Epidemiology

Curriculum Vitae

Yurun Cai, PhD

Business Address:

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Education and Training

Undergraduate 2011 - 2015Peking University Health Science Center **Bachelor of Science** (PKUHSC) Beijing, China Nursing Graduate University of Massachusetts Boston (UMB) Ph.D. 2015 - 2019College of Nursing and Health Sciences Boston, MA, USA Nursing Population Health Postgraduate 2019 - 2021Johns Hopkins Bloomberg School of Public Postdoctoral Fellow Health

Baltimore, MD, USA

Appointments and Positions

Academic		
2021 – present	University of Pittsburgh School of Nursing Department of Health and Community Systems Pittsburgh, PA, USA	Tenure-track Assistant Professor
2022 – present	University of Pittsburgh Alzheimer's Disease Research Center (ADRC) Pittsburgh, PA, USA	OSCAR scholar
2018 - 2019	Icahn School of Medicine at Mount Sinai New York, NY, USA	Research Assistant
2015 - 2019	UMB Boston, MA, USA	Graduate Research Assistant

Non-Academic		Dute: Determ		
2014 – 2015	Beijing Hospital Beijing, China	Nurse Intern		
Licensure and Certification				
2022 – present	RN 172276	Iowa		
Membership in Professional and Scientific Societies				
	<u></u>	<u></u>		
2016 – present	Gerontological Society of America			
2016 - present	Eastern Nursing Research Society			
2016 – present	Sigma Theta Tau International Hon	or Society of Nursing		
2017 – present	International Association for the Stu			
<u>Honors</u>				
2018	Outstanding Graduate Assistant Aw	vard UMB		
2018	Outstanding Leadership Award, UN			
2016 - 2019	Lynch Fund Scholarship Award, U			
2014	General Electric Medical Education			
	scholarship, PKU	6		
2012	Red Mansion Art Prize To top 2% s	students at medical campus, PKU		

Publications

Refereed Articles * = Data Based, # = equal contribution

- 1. *Cai, Y., Schrack, J. A., Agrawal, Y., Armstrong, N., Kitner-Triolo, M., Moghekar, A., Ferrucci, L., Simonsick, E. M., Resnick, S. M., & Gross, A. L. (2023). Application and validation of an algorithmic classification of early impairment in cognitive performance. (Manuscript under review at a journal).
- 2. *Cai, Y., Leveille, S. G., Shi, L., Chen, P., & You, T. (2023). Characterizing fall circumstances in community-dwelling older adults: a mixed methods approach. (Manuscript under review at a journal).
- *Cai, Y., Schrack, J. A., Gross, A. L., Armstrong, N. M., Swenor, B. K., Deal, J. A., Lin, F. R., Wang, H., Tian, Q., An, Y., Simonsick, E. M., Ferrucci, L., Resnick, S. M., Agrawal, Y. (2023). Sensory impairment and algorithmic classification of early cognitive impairment. Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring (in press).
- *Yasentharao, L., Cai, Y., Agrawal, Y., Schrack, J., Gross, A., Wang, H., Dougherty, R., Bigel, M., Simonsick, E. M., Ferrucci, L., Resnick, S. M. (2023) Sensory impairment and beta-amyloid deposition in the Baltimore Longitudinal Study of Aging. Alzheimer's & Dementia: Diagnosis, Assessment, & Disease Monitoring (in press).

