

**Curriculum Vitae****Yurun Cai, PhD, RN**

**Business Address:**  
 421 Victoria Building  
 3500 Victoria St.  
 Pittsburgh, PA 15213

**E-mail Address:** [Yuc199@pitt.edu](mailto:Yuc199@pitt.edu)  
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**Education and Training****Undergraduate**

2011 – 2015	Peking University Health Science Center (PKUHSC) Beijing, China	Bachelor of Science Medicine
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**Graduate**

2015 – 2019	University of Massachusetts Boston (UMB) College of Nursing and Health Sciences Boston, MA, USA	Ph.D. Nursing Population Health
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**Postgraduate**

2019 – 2021	Johns Hopkins Bloomberg School of Public Health Baltimore, MD, USA	Postdoctoral Fellow Epidemiology
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**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	Optimizing Scientific Careers in AD Research (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**

2014 – 2015 Beijing Hospital  
Beijing, China Nurse Intern

**Licensure and Certification**

2023 – present RN 779957 Pennsylvania  
2022 – present RN 172276 Iowa

**Membership in Professional and Scientific Societies**

2016 – present Gerontological Society of America  
2016 – present Eastern Nursing Research Society  
2016 – present Sigma Theta Tau International Honor Society of Nursing  
2017 – present International Association for the Study of Pain

**Honors**

2023 Gerontological Society of America Health Sciences Research Award  
2018 Outstanding Graduate Assistant Award, UMB  
2018 Outstanding Leadership Award, UMB  
2016 – 2019 Lynch Fund Scholarship Award, UMB  
2014 General Electric Medical Education Award: outstanding student  
scholarship, PKU  
2012 Red Mansion Art Prize To top 2% 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. *Aging & mental health*, 27(11), 2187–2192. <https://doi.org/10.1080/13607863.2023.2227118>
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. *The journals of gerontology. Series A, Biological sciences and medical sciences*, 78(9), 1683–1691. <https://doi.org/10.1093/gerona/glad130>
3. \*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 (Amsterdam, Netherlands)*, 15(2), e12400. <https://doi.org/10.1002/dad2.12400>
4. \*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 (Amsterdam, Netherlands)*, 15(2), e12407. <https://doi.org/10.1002/dad2.12407>

5. \*Dougherty, R., Wang, H., Gross, A. L., Schrack, J. A., Agrawal, Y., Davatzikos, C., **Cai, Y.**, Simonsick, E. M., Ferrucci, L., Resnick, S. M., & Tian, Q. (2023). Shared and distinct associations of manual dexterity and gross motor function with brain atrophy. *The journals of gerontology. Series A, Biological sciences and medical sciences*, glad245. Advance online publication. <https://doi.org/10.1093/gerona/glad245>
6. \*Jiang, X., Zhou, J., Yu, C., Chen, W., Huang, B., Chen, Y., Zhong, L., Guo, Y., Geng, Q., & **Cai, Y.** (2023). The alterations in multiple neurophysiological procedures are associated with frailty phenotypes in older adults. *Frontiers in aging neuroscience*, 15, 1063322. <https://doi.org/10.3389/fnagi.2023.1063322>
7. \*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). The association of vitamin D supplementation and serum vitamin D levels with physical activity in older adults: Results from a randomized trial. *Journal of the American Geriatrics Society*, 71(7), 2208–2218. Advance online publication. <https://doi.org/10.1111/jgs.18290>
8. \*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*, 31(3), 408–416. <https://doi.org/10.1123/japa.2022-0156>
9. \***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. <https://doi.org/10.1186/s12877-022-02888-w>
10. \*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*, 55(2), 281–288. <https://doi.org/10.1249/MSS.0000000000003048>
11. \***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.
12. \*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. <https://doi.org/10.1016/j.artmed.2022.102280>
13. \*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. <https://doi.org/10.1111/jgs.17804>
14. \*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*, 31(3), 408–416. <https://doi.org/10.1123/japa.2022-0156>

15. \*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*, 77(12), 2482-2488. DOI: 10.1093/gerona/glac035.
16. \*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. <https://doi.org/10.3389/fcvm.2022.833125>
17. \*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*, 78(5), 802–810. DOI: 10.1093/gerona/glac013.
18. \***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. <https://doi.org/10.1093/gerona/glac001>
19. \*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>
20. \***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 middle-aged and older adults. *The Journal of Gerontology: Medical Sciences*, 76(12), 2194–2203. DOI: 10.1093/gerona/glab103.
21. \*Jiang, X.<sup>#</sup>, **Cai, Y.**<sup>#</sup>, 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. <https://doi.org/10.3389/fnagi.2021.640942>
22. \*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: Series A, Biological Sciences and Medical Sciences*, 77(9), 1182-1189. DOI: 10.1093/gerona/glab278
23. \*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*, 69(10), 2851-2864. DOI: 10.1111/jgs.17290.
24. \***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.
25. \***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>

