

Biographical sketch of Lyudmila Sakhanenko¹

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Education:

- May 2002, PhD, Department of Mathematics and Statistics, University of New Mexico, Albuquerque, NM; GPA: 4.0/4.0: diploma with distinction, Major: Statistics, Concentration: Probability Theory and Statistics, Dissertation: “Asymptotic theory of symmetry tests for a multivariate distribution”, Advisor: Vladimir Koltchinskii, PhD.
- June 1998, BS, Department of Mechanics and Mathematics, Novosibirsk State University, Novosibirsk, Russia; GPA: 5.0/5.0, diploma with honors; the top student, Major: Mathematics, Concentration: Probability Theory and Mathematical Statistics.

Positions Held:

- 2019–present, Professor, Department of Statistics and Probability, MSU
- 2021–2024, Interim Chair, Department of Statistics and Probability, MSU
- 2010–2019, Associate Professor, Department of Statistics and Probability, MSU
- 2002–2010, Assistant Professor, Department of Statistics and Probability, MSU
- 1998–2002, Teaching Assistant, Department of Mathematics and Statistics, UNM

Technical Skills: General skills in mathematics, probability theory, statistics and computing. Specific expertise in:

- Mathematics: functional analysis; stochastic, empirical, U -, Gaussian processes; tensor algebra.
- Statistics: bootstrap; testing; curve estimation; U -statistics; learning theory; functional data analysis, non- and semi- parametric statistics.
- Programming languages: Matlab and C.
- Statistical softwares: Excel.
- Text formatting and office computing: LaTeX, Word and Excel.

Research Interests: Theory of empirical processes with applications to statistics including

- bootstrap tests (with financial applications);
- density estimation (with possible biological applications);
- integral curve estimation (with neuroimaging applications);
- statistical learning theory;
- functional data analysis;
- neural networks.

¹Updated April 26, 2024

Honors and Awards:

- NSF grants in 2023, 2021-2024, 2020, 2016-2019, 2012-2015, 2008-2011
- MSU awards: Academic Leadership Fellowship in 2023-2024, Academic Advancement Network Fellowship in 2021 (gave up due to serving as Interim Chair), The College of Natural Science Teacher-Scholar Award in 2010, Intramural Research Grant in 2004-2005
- UNM awards: Research, Project, and Travel Grants in 2002, 2001, 2000

Publications in Refereed Journals

1. Goo, J., Sakhanenko, L., Zhu, D. (2024) A finite difference approach to brain anatomical connectivity over time. Submitted.
2. Chakraborty, N., Sakhanenko, L., Zhu, D. (2024) Novel bootstrap tests for parametric structures of high dimensional covariances. Submitted.
3. Shen, X., Jiang, C., Sakhanenko, L., Lu, Q. (2023) Asymptotic properties of neural network sieve estimators. In press *J. of Nonparametric statistics*, <https://doi.org/10.1080/10485252.2023.2209218>
4. Banerjee, C., Sakhanenko, L., Zhu, D. (2023) Global rate optimality of integral curve estimators in high order tensor models. *Theory of Probab. Appl.* 68 (2) pp. 250–266, <https://doi.org/10.1137/S0040585X97T991398>
5. Chakraborty, N., Sakhanenko, L. (2023) Novel multiplier bootstrap tests for high-dimensional data with applications to MANOVA, *Computational Statistics and Data Analysis*, Vol 178, <https://doi.org/10.1016/j.csda.2022.107619>
6. Goo, J., Sakhanenko, L., Zhu, D. (2022) A chi-square type test for time-invariant fiber pathways of the brain. *Statistical Inference for Stochastic Processes* 25, pp 449–469.
7. Banerjee, C., Sakhanenko, L., Zhu, D. (2022) Supplemental Material: Global rate optimality of integral curve estimators in high order tensor models. Accepted by *Theory of Probab. Appl.* 25 pages
8. Shen, X., Jiang, C., Sakhanenko, L., Lu, Q. (2021) A goodness of fit type test based on neural network sieve estimators. In press by *Statistics & Probability Letters*, Vol. 174, <https://doi.org/10.1016/j.spl.2021.109100>.
9. Sakhanenko, L., DeLaura, M., Zhu, D. (2021) Nonparametric model for a tensor field based on High angular resolution diffusion imaging (HARDI). *Statistical Inference for Stochastic Processes*, 24, pages 445–476.
10. Cao, G., Sakhanenko, L., Yang, L., Carmichael, O. (2020) Spline estimation of integral curves from noisy vector field data. Revised, 40 pages.
11. Banerjee, C., Sakhanenko, L., Zhu, D. (2020) Lower bounds for accuracy of estimation in magnetic resonance high angular resolution diffusion imaging data. *Journal of the Indian Society for Probability and Statistics* **21(1)**, 1–41.
12. Zhang, Y-C., Sakhanenko, L. (2019) The Naive Bayes Classifier For Functional Data. *Statistics & Probability Letters*. v. 152, 137–146.
13. Sakhanenko, L. (2019) Testing a multivariate distribution for generalized skew-ellipticity. *Theory of Probab. Appl.* v. 64, No 2, 358–374. <https://doi.org/10.4213/tpv5224>