- Schrack, J. A., Cai, Y., Urbanek, J. K., Wanigatunga, A. A., Mitchell, C. M., Miller, E. R., 3rd, Guralnik, J. M., Juraschek, S. P., Michos, E. D., Roth, D. L., Appel, L. J. (2023). Association of Vitamin D Supplementation with Physical Activity in Older Adults: Results from a Randomized Trial. Journal of the American Geriatrics Society. (In press).
- *Cai, Y., Wanigatunga, A. A., Mitchell, C. M., Urbanek, J. K., Miller, E. R., 3rd, Juraschek, S. P., Michos, E. D., Kalyani, R. R., Roth, D. L., Appel, L. J., & Schrack, J. A. (2022). The effects of vitamin D supplementation on frailty in older adults at risk for falls. *BMC geriatrics*, 22(1), 312. <u>https://doi.org/10.1186/s12877-022-02888-w</u>
- *Wanigatunga, A. A., Chiu, V., Cai, Y., Urbanek, J. K., Mitchell, C. M., Miller, E. R., 3rd, Christenson, R. H., Rebuck, H., Michos, E. D., Juraschek, S. P., Walston, J., Xue, Q. L., Bandeen-Roche, K., Appel, L. J., & Schrack, J. A. (2022). Patterns of Daily Physical Movement, Chronic Inflammation, and Frailty Incidence. *Medicine and science in sports and exercise*, 10.1249/MSS.00000000003048. Advance online publication. <u>https://doi.org/10.1249/MSS.00000000003048</u>
- Andreeva, O., Ding, W., Leveille, S. G., Cai, Y., & Chen, P. (2022). Fall risk assessment through a synergistic multi-source DNN learning model. *Artificial intelligence in medicine*, 127, 102280. <u>https://doi.org/10.1016/j.artmed.2022.102280</u>
- *Juraschek, S. P., Appel, L. J., M Mitchell, C., Mukamal, K. J., Lipsitz, L. A., Blackford, A. L., Cai, Y., Guralnik, J. M., Kalyani, R. R., Michos, E. D., Schrack, J. A., Wanigatunga, A. A., & Miller, E. R., 3rd (2022). Comparison of supine and seated orthostatic hypotension assessments and their association with falls and orthostatic symptoms. *Journal of the American Geriatrics Society*, 70(8), 2310–2319. <u>https://doi.org/10.1111/jgs.17804</u>
- *Wanigatunga, A. A., Liu, F., Urbanek, J. K., Wang, H., Di, J., Zipunnikov, V., Cai, Y., Dougherty, R. J., Simonsick, E. M., Ferrucci, L., & Schrack, J. A. (2022). Wrist-Worn Accelerometry, Aging, and Gait Speed in the Baltimore Longitudinal Study of Aging. *Journal of aging and physical activity*, 1–9. Advance online publication. https://doi.org/10.1123/japa.2022-0156
- 11. *Jiang, X., Cai, Y., Wu, X., Huang, B., Chen, Y., Zhong, L., Gao, X., Guo, Y., Zhou, J. (2022). The multiscale dynamics of beat-to-beat blood pressure fluctuation mediated the relationship between frailty and arterial stiffness in older adults. *The Journal of Gerontology: Series A, Biological Sciences and Medical sciences*, glac035 (in press). DOI: 10.1093/gerona/glac035.
- 12. *Jiang, X., Cai, Y., Wu, X., Huang, B., Chen, Y., Zhong, L., Gao, X., Guo, Y., & Zhou, J. (2022). The Multiscale Dynamics of Beat-to-Beat Blood Pressure Fluctuation Links to Functions in Older Adults. *Frontiers in cardiovascular medicine*, 9, 833125. <u>https://doi.org/10.3389/fcvm.2022.833125</u>
- 13. *Urbanek, J. K. Roth, D. L., Karas, M., Wanigatunga, A. A., Mitchell, C., Juraschek, S., Cai, Y., Appel, L. J., & Schrack, J. A. (2022). Free-living gait cadence measured by wearable accelerometers a remote alternative to gait speed for assessing fall risk in older adults. *The Journal of Gerontology: Series A, Biological Sciences and Medical sciences*, glac013 (in press). DOI: 10.1093/gerona/glac013.
- 14. *Cai, Y., Leveille, S. G., Shi, L., Chen, P., & You, T. (2022). Chronic pain and circumstances of falls in community-living older adults: a prospective cohort study. *Age and Ageing*, 51 (1), afab261. DOI: 10.1093/ageing/afab261.
- 15. *Cai, Y., Tian, Q., Gross, A. L., Wang, H., E, J. Y., Agrawal, Y., Simonsick, E. M., Ferrucci, L., & Schrack, J. A. (2022). Motor and Physical Function Impairments as Contributors to Slow Gait Speed

and Mobility Difficulty in Middle-Aged and Older Adults. *The journals of gerontology. Series A, Biological sciences and medical sciences*, 77(8), 1620–1628. <u>https://doi.org/10.1093/gerona/glac001</u>

