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CURRICULUM VITAE

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| **Education:** | B. S. & M. S. | Kiev State University, 1985 |
| | Ph. D. | Institute of Mathematics, Ukrainian Academy of Sciences Kiev, Ukraine, 1990 |

Graduate Advisor: Prof. Yu. M. Berezanskij

Employment:	2007–	Professor Department of Mathematics, University of Notre Dame
	2002–2007	Associate Professor Department of Mathematics, University of Notre Dame
	2000–2002	Associate Professor (untenured) Department of Mathematics, University of Notre Dame
	1998–2000	Visiting Assistant Professor Department of Mathematics, University of Notre Dame
	1997–1998	Visiting Assistant Professor Department of Mathematics, College of William and Mary
	1995–1997	Visiting Assistant Professor Department of Mathematics, University of Michigan
	1992–95	Dov Biegun Postdoctoral Fellow Department of Theoretical Mathematics, The Weizmann Institute of Science, Israel
	1992	Senior Researcher Institute of Mathematical Machines and Systems Ukrainian Academy of Sciences, Kiev, Ukraine
	1991	Senior Researcher Scientific Firm "Rostok-Service", Kiev, Ukraine
	1985–87	Researcher Institute of Physics, Ukrainian Academy of Sciences, Kiev, Ukraine

GRANTS AND AWARDS

Personal Research Grants

1. NSF Grant No. 2100785 (8/21-7/24 , $250,000)
   Generalized Cluster Structures on Poisson Varieties and Applications
   PI Gekhtman
2. NSF Grant No. 1702054 (6/17-5/22 , $300,000)
   Generalized Cluster Structures of Geometric Type
   PI Gekhtman
3. NSF Grant No. 1362801 (6/14-5/17 , $209,700)
   Cluster Structures on Poisson-Lie Groups and Complete Integrability
   PI Gekhtman
4. NSF Grant No. 1101462 (6/11-5/14 , $145,000)
   Cluster Algebras Approach to Poisson-Lie Groups and Higher Genus Directed Networks
   PI Gekhtman

5. NSF Grant No. 0801204 (7/08-6/11 , $119,973)
   Cluster Algebras, Canonical Bases and Nets on Surfaces of Higher Genus
   PI Gekhtman

6. NSF Grant No. 0400484 (6/04-5/07, extension 6/07-6/08 , $106,000)
   Hurwitz Numbers, Teichmuller Spaces, Shubert Calculus, and Cluster Algebras
   PI Gekhtman

7. US-Israel BSF Grant No. 2002375 (9/2003- 12/2006, $60,000)
   Moduli Spaces of Riemann Surfaces: Hurwitz Numbers, Teichmuller Spaces, and Cluster Algebras
   PIs Gekhtman, Shapiro, Vainshtein

Other Grants and Awards

1. NSF Grant No. 1711110 (5/2017 - 5/2018, $ 28,000)
   Gone Fishing 2017: a Meeting in Poisson Geometry
   PI Gekhtman, co-PIs Evens, Mnev

2. NSF Grant No. 1636087 (5/2016 - 5/2017, $ 16,000)
   Workshop "Quivers and Bipartite Graphs: Physics and Mathematics"
   PI Gekhtman, co-PI Houenstein

3. NSF Grant No. 1114152 (May-June, 2011, $ 20,000)
   Program on Quantization
   PI Gekhtman, co-PIs Evens, Hall, Liu

4. 2010 Joyce Teaching award

5. NSF Grant No. 0601234 (07/2006-07/2011,$1,440,000)
   Notre Dame Honors Mathematics Program and the Seminar for Undergraduate Mathematical Research
   PI Connolly, co-PIs Hahn, Gursky, Gekhtman, Polini

6. NSF Grant No. 0354132 (06/2005-08/2007, $242, 460)
   Notre Dame Research Experience for Undergraduates
   PI Connolly, co-PI Gekhtman

7. 2004 Kaneb Teaching Award

8. Alexander von Humboldt Fellowship (not used), 1996

9. Young Mathematician Award, Institute of Mathematics, Kiev, 1987

10. Silver Prize in the Ukrainian Competition of M.S. theses, 1985.

11. Silver Prize in the Ukrainian Student Mathematical Competition, 1984.

CURRENT AND RECENT SERVICE

1. Department Chair (2013 - 2016).

2. Member of the University Core Curriculum Committee (2013 - 2016).

2. Director of Undergraduate Studies (2008-12, Spring 2018).

2. Member of the Hiring Committee (multiple terms).

3. Faculty Advisor for Notre Dame Actuarial Club (2008-13).

4. Member of the Committee on Appointments and Promotions (multiple terms).

4. University Committee on Appeals (current).

OUTREACH

Technical Coordinator, Joint Study with Hitachi GST, Sept. 2009 – Sept. 2010.