26. \*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>
27. \*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. <https://doi.org/10.1007/s40520-019-01316-1>
28. \*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. <https://doi.org/10.31372/20200501.1080>
29. \*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.
30. \*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. <https://doi.org/10.1007/s40520-018-1061-3>
31. \*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. <https://doi.org/10.1007/s40520-018-0922-0>

### Under Reviewed Articles

1. Cai, Y., Liu, F., Wanigatunga, A. A., Urbanek, J. K., Simonsick, E. M., Ferrucci, L., & Schrack, J. A. (2023). Musculoskeletal Pain Characteristics and Objectively Measured Physical Activity in Older Adults. *The journals of gerontology. Series A, Biological sciences and medical sciences*.
2. Cai, Y., Martinez-Amezcuca, P., Betz, J. F., Zhang, T., Huang, A. R., Wanigatunga, A. A., Glynn, N. W., Burgard, S., Chisolm, T. H., Coresh, J., Couper, D., Deal, J. A., Gmelin, T., Goman, A. M., Gravens-Mueller, T., Hayden, K. M., Mitchell, C. M., Mosley, T., Pankow, J. S., Pike, J. R., Reed, N. S., Sanchez, V. A., Lin, F. R., & Schrack, J. A. (2023). Hearing Impairment and Physical Activity and Physical Functioning in Older Adults: Baseline Results from the ACHIEVE Trial. *The journals of gerontology. Series A, Biological sciences and medical sciences*.

### Published Abstract \* = Data Based

1. \*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. <https://doi.org/10.1093/geroni/igab046.1697>
2. \*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>
3. \*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>



4. \*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>
5. \*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>
6. \***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>
7. \*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>
8. \***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>
9. \***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>
10. \***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

1. \*Cai, Y. (2020). *Chronic pain and risk of injurious falls and circumstances of falls in community-dwelling older adults: A prospective cohort study* (Doctoral Dissertation, University of Massachusetts Boston, Boston, Massachusetts). Available from APA PsycInfo®. (2381676225; 2020-10497-039).

**Research****Research Grant Awards as PI**

Role: Principal Investigator

Date: 07/01/2022 – 06/30/2024

Type: Research Grant, University of Pittsburgh

Funding Agency: Competitive Medical Research Fund

Title: Quantifying multiscale dynamics of accelerometer-derived physical activity in relation to risk of cognitive impairment and dementia

Total Amount of Award: \$24,952

Role: Principal Investigator

Date: 07/01/2022 – 06/30/2024

Type: Research Grant

Funding Agency: University of Pittsburgh School of Nursing Aging and Gerontological Nursing Research Hub

Title: Quantifying multiscale dynamics of accelerometer-derived physical activity in relation to risk of cognitive impairment and dementia