- 16. *Guralnik, J. M., Sternberg, A. L., Mitchell, C. M., Blackford, A. L., Schrack, J., Wanigatunga, A. A., Michos, E., Juraschek, S. P., Szanton, S., Kalyani, R., Cai, Y., Appel, L. J., & STURDY Collaborative Research Group (2022). Effects of Vitamin D on Physical Function: Results From the STURDY Trial. *The journals of gerontology. Series A, Biological sciences and medical sciences*, 77(8), 1585–1592. https://doi.org/10.1093/gerona/glab379
- *Cai, Y., Schrack, J. A., Wang, H., E, J-Y., Agrawal, Y., Urbanek, J. K., Simonsick, E. M., Ferrucci, L., & Swenor, B. K. (2021). Visual impairment and objectively measured physical activity in middleaged and older adults. *The Journal of Gerontology: Medical Sciences*, 76(12), 2194–2203. DOI: 10.1093/gerona/glab103.
- 18. *Jiang, X.[#], Cai, Y.[#], Zhao, Y., Gao, X., Peng, D., Zhang, H., Deng, W., Fu, W., Qin, N., Chang, R., Manor, B., & Zhou, J. (2021). The Complexity of Blood Pressure Fluctuation Mediated the Effects of Hypertension on Walking Speed in Older Adults. *Frontiers in aging neuroscience*, 13, 640942. <u>https://doi.org/10.3389/fnagi.2021.640942</u>
- *Wanigatunga, A., Cai, Y., Urbanek, J. K., Mitchell, C. M., Roth, D. L., Miller III, E. R., Michos, E. D., Juraschek, S. P., Walston, J., Xue, Q-L., Appel, L. J., & Schrack, J. A. (2021). Objectively measured patterns of daily physical activity and phenotypic frailty. *The Journal of Gerontology: Medical Sciences*, glab278 (in press). DOI: 10.1093/gerona/glab278
- 20. *Wanigatunga, A., Sternberg, A. L., Blackford, A. L., Cai, Y., Mitchell, C. M., Roth, D. L., Miller III, E. R., Szanton, S. L., Juraschek, S. P., Michos, E. D., Schrack, J. A., & Appel, L. J. (2021). The effects of vitamin D supplementation on types of falls. *Journal of the American Geriatrics Society* (in press). DOI: 10.1111/jgs.17290.
- 21. *Cai, Y., Leveille, S. G., Hausdorff, J. M., Bean, J. F., Manor, B., & You, T. (2021). Participation in cognitive activities is associated with foot reaction time and gait speed. *Aging Clinical and Experimental Research*, 33(12), 3191-3198. DOI: 10.1007/s40520-020-01583-3.
- 22. *Cai, Y., Leveille, S. G., Shi, L., Chen, P., & You, T. (2021). Chronic Pain and Risk of Injurious Falls in Community-Dwelling Older Adults. *The journals of gerontology. Series A, Biological sciences and medical sciences*, 76(9), e179–e186. https://doi.org/10.1093/gerona/glaa249
- 23. *Cai, Y., Leveille, S. G., Hausdorff, J. M., Bean, J. F., Manor, B., McLean, R. R., & You, T. (2020). Chronic musculoskeletal pain and foot reaction time in older adults. *The Journal of Pain*, 22(1), 76-85. https://doi.org/10.1016/j.jpain.2020.05.003
- 24. *You, T., Ogawa, E., Thapa, S., Cai, Y., Yeh, G., Wayne, P, Shi, L., & Leveille, S. (2020). Effects of Tai Chi on beta endorphin and inflammatory markers in older adults with chronic pain: an exploratory study. *Aging Clinical and Experimental Research*, 32(7), 1389-1392.
- 25. *Kim, B., Cai, Y., & Aronowitz, T. (2020). How do acculturation, maternal connectedness, and mother-daughter sexual communication affect Asian American daughters' sexual initiation? *Asian/Pacific Island nursing journal*, 5(1), 12–20.
- 26. *Heelan-Fancher, L., Shi, L., Zhang, Y., Cai, Y., Nawai, A., & Leveille, S. (2019). Impact of continuous electronic fetal monitoring on birth outcomes in low risk pregnancies. *Birth*, 46, 311-317.
- *Thapa, S., Shmerling, R. H., Bean, J. F., Cai, Y., & Leveille, S. G. (2019). Chronic multisite pain: evaluation of a new geriatric syndrome. *Aging Clinical and Experimental Research*, 31(8), 1129-1137.

28. *You, T., Ogawa, E., Thapa, S., Cai, Y., Zhang, H., Nagae, S., Yeh, G., Wayne, P, Shi, L., & Leveille, S. (2018). Tai Chi for older adults with chronic musculoskeletal pain: a randomized controlled pilot study. *Aging Clinical and Experimental Research*, 30(11), 1335-1343.

