

# Kazuo Yamazaki

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## Personal

- Citizenship: U.S.A.

## Employment

### 2016 Summer - Present Visiting Assistant Professor

Univ. of Rochester, Dept. Math. (Advisor: Dan-Andrei Geba)

### 2014 Summer -2016 Summer Postdoc. Research Associate

Washington State Univ., Dept. Math. & Stat. (Advisor: Charles Moore)

## Education

May 2014 **PhD in Mathematics** Oklahoma State University (Advisor: Jiahong Wu)

Aug. 2010 **MS in Statistics** Stanford University (Advisor: Brad Efron)

Aug. 2006 **BA in Political Science, Cum Laude** City University of New York

## Grants, Awards, Scholarship, Fellowship

- **Accepted**

- 2017-2019: American Mathematical Society and Simons Foundation, AMS-Simons Travel Grant.
- 2015-2016 (declined): Japan Society for the Promotion of Science (JSPS) Postdoctoral Fellowship for Overseas Researchers, two years at the University of Tokyo under the advisory of Prof. Yoshikazu Giga
- 2015: Oklahoma State University Graduate College, Graduate Research Excellence Award
- 2014: American Mathematical Society, Graduate Student Travel Grants to the Joint Mathematics Meeting, Baltimore, MD, January 2014
- 2014: Oklahoma State University Mathematics Department, Bucy Award
- 2014: Oklahoma State University Mathematics Department, Kotlarski Award
- 2013-2014: Oklahoma State University Graduate College, Robert Glenn Rapp Foundation Distinguished Graduate Fellowship
- 2013: American Mathematical Society, Graduate Student Travel Grant to the Sectional Meeting, April, 2013, Iowa State University, Ames, IA
- 2013: Oklahoma State University Mathematics Department, Jeanne LeCaine Agnew Endowed Fellowship Award
- 2012-2013: Oklahoma State University Graduate College, Robert Glenn Rapp Foundation Distinguished Graduate Fellowship
- 2012: American Mathematical Society, Graduate Student Travel Grant to the Sectional Meeting, October, 2012, University of Akron, Akron, OH
- 2010: Oklahoma State University Mathematics Department, Graduate Assistantship
- 2005: City University of New York, Dean's List for 2005 Spring and Fall semesters

- **Denied**

- 2017: University of Rochester, Research Awards (together with Michelle Dziejman)
- 2016-2017: National Science Foundation, Applied Mathematics
- 2014-2015 National Science Foundation, Mathematical Sciences Postdoctoral Research Fellowship (MSPRF)

### Research Interests

Analysis on PDEs in fluid mechanics and biology via functional, harmonic and stochastic analysis tools

