

# CURRICULUM VITAE

MILEN YAKIMOV

## Address:

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## Education:

2001, Ph.D. University of California at Berkeley, Thesis: *Geometry of complex reductive Poisson–Lie groups*, advisor Nicolai Reshetikhin;  
1996, B.S. Sofia University, Bulgaria, Thesis: *Representations of  $W_{1+\infty}$ , bispectrality, and Sato’s Grassmannian*, advisor Emil Horozov;

## Employment:

2021–present, Professor, Northeastern University,  
2010–2021, Professor, Louisiana State University,  
Michael F. and Roberta Nesbit McDonald Professor 2015–2021;  
2008–2010, Associate Professor, Louisiana State University;  
2006–2010, Associate Professor, University of California at Santa Barbara;  
2003–2006, Assistant Professor, University of California at Santa Barbara;  
2001–2003, H. C. Wang Assistant Professor, Cornell University;  
Past Research Member of the Mathematical Sciences Research Institute Berkeley, Max Planck Institute for Mathematics Bonn, Bernoulli Center EPFL Lausanne, and Erwin Schrödinger Institute Vienna for various programs;

## Research Interests:

Noncommutative Algebra, Triangulated Categories, Cluster Algebras, Representation Theory, Poisson Geometry, and Integrable Systems.

## Professional Recognition:

LSU Foundation Distinguished Faculty Teaching Award, 2020;  
Keynote Lectures, Sixth Annual Conference on Geometric Methods in Representation Theory, Iowa 2018;  
Fellow of the American Mathematical Society, 2018;  
LSU Distinguished Faculty Award, 2016;  
London Mathematical Society invited visit to the UK, talks at Glasgow Univ, Univ of Edinburgh, Newcastle Univ, and Univ of Leeds, October, 2015;  
Invited Address, American Mathematical Society Meeting, Tulane University, New Orleans, October 13–14, 2012;  
Rainmaker Mid-Career Scholar Award, Louisiana State University, 2011;  
Kavli Fellow, National Academy of Sciences, USA, invited participant at the 11th Biannual US Nat. Acad. Sci. Chinese–American Kavli Frontiers of Science Symposium, 2008;  
Alfred P. Sloan Foundation Research Fellow, 2005;  
Clay Foundation Liftoff Fellow, 2001;  
Charles B. Morrey, Jr. Award, Univ. California, Berkeley, 1998;  
Silver Medal at the 1991 International Mathematical Olympiad, Sweden, Gold Medal at the 1991 Balkan Mathematical Olympiad, Romania;

**Grants:***NSF Research Grants:*

- (1) NSF Grant DMS-2200762 “Noncommutative algebras and monoidal triangulated categories,” 06/2022-05/2025, \$331,818;
- (2) NSF Grant DMS-1901830 “Noncommutative algebras and related categorical structures,” 06/2019-05/2022, \$345,050, transferred to Northeastern University as grant DMS-2131243;
- (3) NSF Grant DMS-1601862 “Research in noncommutative algebra,” 06/2016-05/2019, \$235,000;
- (4) NSF Grant DMS-1303038 “Quantum groups and quantum cluster algebras,” 08/2013-07/2016, \$164,000;
- (5) NSF Grant DMS-1001632 “Quantum groups, Poisson Lie groups, and combinatorics,” 08/2010-07/2013, \$156,000;
- (6) NSF grant DMS-0701107 “Poisson Lie groups, representation theory, combinatorics and integrable systems,” 07/2007-06/2010, \$122,459;
- (7) NSF Grant DMS-0406057 “Poisson Lie groups, integrable systems, and representation theory,” 09/2004-08/2007, \$99,187;

*Other Research Grants:*

- (1) Bulgarian Science Fund grant KP-06-N 62/5, “Algebraic and analytic methods in differential equations and geometry,” PI: T. Valchev, Co-PIs: L. Gavrilov, H. Iliev, M. Ivanov, E. Horozov, I. Petkova, Ts. Stoyanova, M. Yakimov, A. Zhivkov, 01/2023-12/2025, 75,000 EUR;
- (2) Bulgarian Science Fund grant DN02/05, “Algebraic and geometric methods in differential equations: integrability and nonintegrability,” PI: E. Horozov, Co-PIs: O. Christov, L. Gavrilov, Ts. Stoyanova, T. Valchev, M. Yakimov, A. Yanovski, A. Zhivkov, 01/2017-12/2021, 60,000 EUR;
- (3) Louisiana Board of Regents, pilot funding for new research Pfund-403 “Monoidal categorifications of cluster algebras,” 10/2014-09/2015, \$9,980;
- (4) American Mathematical Society travel grant to participate at the First Mathematical Congress of the Americas, 2013, \$1,600;
- (5) Alfred P. Sloan Foundation Research Fellowship, 2005-2008, \$45,000;
- (6) Junior Faculty Research Incentive Award, UCSB Academic Senate, 2004, \$5,000;

*NSF Training grants:*

- (1) NSF DMS-1645877 “RTG: Algebraic Geometry and Representation Theory,” PI: V. Toledano-Laredo, Co-PIs: C. Beasley, J Weitsman, and M. Yakimov (joined in 2023), 08/2017-07/2024, \$2,241,997.

*NSF Conference Grants:*

- (1) NSF DMS-2205730 “Canada-Mexico-USA Conference in Representation Theory, Noncommutative Algebra, and Categorification,” PI: A. Lauda (USC), Co-PI: M. Yakimov, 04/2022-03/2023, \$30,000;
- (2) NSF DMS-1744232 “US-Mexico Conference in Representation Theory and Noncommutative Algebra,” PI: A. Lauda (USC), Co-PI: M. Yakimov, 11/2017-11/2022, \$20,000;
- (3) NSF-DMS-1803265, “International Conference on Representation Theory, Mathematical Physics and Integrable Systems,” PI: M. Yakimov, Co-PI: A. Okounkov, 05/2018-04/2019, \$15,000;
- (4) NSF DMS-1446398 “US-Mexico Conference in Representation Theory and Noncommutative Algebra,” PI: A. Lauda (USC), Co-PI: M. Yakimov, 12/2014-11/2016, \$49,940 (supported 2 conference for 2 years);
- (5) NSF DMS-1206255 “Southeastern Lie Theory Workshop Series,” PI: K. Misra (NCSU), Co-PIs: B. Parshall (Univ. Virginia), D. Nakano (Univ. Georgia), B. Cox (College of Charleston) and M. Yakimov, 07/2012-06/2014, \$38,750 (supported 3 conferences for 2 years);
- (6) NSF Grant DMS-1011709 “Conference on Bifurcation Theory, Integrable Systems and the Bispectral Problem,” PI: P. Iliev (Georgia Tech), Co-PIs: B. Bakalov (NCSU), and M. Yakimov, 02/2010-01/2011, \$24,800;

- (7) NSF grant ‘Intercampus Workshop Program: Lie Groups, Lie Algebras, and Their Representations,’ PI: G. Mason (UC Santa Cruz), Co-PIs: S. Montgomery (Univ. of Southern California), J. Wolf (UC Berkeley) and M. Yakimov, 07/2007-06/2011, \$60,000 (supported 3 workshops each year);

