Numerical methods for nonlocal problems, International Conference on Scientific Computation and Differential Equations, University of Iceland, Reykjavík, July 26-30, 2021 (postpone to July 25-29, 2022).

Numerical methods for nonlocal problems, International Conference on Scientific Computation and Differential Equations, ICIAM, Japan, 2023.

Conference organization:

(ongoing) ICERM Semester Program Workshop on Nonlocality: Challenges in Modeling and Simulation, April 15-19, 2024.

(ongoing) Southern California Applied Mathematics Symposium at UCSD in 2024.

Southern California Applied Mathematics Symposium, UC Irvine, April 22, 2023

One Nonlocal World online events (2021-2022). One Nonlocal World is an online project that aims at building up new communication channels for a more connected and inclusive research community on nonlocal models.

Editorial boards:

Numerical Methods for Partial Differential Equations (2022 -)

University Service:

Graduate Admissions Committee 2020-2023

Faculty advisor for undergraduate affairs 2023-

Qualifying Exam and Appeals committee 2023-