14. Balakrishna, N., Koul, H. L., Ossiander, M., Sakhanenko, L. (2019) Fitting a p th order parametric generalized linear autoregressive multiplicative error model. *Sankhya B.* **81**, pp. 103–122.
15. Sakhanenko, L., DeLaura, M., Zhu, D. (2018) Commentary: Estimation of Integral Curves from High Angular Resolution Diffusion Imaging (HARDI) Data. *Neurological Disorders and Therapeutics*. Mar, 2(1), pp. 1–5.
16. Sakhanenko, L. and DeLaura, M. (2017) A comparison study of statistical tractography methodologies for Diffusion Tensor Imaging. *International Journal of Statistics: Advances in Theory and Applications*, 1(1), 93–110.
17. Sakhanenko, L. (2017) In search of an optimal kernel for a bias correction method for density estimators. *Statistics & Probability Letters* 122, 42–50.
18. Pilipenko, A. and Sakhanenko, L. (2016) On a limit behavior of one-dimensional random walk with non-integrable impurity. *Theory of Stochastic Processes* Vol. 20 (36), no. 2, 97 — 104
19. Carmichael, O. and Sakhanenko, L. (2016) Integral curves from noisy diffusion MRI data with closed-form uncertainty estimates. *Statistical Inference for Stochastic Processes*, vol. 19(3), pp. 289–319.
20. Geng, P. and Sakhanenko, L. (2015) Parameter estimation for the logistic regression model under case-control study. *Statistics & Probability Letters* 109, 168–177.
21. Sakhanenko, L. (2015) Rate Acceleration for Estimators of Integral Curves from Diffusion Tensor Imaging (DTI) Data. *Statistics & Probability Letters* 107, 286–295.
22. Sakhanenko, L. (2015) Using the Tractometer to assess performance of a new statistical tractography technique. *Journal of Nature and Science*, 1(7): e130, 1–12, <http://www.jnsoci.org/content/130>
23. Carmichael, O. and Sakhanenko, L. (2015) Estimation of integral curves from high angular resolution diffusion imaging (HARDI) data. *Linear Algebra and its Applications* 473, 377–403. Special issue on Statistics.
24. Sakhanenko, L. (2015) Asymptotics of suprema of weighted Gaussian fields with applications to kernel density estimators. *Theory of Probab. Appl.* v. 59, No 3, 415–451.
25. Sakhanenko, L. (2013) How to choose the number of gradient directions for estimation problems from noisy diffusion tensor data. *Festschrift for Hira Koul Lahiri, S., Schick, A., SenGupta, A., Sriram, T.N.* (Eds), Springer Contemporary Developments in Statistical Theory, pp. 305–311.
26. Sakhanenko, L. (2012) Numerical issues in estimation of integral curves from noisy diffusion tensor data. *Statistics & Probability Letters* 82, 1136–1144.
27. Sakhanenko, L. (2011) Global rate optimality in a model for Diffusion Tensor Imaging. *Theory of Probab. Appl.*, 55, 1, 77–90.
28. Sakhanenko, L. (2010) Lower bounds for accuracy of estimation in Diffusion Tensor Imaging. *Theory of Probab. Appl.*, 54, 1, 168–177.
29. Sakhanenko, L. (2009) Testing group symmetry of a multivariate distribution. *Symmetry*, 1(2), 180–200; doi:10.3390/sym1020180
30. Koltchinskii, V., Sakhanenko, L. (2009) Asymptotics of Statistical Estimators of Integral Curves. *High Dimensional Probability V: The Luminy Volume* Houdré, Koltchinskii, Mason, and Peligrad (Eds), IMS Collections, Beachwood, Ohio, pp. 326–337.