#### Reffereed Publications and Preprints:

- (1) (with W. R. Casper, F. A. Grünbaum, and I. Zurrián) *Matrix valued discrete-continuous functions with the prolate spheroidal property and bispectrality*, arXiv:2302.05750.
- (2) (with G. Muller, K. Trampel and B. Nguyen), *Poisson geometry and Azumaya loci of cluster algebras*, arXiv:2209.11622.
- (3) (with D. K. Nakano and K. B. Vashaw) *On the spectrum and support theory of a finite tensor category*, arXiv:2112.11170.
- (4) (with R. Casper, E. Horozov, and P. Iliev) *A Sato–Krichever theory for fractional differential operators*, arXiv:2108.12010.
- (5) (with B. Nguyen and K. Trampel) *Root of unity quantum cluster algebras and discriminants*, arXiv:2012.02314.
- (6) (with N. Andruskiewitsch and I. Angiono) *Poisson orders on large quantum groups*, arXiv:2008.11025.
- (7) (with K. A. Brown) *Poisson trace orders*, to appear in Int. Math. Res. Not. IMRN, arXiv:2211.11660
- (8) (with W. R. Casper, F. A. Grünbaum, and I. Zurrián) *Reflective prolate-spheroidal operators and the adelic Grassmannian*, to appear in Comm. Pure Appl. Math., arXiv:2003.11616.
- (9) (with K. R. Goodearl) *Cluster algebra structures on Poisson nilpotent algebras*, to appear in Memoirs Amer. Math. Soc., arXiv:1801.01963.
- (10) (with S. Huang and T. T. Q. Lê) *Root of unity quantum cluster algebras and Cayley–Hamilton algebras*, Trans. Amer. Math. Soc. DOI: <https://doi.org/10.1090/tran/8904>, arXiv:2107.11926.
- (11) (with W. R. Casper, F. A. Grünbaum, and I. Zurrián) *Algebras of commuting differential operators for integral kernels of Airy type*, in: “Toeplitz Operators and Random Matrices,” *Harold Widom Memorial Volume*, Operator Theory, Advances and Applications, vol. 289, eds. E. Basor et al, pp. 229–256, Birkhäuser, 2023.
- (12) (with D. K. Nakano and K. B. Vashaw) *Noncommutative tensor triangular geometry*, Amer. J. Math. **144** (2022), no. 6, 1681–1724.
- (13) (with P. Jørgensen) *Green groupoids of 2-Calabi–Yau categories, derived Picard actions, and hyperplane arrangements*, Trans. Amer. Math. Soc. **375** (2022), 7981–8031.
- (14) (with D. K. Nakano and K. B. Vashaw) *Noncommutative tensor triangular geometry and the tensor product property for support maps*, Int. Math. Res. Not. IMRN 2022, no. 22, 17766–17796.
- (15) (with W. R. Casper) *The matrix Bochner problem*, Amer. J. Math. **144** (2022), no. 4, 1009–1065.
- (16) (with C. Walton and X. Wang) *Poisson geometry and representations of PI 4-dimensional Sklyanin algebras*, Selecta Math. (N.S.) **27** (2021), no. 5, Art. 99, 60 pp.
- (17) (with S. Kolb) *Defining relations of quantum symmetric pair coideal subalgebras*, Forum of Math. Sigma **9** (2021), Paper No. e67, 38pp.
- (18) (with K. R. Goodearl) *Integral quantum cluster structures*, Duke Math. J. **170** (2021), 1137–1200.
- (19) (with W. R. Casper and S. Kolb) *Bivariate continuous  $q$ -Hermite polynomials and deformed quantum Serre relations*, J. Algebra Appl. **20** (2021), no. 1, Art. 2140016 (issue in honor of N. Andruskiewitsch’s 60th birthday).
- (20) (with W. R. Casper) *Integral operators, bispectrality and growth of Fourier algebras*, J. Reine Angew. Math. **766** (2020), 151–194.
- (21) (with K. R. Goodearl) *The Berenstein–Zelevinsky quantum cluster algebra conjecture*, J. Eur. Math. Soc. (JEMS) **22** (2020), no. 8, 2453–2509.
- (22) (with S. Kolb) *Symmetric pairs for Nichols algebras of diagonal type via star products*, Adv. Math. **365** (2020), 107042, 69pp.

- (23) (with P. Jørgensen) *C-vectors of 2-Calabi–Yau categories and Borel subalgebras of  $\mathfrak{sl}_\infty$* , *Selecta Math.* (N.S.) **26** (2020), no. 1, Art. 1, 46 pp.
- (24) (with W. R. Casper, F. A. Grünbaum, and I. Zurrián) *Reflective prolate-spheroidal operators and the KP/KdV equations*, *Proc. Natl. Acad. Sci. USA* **116** (2019), no. 37, 18310–18315.
- (25) (with K. Vashaw) *Prime spectra of abelian 2-categories and categorifications of Richardson varieties*, in “Representations and Nilpotent Orbits of Lie Algebraic Systems, in honour of the 75th birthday of Tony Joseph”, *Progr. in Math.* vol. 330, eds. M. Gorelik et al, pp. 501–553, Birkhäuser, 2019.
- (26) (with C. Walton and X. Wang) *Poisson geometry of PI 3-dimensional Sklyanin algebras*, *Proc. London Math Soc.* **118** (2019), 1471–1500.
- (27) (with T. H. Lenagan) *Prime factors of quantum Schubert cell algebras and clusters for quantum Richardson varieties*, *J. Reine Angew. Math.* **750** (2019), 123–156.
- (28) (with K. A. Brown) *Azumaya loci and discriminant ideals of PI algebras*, *Adv. Math.* **340** (2018), 1219–1255.
- (29) (with J. Levitt) *Quantized Weyl algebras at roots of unity*, *Israel J. Math.* **225** (2018), 681–719.
- (30) (with E. Bucher) *Recovering the topology of surfaces from cluster algebras*, *Math. Zeitschrift* **288** (2018), 565–594.
- (31) (with J. Levitt) *Rigidity of quadratic Poisson tori*, *Bull. Inst. Math. Acad. Sinica* **13** (2018), 99–142 (issue in honor of G. Lusztig’s 70th birthday).
- (32) (with K. R. Goodearl) *Twist invariants of graded algebras*, in: *Advances in Rings and Modules* (volume in honor of B. Müller), *Contemp. Math.* **715** (2018), pp. 141–170.
- (33) (with B. Nguyen and K. Trampel) *Noncommutative discriminants via Poisson primes*, *Adv. Math.* **322** (2017), 269–307.
- (34) (with J. Geiger and E. Horozov) *Noncommutative bispectral Darboux transformations*, *Trans. Amer. Math. Soc.* **369** (2017), 5889–5919.
- (35) (with K. R. Goodearl) *Quantum cluster algebra structures on quantum nilpotent algebras*, *Memoirs Amer. Math. Soc.* **247** (2017), no. 1169, vii + 119pp.
- (36) (with S. Fryer) *Separating Ore sets for prime ideals of quantum algebras*, *Bulletin London Math. Soc.* **46** (2017), 202–215.
- (37) (with K. R. Goodearl) *From quantum Ore extensions to quantum tori via noncommutative UFDs*, *Adv. Math.* **300** (2016), 672–716.
- (38) (with K. R. Goodearl) *Unipotent and Nakayama automorphisms of quantum nilpotent algebras*, In: *Commutative Algebra and Noncommutative Algebraic Geometry II*, Eds: D. Eisenbud et al, pp 181–212, MSRI Publ. Vol 68, Cambridge Univ. Press, 2015.
- (39) *Weak splittings of quotients of Drinfeld and Heisenberg doubles*, In: *Developments and retrospectives in Lie theory, geometric and analytic methods*, Eds: G. Mason et al, pp. 245–268, *Developments in Math* 37, Springer 2014.
- (40) (with K. R. Goodearl) *Quantum cluster algebras and quantum nilpotent algebras*, *Proc. Natl. Acad. Sci. USA* **111** (2014), no. 27, 9696–9703.
- (41) *Rigidity of quantum tori and the Andruskiewitsch–Dumas conjecture*, *Selecta Math.* **20** (2014), no. 2, 421–464.
- (42) *On the spectra of quantum groups*, *Memoirs Amer. Math. Soc.* **229** (2014), no. 1078, vi + 91pp.
- (43) (with J. Geiger) *Quantum Schubert cells via representation theory and ring theory*, *Michigan Math. J.* **63** (2014), no. 1, 125–157.
- (44) *Spectra and catenarity of multiparameter quantum Schubert cells*, *Glasgow Math. J.* **55A** (2013), 169–194 (issue in honor of K. A. Brown’s and J. T. Stafford’s 60th birthdays).
- (45) *The Launiois–Lenagan conjecture*, *J. Algebra* **392** (2013), 1–9.
- (46) (with D. Grantcharov) *Cominuscule parabolics of simple finite dimensional Lie superalgebras*, *J. Pure Appl. Algebra* **217** (2013), 1844–1863.
- (47) *A proof of the Goodearl–Lenagan polynormality conjecture*, *Int. Math. Res. Not. IMRN* **2013**, no. 9, 2097–2132.
- (48) *Strata of prime ideals of De Concini–Kac–Procesi algebras and Poisson geometry*, In: *New trends in noncommutative algebra* (in honor of K. R. Goodearl’s 65th birthday), *Contemp. Math.* **562**, pp. 265–278, Amer. Math. Soc., Providence, RI, 2012.