- **Refereed Publications**

- (Harmonic analysis in PDE)**

1. *Second proof of the global regularity of the two-dimensional MHD system with full diffusion and arbitrary weak dissipation*, Methods Appl. Anal., to appear.
2. *On the global regularity issue of the two-dimensional magnetohydrodynamics system with magnetic diffusion weaker than a Laplacian*, Contemp. Math., to appear.
3. *Global regularity of logarithmically supercritical MHD system with improved logarithmic powers*, Dyn. Partial Differ. Equ., **15** (2018), 147–173.
4. *Horizontal Biot-Savart law in general dimension and an application to the 4D magneto-hydrodynamics*, Differential Integral Equations, **31**, 3/4 (2018), 301–328.
5. *On the Navier-Stokes equations in scaling-invariant spaces in any dimension*, Rev. Mat. Iberoam., to appear.
6. *Global regularity of generalized magnetic Benard problem*, Math. Methods Appl. Sci., **40** (2017), 2013–2033.
7. *Regularity results on the Leray-alpha magnetohydrodynamics systems* (with D. KC), Nonlinear Anal. Real World Appl., **32** (2016), 178–197.
8. *Regularity criteria of the 4D Navier-Stokes equations involving two velocity field components*, Commun. Math. Sci., **14** (2016), 2229–2252.
9. *Recent developments on the component reduction results of Serrin-type regularity criterion for equations concerning fluid*, Turbulence, Waves and Mixing in Honour of Lord Julian Hunt’s 75th Birthday edited by S. G. Sajjadi and H. J. S. Fernando, July 2016, King’s College, Cambridge, U.K., 68–70.
10. *A remark on the two-dimensional magnetohydrodynamics-alpha system*, J. Math. Fluid Mech., **18** (2016), 609–623.
11. *Regularity criteria of the three-dimensional MHD system involving one velocity and one vorticity component*, Nonlinear Anal., **135** (2016), 73–83.
12. *Global regularity of logarithmically supercritical 3-D LAMHD-alpha system with zero diffusion*, J. Math. Anal. Appl., **436** (2016), 835–846.
13. *On the three-dimensional magnetohydrodynamics system in scaling-invariant spaces*, Bull. Sci. Math., **140** (2016), 575–614.
14. *Global regularity of N-dimensional generalized MHD system with anisotropic dissipation and diffusion*, Nonlinear Anal., **122** (2015), 176–191.
15. *Logarithmically extended global regularity result of Lans-alpha MHD system in two-dimensional space* (with D. KC), J. Math. Anal. Appl., **425** (2015), 234–248.
16. *Global regularity of the two-dimensional magneto-micropolar fluid system with zero angular viscosity*, Discrete Contin. Dyn. Syst., **35** (2015), 2193–2207.
17. *(N – 1) velocity components condition for the generalized MHD system in N-dimension*, Kinet. Relat. Models, **7** (2014), 779–792.
18. *Regularity criteria of porous media equation in terms of one partial derivative or pressure field*, Commun. Math. Sci., **13** (2015), 461–476.

19. *Component reduction for regularity criteria of the three-dimensional magnetohydrodynamics systems*, Electron. J. Differential Equations, **2014**, 98 (2014), 1–18.
20. *Regularity criteria of MHD system involving one velocity and one current density component*, J. Math. Fluid Mech., **16**, 3 (2014), 551–570.
21. *Remarks on the regularity criteria of three-dimensional magnetohydrodynamics system in terms of two velocity field components*, J. Math. Phys., **55**, 031505 (2014).
22. *On the global regularity of two-dimensional generalized magnetohydrodynamics system*, J. Math. Anal. Appl., **416** (2014), 99–111.
23. *On the global regularity of  $N$ -dimensional generalized Boussinesq system*, Appl. Math., **60**, 2 (2015), 109–133.
24. *Global regularity of logarithmically supercritical MHD system with zero diffusivity*, Appl. Math. Lett., **29** (2014), 46–51.
25. *Regularity criteria of supercritical beta-generalized quasi-geostrophic equation in terms of partial derivatives*, Electron. J. Differential Equations, **2013**, 217 (2013), 1–12.
26. *On the global well-posedness of  $N$ -dimensional generalized MHD system in anisotropic spaces*, Adv. Differential Equations, **19**, 3-4 (2014), 201–224.
27. *Remarks on the global regularity of two-dimensional magnetohydrodynamics system with zero dissipation*, Nonlinear Anal., **94** (2014), 194–205.
28. *Remarks on the regularity criteria of generalized MHD and Navier-Stokes systems*, J. Math. Phys., **54**, 011502 (2013).
29. *On the regularity criteria of surface quasi-geostrophic equation*, Nonlinear Anal., **75**, 13 (2012), 4950–4956.
30. *On the global regularity of generalized Leray-alpha type models*, Nonlinear Anal., **75**, 2 (2012), 503–515.
31. *Global well-posedness of the transport equation with nonlocal velocity in Besov spaces with critical and supercritical dissipation*, Nonlinearity, **24**, 7 (2011), 2047–2062.
32. *Remarks on the method of modulus of continuity and the modified dissipative Porous Media Equation*, J. Differential Equations, **250**, 4 (2011), 1909–1923.

