
Experience

- 08/2022 – Present **Research Associate and Lecturer**, UNIVERSITY OF VIRGINIA.
Mentor: [Weiqiang Wang](#)
- 09/2020 – 07/2022 **Visiting Assistant Professor**, UNIVERSITY OF DENVER.
Mentor: [Andrew Linshaw](#)

Education

- 2014 – 2020 **Ph.D. in Math**, Indiana University Purdue University Indianapolis.
Advisor: [Evgeny Mukhin](#) & [Vitaly Tarasov](#)
- 2012 – 2014 **M.S. in Mathematics**, Zhejiang University.
Advisor: Gang Han
- 2006 – 2010 **B.S. in Mathematics**, Fudan University.
Advisor: Meng Chen

Research Interests

- Representation Theory
- Mathematical Physics
- Quantum Algebras
- Integrable Systems

Preprints

3. Kang Lu, W. Wang, W. Zhang, *From affine quantum groups to twisted Yangians*, in preparation.
2. Kang Lu, W. Wang, W. Zhang, *A Drinfeld type presentation of twisted Yangians*, in preparation.
1. Kang Lu, *Representations of twisted super Yangians of type AIII*, in preparation.

Publications

15. Kang Lu, *On Bethe eigenvectors and higher transfer matrices for supersymmetric spin chains*, [J. High Energ. Phys.](#) **04** (2023), Article number: 120.
14. Kang Lu, *Schur-Weyl duality for quantum toroidal superalgebras*, [J. Pure Appl. Algebra](#) **227** (2023), no. 9, 107382.
13. Kang Lu, *Completeness of Bethe ansatz for Gaudin models associated with $\mathfrak{gl}(1|1)$* , [Nuclear Phys. B](#) **980** (2022), 115790.
12. Kang Lu, *A note on odd reflections of super Yangian and Bethe ansatz*, [Lett. Math. Phys.](#) **112** (2022), Article no.: 29.
11. Kang Lu, *Gelfand-Tsetlin bases for representations of super Yangian and quantum affine superalgebra*, [Lett. Math. Phys.](#) **111** (2021), Article no.: 145.
10. Kang Lu, E. Mukhin, *Bethe ansatz equations for orthosymplectic Lie superalgebras and self-dual superspaces*, [Ann. Henri Poincaré](#) **22** (2021), no. 12, 4087–4130.
9. Kang Lu, E. Mukhin, *Jacobi-Trudi identity and Drinfeld functor for super Yangian*, [Int. Math. Res. Not. IMRN](#) **2021** (2021), no. 21, 16749-16808.

8. Kang Lu, E. Mukhin, *On the supersymmetric XXX spin chains associated to $\mathfrak{gl}_{1|1}$* , *Commun. Math. Phys.* **386** (2021), 711-747.
7. Kang Lu, *Perfect integrability and Gaudin models*, *SIGMA* **16** (2020), 132, 10 pages.
6. C. Huang, Kang Lu, and E. Mukhin, *Solutions of $\mathfrak{gl}_{m|n}$ XXX Bethe ansatz equation and rational difference operators*, *J. Phys. A: Math. Theor.* **52** (2019), no. 37, 375204, 31 pages.
5. Kang Lu, E. Mukhin, *On the Gaudin model of type G_2* , *Commun. Contemp. Math.* **21** (2019), no. 3, 1850012, 31 pages.
4. G. Han, Y. Liu, and Kang Lu. *Multiplicity free gradings on semisimple Lie and Jordan algebras and skew root systems*, *Algebra Colloq.* **26** (2019), no. 1, 123–138.
3. Kang Lu, *Lower bounds for numbers of real self-dual spaces in problems of Schubert calculus*, *SIGMA* **14** (2018), 046, 15 pages.
2. Kang Lu, E. Mukhin, and A. Varchenko. *Self-dual Grassmannian, Wronski map, and representations of \mathfrak{gl}_N , \mathfrak{sp}_{2r} , \mathfrak{so}_{2r+1}* , *Pure Appl. Math. Q.* **13** (2017), no.2, 291–335, special issue in honor of Yuri Manin’s 80-th birthday.
1. Kang Lu, E. Mukhin, and A. Varchenko. *On the Gaudin model associated to Lie algebras of classical types*, *J. Math. Phys.* **57** (2016), no. 10, 101703, 23 pages.