Co-leader, Galois Math Circle for 1st and 2nd graders, 2020-2021 academic year.

ADVISING

1. Olena Korovnichenko, Ph.D. 2011.

2. Mihn Cong Nguyen, M.S. 2012.

3. Eber Chuño Vizarreta (Universidade de São Paulo, Brazil), guest student 2014-15, Ph. D. 2016.

4. Danny Orton, Ph.D. 2019.

5. Kathryn Burton, Ph.D. 2020.

4. Daniil Soskin, Ph.D. student, current.

5. Dmitri Voloshin, Ph.D. student, current.

6. Dylan Rupel, Postdoc, 2015–2018.

6. Kurt Trampel, Postdoc, current

CURRENT UNDERGRADUATE ADVISING

1. Ben Ferris, senior, senior thesis.

2. Alex Kokot, senior, senior thesis.

3. Veronica Kirgios, junior, senior thesis.

4. Rayni Skaggs, junior, directed readings .

VISITING RESEARCHER

Fall, 2021	Member, Program on Cluster Algebras and Representation Theory, Isaak Newton Institute, Cambtdge, UK
June-August 2021	Visiting Professor, Mercator Fellow, University of Heidelberg
May-August 2019	Visiting Professor, RIMS, Kyoto University
June-July 2018	Guest Professor, University of Heidelberg
Oct.-Nov. 2017	Visiting Researcher, IHES
September 2017	Research in Paris, Institut Henri Poincaré, Paris
July 2017	Bernoulli Brainstorm, EPFL, Lausanne
March-April 2017	Guest Professor, University of Heidelberg
July 2016	Mathematisches Forschungsinstitut Oberwolfach, Research in Pairs Program
July-Aug., 2014	Max-Planck-Institut for Mathematics, Bonn, Germany
Aug.-Dec., 2012	MSRI Research Professor, Cluster Algebras Program, MSRI, Berkeley
June, 2012	BIRS Research in Teams event "Strong asymptotics for Cauchy biorthogonal polynomials"
June–August, 2011	Hausdorff Research Institute for Mathematics, Research in Groups Program
August, 2010	Mathematisches Forschungsinstitut Oberwolfach, Research in Pairs Program
March-April, 2005	IHES
January, 2005	Department of Mathematics, University of Hong Kong
Sept.- Dec., 2004	Laboratory for Mathematical Physics, CRM and Department of Mathematics, Concordia University, Montreal
November, 2000	Department of Mathematics, Royal Institute of Technology, Stockholm. Supported by Gustafsson Foundation.
August, 2000	Mathematisches Forschungsinstitut Oberwolfach, Research in Pairs Program
May–August 1997	Max-Plank-Institut für Mathematik
December 1997 April–May 1994 May–June 1993	Department of Mathematics, Royal Institute of Technology, Stockholm. Supported by Swedish Natural Science Research Council