- (49) *Invariant prime ideals in quantizations of nilpotent Lie algebras*, Proc. London Math. Soc., **101** (2010), 454–476.
- (50) *A classification of  $H$ -primes of quantum partial flag varieties*, Proc. Amer. Math. Soc. **138** (2010), 1249–1261.
- (51) *Cyclicity of Lusztig’s stratification of Grassmannians and Poisson geometry*, In: Noncommutative structures in mathematics and physics, Eds: S. Caenepeel et al, pp. 258–262, Royal Flemish Acad. of Belgium for Sciences and Arts, 2010.
- (52) (with M. Gekhtman) *Completeness of determinantal Hamiltonian flows on the matrix affine Poisson space*, Lett. Math. Phys. **90** (2009), 161–173.
- (53) (with K. R. Goodearl) *Poisson structures on affine spaces and flag varieties. II. General case*, Trans. Amer. Math. Soc. **361** (2009), 5753–5780.
- (54) (with J.-H. Lu) *Group orbits and regular partitions of Poisson manifolds*, Comm. Math. Phys. **283** (2008), no. 3, 729–748.
- (55) *Categories of modules over an affine Kac–Moody algebra and finiteness of the Kazhdan–Lusztig tensor product*, J. Algebra **319** (2008), no. 8, 3175–3196.
- (56) (with B. Webster) *A Deodhar type stratification on the double flag variety*, Transform. Groups **12** (2007), no. 4, 769–785.
- (57) (with J.-H. Lu) *Partitions of the wonderful group compactification*, Transform. Groups **12** (2007), no. 4, 695–723.
- (58) (with Y. Kosmann-Schwarzbach) *Modular classes of regular twisted Poisson structures on Lie algebroids*, Lett. Math. Phys. **80** (2007), 183–197.
- (59) *Affine Jacquet functors and Harish-Chandra categories*, Adv. Math. **208** (2007), 40–74.
- (60) (with K. A. Brown and K. R. Goodearl) *Poisson structures on affine spaces and flag varieties. I. Matrix affine Poisson space*, Adv. Math. **206** (2006), 567–629.
- (61) (with T. J. Hodges) *Triangular Poisson structures on Lie groups and symplectic reduction*, In: Noncommutative geometry and representation theory in mathematical physics, Contemp. Math. **391**, pp. 123–134.
- (62) (with J.-H. Lu) *On a class of double cosets in reductive algebraic groups*, Int. Math. Res. Not. IMRN **2005**, no. 13, 761–797.
- (63) (with F. A. Grünbaum) *The prolate spheroidal phenomenon as a consequence of bispectrality*, In: Workshop on superintegrability, CRM Proc. Lect. Notes **37**, pp. 301–312, AMS 2004.
- (64) (with F. A. Grünbaum) *Discrete Darboux transformations from Jacobi polynomials*, Pacific J. Math. **204** (2002), 395–432.
- (65) *Symplectic leaves of complex reductive Poisson–Lie groups*, Duke Math. J. **112** (2002), 453–509.
- (66) (with N. Yu. Reshetikhin) *Quantum invariant measures*, Comm. Math. Phys. **224** (2001), 399–426.
- (67) (with T. J. Hodges) *The double and dual of a quasitriangular Lie bialgebra*, Math. Res. Lett. **8** (2001), 91–105.
- (68) (with N. Yu. Reshetikhin) *Deformation quantization of Lagrangian fiber bundles*, In: Conférence Moshé Flato 1999, vol. 2, pp. 269–288, Kluwer Acad. Publ. 2000.
- (69) (with B. Bakalov and E. Horozov) *Highest weight modules over the  $W_{1+\infty}$  algebra and the bispectral problem*, Duke Math. J. **93** (1998), no. 1, 41–72.
- (70) (with B. Bakalov and E. Horozov) *Automorphisms of the Weyl algebra and bispectral operators*, In: The bispectral problem, CRM Proc. Lecture Notes, pp. 3–10, AMS 1998.
- (71) (with B. Bakalov and E. Horozov) *Bispectral algebras of commuting ordinary differential operators*, Comm. Math. Phys. **190** (1997), no. 2, 331–373.
- (72) (with B. Bakalov and E. Horozov) *Highest weight modules of  $W_{1+\infty}$ , Darboux transformations and the bispectral problem*, Serdica Math. J. **23** (1997), 95–112.
- (73) (with B. Bakalov and E. Horozov) *General methods for constructing bispectral operators*, Phys. Lett. A **222** (1996), no. 1–2, 59–66.
- (74) (with B. Bakalov and E. Horozov), *Tau-functions as highest weight vectors for  $W_{1+\infty}$  algebra*, J. Phys. A **29** (1996), 5565–5573.
- (75) (with B. Bakalov and E. Horozov), *Bäcklund–Darboux transformations in Sato’s Grassmannian*, Serdica Math. J. **22** (1996) 571–586.