Conference Presentations

- May 12-14, 2023 **13th Southeastern Lie Theory Workshop**, *Combinatorial Representation Theory of Algebras and Applications*, North Carolina State University, Raleigh, NC.
Talk: A Drinfeld presentation of twisted Yangians
- April 15-16, 2023 **2023 AMS Spring Central Sectional Meeting**, *Special Session on Representation Theory, Geometry and Mathematical Physics*, University of Cincinnati, OH.
Talk: Representations of twisted super Yangians of type AIII
- March 13-14, 2021 **2021 AMS Spring Southeastern Sectional Meeting**, *Special Session on Superalgebras, Quantum Groups, and Related Topics*.
Talk: Skew representations of super Yangian
- January 15-18, 2020 **Joint Mathematics Meetings 2020**, *Colorado Convention Center*, Denver, CO.
Talk: On the supersymmetric XXX spin chains
- August 12-16, 2019 **Representation Theory and Integrable Systems**, *ETHZ*, Zurich, Switzerland.
Talk: On the supersymmetric XXX spin chain associated to $\mathfrak{gl}_{1|1}$
- April 13-14, 2019 **2019 AMS Spring Eastern Sectional Meeting**, *University of Connecticut*, Hartford, CT.
Talk: On the supersymmetric XXX spin chain associated to $\mathfrak{gl}_{1|1}$
- March 15-17, 2019 **2019 AMS Spring Southeastern Sectional Meeting**, *Auburn University*, Auburn, AL.
Talk: Self-dual Grassmannian and Representations of \mathfrak{gl}_N , \mathfrak{sp}_{2r} , and \mathfrak{so}_{2r+1}
- May 29-June 2, 2017 **Representation Theory at the Crossroads of Modern Mathematics**, *Université de Reims Champagne Ardenne*, Reims, France.
Poster: Self-dual Grassmannian and Representations of \mathfrak{gl}_N , \mathfrak{sp}_{2r} , and \mathfrak{so}_{2r+1}
- April 1-2, 2017 **2017 AMS Spring Central Sectional Meeting**, *Indiana University*, Bloomington, IN.
Talk: Bethe ansatz method in Gaudin Model

Seminar Talks

- 04/26/2023 **Algebra Seminar**, *University of Virginia*, Charlottesville, VA.
Talk: A Drinfeld presentation of twisted Yangians

- 11/19/2021 **NCTS Seminar on Representation Theory**, *Taiwan*, Zoom.
Talk: Representations of Super Yangian
- 03/11/2021 **Rocky Mountain Representation Theory Seminar**, *Zoom*.
Talk: Skew representations of super Yangian
- 02/17/2021 **Representations and Lie Theory seminar**, *Ohio State University*, Zoom.
Talk: Skew representations of super Yangian
- 10/19/2020 **Algebra and Logic Seminar**, *University of Denver*, Denver, CO.
Talk: Gaudin model, Feigin-Frenkel center, and Grassmannian
- 11/15/2019 **Algebra Seminar**, *University of Virginia*, Charlottesville, VA.
Talk: Jacobi-Trudi identity, Berezinian, and transfer matrices
- 10/04/2019 **Physically inspired mathematics seminar**, *University of North Carolina*, Chapel Hill, NC.
Talk: Supersymmetric quantum spin chains

Conferences Attended

- June 4-8, 2018 **Representation Theory, Mathematical Physics and Integrable Systems**, *Centre International de Rencontres Mathématiques*, Luminy, France.
- June 6-9, 2017 **Algebraic Analysis**, *IHÉS*, Bures-sur-Yvette, France.
- April 30, 2016 **Algebra, Geometry and Combinatorics Day**, *University of Notre Dame*, Notre Dame, IN.
- August 14-18, 2015 **Lie Algebras, Vertex Operator Algebras, and Related Topics**, *University of Notre Dame*, Notre Dame, IN.

Teaching

University of Virginia

- 2024 Spring MATH 3351: Elementary Linear Algebra
2023 Fall MATH 3354: Survey of Algebra
2023 Spring MATH 3351: Elementary Linear Algebra
2022 Fall MATH 3310: Basic Real Analysis

University of Denver

- 2022 Summer MATH 1952: Calculus II
2022 Spring MATH 2070: Introduction to Differential Equations
2022 Spring MATH 2080: Calculus of Several Variables
2022 Winter MATH 1951: Calculus I
2022 Winter MATH 1150: Mathematics for Cryptography
2021 Autumn MATH 1951: Calculus I
2020 Spring MATH 1952: Calculus II
2020 Winter MATH 1150: Introduction to Cryptography
2020 Winter MATH 2070: Introduction to Differential Equations
2020 Autumn MATH 1951: Calculus I

Indiana University Purdue University Indianapolis

- 2020 Summer MATH 16500: Calculus and Analytic Geometry I
2020 Spring MATH 22100: Calculus for Technology I
2019 Fall MATH 15400: Trigonometry
2019 Summer MATH 26600: Ordinary Differential Equations
2019 Spring MATH 22100: Calculus for Technology I

- 2018 Fall MATH 11100: Intermediate algebra
- 2018 Summer MATH 15400: Trigonometry
- 2018 Spring MATH 11000: Fundamentals of Algebra
- 2017 Fall MATH 16500: Calculus and Analytic Geometry I, (Recitation)

Referee Services

- Algebras and Representation Theory
- Arnold Mathematical Journal
- Communications in Mathematical Physics ($\times 2$)
- Compositio Mathematica
- Journal of Algebra
- Journal of Mathematical Physics ($\times 2$)
- Journal de l'École polytechnique - Mathématiques
- Letters in Mathematical Physics
- SciPost Physics
- SIGMA ($\times 2$)
- Transformation Groups ($\times 2$)

References

- [Andrew Linshaw](#), Department of Mathematics, University of Denver, Andrew.Linshaw@du.edu
- [Evgeny Mukhin](#), Department of Mathematical Science, Indiana University Purdue University Indianapolis, emukhin@iupui.edu
- [Vitaly Tarasov](#), Department of Mathematical Science, Indiana University Purdue University Indianapolis, vtarasov@iupui.edu
- [Alexander Varchenko](#), Department of Mathematics, University of North Carolina at Chapel Hill, anv@email.unc.edu