31. Sakhanenko, L. (2008) Testing for Ellipsoidal Symmetry: A comparison study. *Computational Statistics & Data Analysis*, 53, 565–581.
32. Koltchinskii, V., Sakhanenko, L., Cai, S. (2007) Integral Curves of Noisy Vector Fields and Statistical Problems in Diffusion Tensor Imaging: Nonparametric Kernel Estimation and Hypotheses Testing. *Annals of Statistics*, Vol. 35, No. 4, 1576–1607.
33. Koul, H., Sakhanenko, L. (2005) Goodness-of-fit testing in regression: A finite sample comparison of bootstrap methodology and Khmaladze transformation. *Statistics & Probability Letters* 74, 290–302.
34. Giné, E., Koltchinskii, V., Sakhanenko L. (2004) Kernel Density Estimators: Convergence in distribution for weighted sup-norms. *Probability Theory and Related Fields*, vol. 130, No. 2, 167–198.
35. Giné, E., Koltchinskii, V., Sakhanenko, L. (2003) Convergence in distribution of Self-Normalized Sup-Norms of Kernel Density Estimators. *High Dimensional Probability III*. Hoffmann-Jorgensen, Marcus and Wellner (Eds), Birkhauser, Boston, pp. 241–253.
36. Sakhanenko, L. (2002) Asymptotic theory of symmetry tests for a multivariate distribution. *The University of New Mexico ProQuest Dissertation Publishing* 2002.3041982.
37. Borisov, I., Sakhanenko, L. (2001) The central limit theorem for generalized von Mises statistics with degenerate kernels. (Russian) *Mat. Tr.* 4, no. 1, 3–17.
38. Koltchinskii, V., Sakhanenko, L. (2000) Testing for ellipsoidal symmetry of a multivariate distribution. *High Dimensional Probability II*. E. Giné, D. Mason and J. Wellner (Eds) Progress in probability, Birkhäuser, Boston, pp. 493–510.
39. Borisov I., Sakhanenko L. (2000) The Central Limit Theorem for generalized canonical von Mises statistics. *Siberian Advances in Mathematics* vol. 10, No. 4, 1–14.

Presentations on seminars and conferences:

1. Chairing a session titled New Approaches to the Analysis of Mordern Imaging Modalities, JSM, Portland, OR, August 2024.
2. A Chi-Square Type test for time-invariant fiber pathways of the brain, JSM, Portland, OR, August 2024.
3. Kernel smoothing; Integral curve estimation; Series of 3 invited lectures at the National University of Uzbekistan and Institute of Mathematics, Tashkent, Uzbekistan, April 2024. (virtual)
4. Novel bootstrap tests for parametric structures of high dimensional covariances, CMStatistics 2023, Berlin, Germany, December 2023. (virtual, also chaired a session)
5. Statistical Tractography, MSU STT student seminar, East Lansing, MI, November 2023.
6. Statistical Tractography, NSU seminar, Novosibirsk, Russia, October 2023. (virtual)
7. Opening address, Workshop on Stochastic Analysis, Random Fields, and Applications in honor of Dr. Mandrekar, East Lansing, MI, August 2023.
8. Statistical Tractography, Workshop on Stochastic Analysis, Random Fields, and Applications in honor of Dr. Mandrekar, East Lansing, MI, August 2023.
9. Chairs and directors' invited session, JSM, Toronto, Canada, August 2023.