Published Abstracts

- Cai, Y., Agrawal, Y., Schrack, J., Gross, A., Armstrong, N., Simonsick, E., & Resnick, S. (2021). Sensory Impairment and Algorithmic Classification of Early Cognitive Impairment in Middle-Aged and Older Adults. *Innovation in Aging*, 5(Supplement_1), 436–437. <u>https://doi.org/10.1093/geroni/igab046.1697</u>
- Cai, Y., Schrack, J., E, J.-Y., Wanigatunga, A., Urbanek, J., Simonsick, E., & Swenor, B. (2021). Visual Impairment and Objectively Measured Physical Activity in Middle-Aged and Older Adults. *Innovation in Aging*, 5(Supplement_1), 335–335. https://doi.org/10.1093/geroni/igab046.1300
- Wanigatunga, A., Cai, Y., Urbanek, J., Roth, D., Walston, J., Bandeen-Roche, K., Appel, L., & Schrack, J. (2021). Accelerometer-Derived Patterns of Physical Activity and Incident Frailty. *Innovation in Aging*, 5(Supplement_1), 335–335. https://doi.org/10.1093/geroni/igab046.1299
- Armstrong, N., Cai, Y., Wang, H., Schrack, J., Agrawal, Y., Simonsick, E., & Resnick, S. (2021). Sensory Impairment and Beta-Amyloid Deposition in the Baltimore Longitudinal Study of Aging. *Innovation in Aging*, 5(Supplement_1), 437–437. https://doi.org/10.1093/geroni/igab046.1698
- Schrack, J., Wanigatunga, A., Cai, Y., Wang, H., Agrawal, Y., Resnick, S., Ferrucci, L., & Tian, Q. (2021). Motor and Sensory Function as Predictors of MCI and Dementia in the Baltimore Longitudinal Study of Aging (BLSA). *Innovation in Aging*, 5(Supplement_1), 437–437. https://doi.org/10.1093/geroni/igab046.1699
- Cai, Y., Tian, Q., Agrawal, Y., Simonsick, E., & Schrack, J. (2020). Motor and Physical Function Impairments in Middle-Aged and Older Adults in the Baltimore Longitudinal Study of Aging. *Innovation in Aging*, 4(Supplement_1), 232–232. https://doi.org/10.1093/geroni/igaa057.748
- Wanigatunga, A., Sternberg, A., Blackford, A., Cai, Y., Schrack, J., Miller, E., Roth, D., & Appel, L. (2020). Vitamin D Supplementation on Detailed Fall Characteristics. *Innovation in Aging*, 4(Supplement_1), 759–759. https://doi.org/10.1093/geroni/igaa057.2738
- Cai, Y., Leveille, S., Shi, L., You, T., & Chen, P. (2019). Chronic Pain Contributes to Injurious Falls In Community-Dwelling Older Adults. *Innovation in Aging*, 3(Supplement_1), S622–S622. https://doi.org/10.1093/geroni/igz038.2318
- Cai, Y., Leveille, S., Hausdorff, J., Dong, Z., Shi, L., Manor, B., McLean, R., & Bean, J. (2018). Gait Performance Mediates the Relationship Between Pain and Falls Among Older Adults: The Mobilize Boston Study II. *Innovation in Aging*, 2(suppl_1), 151–151. https://doi.org/10.1093/geroni/igy023.546
- Cai, Y., Zhou, J., Manor, B., Lipsitz, L., & Leveille, S. (2018). Chronic Musculoskeletal Pain Diminishes the Multiscale Complexity of Standing Postural Control in Older Adults. *Innovation in Aging*, 2(Suppl 1), 150. https://doi.org/10.1093/geroni/igy023.544
- 11. Cai, Y., Leveille, S. G., Hausdorff, J. M., Bean, J. F., Manor, B., & You, T. (2017). From Head to Toe, Frequency of Cognitive Activities is Associated with Shorter Foot Reaction Time. *Innovation in Aging*, 1(suppl_1), 83–83. https://doi.org/10.1093/geroni/igx004.344

12. Ogawa, E., You, T., Thapa, S., **Cai, Y.,** Yeh, G., Wayne, P., Shi, L., & Leveille, S. G. (2017). Effects of Tai Chi on Multisite Pain and Physical Function in Older Adults. *Innovation in Aging*, *1*(Suppl 1), 85–86. https://doi.org/10.1093/geroni/igx004.352