**Edited Proceedings:**

- (1) (with A. Alexeev, E. Frenkel, M. Rosso and B. Webster) *Representation Theory, Mathematical Physics and Integrable Systems, in honor of Nicolai Reshetikhin*, Progress in Math. **340**, Birkhäuser, 2022.
- (2) (with P. Achar, D. Jakelić and K. Misra) *Recent advances in representation theory, quantum groups, algebraic geometry, and related topics*, Contemp. Math. **623**, AMS, Providence, RI, 2014.

**Editorial Boards:**

- (1) Proceedings of the London Mathematical Society;
- (2) Journal of Pure and Applied Algebra;
- (3) Algebras and Representation Theory;

**Ph.D. Theses Directed:**

- (1) Fayadh Khadem, Ph.D. 2022, LSU, thesis: *A cluster structure on the coordinate ring of partial flag varieties*, first position Assistant Professor, University of Bahrain;
- (2) Kent Vashaw, Ph.D. 2021, LSU, thesis: *Noncommutative tensor triangular geometry and its applications to representation theory*, first position NSF postdoctoral fellow MIT;
- (3) Kurt “Trey” Trampel, Ph.D. 2019, LSU, thesis: *Quantum cluster algebras a root of unity, Poisson Lie groups and discriminants*, first position Robert and Sara Lumpkins Postdoctoral Fellow Notre Dame Univ;
- (4) Bach Nguyen, Ph.D. 2018 LSU, thesis: *Invariant of noncommutative algebras and Poisson geometry*, first position postdoc at Temple Univ;
- (5) Maitreyee Kulkarni, Ph.D. 2018 LSU, thesis “Dimers on cylinders over Dynkin diagrams and cluster algebras,” first positions: postdoc at Institute for Advanced Studies and Max Planck Institute Bonn, Paul Olum Postdoctoral Scholar at the Univ of Oregon;
- (6) Eric Bucher, Ph.D. 2016 LSU, thesis: *Maximal green sequences and quivers associated to surfaces*, first position postdoc at Michigan State Univ;
- (7) Jesse Levitt, Ph.D. 2016 LSU, thesis: *Properties of polynomial identity quantized Weyl algebras*, first position postdoc at the Univ. of Southern California;
- (8) Joel Geiger, Ph.D. 2013 LSU, thesis: *The ring theory and the representation theory of quantum Schubert cells*, first position Lecturer MIT;
- (9) Garrett Johnson, Ph.D. 2010 UCSB, thesis: *Cremer–Gervais R-matrices and Cherednik algebras*, first position Postdoc at North Carolina State Univ;

**Current Ph.D. Students:**

- (10) Shengnan Huang, Northeastern University, expected graduation 2024;
- (11) Zhongkai Mi, LSU, expected graduation 2024;
- (12) Aria Masoomi, Northeastern University, expected graduation 2024;

**Postdoctoral Fellows Mentored:**

- (1) Gizem Karaali, Visiting Assistant Professor UCSB, 2004–2006, currently Full Professor at Pomona College.
- (2) Gregory Muller, VIGRE Postdoc LSU, 2010–2013, currently tenure-track Assistant Professor at Univ. Oklahoma, Norman.
- (3) Cris Negron, NSF Postdoc LSU, 2015–2016, currently tenure-track Assistant Professor at Univ. Southern California.
- (4) W. Riley Casper, LSU Postdoc, 2017–2020, currently tenure-track Assistant Professor at California State Univ, Fullerton.

**Member of Ph.D. Theses Committees:**

- *Past Ph.D. thesis committees.* Northeastern Univ: Mohamed Elbehiry, Dmytro Matvieievskiy, Aleksei Pakharev, Alex Sorokin; LSU: Andrew Alaniz, Aravind Chiruvelli, Amer Darweesh, Joseph Dorta, Tara Fife, Victoria “Iah” Fontaine, Ashar Ghulam, Kevin Grace, Aleksandra Gruszka, Mostafa Hayajneh, Chanun Lewchalermvongs, Neal Livesay, Lieth Majed, Jacob Matherne, Trevor McGuire, Lucius Schoenbaum, Paul Sinz, Lokendra Singh Thakur, Physics: Sai Vinjanampathy, Ziyu Zhang; UCSB: Christopher Nowlin;

- *Outside Ph.D. thesis committees.* Yipeng Mi (Hong Kong Univ.), Juan Camilo Arias Uribe (Univ. de Los Andes, Columbia);

**Service:**

*Northeastern University College of Science:*

- College Council 2021-present (chair 2021–2022 academic year);

*Northeastern University Math Department:*

- Graduate Committee 2021-present;
- Diversity and Inclusion Committee 2021-present;
- Hiring Committees for Modelling 2021-present;
- Hiring Committees for INVEST 2020-2022;

*LSU University wide:*

- Member of the University Review and Assessment Council 2016-2019;
- Co-chair of the Promotion and Tenure Committee, College of Science, 2016-2018;
- Member of the Committee for the Carruth McGehee Award for Excellent Research by a Junior Faculty Member (College of Science), 2017-2020;
- Chair of the Internal Review Committee for the PhD and M.S. Programs in Engineering Science of the LSU College of Engineering, Spring 2017;
- Member of the Search Committee for the Vice Chancellor for Research and Economic Development 2012-2013;

*LSU Math Department:*

- Executive Committee 2019-2020, 2013-2016; Hiring Committee 2009-2015;
- Promotion Committees: Daniel Sage (to Full Professor, 2011, chair), Richard Ng (to Full Professor, 2014, member), Pramod Achar (to Full Professor, 2015, chair), and Anton Zeitlin (Asist. Prof mid-term review 2020, member).
- LSU Algebra and Number Theory Seminar co-organizer, 2014–2016;

*University of California, Santa Barbara, Math Department:*

- Mathematics Department Hiring Committee 2005-2008, Undergraduate Committee 2004-2005, Colloquium Committee 2004-2005, Graduate Committee 2003-2004;

*Cornell University, Math Department:*

- Putnam Committee 2002-2003;

**Conferences Co-organized:**

- (1) *Fifth Canada-Mexico-USA conference in representation theory, noncommutative algebra and categorification*, Centre de Recherches Mathématiques, Montreal, August 24-27, 2023.
- (2) *2023 Maurice Auslander distinguished lectures and international conference*, Woods Hole Oceanographic Institution, Woods Hole, April 6-May 1, 2022.
- (3) *2022 Maurice Auslander distinguished lectures and international conference*, Woods Hole Oceanographic Institution, Woods Hole, October 26-30, 2022.
- (4) *Fourth Canada-Mexico-USA conference in representation theory, noncommutative algebra and categorification*, Northeastern University, Boston, June 9-12, 2022.
- (5) Southeastern Lie Theory Meeting “Geometric Representation Theory,” Louisiana State University, May 13-15, 2019.
- (6) Special Session in Noncommutative Algebra and Related Topics, Joint International Meeting of the American and Chinese Mathematical Societies, Fudan University, Shanghai, China, June 11-14, 2018.
- (7) Conference *Representation Theory, Mathematical Physics and Integrable Systems* in honor of Nicolai Reshetikhin’s 60th birthday, CIRM, Limuny, June 4-8, 2018.
- (8) *Third US-Mexico conference in representation theory, categorification and noncommutative algebra*, UNAM, Mexico City, November 27-December 1, 2017.
- (9) *Second US-Mexico conference in representation theory, categorification and noncommutative algebra*, USC, Los Angeles, May 30-June 3, 2016.
- (10) Workshop on Lie Groups, Lie Algebras and Their Representations, Louisiana State University, November 7–8, 2015.