10. Statistical testing in longitudinal studies for Diffusion Tensor Imaging, ICOSA2023, Ann Arbor, MI, June 2023.
11. Establishing minimax lower bound in high order tensor models for Neuroimaging, IISA2023, Golden, CO, June 2023 (Contributed talk, presenter: Chitrak Banerjee).
12. A bootstrap test for MANOVA in high dimensions, IISA2023, Golden, CO, June 2023 (Contributed talk, presenter: Nilanjan Chakraborty).
13. Statistical tractography: an integral curve estimation for DTI/HARDI, MSU STT colloquium, East Lansing, MI, March 2023.
14. Significance tests based on neural networks with applications to genetic association studies, CMStatistics 2022, London, UK, December 2022 (Contributed talk, presenter: Xiaoxi Shen)
15. Statistical Tractography, Women in Statistics and Data Science 2022, St. Louis, October 2022 (Contributed talk, presenter: Juna Goo).
16. Statistical tractography: an integral curve estimation for DTI/HARDI, JSM2022, Washington DC, August 2022.
17. Statistical methods for uncertainty quantification and information extraction from neuroimaging data, round table participant, JSM2022, Washington DC, August 2022.
18. Significance tests based on sieve quasi-likelihood ratio test using neural networks with application to genetic association studies, JSM2022, Washington DC, August 2022 (Contributed talk, presenter: Xiaoxi Shen).
19. Minimax lower bounds in high order tensor models with applications to neuroimaging, JSM2022, Washington DC, August 2022 (Contributed talk, presenter: Chitrak Banerjee).
20. Multiplier bootstrap tests for High dimensional data with applications to MANOVA, Computational and Methodological Statistics conference, London, UK, December 2021 (Contributed virtual talk, presenter: Nilanjan Chakraborty).
21. Section on mentoring moderator for 2021 AGEP-GRS conference, virtual, August 2021.
22. Statistical tractography: an integral curve estimation for DTI/HARDI, Fred Hutch Cancer Research Center, Biostatistics seminar series, December 2020.
23. Testing for no change in a time-dependent ensemble of integral curves. Bernoulli-IMS One World Symposium 2020, virtual, August 2020.
24. Nonparametric Model for a Tensor Field Based on HARDI, JSM2019, Denver, Colorado, July 2019.
25. Lower Bounds for Accuracy of Estimation in High Angular Resolution Diffusion Imaging Data. JSM2019, Denver, Colorado, July 2019. (Contributed talk, presenter: Chitrak Banerjee)
26. Extension of Integral Curves Estimation to a Time-Dependent Tensor Field Model, JSM2019, Denver, Colorado, July 2019. (Contributed poster, presenter: Juna Goo)
27. Integral Curve Estimation for High Angular Resolution Diffusion Imaging. Michigan State Symposium on Mathematical Statistics and Applications, MSU, Sept. 2018. Invited talk.
28. Adaptive Classification on Partial Linear Models. JSM2018, Vancouver, Canada, July-August 2018. (Contributed poster, presenter: Chitrak Banerjee)

29. Statistical Estimation of Fibers from HARDI and DTI data. CMU Applied Mathematics Seminar, Central Michigan University, April 2018. (Contributed talk, presenter: Michael DeLaura)
30. Estimation of integral curves from HARDI data. Bernoulli World Congress in Probability and Statistics. University of Toronto, Fields Institute, Toronto, Canada. July 2016.
31. Statistical estimation of integral curves: Fiber tracking inference. University of North Carolina, Gillings School of Global Public Health (via WebEx), September 2015.
32. Statistical estimation of integral curves from some imaging techniques. Applied mathematics Seminar, Mathematics, MSU. February 2014.
33. Estimation of integral curves based on DTI data. Statistics in Applications Forum as part of the International Year of Statistics 2013. MSU, October 2013.
34. Spline Estimation of Integral Curves from Noisy Vector Field Data. JSM 2013. Montreal, Canada. August 2013.
35. Estimation of integral curves from noisy diffusion tensor data. 4th International Conference on Porous Media & Annual Meeting of the Interpore. Purdue University, West Lafayette. May 2012.
36. Integral Curve Estimation: Methodology and Applications to Diffusion Tensor Imaging. Neuroimaging seminar, Radiology, MSU. April 2012.
37. Estimation of integral curves based on DTI data. JSM2011, Miami Beach. August 2011.
38. Estimation of integral curves with application to Diffusion Tensor Imaging, Seeing the future with imaging science, National Academies Keck Futures Initiative Conference, Irvine, November 2010.
39. Integral Curve Estimation in Diffusion Tensor Imaging. JSM2010, Vancouver, Canada. August 2010.
40. Integral Curve Estimation in Diffusion Tensor Imaging. City College of New York. Mathematics department colloquium. February 2010.
41. Integral Curve Estimation: Methodology and Applications to Diffusion Tensor Imaging. Université du Maine, LeMans, France, Asymptotical Statistics of Stochastic Processes VII workshop, March 2009.
42. Integral Curve Estimation: Methodology and Applications to Diffusion Tensor Imaging. Michigan State University, Statistics and Probability colloquium. November 2008.
43. Estimation of integral curves in Diffusion Tensor Imaging. Bucknell University, Texas Pan-American University, Marshall University. Colloquium. February-March 2006.
44. Integral Curves of Noisy Vector Fields and Statistical Problems in Diffusion Tensor Imaging: Nonparametric Kernel Estimation and Hypotheses Testing. Michigan State University, Statistics and Probability colloquium. September 2005.
45. Integral Curves of Noisy Vector Fields and Statistical Problems in Diffusion Tensor Imaging. 4th International Conference on High Dimensional Probability, St. John's College, New Mexico, June 2005.
46. Weighted sup-norms for density estimates. Hawaii International conference on Statistics. June 2004.