INVITED TALKS

August 2021	Nankai Symposium on Mathematical Dialogues (online), Chern Institute of Mathematics
July 2021	Inauguration of the Research Station Geometry + Dynamics, Heidelberg
May 2021	US-Ukraine Seminar on Functional Analysis, Mathematical Physics, and Dynamical Systems (online)
November 2020	Representation Theory and Math. Physics Seminar (online), UC Berkeley
October 2020	Special Session on Cluster Algebras and Plabic Graphs, AMS Meeting
August 2020	Cluster Algebras 2020 Online International Conference
June 2020	Global Poisson Webinar, University of Geneva
May 2020	Online Integrable Systems Seminar, Center for integrable Systems, Yaroslavl'
March 2020	Mathematics Colloquium, Rutgers University
March 2020	Cluster Algebras and the Geometry of Scattering Amplitudes, Higgs Center, University of Edinburgh
January 2020	Mathematics Colloquium and Math Physics Seminar, IUPUI
December 2019	Mathematics Colloquium, University of Toledo
September 2019	Special Session on Supergeometry, Poisson Brackets, and Homotopy Structures AMS Sectional Meeting, University of Wisconsin, Madison
July 2019	RIMS Colloquium, Kyoto University
June 2019	Workshop on Cluster algebras, Geometry, and Mathematical Physics, RIMS, Kyoto University
May 2019	Mini-course on Cluster Algebras, RIMS, Kyoto University
May 2019	Mini-course on Cluster Integrable Systems, Faces of Integrability, CRM, Montreal
April 2019	Flows on the Saskatchewan: A Workshop on Integrability and Inverse Problems, University of Saskatchewan
December 2018	Mathematics Department Colloquium, University of Haifa
November 2018	MASS Colloquium and Mathematics Department Colloquium, Penn State
October 2018	Algebra Seminar, Kiev National University, Ukraine
June-July 2018	Heidelberg Lectures in Mathematics and Physics: 6 Lectures on Algebraic Methods in the Theory of Integrable Systems
July 2018	Symplectic Dynamics Conference, University of Heidelberg
June 2018	Retakh Fest: Non-commutative Structures, Cluster Algebras and Applications, University of Angers, France
May 2018	3 lectures, Infinite Analysis 18 Spring School, Nagoya University
April 2018	Special session on Dynamical systems, Geometric Structures and Special Functions, AMS Meeting, Notheastern University
March 2018	"Gone Fishing" Poisson Geometry Conference, UC San Diego
January 2018	2 lectures, Conference of Cluster Varieties and Mathematical Physics, BIRS - Oaxaca, Mexico
November 2017	Methusalem Colloquium, KU Leuven, Belgium
November 2017	Two Cluster Days in Paris, Jussieu

October 2017	Geometry and Quantization Seminar, Institut Henri Poincaré, Paris
June 2017	Mathematical Physics Seminar, SISSA, Trieste
June 2017	Algebra & Number Theory Seminar, University of Graz
April 2017	Mathematics & Physics Seminar, University of Heidelberg
March 2017	3-lecture mini-course on Cluster Algebras, University of Heidelberg
January 2017	Geometry, Combinatorics and Integrable Systems Seminar, Ohio State University
December 2016	Workshop on Cluster Algebras, Bipartite Graphs and Mathematical Physics Chinese University of Hong Kong
December 2016	Geometry Seminar, Hong Kong University
May 2016	Workshop on Poisson Geometry and Integrability, University of Leeds
May 2016	AGIS Colloquium, University of Leeds, UK
April 2016	Symplectic Geometry Seminar, University of Toronto
March 2016	Special Mathematics Seminar, Caltech
January 2016	Special Session on Integrable Systems, Random Matrices and Painleve Equations, Joint Mathematical Meeting, AMS, Seattle
July 2015	Workshop on Poisitive Grassmannians and Applications, Centre de Recherches Mathématiques, University of Montreal, Canada
July 2015	2-week minicourse "Cluster algebras, Poisson structures, Networks and Integrable systems", Centre de Recherches Mathématiques, University of Montreal, Canada
July 2015	3rd Workshop on Finite Dimensional Integrable Systems, Banach Center for Mathematical Research, Bedlewo, Poland
May 2015	Nonlinear Evolution Equations and Dynamical Systems 2015, Sardinia, Italy
March 2015	AMS Special Session on Integrable Combinatorics, East Lansing, MI
February 2015	Mini-course, Spring School on Cluster Algebras and Dynamical Systems, Münster, Germany
January 2015	AMS Special Session on Cluster Algebras, Joint Mathematics Meeting, San Antonio
December 2014	Conference on Strings, Quivers and Cluster Algebras in Mathematical Physics, KIAS, Seoul, Korea
December 2014	Conference on Cluster Algebras in Combinatorics and Topology, KIAS, Seoul, Korea
November 2014	"Gone Fishing" Poisson Geometry Conference, UC Berkeley
October 2014	International Conference on Orthogonal Polynomials, Integrable Systems and Their Applications, Shanghai Jiao Tong University
August 2014	Integrability and Cluster Algebras: Geometry and Combinatorics, ICERM
July 2014	Bielefeld Representation Theory Seminar, Bielefeld, Germany
May 2014	Expository talk, Maurice Auslander Distinguished Lectures and International Conference, Woods Hole, MA
December 2013	Cluster Algebras and Related Topics, Mathematisches Forschunginstitut Oberwolfach, Oberwolfach, Germany