### (Stochastic analysis in PDE)

1. *Large deviation principle for the micropolar, magneto-micropolar fluid systems*, Discrete Contin. Dyn. Syst. Ser. B, **23** (2018), 913–938.
2. *Smoothness of Malliavin derivatives and dissipativity of solution to two-dimensional micropolar fluid system*, Random Oper. Stoch. Equ., **25** (2017), 131–153.
3. *Gibbsian dynamics and ergodicity of stochastic micropolar fluid system*, Appl. Math. Optim., to appear.
4. *Exponential convergence of the stochastic micropolar and magneto-micropolar fluid systems*, Commun. Stoch. Anal., **10** (2016), 271–295.
5. *Stochastic Hall-magneto-hydrodynamics system in three and two and a half dimensions*, J. Stat. Phys., **166** (2017), 368–397.
6. *Ergodicity of the two-dimensional magnetic Benard problem*, Electron. J. Differential Equations, **2016** (2016), 1–24.
7. *Global martingale solution to the stochastic nonhomogeneous magnetohydrodynamics system*, Adv. Differential Equations, **21** (2016), 1085–1116.
8. *Global martingale solution for the stochastic Boussinesq system with zero dissipation*, Stoch. Anal. Appl., **34** (2016), 404–426.
9. *Recent developments on the micropolar and magneto-micropolar fluid systems: deterministic and stochastic perspectives*, in Stochastic Equations for Complex Systems: Theoretical and Computational Topics (eds. S. Heinz and H. Bessaih), Springer International Publishing, (2015), 85–103.
10. *3-D stochastic micropolar and magneto-micropolar fluid systems with non-Lipschitz multiplicative noise*, Commun. Stoch. Anal., **8** (2014), 413–437.

**(Mathematical biology)**

1. *Global well-posedness of infectious disease models without life-time immunity: the cases of cholera and avian influenza*, Math. Med. Biol., to appear.
2. *Global stability and uniform persistence of the reaction-convection-diffusion cholera epidemic model* (with X. Wang), Math. Biosci. Eng., **14** (2017), 559–579.
3. *Global well-posedness and asymptotic behavior of solutions to a reaction-convection-diffusion cholera epidemic model* (with X. Wang), Discrete Contin. Dyn. Syst. Ser. B, **21** (2016), 1297–1316.

**(Ph.D. thesis)**

*On the existence and smoothness problem of the magnetohydrodynamics system*, Ph.D. Thesis, Oklahoma State University, 2014.

• **arXiv**

1. *A remark on the global well-posedness of a modified critical quasi-geostrophic equation*, arXiv:1006.0253 [math.AP]

**Other Professional Membership and Services**

• **Board member of the following journals:**

1. Global and Stochastic Analysis (GSA) (June 2016 - September 2017)

• **Referee of the following journals:**

1. Anal. Math. Phys., 2. Ann. Polon. Math., 3. Appl. Anal., 4. Appl. Math., 5. Appl. Math. Comput., 6. Appl. Math. Lett., 7. Appl. Math. Model., 8. Bull. Aust. Math. Soc., 9. Bull. Malays. Math. Sci. Soc., 10. Bound. Value Probl. 11. Canadian Journal of Physics, 12. Commun. Math. Sci., 13. Commun. Pure Appl. Anal., 14. Complex Var. Elliptic Equ., 15. Differential Integral Equations, 16. Discrete Contin. Dyn. Syst., 17. Dyn. Partial Differ. Equ., 18. Electron. J. Differential Equations, 19. Indiana Univ. Math. J., 20. Int. J. Biomath., 21. Int. Math. Res. Not. IMRN, 22. J. Differential Equations, 23. J. Korean Math. Soc., 24. J. Math. Anal. Appl., 25. J. Math. Fluid Mech., 26. J. Math. Phys., 27. J. Theoret. Biol., 28. Math. Methods Appl. Sci., 29. Math. Nachr. 30. Modern Phys. Lett. B, 31. Nonlinearity, 32. Nonlinear Anal., 33. Nonlinear Anal. Real World Appl., 34. Proc. Roy. Soc. Edinburgh Sec. A, 35. Rev. Mat. Complut., 36. Rocky Mountain J. Math., 37. Z. Angew. Math. Phys.,

• **Referee of the following proposals/applications:**

1. Banff International Research Station (BIRS) for its 2016 scientific program,
2. FONDECYT Chilean National Science and Technology Commission for its Regular 2016 grant competition,
3. South Africa's National Research Foundation (NRF), 2017 application review.

• **Reviewer of the AMS Mathematical Reviews**, (2011 - Present),

• **Visitor position**

1. Jinan University, Department of Mathematics, Guangzhou, China (May 2017),

• **Member of the AMS**, (2010 - Present).