47. Convergence in distribution of weighted sup-norms of kernel density estimators. Michigan State University, Statistics and Probability colloquium. September 2003.
48. Michigan State University, Graduate Students Research Orientation. Density estimates. September 2003.
49. Bootstrap tests for ellipsoidal symmetry of a multidimensional distribution with applications to finance theory. Hawaii International Conference on Statistics, Honolulu, June 2003.
50. Testing for symmetry. Department of Statistics and Probability Colloquium, MSU, February 2002.
51. Testing for ellipsoidal symmetry (with applications to finance theory). Mathematics and Statistics Department Non-parametric Statistics Seminar Series, UNM, February 2001.
52. Testing for ellipsoidal symmetry of a multivariate distribution. 5th World Congress of the Bernoulli Society for Mathematical Statistics and Probability and 63rd Annual Meeting of the IMS, Guanajuato, Mexico, May 2000.
53. Testing for ellipsoidal symmetry of a multivariate distribution. 2nd International Conference on High Dimensional Probability, University of Washington, August 1999.
54. The limit theorems for von Mises statistics with asymmetrical kernels. The 36th International Scientific Student Conference, Novosibirsk, Russia, April 1998.

Grant Activity:

- 2023, Workshop on Stochastic Analysis, Random Fields, and Applications, NSF, co-PI, PI is Dr. Xiao (STT, MSU), funded
- 2022, Statistical Tractography, Chan Zuckerberg Initiative: Essential Open Source Software for Science, PI, co-PI is Dr. Zhu (Radiology, MSU), submitted LOI, not invited
- 2021-2024, Mathematical and statistical modeling and methodology for topics in Diffusion tensor imaging, NSF, PI, co-PI is Dr. Zhu (Radiology, MSU), funded
- 2020-2022, Mathematical and statistical modeling and methods for topics in Diffusion tensor imaging, NSF, PI, co-PI is Dr. Zhu (Radiology, MSU), not funded
- 2020, Seminar on Stochastic Processes (SSP), NSF, co-PI, PI is Dr. Xiao (STT, MSU), funded
- 2020-2021 Joan and Joseph Birman Fellowship for women scholars, AMS, not funded
- 2019-2021, CRCNS Research proposal: mathematical and statistical modeling and methods for topics in Diffusion tensor imaging, NSF, PI, co-PI is Dr. Zhu (Radiology, MSU), not funded
- 2018, AGEF Supplement, NSF, sole PI, funded
- 2017, AGEF Supplement, NSF, sole PI, funded
- 2016-2019, Nonparametric estimation of integral curves and surfaces, NSF, PI, co-PI is Dr. Zhu (Radiology, MSU), funded
- 2015-2018, Nonparametric estimation of integral curves and surfaces, NSF, sole PI, not funded
- 2015-2017, Nonparametric estimation of integral curves, NSA Mathematical Sciences Program, sole PI, not funded