November 2013	Montreal Mathematics Colloquium, Centre Recherche Mathematique, Montreal
November 2013	Mathematical Physics Seminar, Concordia Univeristy, Montreal
October 2013	Special Session on Recent Developments in Noncommutative Algebra, AMS Sectional Meeting Temple University, Philadelphia, PA
August 2013	Minisimposium on Tropical Geometry and Combinatorics of Discrete Dynamical Systems, SIAM Conference on Applied Algebraic Geometry, Fort Collins
February 2013	Mathematical Physics Seminar, University of Illinois, Urbana-Champaign
October 2012	MSRI Workshop on Cluster Algebras, MSRI, Berkeley
July 2012	Four-lecture mini-course, Poisson 2012, Utrecht, Netherlands
July 2012	NEEDS 2012 , Crete
June 2012	CMS Summer Meeting, Regina, Canada
May 2012	Two-lecture series, Spring School on Algebraic Microlocal Analysis, Northwestern University
October 2011	Poisson Geometry Conference, Washington University, St. Louis
October 2011	Symplectic Geometry Seminar, University of Toronto
October 2011	Mathematics Colloquium and Lie Groups Seminar, Cornell University
September 2011	MASS Colloquium and Mathematics Colloquium, Penn State University
September 2011	Two-lecture series, BIRS Workshop on Cluster algebras, representation theory, and Poisson geometry
August 2011	ICERM Workshop on Cluster Algebras and Statistical Physics
August 2011	Geometry and Dynamics Conference, Univeristy of Göttingen
April 2011	Combinatorics Seminar, University of Michigan, Ann Arbor
July 2010	Colloquium of the Kiev Mathematical Society, Kiev, Ukraine
July 2010	Seminar on Algebraic Methods in Functional Analysis, Institute of Mathematics, Natl. Acad. Sci. Ukraine
July 2010	IWOTA 2010, TU-Berlin
June 2010	Symmetry Plus Integrability 2010, South Padre Island, Texas
May 2010	2nd Workshop on Moduli Spaces, Cluster Algebras and Symplectic Invariants Steklov Mathematical Institute, Moscow
October 2009	Geometry and Physics Seminar, Penn State University
September 2009	Algebra and Geometry Seminar, Stockholm University
May 2009	Invited Talk, Workshop on Algebraic Theory of Difference Equations, University of Leeds, UK
March 2009	Combinatorics Seminar, University of Michigan, Ann Arbor
March 2009	AMS Meeting, Urbana-Champaign, Special Session on Algebraic Combinatorics
October 2008	Colloquium of the Kiev Mathematical Society, Seminar on Algebraic Methods in Functional Analysis, Seminar on Derived Categories and Matrix Problems, Institute of Mathematics, Natl. Acad. Sci. Ukraine
October 2008	BIRS Workshop on Random Matrices, Inverse Spectral Methods and Asymptotics, Banff, Canada

September	2008	Combinatorics Seminar, University of Wisconsin, Madison
June	2008	Symmetries and Integrability in Difference Equations VIII, Montreal
May	2008	Western Canada Linear Algebra Meeting, Winnipeg
May	2008	Algebraic Geometry and Representation Theory Seminar, Weizmann Institute of Science, Israel
April	2008	Analysis Seminar, Georgia Tech
October	2007	3-lecture series, Geometry Seminar, University of Arizona
April	2007	M. G. Krein Centennial Conference, Odessa, Ukraine
January	2007	Math. Phys. Seminar, Caltech
November	2006	Mathematics Colloquium, Cornell University
August	2006	3-lecture series, Workshop on Alg. Methods in Math. Phys., Univ. of Sao Paulo
August	2006	2-lecture series, XIX Escola di Algebra, Diamantina, Brazil
June	2006	Kiev City Seminar on Functional Analysis Institute of Mathematics, Natl. Acad. Sci. Ukraine (90 min talk)
June	2006	Poisson 2006, Tokyo
February	2006	Math. Phys. & Topology Seminar, Nortwestern
January	2006	Algebra Seminar, Univ. of Santa Barbara
October	2005	Algebra Seminar, MSU
May 2005		Mini-course on Toda flows (with B. Khesin and A. Marhsakov), Fields Inst.
May 2005		Mathematics Colloquium, Univ. of Saskatchewan
April 2005		Séminaire de Mathématiques, IHES
March 2005		Mathematical Physics Seminar, Université Lyon 1
January 2005		2 lecture-series, Geometry Seminar, Hong Kong University
January 2005		AMS Annual Meeting, Atlanta, Special Session on Integrable Systems and Special Functions