- (11) “First US-Mexico conference in representation theory and noncommutative algebra,” UNAM, Mexico City, January 15-17, 2015.
- (12) Southeastern Lie Theory Meeting “Noncommutative Algebraic Geometry and Representation Theory,” Louisiana State University, May 10-12, 2013.
- (13) Special Session on Noncommutative Geometry and Algebra, AMS Meeting, Tulane University, New Orleans, LA, October 2012.
- (14) Workshop on Lie Groups, Lie Algebras and Their Representations, Louisiana State University, October 2012.
- (15) Special Session on Noncommutative Geometry and Algebra, AMS Meeting, University of Utah, Salt Lake City, UT, October 2011.
- (16) Workshop on Lie Groups, Lie Algebras and Their Representations, February, 2011, Louisiana State University.
- (17) Special Session on Completely Integrable Systems, Random Matrices, and the Bispectral Problem, 2011 Joint Mathematics Meetings of AMS and MAA, New Orleans, January 2011.
- (18) International Conference: Symmetries and Integrability of Difference Equations-9, June 2010, Varna, Bulgaria, (International Organizing Committee member).
- (19) International Conference: Bifurcation Theory, Integrable Systems, and the Bispectral Problem (in honor of E. Horozov’s 60th birthday), May 2010, Sofia University, Bulgaria, funded by the NSF.
- (20) Workshop on Lie Groups, Lie Algebras and Their Representations, March 2010, University of California, Santa Barbara.
- (21) Workshop on Lie Groups, Lie Algebras and Their Representations, April 2007, University of California, Santa Barbara.
- (22) Workshop on Lie Groups, Lie Algebras and Their Representations, February 2006, University of California, Santa Barbara.
- (23) Workshop on Lie Groups, Lie Algebras and Their Representations, October 2003, University of California, Santa Barbara.

### Conferences, Colloquiums, Seminar Talks, Lecture Series (2011-2022):

2023:

- (1) *Algebras Seminar, Univ. Connecticut*, On the spectrum and support theory of a finite tensor category, March 8.
- (2) Workshop on interactions between representation theory, combinatorics, and geometry, National University of Singapore, *Poisson geometry and representation theory of cluster algebras*, January 3-7.

2022:

- (3) Canadian Mathematical Society Winter Meeting, Session on representation theory of algebras, Toronto, *Poisson geometry and representation theory of root of unity quantum cluster algebras*, December 2-5.
- (4) American Mathematical Society Meeting, Special Session on geometry and representation theory of quantum algebras and related topics, University of Utah, *Reflective prolate-spheroidal operators and the adelic Grassmannian*, October 22-23.
- (5) Casa Matemática Oaxaca conference “Bases for cluster algebras” in honor of 60th birthday of Bernard Leclerc, Mexico, *Representation theory and Poisson geometry of root of unity quantum cluster algebras*, September 26-30.
- (6) Conference “Noncommutative geometry and noncommutative invariant theory,” Banff International Research Station, Canada, September 26-30. *Azumaya loci of root of unity quantum cluster algebras*.
- (7) Conference “Recent Advances and New Directions in the Interplay of Noncommutative Algebra and Geometry,” Univ. Washington, Seattle, On the spectrum and support theory of a finite tensor category, June 20-24.
- (8) *Univ California, Davis, Algebraic Geometry seminar*, Root of unity quantum cluster algebras: discriminants, Cayley-Hamilton algebras, and Poisson orders, June 2.
- (9) *Global Poisson Webinar (virtual)*, Poisson geometry of big quantum supergroups at roots of unity, April 7.



- (10) *Workshop “Seattle Noncommutative Algebra Days” (virtual), Univ. Washington, Seattle, Quantum symmetric pairs via star products, March 26-27.*
  - (11) *Workshop “Supergeometry and Bracket Structures in Mathematics and Physics,” Fields Institute, Toronto, Poisson geometry of large quantum groups, March 21-25.*
  - (12) *American Mathematical Society Meeting, Special Session on quantum probability, orthogonal polynomials, and special functions, Tufts Univ, virtual, Reflective prolate-spheroidal operators and the adelic Grassmannian, March 19-20.*
  - (13) *Workshop on Representations of algebras and related combinatorics (virtual), Univ. Kentucky, Groupoids of 2-Calabi-Yau categories, faithful derived actions and hyperplane arrangements, March 12-13.*
  - (14) *Conference “Quantum groups and cluster algebras” (virtual), Center for Quantum Structures in Modules and Spaces, Seoul, Korea, Root of unity quantum cluster algebras: discriminants, Cayley-Hamilton algebras, and Poisson orders, February 14-17.*
- 2021:
- (15) *MIT Lie Groups Seminar, November 10, Quantum symmetric pairs via star products;*
  - (16) *Univ Virginia, Mathematics Department Algebra Seminar, November 5, Quantum symmetric pairs via star products;*
  - (17) *Univ Virginia, Mathematics Department Colloquium, November 4, Root of unity quantum cluster algebras, Cayley-Hamilton algebras, and discriminants;*
  - (18) *Northeastern Univ, Math Department Research Seminar, October 19, Poisson Lie groups;*
  - (19) *Southeastern Lie Theory Workshop XII, College of Charleston, October 15-17, Noncommutative tensor triangular geometry and support varieties for Hopf algebras;*
  - (20) *Workshop “Quantum Groups – Algebra, Analysis and Category Theory,” Oberwolfach Mathematics Institute, Germany, September 12-17, Root of unity quantum cluster algebras: discriminants, Cayley-Hamilton algebras, and Poisson orders.*
  - (21) *MIT Infinite Dimensional Algebra Seminar, September 17, Root of unity quantum cluster algebras: discriminants, Cayley-Hamilton algebras, and Poisson orders.*
  - (22) *Seattle Noncommutative Algebra Days (virtual), University of Washington, May 29–30, The spectrum and support theory of finite tensor categories.*
  - (23) *American Mathematical Society Meeting, Special Session on interactions between representation theory, Poisson geometry, and noncommutative algebra, Univ. Cincinnati, virtual, April 17–18, A quantum double construction for quantum symmetric spaces.*
  - (24) *Seminar on Geometry, Physics and Representation Theory, Northeastern University, April 8, Root of unity quantum cluster algebras.*
  - (25) *Paris Algebra Seminar (Institut de Mathématiques de Jussieu, Sorbonne Université, Université de Paris, Université de Reims Champagne-Ardennes), February 15, Poisson geometry of large quantum groups.*
  - (26) *Online Noncommutative Algebra Seminar, February 2, Poisson geometry of large quantum groups.*
  - (27) *Queen’s University Mathematics Department Colloquium, Kingston, Canada, January 29, Noncommutative discriminants.*
  - (28) *Special Session on Interactions Between Noncommutative Algebra and Noncommutative Algebraic Geometry, 2021 Joint Mathematics Meetings, Washington, D.C. (virtual), January 6–9, Root of unity quantum cluster algebras and discriminants of PI algebras.*
- 2020:
- (29) *Conference “Quantum Groups and Cohomology Theory of Quiver and Flag Varieties,” CIRM, Luminy, France, December 14-18, Root of unity quantum cluster algebras, discriminants and Schubert cells.*
  - (30) *Conference “Hypergeometry, Integrability and Lie Theory,” Lorentz Center, Univ Leiden, Netherlands, December 7-11, Interactions between quantum symmetric spaces, the KZ equations, quasi-symmetric functions, and double affine Hecke algebras.*
  - (31) *American Mathematical Society Meeting, Special Session on Geometry and Representation Theory of Quantum Algebras and Related Topics, University of Utah (virtual), October 24-25, Poisson geometry of large quantum groups.*
  - (32) *Lie theory seminar, University of Cordoba, Argentina, October 5, Irreps and Poisson geometry of large quantum groups.*