- 2014-2016, AGEF Supplement, NSF, sole PI, funded
- 2012-2015, Collaborative Research: Multidimensional Curve Estimation for Diffusion MRI, NSF, PI, co-PI is Dr. Carmichael (Neurology, UC Davis), funded
- 2011-13, Quantifying Uncertainty in Imaging-Based Morphometric Contours: Theory and Practice, The National Academies Keck Futures Initiative, co-PI, not funded
- 2011-14, Multidimensional Curve Estimation with Applications to Diffusion Tensor Imaging, NSF, sole PI, not funded
- 2008-11, Integral Curve Estimation: New Methodology and Applications to Tensor Diffusion Imaging, NSF, sole PI, funded
- 2006, Integral Curve Estimation, AWM, sole PI, not funded
- 2004-05, Density estimation in weighted norms with applications to ecology, MSU IGPR, sole PI, funded
- 2004, Random Measures on Locally Compact Spaces, NSF, co-PI, PI is Dr. Skorokhod (Statistics, MSU), not funded
- 2003, Random Measures on Locally Compact Spaces, NSF, co-PI, PI is Dr. Skorokhod (Statistics, MSU), not funded

Teaching: 3 courses per year

- Undergraduate courses: STT442 (S21, Summer21, S20, S19, F16, S16, S14, S08), STT315 (two large lectures of 350 students, course coordinator role as well) (S13, S12, S11), STT200 (F09, S09, F08), STT351 (F09, S09, S08, Summer04, S04, S03, F02), STT231 (F04), MTH132 (S03)
- Graduate courses: STT951 (F20, S19, S17, S15), STT990 (Summer20, Summer06), STT953 (S23, S20, S18), STT997 (F22, F21, F19, F18, F17, F14), STT873 (F23, F19, F15), STT872 (S23, S18, S15, S14), STT861 (F16, F05, F03), STT961 (F21, F15, F13), STT862 (S06, S04)

Mentoring:

- I was the PhD advisor of Dr. Yi-Chen Zhang (Graduated May 2018, ISUZU Technical center of America), Dr. Michael DeLaura (Graduated May 2019, first job was teaching specialist at MSU), Dr. Juna Goo (Graduated April 2020, first job was Post doc at Fred Hutchinson Cancer Research Center, currently a tenure-track Assistant Prof at Boise State Univ), Dr. Chitrak Banerjee (Graduated April 2020, first job was at Wells Fargo); Dr. Nilanjan Chakraborty (Graduated July 2022, co-advisor was Dr. Koul (emeritus), first job was Post doc at University of Washington in St. Louis)
- I served on PhD committees of 22 students; currently I am on 4 PhD committees;
- I mentored many MS students during 2002-22, I served as the MS academic advisor in STT during 2008-9.

Service:

- Department: Committee of the Whole (2002-24, 2016-17 president, 2013-15 secretary; it was called FAC before 2012, served as chair 2006-7 and secretary 2003-4), Statistics Prelim Exams (chair 2017-21, member 2012-16 and 2023-24), Colloquium (2018-2021 chair, 2011-12 chair), Advisory committee (2019-21, 2015-16, 2024-25 chair), Hannan scholar (2019-20), Personnel,

Search (2014-20, 2010-11, 2007-8), Major Curriculum (2016-18, 2014-15, 2013-14 chair, 2009-11), Graduate support (2016-18, 2014-15), External review (2010-12), Master's exams committee (2004-9), Service course committee (2012-13), Grievance hearing board (2020-21), and a bunch of ad hoc subcommittees

- College: NatSci FAC (2019-21, 2005-9), CNS strategic planning for graduate education subcommittee (2018-19 co-chair), RPT (2020-21), Dean's Student Advisory Council (2006-7 Faculty Rep)
- Profession: session chair at CMStatistics (2023) and JSM2024; a member of the steering committee and section moderator for 2021 AGEP-GRS conference <https://aps.org/programs/education/graduate/co> (2021), moderator for computational statistics discussion room at Bernoulli-IMS One World Symposium (2020), member of the local scientific committee for Seminar on Stochastic Processes (March 2020), NSF panel (2022, 2019, 2013, 2009), National Academies Keck Futures Initiative Conference panel (2010), Session Chair on Hawaii International Conference on Statistics and Related Fields (2003); Associate editor of Statistics and Probability Letters (2013-current), member of editorial boards for the IMS collection series (2008-13), the IMS Lecture notes and monograph series (2008-10), Georgian electronic scientific journal (2021-current).