Other Publications

 Cai, Y. (2020). Chronic pain and risk of injurious falls and circumstances of falls in communitydwelling older adults: A prospective cohort study (Order No. AAI22621805). Available from APA PsycInfo®. (2381676225; 2020-10497-039). http://pitt.idm.oclc.org/login?url=https://www.proquest.com/dissertations-theses/chronic-pain-riskinjurious-falls-circumstances/docview/2381676225/se-2

Research

Principal Investigator

Funding Agency: Competitive Medical Research Fund, University of Pittsburgh Title: Quantifying multiscale dynamics of accelerometer-derived physical activity in relation to risk of cognitive impairment and dementia Years Inclusive: 07/01/2022 – 06/30/2024 (25% percent effort) Total Amount of Award: \$24,952

Co-Investigator

Principal Investigator: Nancy D. Zionts Funding Agency: The John A. Hartford Foundation Title: Revisiting the Teaching Nursing Home Years Inclusive: 07/01/2021 – 06/30/2023 (5% percent effort) Total Amount of Award: \$100,000

Other Scholarly Activities

Manuscript Reviewer

2020 – present 2020 – present

2020 – present 2019 – present Journal of Alzheimer's Disease American journal of Alzheimer's Disease and Other Dementias IEEE Internet of Things Journal BMC Geriatrics BMC Public Health BMJ Open Systemic Reviews PLOS One Clinical Interventions in Aging International Journal of Women's Health International Journal of Behavioral Nutrition and Physical Activity Date: December 2022 The Journal of Gerontology: Series A, Biological Sciences and Medical sciences

Conference Abstract Reviewer

2018 - present

Annual meetings of the Gerontological Society of America

Editorial Boards

2021 - present

Frontiers in Public Health

<u>Unpublished Presentations</u> (International; National; Regional; Local)

International

Paper

- 1. **Cai, Y.,** Leveille, S., Shi, L., You, T., & Chen, P. (2022, Nov.) Chronic pain and circumstances of falls in community-living older adults. Paper presented at the annual meeting of the Gerontological Society of America, Indianapolis, IN.
- 2. **Cai**, **Y**. (2022, Nov.) Prevention and risk factors of frailty in older adults. Invited presentation at the 1st Chinese Geriatrics Disease Prevention and Health Conference (online).
- 3. **Cai, Y.,** Jiang, X., Guo, Y., & Zhou, J. (2022, April). Multisystem comorbidities contribute to physical frailty. Oral communication at the 2022 International Conference on Frailty and Sarcopenia Research, Boston, MA.
- Cai, Y., Wanigatunga, A., Mitchell, C. M., Urbanek, J. K., Miller III, E. R., Juraschek, S. P., Michos, E. D., Roth, D. L., Appel, L. J., & Schrack, J. A. (2021, Sept.). The Effects of Vitamin D supplementation on frailty in older adults at risk for falls. Oral communication at the 2021 International Conference on Frailty and Sarcopenia Research (online).
- 5. **Cai, Y.**, Leveille, S. G., Hausdorff, J. M., Bean, J. F., Manor, B., & You, T. (2017, July). From head to toe, frequency of cognitive activities is associated with shorter foot reaction time. Paper presented at the 21st World Congress of Gerontology and Geriatrics, San Francisco, CA.
- Ogawa, E., You, T., Thapa, S., Cai, Y., Yeh, G., Wayne, P., Shi, L., & Leveille S. (2017, July). Effects of Tai Chi on multisite pain and physical function in older adults. Paper presented at the 21st World Congress of Gerontology and Geriatrics, San Francisco, CA.

Poster

- Reckrey, J., Cai, Y., Gazarian, P., Siu, A., Reuben, D., Latham, N., McMahon, S., Catalan, E., & Ko, F. (2019, Apr.). Reducing falls and fall-related injuries in community-dwelling older adults: an implementation evaluation of the STRIDE intervention. Poster presented at the Claude D. Pepper Older American Independence Centers (OAIC) Annual Meeting, Arlington, VA.
- 2. Cai, Y., Tian, Q., Agrawal, Y., Simonsick, E., Ferrucci, L., & Schrack, J. A. (2020, Nov.). Motor and physical function impairments as contributors to mobility difficulty in middle-aged and older adults

in the Baltimore Longitudinal Study of Aging. Poster presented at the annual meeting of the Gerontological Society of America (online).