MISCELLANEOUS

Editorial Board Member	Journal of Integrable Systems (2016–2019), Mathematical Physics, Analysis & Geometry
Guest Editor	Special Issue of Symmetry, Integrability and Geometry: Methods and Applications (SIGMA) on Poisson Geometry
Guest Editor	Special Issue of Journal of Physics A "Cluster algebras in mathematical physics"
Organizer	International Online Cluster Algebras Seminar September 2020 - current

Organizer	Cluster Structures Conference December 2018, Jerusalem Global Gateway
Member	Scientific Committee, "Gone Fishing" Poisson Geometry Conference March 2018, UCSD
Organizer	"Gone Fishing" Poisson Geometry Conference May 2017, Notre Dame
Organizer	Workshop "Lie Theory and Cluster Algebras" October 2016, Notre Dame's Rome Global Gateway
Organizer	Workshop "Quivers and Bipartite Graphs: Physics and Mathematics" May 2016, Notre Dame's London Global Gateway
Organizer	"Gone Fishing" Poisson Geometry Conference March 2016, U. Colorado, Boulder
Organizer	Centre de Recherches Mathématiques workshop "Positive Grassmannians and applications", July 2015, Montreal
Organizer	AMS Mathematics Research Communities Program on Cluster Algebras June 2014, Snowbird, Utah
Organizer	Session on Total Positivity 2012 CMS Summer Meeting, Regina
Organizer	Session on Integrable Systems, Random Matrices and Bispectral Problems 2011 AMS Annual Meeting, New Orleans
Organizer	Program on Quantization Center for Mathematics at Notre Dame, May-June 2011
Organizer	Session on Integrable Systems and Related Areas 2009 AMS Eastern Section Meeting University Park, October 2009
Organizer	Session on Combinatorics, CMS Meeting, December, 2007
Organizer	Special Session on Alg. Structures in Exactly Solvable Models AMS Central Sectional Meeting, Notre Dame, April, 2006
Member	International Advisory Committee, 3rd International Symposium on Quantum Theory and Symmetries, University of Cincinnatti September, 2003
Organizer	Special Session on Integrable Systems in Mathematics and Physics AMS Central Sectional Meeting, Athens, OH March 26,27, 2004

Organizer   Special Session on Integrable Systems and Poisson Geometry
AMS Central Sectional Meeting, Ann Arbor, MI
March 1-3, 2002

LIST OF PUBLICATIONS

Refereed papers

1. *Hilbert modules and pseudo-Hilbert spaces,* Spectral theory of operators and ifinite-dimensional analysis, Inst. Math., Ukr. Acad. Sci., Kiev, 1984, 57-65.

2. (with Yu. M. Berezanskii, M. Shmoish) *Integration of some chains of nonlinear difference equations by the method of the inverse spectral problem*, Ukrainian Math J., **38** (1986), no. 1, 74-78.

3. (with A. A. Goncharov) *Stability of a ionic beam in a layer with crossed fields $E \perp H$ fields and a magnetized electron background*, Sov. Phys. Tech. Phys, **30** (1990), no. 4, 443-446.

4. (with Yu. M. Berezanskii) *Inverse problem of the spectral analysis and non-Abelian chains of nonlinear equations*, Ukrainian Math.J.,**42**(1990) no. 6, pp. 645-658.

5. *Integration of non-Abelian Toda-type chains*, Funct. An. and Its Appl.,**24**(1990) no.3, 231-233.