Leadership experience:

- NatSci LEADS program (Spring 2024-present)
Exploring many different dimensions of leadership including gaining a greater understanding of MSU leadership strengths, looking at what makes leadership work - and not work, considering the challenges of leadership, and learning from the leadership experiences of others.
- Academic Leadership Fellowship at MSU (Fall 2023- present)
Participated in shadowing experience with Associate deans, received peer mentoring on topics in leadership and academic administrative work. Currently I am working on a project focused on best mentoring practices for non-Tenure system faculty at MSU (jointly with Dr. Nick Olomu)
- Academic Advancement Network Leadership Fellowship (was nominated and selected in summer of 2021, I had to give it up due to my service as Interim Chair)
For reference, the Leadership Fellows program creates partnerships between mentors (current administrators) and fellows at MSU. This program involves both a shadowing experience and work on a project developed jointly between the mentor and fellow. This year-long experience is open to faculty and academic staff who are interested in learning about diverse leadership roles. Yearly, approximately five fellows are selected and individually matched with current administrators at MSU who will serve as mentors.
- Interim chairperson of STT, MSU (Fall 2021–Spring 2024)
STT has 29 faculty, about 40 doctoral students, about 20 MS students, approximately 100 undergraduate majors. Under my leadership, the department completed significant bylaws' revision and gave voting representation to non-TS faculty, successfully launched and MS in Data Science program jointly with CMSE and CSE (STT is the lead), successfully launched and has been actively supporting instructional mentoring program to ultimately create a community of educators guided by best practices in pedagogical methodology, created STT Alumni and Friends association and started having virtual events to connect with Spartan Statistics association (STT undergrads) and current STT graduate students, proposed, won and hired 1855 Associate Professor among the inaugural special cohort hiring at MSU, secured and hired 2 new tenure lines, supported the launch of Sports Analytics Certificate (jointly with MTH and Actuarial Science); currently working with CSE, MTH, CMSE of creating MS in AI program (CSE is the lead).

- a member of the steering committee and section moderator for 2021 AGEP-GRS conference <https://aps.org/programs/education/graduate/conf2021/index.cfm> (2021)

Several months of planning the conference, sending surveys before and after the conference, moderating sessions at the conference, helping shape the report for the NSF on AGEP funding based on the evaluation done through the conference. For reference, The National Science Foundation (NSF) funds the Alliances for Graduate Education and the Professoriate (AGEP) program. The primary goals of AGEP are to (a) significantly increase the number of underrepresented minorities (i.e., African Americans, Hispanics, American Indians, Alaska Natives, and Native Hawaiians or other Pacific Islanders) obtaining graduate degrees in science, technology, engineering and mathematics (STEM), and (b) enhance the preparation of underrepresented minorities for faculty positions in academia.

Professional development activities:

- NatSci LEADERS training, Spring 2024
- COFAD (monthly since Fall 2023)
- Reflect and Connect: a framework for processing and self care, February 2023
- CHM Faculty Affairs and Development meetings (weekly, since Fall 2023)
- What you need to know - The discipline process for academic administrators and managers, December 2022
- Inclusive Teaching 2-day Workshop, December 2022 (facilitated by Education and Development director and multicultural development director from office of Institutional diversity and inclusion at MSU)
- Navigating the RPT landscape at MSU, December 2022
- NatSci cultural competency skills development, December 2022
- Assessing the climate in your unit, November 2022
- Teach-in on academic governance, October 2022
- Hiring, retention and spousal hires, October 2022
- MSU Future of Human Imaging, October 2022
- Accreditation of engineering programs at MSU, September 2022
- NatSci emergency training, August 2022
- Active shooter and emergency response training, August 2022
- University Advising Initiative Kickoff webinar, July 2022
- NatSci RPT training, June 2022
- Beyond the gender binary seminar, May 2022
- Spartan space overview and training, March 2022
- F&A training session, February 2022
- Nat Sci: an equation for women's success, February 2022

- Navigating the RPT landscape at MSU, January 2022
- Disruptive students webinar, January 2022
- Advancing DEI at MSU webinar, December 2021
- NatSci cultural competency skills development, November 2021
- NatSci cultural competency training 4 day workshop, October-November 2021
- 2021 New Administrator orientation 4 day workshop, August 2021
- Leadership Institute presentations (monthly, since FS2021)
- WorkLife office: supervisor training series (monthly, since FS2021)
- Conversations with the provost and with the president (monthly, since SS2022)
- Women chairs and directors meetings (monthly, since FS2021)
- Big10 statistics chairs (monthly, since FS2021)
- Critical Friends Peer Mentoring sessions for MSU Chairs and Directors (monthly, SS2023)