- 3. Cai, Y., Zhou, J., Manor, B., Lipsitz, L. A., & Leveille, S. G. (2018, Nov.). Chronic musculoskeletal pain diminishes the multiscale complexity of standing postural control in older adults. Poster presented at the annual meeting of the Gerontological Society of America, Boston, MA.
- 4. **Cai, Y.**, Leveille, S. G. (2018, Sept.). A longitudinal view of chronic musculoskeletal pain related to depression and anxiety in an older population: the MOBILIZE Boston study. Poster presented at the 17th World Congress on Pain, Boston, MA.
- 5. **Cai, Y.**, Leveille, S. G., Hausdorff, J. M., Bean, J. F., Manor, B., McLean, R., & You, T. (2016, Nov.). Psychoactive medication use and foot reaction time in older adults. Poster presented at the annual meeting of the Gerontological Society of America, New Orleans, LA.

National

Poster

 You, T., Ogawa, E., Thapa, S., Cai, Y., Zhang, H., Nagae, S., Yeh, G., Wayne, P., Shi, L., & Leveille, S. G. (2017, May). Effects of Tai Chi on mobility in older adults with multisite pain. Poster presented at the 64th Annual Meeting of the American College of Sports Medicine, Denver, CO.

Regional

Paper

1. **Cai, Y.**, Leveille, S. G., Hausdorff, J. M., Bean, J. F., Manor, B., McLean, R. R., & You, T. (2017, Apr.). Chronic musculoskeletal pain slows foot reaction time in older adults. Paper presented at the annual meeting of Eastern Nursing Research Society, Philadelphia, PA.

Poster

1. Kim, B., **Cai**, Y., & Aronowitz, T. (2018, Apr.). Factors that affect sexual initiation among Asian American women. Poster presented at the 30th annual scientific sessions of the Eastern Nursing Research Society, Newark, NJ.

Local

Poster

1. Kim, B., **Cai**, **Y**., & Aronowitz, T. (2018, Apr.). How acculturation affects age of sexual initiation among Asian American women. Poster presented at the 17th annual New England Science Symposium, Harvard Medical School, Boston, MA.

Other Presentations (e.g., workshops)

1. **Cai**, **Y**. (2022, Nov.) Sensorimotor function as predictors of cognitive impairment and dementia. University of Pittsburgh Alzheimer's Disease Research Center (ADRC) OSCAR Scholar symposium

- 2. **Cai, Y.** (2022, Nov.) Sensorimotor function as predictors of cognitive impairment and dementia. University of Pittsburgh School of Nursing Aging and Gerontological Nursing Research Hub meeting.
- 3. Cai, Y. (2022, July) Unraveling age-related sensorimotor changes and their connections with physical and cognitive functioning. Invited talk at the webinar of PolyU WHO Collaborating Centre for Community Health Services (WHOCC)

Teaching

Primary Teacher

I I IIIIar y I Caci				
Term / Years Fall 2022	Course Number & Title NUR1054 Nursing Care of Older Adults	No. of Students 90	Level Undergraduate	Didactic or Clinical Didactic
Fall 2022	NUR1091 Honors Capstone	1	Undergraduate	Clinical
Summer 2022	NUR1054 Nursing Care of Older Adults	30	Undergraduate	Didactic
Lecturer / Guest Lecturer				
	Course Number & Title NUR1128 Community Health Nursing	No. of Students 100	Level Undergraduate	Topic of Lecture Epidemiology in Community Health Care
Spring 2022	NUR1128 Community Health Nursing	100	Undergraduate	Epidemiology in Community Health Care
Fall 2015	EHS825 Advanced Quantitative Research Methods	10	Master	Biostatistics

Other Mentoring Activities

Fall 2022	Anna Csernica, Pitt School of Nursing undergraduate student, Independent study
	Will Zhang, Pitt School of Nursing undergraduate student, Independent Study
Fall 2022	Ann Barney, Pitt School of Nursing URMP student
Spring 2022	Tuny Zonana, Pitt School of Nursing undergraduate student, Independent study
Fall 2021	Zeeshan Malik, Johns Hopkins School of Medicine student

Service

School Committees

2022 – present	Honors program committee
2021 – present	Faculty & Staff Welfare Committee

Other Professional Activities

Consultation

2021 – present Consultation on research, Shenzhen People's Hospital, Shenzhen, China