- (33) *LieJor Online Seminar (Brazil): Algebras, Representations, and Applications, October 1*, Quantum cluster algebras at roots of unity and discriminants.
  - (34) *Representation Theory and Mathematical Physics Seminar at UC Berkeley, September 15*, Poisson geometry of large quantum groups.
  - (35) *Online Conference "Cluster algebras 2020," Jiatong Univ, Shanghai, China, August 17-28*, Green groupoids of 2-Calabi-Yau categories and derived actions [talk delivered by P. Jørgensen due to a hurricane].
  - (36) *Penn State University Colloquium, February 27*, Quantum cluster algebras and discriminants.
  - (37) *Penn State University Student Colloquium, February 27*, Cluster algebras and quantum cluster algebras.
  - (38) *UCSB Colloquium, January 9*, Invariants of triangulated categories.
- 2019:
- (39) *Northeastern University Seminar, Quantum cluster algebras and discriminants, December 11*.
  - (40) *Conference on Geometric Methods in Representation Theory, Univ. Missouri, November 23-25*, Noncommutative tensor triangular geometry.
  - (41) *Workshop "2019 Noncommutative Algebraic Geometry Shanghai Workshop," Fudan University, Shanghai, China, November 11-15*, Quantum symmetric pairs.
  - (42) *Representation Theory and Mathematical Physics Seminar at UC Berkeley, October 16*, Green groupoids of 2-CY categories, derived Picard actions, and hyperplane arrangements.
  - (43) *Conference "International conference on Hopf algebras," Nanjing Univ, China, September 9-13*, Irreps and Poisson geometry of large quantum groups.
  - (44) *Seminar of the Institute of Theoretical Physics, Bulgarian Academy of Sciences, July 11*, Quantum  $K$ -matrices.
  - (45) *Conference "Cluster algebras and representation theory," Research Institute for Math Sciences (RIMS), Kyoto Univ, Japan, June 10-14*, Integral quantum cluster structures.
  - (46) *Conference "Faces of integrability," CRM, Univ. Montreal, Canada, May 6-10*, A quantum double constructions for universal  $K$ -matrices.
- 2018:
- (47) *Quantum 60, Conference in honor of 60th birthday of Nicolas Andruskiewitsch, Huerta Grande, Argentina, December 10-14*, Quantum symmetric subalgebras of Drinfeld doubles of diagonal Nichols algebras.
  - (48) *Series of lectures, University of Cordoba, Argentina, December 4-7*, Irreps, discriminants and Poisson geometry of PI algebras.
  - (49) *Colloquium, Institute of Mathematics, University of Cordoba, Argentina, December 3*, Irreps and discriminants via Poisson orders.
  - (50) *Lie theory seminar, Cornell University, November 30*, Quantum homogenous spaces.
  - (51) *Colloquium, Cornell University, November 29*, Noncommutative discriminants.
  - (52) *Keynote Speaker, VI Conference on Geometric Methods in Representation Theory, November 17-19, (one keynote speaker per conference)* Irreps of Sklyanin algebras and Quantum symmetric spaces.
  - (53) *Seminar of the Institute of Theoretical Physics, Bulgarian Academy of Sciences, August 2*, Irreducible representations of the 4 dimensional Sklyanin algebras.
  - (54) *Joint International Meeting of the American and Chinese Mathematical Societies, Special Session in Noncommutative Algebra and Related Topics, Fudan University, Shanghai, China, June 11-14*, Prime spectra of abelian and categorification of Richardson varieties.
  - (55) *Workshop "Interactions between Algebraic Geometry and Noncommutative Algebra," Oberwolfach Mathematics Institute, Germany, May 27-June 2*, Prime spectra of abelian and triangulated monoidal categories.
  - (56) *Conference "Cluster Algebras: Twenty Years On," CIRM, Luminy, France, March 19-23*,  $C$ -vectors of 2-Calabi-Yau categories and Borel subalgebras of  $\mathfrak{sl}_\infty$ .
  - (57) *Colloquium, University of Nebraska, Lincoln, February 23*, Noncommutative discriminants.
  - (58) *Commutative Algebra Seminar, University of Nebraska, Lincoln, February 22*, Geometry and irreducible representations of Sklyanin orders.
- 2017:

- (59) *Colloquium, UC Santa Barbara, Noncommutative discriminants, November 30.*
  - (60) *Conference on Geometric Methods in Representation Theory, Univ. Iowa, November 18-20, The role of Poisson orders in representation theory.*
  - (61) *American Mathematical Society Meeting, Special Session in honor of 75th birthday of Lance Small, UC Riverside, November 4-5, Prime spectra of 2-categories and categorification of open Richardson varieties.*
  - (62) *American Mathematical Society Meeting, Special Session on Non-Commutative Birational Geometry, Cluster Structures and Canonical Bases, November 4-5, Noncommutative discriminants via Poisson primes and cluster algebras.*
  - (63) *Algebra Seminar, Newcastle University, October 17, Discriminants vs irreducible representations of PI algebras.*
  - (64) *Lie Seminar, University of Cordoba, September 14, Poisson geometry of 3 dimensional PI Sklyanin algebras.*
  - (65) *Mathematical Congress of the Americas, Special session on Hopf Algebras and Tensor Categories, Montreal, July 24-28, Prime spectra of 2-categories and categorification of open Richardson varieties.*
  - (66) *Conference Algebra Extravaganza in honor of Ellen Kirkman and Martin Lorenz, Univ Temple, Philadelphia, July 24-28. C-vectors of 2-Calabi-Yau categories and Borel subalgebras of  $\mathfrak{sl}_\infty$ .*
  - (67) *Conference "Algebraic Modes of Representation Theory in honor of 75th birthday of Anthony Joseph," Weizmann Institute of Science and the University of Haifa, July 16-23, From spectra of quantum groups to quantum cluster algebras.*
  - (68) *Seminar of the Institute of Theoretical Physics, Bulgarian Academy of Sciences, June 8, The Poisson geometry of the 3 dimensional Sklyanin algebras.*
  - (69) *American Mathematical Society Meeting, Washington State Univ, Pullman, April 22-23, Azumaya loci and discriminant ideals of PI algebras.*
  - (70) *Mathematics-String Theory Seminar, Kavli Institute for the Physics and Mathematics of the Universe, Japan, January 25, Double Bruhat cells, clusters and maximal green sequences.*
  - (71) *Topology Seminar, Waseda University, Tokyo, January 24, Belavin-Drinfeld quantum groups.*
  - (72) *Joint Mathematics Meetings, Atlanta, January 4-7, Adelic grassmannians for finite dimensional algebras.*
- 2016:
- (73) *Conference "Topological quantum groups and Hopf algebras," Banach Center, Warsaw, November 14-18, Belavin-Drinfeld quantum groups.*
  - (74) *American Mathematical Society Meeting, Univ of Denver, October 8-9, Rigidity of quadratic Poisson tori.*
  - (75) *Conference "Bridges Between Noncommutative Algebra and Algebraic Geometry," Banff International Research Station, Canada, September 11-16, Noncommutative discriminants and Poisson primes.*
  - (76) *XXI Coloquio Latinoamericano de Álgebra, University of Buenos Aires, Argentina, July 25-29, Noncommutative discriminants via Poisson primes.*
  - (77) *Seminar on Quantum Algebra, University of Buenos Aires, Argentina, July 21, Quantum cluster algebra structures on double Bruhat cells.*
  - (78) *Conference Poisson 2016, ETH Zurich, July 4-8, Noncommutative discriminants and Poisson geometry.*
  - (79) *XXXV Workshop on Geometric Methods in Physics (plenary speaker), Białowieża, June 26-July 2, Generalized Gelfand-Tsetlin integrable systems and cluster algebras.*
  - (80) *Seminar of the Institute of Theoretical Physics, Bulgarian Academy of Sciences, June 23, Noncommutative discriminants.*
  - (81) *Seminar on Differential Equations and Number Theory, Sofia University, Bulgaria, June 21, Recovering topology of surfaces from cluster algebra structures.*
  - (82) *Maurice Auslander International Conference (expository lecture), Woods Hole, April 27-May 2, Noncommutative factorial algebras.*
  - (83) *Colloquium, Mathematics Department, Temple University, April 25, Noncommutative discriminants and Poisson geometry.*