**Selected Talks/Poster Presentations/Participation at Conferences and Seminars**

• **Talks at American Mathematical Society (AMS) meetings**

Recent Advances in Mathematical Fluid Mechanics

- *Southeastern Sectional Meeting Special Session on Recent Advances in Mathematical Fluid Mechanics* (Univ. Arkansas, AK, Nov. 2018)
- *Central Sectional Meeting Special Session on Recent Developments in Mathematical Analysis of Some Nonlinear Partial Differential Equations* (Univ. Michigan in Ann Arbor, MI, Oct. 2018)
- *Eastern Sectional Meeting Special Session on Nonlinear and Stochastic Partial Differential Equations and Applications* (Northeastern Univ., MA, Apr. 2018)
- *Joint Meeting Special Session on Mathematical modeling and analysis of infectious diseases* (San Diego, CA., Jan. 2018)
- *Central Sectional Meeting Special Session on Differential Equation Modeling and Analysis for Complex Bio-systems* (Univ. North Texas, TX, Sep. 2017)
- *Central Sectional Meeting Special Session on Nonlocal PDEs in Fluid Dynamics* (Univ. North Texas, TX, Sep. 2017)
- *Eastern Sectional Meeting Special Session on Nonlinear Evolution Equations* (SUNY Buffalo, NY, Sep. 2017)
- *Eastern Sectional Meeting Special Session on Nonlinear Dispersive Partial Differential Equations* (SUNY Buffalo, NY, Sep. 2017)
- *Southeastern Sectional Meeting Special Session on Recent Advances on Complex Analysis, Harmonic Analysis, and Approximation Theory* (Univ. Central Florida, FL, Sep. 2017)
- *Eastern Sectional Meeting Special Session on Euler and Related PDEs: Geometric and Harmonic Methods* (City University of New York, Hunter College, May 2017)
- *Western Sectional Meeting Special Session on Recent Advances on Mathematical Biology and Their Applications* (Washington State Univ., WA, Apr. 2017)
- *Western Sectional Meeting Special Session on Analysis on the Navier-Stokes and related PDEs* (Washington State Univ., WA, Apr. 2017)
- *Western Sectional Meeting Special Session on Early Career Research and Exposition: Posters and Discussions* (Washington State Univ., WA, Apr. 2017)
- *Southeast. Sectional Meeting Special Session on Evolution Equations and PDE* (Univ. of Memphis, Tennessee, Oct. 2015)
- *Southeast. Sectional Meeting Special Session on Partial Differential Equations Related to Fluids* (Univ. of North Carolina, Greensboro, Nov. 2014)
- *West. Sectional Meeting Special Session on Hamiltonian PDE* (San Francisco State Univ., Oct. 2014)
- *Southeast. Sectional Meeting Special Session on Harmonic Analysis and Nonlinear Partial Differential Equations* (Univ. of Tennessee, Knoxville, Mar. 2014)
- *Joint Meeting Special Session on Nonlinear Systems: polynomial equations, nonlinear PDEs & applications; Contributed Session on Dispersive Geometric PDEs* (Baltimore, MD, Jan. 2014)
- *West. Sectional Meeting Special Session on Fluids and Boundaries* (UC Riverside, Nov. 2013)
- *Fall Cent. Sectional Meeting Special Session on Advances in Difference, Differential, and Dynamic Equations with Applications* (Washington Univ., St. Louis, Oct. 2013)
- *Southeast. Sectional Meeting Special Session on PDE from Fluid Mechanics* (Univ. of Louisville, Oct. 2013)
- *Cent. Sectional Meeting Special Session on PDEs* (Iowa State Univ., Apr. 2013)