Total Amount of Award: \$10,000

Role: Principal Investigator

Date: 07/01/2022 – 06/30/2023

Type: Training Grant

Funding Agency: University of Pittsburgh Alzheimer's Disease Research Center

Total Amount of Award: \$3,600

**Research Grant Awards as Co-I**

PI: Nancy D. Zions, MBA

Date: 07/01/2021 – 06/30/2023

Funding Agency: The John A. Hartford Foundation

Title: Revisiting the Teaching Nursing Home

Total Amount of Award: \$100,000

**Other Scholarly Activities****Manuscript Reviewer**

2020 – present

Age and Ageing

2020 – present

Journal of Alzheimer's Disease

2020 – present

Frontiers in Public Health

2020 – present

American journal of Alzheimer's Disease and Other Dementias

2020 – present

IEEE Internet of Things Journal

2019 – present

BMC Geriatrics

2019 – present

BMC Public Health

2019 – present

BMJ Open

2019 – present

Systemic Reviews

2019 – present

PLOS One

2019 – present

Clinical Interventions in Aging

2019 – present

International Journal of Women's Health

2018 – present

International Journal of Behavioral Nutrition and Physical Activity

2018 – present

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

**Presentations (\* = Data Based)**  
**(International; National; Regional; Local)**

**International****Paper**

1. \***Cai, Y.**, Zhou, J., Tian, Q., Wanigatunga, A. A., Simonsick, E.M., Resnick, S.M., Ferrucci, L., & Schrack, J.A. (2023, Nov.). The association of a novel physical activity metric with cognition and risk of dementia. Paper presented at the annual meeting of the Gerontological Society of America, Tampa, FL.
2. \***Cai, Y.**, Liu, F., Wanigatunga, A. A., Urbanek, J. K., Simonsick, E. M., Ferrucci, L., & Schrack, J. A. (2023, Nov.). Musculoskeletal Pain Characteristics and Objectively Measured Physical Activity in Older Adults. Paper presented at the annual meeting of the Gerontological Society of America, Tampa, FL.
3. \***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.
4. \***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.
5. \***Cai, Y.**, Agrawal, Y., Schrack, J. A., Gross, A. L., Armstrong, N., Ferrucci, L., Simonsick, E. M., & Resnick, S. M. (2021, Nov.). Sensory Impairment and Algorithmic Classification of Early Cognitive Impairment in Middle-Aged and Older Adults. Symposium presented at the annual meeting of the Gerontological Society of America (virtual).
6. \***Cai, Y.**, Schrack, J. A., E, J-Y., Wanigatunga, A., Urbanek, J. K., Simonsick, E. M., Ferrucci, L., & Swenor, B. K. (2021, Nov.). Visual Impairment and Objectively Measured Physical Activity in Middle-Aged and Older Adults. Symposium presented at the annual meeting of the Gerontological Society of America (virtual).
7. \***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 (virtual).



8. \***Cai, Y.**, Leveille, S. G., Shi, L., Chen, P., & You, T. (2019, Nov.). Chronic pain and risk of injurious falls in community-dwelling older adults: a prospective cohort study. Paper presented at the annual meeting of the Gerontological Society of America, Austin, TX.
9. \***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 21<sup>st</sup> World Congress of Gerontology and Geriatrics, San Francisco, CA.
10. \*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 21<sup>st</sup> World Congress of Gerontology and Geriatrics, San Francisco, CA.

## Poster

1. \*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 (virtual).
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., Hausdorff, J. M., Dong, Z., Shi, L., Manor, B., McLean, R., & Bean, J. F. (2018, Nov.). Gait performance mediates the relationship between pain and falls among older adults: the MOBILIZE Boston Study II. Poster presented at the annual meeting of the Gerontological Society of America, Boston, MA.
5. \***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 17<sup>th</sup> World Congress on Pain, Boston, MA.
6. \***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

7. \***Cai, Y.**, Zhou, J., Tian, Q., Wanigatunga, A. A., Simonsick, E. M., Resnick, S. M., Ferrucci, L., & Schrack, J. A. (2023, May). A novel physical activity metric with cognition and risk of dementia. Poster presented at the 2023 Spring Alzheimer's Disease Research Center Meeting, Washington, D.C.

8. \*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 64<sup>th</sup> Annual Meeting of the American College of Sports Medicine, Denver, CO.

## Regional

### Paper

9. \***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

10. \*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.
11. \*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.

### Invited presentation

1. **Cai, Y.** (2023, Mar.) Chronic pain, mobility, and risk of cognitive impairment. Invited presentation at the University of Pittsburgh Claude D. Pepper Older Americans Independence Center.
2. **Cai, Y.** (2022, Nov.) Prevention and risk factors of frailty in older adults. Invited presentation at the 1<sup>st</sup> Chinese Geriatrics Disease Prevention and Health Conference (virtual).
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)

### 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.

## Teaching

### Primary Teacher

Term / Years	Course Number & Title	No. of Students	Level	Didactic or Clinical
Fall 2023	NUR1054 Nursing Care of Older Adults	92	Undergraduate	Core undergraduate didactic
Summer 2023	NUR1054 Nursing Care of Older Adults	10	Undergraduate	Core undergraduate didactic

Spring 2023	NUR1054 Nursing Care of Older Adults	101	Undergraduate	Core undergraduate didactic
Fall 2022	NUR1054 Nursing Care of Older Adults	90	Undergraduate	Core undergraduate didactic
Fall 2022	NUR1091 Honors Capstone	1	Undergraduate	Clinical
Summer 2022	NUR1054 Nursing Care of Older Adults	30	Undergraduate	Core undergraduate didactic

**Lecturer / Guest Lecturer**

<b>Term / Years</b>	<b>Course Number &amp; Title</b>	<b>No. of Students</b>	<b>Level</b>	<b>Topic of Lecture</b>
Fall 2023	NUR1128 Community Health Nursing	90	Undergraduate	Epidemiology in Community Health Care
Spring 2023	NUR 3292 Responsibilities and Activities of Scientists 2	5	Ph.D. students	Career trajectory and development
Spring 2023	NUR1128 Community Health Nursing	90	Undergraduate	Epidemiology in Community Health Care
Fall 2022	NUR1128 Community Health Nursing	100	Undergraduate	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 2023	Sophia Holena, Pitt School of Nursing URMP student
Fall 2023	Ann Barney, Pitt School of Nursing URMP student
Spring 2023	Will Zhang, Pitt School of Nursing undergraduate student, Honors Program Capstone
Spring 2023	Julia Hooker, Pitt School of Nursing undergraduate student, Independent Study
Spring 2023	Ann Barney, Pitt School of Nursing URMP student
Fall 2022	Anna Csernica, Pitt School of Nursing undergraduate student, Independent study Will Zhang, Pitt School of Nursing undergraduate student, Independent Study and Honors Program Capstone
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