- (84) *Taipei Conference in Representation Theory V, in honor of George Lusztig's 70th birthday, Taiwan, January 4-8, Quantum nilpotent algebras.*
- 2015:
- (85) *Representation theory seminar, University of Bonn, November 20, Automorphisms of quantum algebras via cluster theory.*
- (86) *Algebra seminar, University of Leeds, October 10, Spectra of quantum groups.*
- (87) *Algebra and Geometry Seminar, Newcastle University, October 7, Quantum Schubert cell algebras and open Richardson varieties.*
- (88) *Algebra and Number Theory Seminar, University of Edinburgh, October 6, Cluster structures on open Richardson varieties and their quantizations.*
- (89) *Algebra Seminar, University of Glasgow, October 5, Noncommutative bispectral Darboux transformations.*
- (90) *Conference "Nichols Algebras and Their Interactions with Lie Theory, Hopf Algebras and Tensor Categories," Banff International Research Station, Canada, September 6-11, Connected Hopf algebras of finite GK dimension and finite Drinfeld quantizations.*
- (91) *XI. International Workshop "Lie Theory and Its Applications in Physics," Varna, Bulgaria, June 15-21, Cluster structures on open Richardson varieties and their quantizations.*
- (92) *Joint AMS-EMS-SPM Meeting, Porto, Portugal, June 10-13, Prime factors of quantum Schubert cell algebras and clusters for quantum Richardson varieties.*
- (93) *Seminar on Differential Equations and Number Theory, Sofia University, Bulgaria, June 9, Noncommutative Darboux transformations.*
- (94) *Conference "On the Interaction of Representation Theory with Geometry and Combinatorics," Hausdorff Research Institute in Math, Univ of Bonn, March 27-31, Cluster structures on open Richardson varieties and their quantizations.*
- (95) *American Mathematical Society Meeting, Michigan State University, March 14-15, Cluster structures on quantum Richardson varieties.*
- (96) *American Mathematical Society Meeting, Georgetown University, March 5-8, Cluster structures on quantum Richardson varieties.*
- 2014:
- (97) *Conference "Cluster algebras in Combinatorics and Topology," Korea Institute for Advanced Studies, Seoul, December 13-17, Cluster structures on quantum Richardson varieties.*
- (98) *Mathematics Department, University of Glasgow, November 20, From quantum groups and cluster algebras to Poisson geometry and integrable systems.*
- (99) *Conference "Cluster algebras and Representation theory," Center for Mathematical Challenges, Korea Institute for Advanced Studies, Seoul, November 4-7, Automorphism groups of quantum algebras and clusters.*
- (100) *Integrability and Representation Theory Seminar, University of Illinois at Urbana-Champaign, October 1, Maximal green sequences for cluster algebras on double Bruhat cells.*
- (101) *Workshop on "Algebraic Lie Theory and Representation Theory," International Centre for Mathematical Sciences, Edinburgh, UK, September 1-5.*
- (102) *Conference "Noncommutative Algebraic Geometry," Fudan University, Shanghai, August 25-29, Maximal green sequences for double Bruhat cells.*
- (103) *International conference "Mathematics Days in Sofia" (plenary speaker), Sofia, Bulgaria, July 7-10, Unique factorization domains, cluster algebras, and maximal green sequences.*
- (104) *Mini-symposium, "Algebraic Methods in Quantum Field Theory," Institutes of Mathematics, Sofia, Bulgaria, July 7-10, Rigidity of quantum tori and the Andruskiewitsch-Dumas conjecture.*
- (105) *XXII Conference on Integrable Systems and Quantum Symmetries (plenary speaker), Prague, June 23-29, Normal Gelfand-Tsetlin subalgebras and cluster algebras.*
- (106) *Lecture Series on "Cluster Algebras" (13 lectures), Sofia University and Institute of Nuclear Research and Nuclear Energy, Bulgaria, June 2-20, 2014.*
- (107) *Conference "Hall and Cluster Algebras," CRM, Univ. Montreal, May 8-12, Construction of maximal green sequences for double Bruhat cells.*
- (108) *University of Southern California Mathematics Department Colloquium, April 23, Unique factorization domains, cluster algebras, and maximal green sequences.*