- *Joint Meeting Special Session on Harmonic Analysis, PDEs, and Geometric Measure Theory (A Mathematics Research Communities Session)* (San Diego, CA, Jan. 2013)
- *Cent. Sectional Meeting Special Session on Non-linear PDEs and Harmonic Analysis* (Univ. of Akron, Oct. 2012)
- *Southeast. Sectional Meeting Special Session on Nonlinear PDEs and Applications* (Univ. of S. Florida, Mar. 2012)
- **Other conferences and meetings talks/poster presentations**
  - *AIMS Conference on Dynamical Systems, Differential Equations and Applications*
    - \* 12th, Special Session on Nonlinear PDEs Modeling Fluid Dynamics (Taipei, Taiwan, Jul. 2018)
    - \* 12th, Special Session on Qualitative and Quantitative Techniques for Differential Equations arising in Economics, Finance and Natural Sciences (Taipei, Taiwan, Jul. 2018)
    - \* 11th, Special Session on Partial Differential Equations from Fluid Dynamics, (Orlando, FL., Jul. 2016)
    - \* 9th, Special Session on Non-linear Dispersive Partial Differential Equations, (Orlando, FL., Jul. 2012)
  - SIAM Conference
    - \* 4th Annual Meeting of SIAM, Central States Section, “Partial Differential Equations in Mathematical Fluid Mechanics,” (Univ. Oklahoma, Oct. 2018)
    - \* Analysis of Partial Differential Equations, “Multiphysics and turbulence: analysis and simulation” (Baltimore, Dec. 2017)
    - \* 3rd Annual Meeting of SIAM, Central States Section, “PDEs in fluid dynamics: analysis and computation,” (Colorado State Univ., Sep. 2017)
    - \* Analysis of Partial Differential Equations, “Analytical methods in fluid mechanics” (Arizona, Dec. 2015)
  - Falling Walls competition, among the 16 participants selected (Rochester, NY, Apr. 2017)
  - Mathematical Association of America
    - \* Rochester Institute of Technology, Oct. 2016
    - \* Oklahoma State Univ. Apr. 2013
    - \* Univ. of Central Oklahoma, Apr. 2011
    - \* John Brown Univ., Mar. 2010
  - *1st Northeastern Analysis Meeting*, (SUNY Brockport, Oct. 2016)
  - *IMA Conference on Turbulence, Waves and Mixing in Honour of Lord Julian Hunt’s 75th Birthday*, Institute of Mathematics & its Applications, (Cambridge, UK, Jul. 2016)
  - *International Conference on Evolution Equations*, Special Focus Session “Quantitative Study of the Navier-Stokes, Euler and Related Geophysical Systems” (Vanderbilt Univ., Tennessee, May, 2016)
  - *The Sixth Ohio River Analysis Meeting* , (Univ. of Kentucky, Mar. 2016)
  - *Canadian Mathematical Society, “Nonlinear Evolutionary Equations”*, (Montreal, Canada., Dec. 2015)
  - *Centre de Recherches Mathematiques - Pacific Institute for the Mathematical Sciences “Summer School in Probability 2015”* (McGill University, Jun. 2015)