- (109) *Workshop “Regularity and rigidity of noncommutative algebras,” University of Washington, Seattle, March 21-23, Quantum cluster algebra structures on quantized coordinate rings.*
- (110) *Conference “Geometric Analysis and Physics XXII,” Tsinghua Sanya International Mathematics Forum, China, March 10-14, Cluster algebras and algebraic automorphisms of Poisson manifolds.*
- (111) *Conference on Geometry and Lie Theory, Hong Kong University, March 5-8, Poisson unique factorization domains in Lie theory.*
- 2013:
- (112) *Conference “Beyond Toric Integrability,” Bernoulli Center, EPFL Lausanne, December 9-13, Poisson unique factorization domains and cluster algebras.*
- (113) *Workshop “Cluster Algebras,” Oberwolfach Mathematics Institute, Germany, December 9-13, Cluster algebra structures on double Bruhat cells.*
- (114) *Canadian Mathematical Society Winter Meeting, University of Ottawa, December 6-9, The Berenstein–Zelevinsky conjecture.*
- (115) *Cornell–Penn State Joint Symplectic Seminar, November 8, Poisson unique factorization domains and cluster algebras.*
- (116) *American Mathematical Society Meeting, Temple University, October 12-13, Quantum cluster algebra structures on CGL extensions.*
- (117) *Gone Fishing 2013 (annual meeting in Poisson geometry), September 28–29, Temple University, Poisson unique factorization domains and cluster algebras.*
- (118) *First Mathematical Congress of the Americas, Guanajuato, Mexico, August 5-9, Rigidity of quantum tori and classification of automorphisms of noncommutative algebras.*
- (119) *Seminar of the Institute of Theoretical Physics, Bulgarian Academy of Sciences, July 18, Cluster algebra structures on coordinate rings.*
- (120) *Algebra seminar, Sofia University, Bulgaria, July 16, Automorphisms of quantum algebras.*
- (121) *Seminar of the Institute of Theoretical Physics, Bulgarian Academy of Sciences, July 15, Cluster Algebras.*
- (122) *Lecture series on “Poisson Lie groups and integrable systems” for the semester program “Integrable systems in the XXI century,” Bernoulli Center, EPFL Lausanne, July 1-5 (4 lectures). Poisson Lie groups and integrable systems.*
- (123) *X. International Workshop “Lie Theory and Its Applications in Physics,” Varna, Bulgaria, June 17-23, The Berenstein–Zelevinsky quantum cluster algebra conjecture.*
- (124) *Conference “Cluster Algebras and Tropical Geometry,” Institut de Recherche Mathématique Avancée, University of Strasbourg, June 10-14, The Berenstein–Zelevinsky quantum cluster algebra conjecture.*
- (125) *Algebra Seminar, University of California, Santa Barbara, May 28, The Berenstein–Zelevinsky quantum cluster algebra conjecture.*
- (126) *Lie Theory Seminar, University of California, Riverside, April 25, Quantum cluster algebra structures on quantum nilpotent algebras.*
- (127) *American Mathematical Society Meeting, University of Colorado, Boulder, March 13-14, Quantum cluster algebra structures on quantum nilpotent algebras.*
- (128) *MSRI Conference “Interactions between Noncommutative Algebra, Representation Theory, and Algebraic Geometry,” March 8-12, Quantum cluster algebra structures on quantum nilpotent algebras.*
- 2012:
- (129) *MSRI Cluster Algebra Seminar, December 5, Construction of quantum clusters via noncommutative UFDs.*
- (130) *MSRI Cluster Algebra Seminar, November 28, Rigidity of quantum tori and description of automorphism groups.*
- (131) *Chern–Simons Research Lectures, University of California, Berkeley, November 13-16, (6 lectures), Automorphisms and clusters of quantum nilpotent algebras.*
- (132) *Conference “New Trends in Noncommutative Algebra and Algebraic Geometry,” Banff International Research Station, Canada, October 28-November 2, Rigidity of quantum tori and description of automorphism groups.*
- (133) *Invited Address, 1083rd Meeting of the American Mathematical Society, Tulane University, New Orleans, October 13-14, The Andruskiewitsch–Dumas conjecture.*

- (134) *Algebra Seminar, University of California, Santa Barbara, April 2, Quantum Schubert cells via representation theory and ring theory.*
- (135) *Geometry Seminar, Florida International University, February 9, Poisson structures on flag varieties and quantum Schubert cells.*
- (136) *Institute Henri Poincaré, Paris, France, January 9, Quantum Schubert cells via representation theory and ring theory.*
- 2011:
- (137) *Workshop “Noncommutative Algebraic Geometry,” Fudan University, Shanghai, China, September 12-16, A classification of the maximal spectra of quantum groups.*
- (138) *Conference “Cluster algebras, representation theory, and Poisson geometry,” Banff International Research Station, Canada, September 4-9, Spectra of quantum Schubert cells and quantum groups.*
- (139) *Conference “Twenty-five years of representation theory of quantum groups,” Banff International Research Station, Canada, August 7-12, Ring theory of quantum solvable algebras.*
- (140) *Conference “New developments in noncommutative algebra and its applications” (in honor of Ken Brown’s and Toby Stafford’s 60th birthdays), Isle of Skye, Scotland, Jun 26-Jul 2, A Dixmier map for quantum groups.*
- (141) *IX. International Workshop “Lie Theory and Its Applications in Physics,” Varna, Bulgaria, June 20-26, A Dixmier map for quantum groups.*
- (142) *XV Latinamerican School of Mathematics, University of Cordoba, May 16-27, Quantized universal enveloping algebras of nilpotent Lie algebras.*
- (143) *Algebra Seminar, Tulane University, April 6, Quantum nilpotent algebras and Schubert cells.*
- (144) *American Mathematical Society Meeting, Iowa University, Iowa City, March 18-20, Open Richardson varieties in Poisson geometry and ring theory.*
- (145) *Algebraic Geometry Seminar, Queen’s University, Kingston, Canada, February 28, Quantum nilpotent algebras and Schubert cells.*
- (146) *Workshop on Representation Theory and Quantizations, Fields Institute, University of Toronto, Canada, February 25-27, Quantum Schubert cells and quantum flag varieties.*

### Refereeing of grant proposals, journals and books:

- (1) Refereed proposals for the following funding agencies:  
*Deutsche Forschungsgemeinschaft, European Research Council, Engineering and Physical Sciences Research Council (UK), Irish Research Council, National Sciences Foundation (7 panel participations), Natural Sciences and Engineering Research Council of Canada, National Security Agency, The US Civilian Research and Development Foundation, US-Israel Binational Science Foundation, Hong Kong National Science Foundation.*
- (2) Refereed submitted manuscripts to the following journals:  
*Acta Math, Adv Math, Adv Appl Math, Algebra & Numb Theory, Algebr Represent Theory, Amer J Math, Ann Sci École Norm Sup, Bull London Math Soc, Canad J Math, Comm Math Phys, Comm in Algebra, Compositio Math, Documenta Math, Duke Math J, Forum Math Sigma, Indagationes Math, IMRN, Israel J Math, J Algebra, J Algebra and Its Appl, J. Amer Math Soc, J Diff Geometry, J European Math Soc, J Lie Theory, J London Math Soc, J Math Phys, J Math Soc Japan, J Pure Appl Alg, J Reine Angew Math, J Symplectic Geom, Lett Math Phys, Lin Multilin Alg, Math Zeit, Memoirs AMS, Moscow Math J, Pacific J Math, Proc AMS, Proc London Math Soc, Proc Natl Acad Sci USA, Progress in Math, Rev Math Phys, Selecta Math, SIGMA, Transf Groups, Trans AMS.*
- (3) Refereed submitted books to:  
*American Mathematical Society Mathematical Surveys and Monographs series, American Mathematical Society Graduate Studies in Mathematics series, McGraw Publ, Prentice Hall.*

**Teaching:** Northeastern Univ, UC Santa Barbara, LSU, Cornell Univ:

- *Undergraduate courses, lower division:* Calculus, differential equations, linear algebra, probability.

- *Undergraduate courses, upper division:* linear algebra, abstract algebra, complex analysis, real analysis, group theory, VIRGE Vertically Integrated courses in Cluster Algebras and in Representations of Finite Dimensional Algebras.
- *Graduate courses:* algebra, complex analysis, Lie groups and Lie algebras, topics in Geometric Representation Theory, topics in Hopf Algebras, topics in Cluster Algebras, topics in Categorification in Representation Theory, topics in Tensor Categories.