- *Western International Workshop on Harmonic Analysis and PDE*, (Univ. British Columbia, Jun. 2015)
  - New Mexico Analysis Seminar
    - \* 15th, Univ. of New Mexico, Feb. 2016
    - \* 14th, New Mexico State Univ., Mar. 2015
  - Oklahoma PDE Workshop
    - \* 5th, Oklahoma State Univ. Feb. 2015
    - \* 4th, Oklahoma State Univ. Oct. 2013
  - *Mathematics of turbulence: Workshop I*, (UCLA IPAM, Sep. 2014)
  - *NSF-CBMS Regional Research Conferences in the Mathematical Science, Problems of PDEs related to fluids*, (Oklahoma State University, Jul. 2014)
  - *Stochastic equations for complex systems: theory and applications, Rocky Mountain Mathematics Consortium*, (Univ. of Wyoming, Jun. 2014)
  - *PDE and Mathematical Physics: Mini conference on “Topics in Euler’s equation for incompressible fluids”* (Univ. of Notre Dame, May 2014)
  - *Southeastern Analysis Meetings*
    - \* 31st, Univ. of Georgia, Mar. 2015
    - \* 30th, Clemson Univ. Mar. 2014
    - \* 29th, Virginia Poly-technique Institute. Mar. 2013
  - *Prairie Analysis Seminar*
    - \* 13th, Kansas State Univ. Sep. 2015
    - \* 12th, Kansas State Univ. Sep. 2013
    - \* 11th, Kansas State Univ. Oct. 2011
  - *Summer School and Workshop, Recent advances in PDEs and fluids* (Stanford Univ., Aug. 2013)
  - *Workshop 4: Rhythms & Oscillations*, Math. Biosciences Institute (Ohio State Univ., Mar. 2013)
  - *Recent Advances in Harmonic Analysis and Spectral Theory* (Texas A&M Univ., Aug. 2012)
  - *A Conference on PDEs Analytic and Geometric Aspects* (Univ. of N. Carolina, Jul. 2012)
  - *February Fourier Talks 2012* (Univ. of Maryland, Feb. 2012)
  - *68th Midwest PDE Seminar* (Univ. of Notre Dame, Nov. 2011)
- **Talks at colloquiums and weekly seminars**
- *Brown University, Analysis Seminar*: (Mar. 2018)
  - *City Univ. of New York, Graduate Center, Mathematical Physics, Fourier Analysis, and Applications Seminar*: (May, 2017)
  - *Jinan University, Analysis Seminar* (May, 2017)
  - *Oklahoma State Univ.:*
    1. Analysis Seminar: (Oct. 2012, Feb. 2012, Apr. 2013, Sep. 2013, Apr. 2014)
    2. Applied Math/Numerical Analysis Seminar: (Jan. 2010, Apr. 2010, Sep. 2010, Oct. 2010, Nov. 2010, Feb. 2011, Mar. 2011, Jan. 2013, Apr. 2013, Sep. 2013, Feb. 2014, Mar. 2014)
    3. Graduate Student Seminar: (Mar. 2011, Mar. 2012)

- *Rochester Institute of Technology*, Center for Applied and Computation Mathematics Seminar: (Jan. 2017)
- *Stanford Univ.*, *Student Geometric Analysis Seminar*: (Jun. 2009, Nov. 2009, May 2010, Jun. 2011, Mar. 2012)
- *State Univ. of New York at Buffalo*, *Applied Mathematics Seminar*: (Feb. 2017)
- *Univ. of Idaho*, *Colloquium*: (Sep. 2014, Jan. 2015, Oct. 2015, Mar. 2016)
- *Univ. of Kyoto*, *NLPDE Seminar*: (Jun. 2016)
- *Univ. of Nebraska-Lincoln*, *PDE & Applied Analysis Seminar*: (Mar. 2018)
- *Univ. of Oklahoma*, *Student Applied Math Seminar*: (Aug. 2010, Mar. 2011, Apr. 2012)
- *University of Rochester*
  1. Analysis Seminar (Dec. 2016, Feb. 2018)
  2. Ecology and Evolutionary Biology Seminar (Sep. 2016)
  3. Probability Seminar (Feb., 2017, Mar. 2018)
- *Washington State Univ.*:
  1. Analysis Seminar: (Sep. 2014, Jan. 2015, Sep. 2015, Feb. 2016)
  2. Mathematical Biology Seminar: (Apr. 2015, Nov. 2015, Jan. 2016)
  3. Colloquium: (Feb. 2014)

- **Participation at Conferences, Workshops and Symposium**

- American Institute of Mathematics, San Jose, California *Mixing and nonlinear stability*, Apr. 2016.
- MBI, Ohio State University *Spatially-varying stochastic differential equations, with application to the biological sciences*, Jul. 2015.
- MSRI, Berkeley
  1. *Introductory workshop: randomness and long time dynamics in nonlinear evolution differential equations*, Aug. 2015.
  2. *Summer School on Dispersive PDE*, Jun. 2014.
- Purdue University, *6th Symposium on Analysis and PDEs*, Jun. 2015.
- University of Minnesota, *Riviere-Fabes symposium*, Apr. 2014.

## Organization Experience

- Special Session on “Advances in Mathematical Fluid Mechanics” at the AMS meeting (Mar. 2019, University of Hawaii), (together with Adam Larios)
- Five Day Workshop “Regularity and blow-up of Navier-Stokes type PDEs using harmonic and stochastic Analysis” (Aug. 2018, the Banff International Research Station), (together with Hakima Bessaih, Peter Constantin, Jiahong Wu)
- Special Session on “Nonlinear PDEs modeling fluid dynamics” (Jul. 2018, 12th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Taipei, Taiwan), (together with Jiahong Wu, Juan-Ming Yuan, Lizheng Tao)
- Special Session on “Mathematical modeling and analysis of infectious diseases” at the AMS meeting (Jan., 2018, San Diego, CA)



- Special Session on “Euler and related PDEs: geometric and harmonic methods” at the AMS meeting (May 2017, City University of NY, Hunter College), (together with Stephen Preston)
- Special Session on “Analysis on the Navier-Stokes equations and related PDEs” at the AMS meeting (Apr. 2017, Washington State University), (together with Lizheng Tao)
- Special Session on “Mathematical analysis on fluid dynamics” at the 1st Northeastern Analysis Meeting (Oct. 2016, SUNY Brockport).
- Mathematical Biology Seminar at the Department of Mathematics and Statistics, Washington State University (Spring 2016 semester), (together with Robert Dillon).

### Teaching Courses Experience

1. At University of Rochester
  - **Math 266 Topic in Real Analysis** (Spr. 2018)
  - **Math 263 Qualitative Theory of Ordinary Differential Equations** (Spr. 2018)
  - **Math 218 Intro. to Math. Models in the Life Sciences** (Spr. 2018, Spr. 2019)
  - **Math 202 Introduction to Stochastic Processes** (Spr. 2017)
  - **Math 165 Linear Algebra with Differential Equations** (Fal. 2018)
  - **Math 162 Calculus IIA** (Fal. 2017, Fall 2018)
  - **Math 161 Calculus IA** (Fal. 2016)
  - **Math 143 Calculus III** (Fal. 2016, Spr. 2017, Fal. 2017)
2. At Washington State University
  - **Math 525 General Topology** (Fal. 2014)
  - **Math 402 Introduction to Analysis II** (Spr. 2016)
  - **Math 401 Introduction to Analysis I** (Fal. 2015)
  - **Math 315 Differential Equations** (Spr. 2015)
3. At Oklahoma State University
  - **Math 2144 Calculus I** (Spr. 2011, Sum. 2011, Fal. 2011, Spr. 2012, Sum. 2012, Spr. 2013)
  - **Math 1613 Trigonometry** (Fal. 2012, Fal. 2013)

### Advisory Experience

1. At Washington State University
  - Committee member of Master thesis “Fluctuating hydrodynamics for ionic liquids” by Konstantinos Lazaridis (Jul. 2016)

### References

- Dr. Dan-Andrei Geba (e-mail: dangeba@math.rochester.edu, phone: 585-273-5629)
  - University of Rochester, Department of Mathematics, 806 Hylan Building, Rochester, NY 14627
  - Dr. Dan-Andrei Geba can attest to my research and teaching credential at the University of Rochester.
- Dr. Charles Moore (e-mail: cnmoore@math.wsu.edu, phone: 509-335-8510)
  - Washington State Univ., Dept. of Mathematics, Pullman, WA 99164-3113
  - Dr. Moore has been my post-doc mentor at Washington State University.
- Dr. Jiahong Wu (e-mail: jiahong@math.okstate.edu, phone: 405-744-5788)
  - Oklahoma State Univ., 401 Mathematical Sciences Building, Stillwater, OK 74078

- Dr. Wu was my Ph.D. thesis adviser at Oklahoma State University.
- Dr. András Vasy (e-mail: andras@math.stanford.edu, phone: 650-725-6284)
  - Stanford Univ., Dept. of Mathematics, Building 380, 450 Serra Mall, Stanford CA 94305-2125
  - Dr. Vasy taught me PDE and has kindly given me career advice since then.
- Dr. Koji Ohkitani (e-mail: K.Ohkitani@sheffield.ac.uk, phone: 44 (0)114 222 3861)
  - Univ. Sheffield, School of Math. & Stat., Hicks Building, Hounsfield Rd., Sheffield S3 7RH, U.K.
  - Dr. Ohkitani can attest to my research credential.
- Dr. Gautam Iyer (e-mail: gautam@math.cmu.edu, phone: 412-268-8419)
  - Carnegie Mellon Univ., Wean Hall #6113, Pittsburgh, PA 15213
  - Dr. Iyer was my research supervisor at Stanford University.