6. *Solution of infinite Toda chain*, Funct. An. and Its Appl.,**25**(1991) no.3, 230-232.

7. (with A. A. Kaliuzhny) *Spectral theory of orthogonal polynomials of several variables*, Ukrainian Math. J., **43** (1991), no. 10, 1437-1440.

8. *On a self-adjointness of representation operators for the quantum *-algebra $sl_t(N+1, R)$*, Applications of Methods of Functional Analysis in Mathematical Physics, Inst. Math., Ukr. Acad. Sci., Kiev, 1991, 59-65.

9. *Non-Abelian nonlinear lattice equations on finite interval*, J. Phys. A: Math. and Gen., **26** (1993), 6303-6317.

10. (with A. A. Kaliuzhny) *On orthogonal polynomials of several variables*, Integral Eqs. and Op. Theory, **19** (1994), 404-418.

11. (with M. Shmoish) *On invertibility of nonsquare generalized Bezoutians*, Lin. Alg. and Its Appl., **223/224**(1995), 205-241.

12. *Separation of variables for classical $SL(N)$ magnetic chain*, Comm. Math. Phys., **167** (1995), 593-605.

13. (with A. Stolin) *Orbits of coadjoint representation and Yang-Baxter equation*, Proc. Algebraic Conf. ”Moscow-Taiwan” (ed. Y. Fong), Walter de Gruyter (1996), 207-223.

14. (with M. Z. Shapiro) *Completeness of real Toda flows and totally positive matrices*, Math. Zeitschrift, **226** (1997), 51-66.

15. (with A. Bloch) *Hamiltonian and Gradient Structures in the Toda Flows*, Journ. of Geom. & Phys., **27** (1998), 230-248.

16. (with M. Z. Shapiro) *Non-commutative and commutative integrability of generic Toda flows in simple Lie algebras*, Comm. Pure & Appl. Math., **52** (1999), 53-84.

17. *Hamiltonian structure of nonabelian Toda Lattice*, Lett. Math. Phys., **46** (1998), 189-205

18. (with M. Alber and R. Camassa) *Billiard weak solutions of nonlinear PDE's and Toda flows*, CRM Proc. Lecture Notes **25** (2000), 1-11.

19. (with L. Faybusovich) *On Schur flows*, J. Phys. A **32** (1999), 4671-4680.

20. (with L. Rodman) *Normal forms of generic triangular band matrices and Jordan forms of nilpotent completions*, Lin. Alg. & Appl. **308** (2000), 1–29.

21. (with L. Faybusovich) *Elementary Toda orbits and integrable lattices*, J. Math. Phys. **41** (2000), 2905–2921

22. (with L. Faybusovich) *Poisson brackets on rational functions and multi-Hamiltonian structure for integrable lattices*, Physics Letters A **272** (2000), 236–244.

23. (with S. Fallat and C. R. Johnson) *Spectral structures of irreducible totally nonnegative matrices*, SIAM J. Matr. Anal. Appl. **22** (2000), 627–645.

24. (with A. Kasman) *Solitons and "almost intertwining" matrices*, J. Math. Phys. **42** (2001), 3540–3553.

25. (with L. Faybusovich) *Inverse moment problem for elementary co-adjoint orbits* , Inverse Problems **17** (2001), 1295–1306.

26. (with M. Shapiro and A. Vainshtein) *The number of connected components in the double Bruhat cells for nonsimply-laced groups*, Proc. Amer. Math. Soc. **131** (2002), 731–739.

27. (with S. Fallat and C. R. Johnson) *Determinantal inequalities for totally positive matrices*, Adv. in Appl. Math. **30** (2003), 442-470.

28. (with A. Kasman) *Integrable systems and rank one conditions for rectangular matrices*, Theor. Math. Phys. **133** (2002), 1494–1499.

29. (with M. Shapiro and A. Vainshtein) *Cluster algebras and Poisson geometry*, Moscow Math. Journal **3** (2003), 899–934.

30. (with C. R. Johnson) *The linear interpolation problem for totally positive matrices*, Lin. Alg. & Appl. **393** (2004), 175–178.

31. (with A. Bloch and M. Koelling) *Qualitative behavior of non-Abelian Toda-like flows*, Physica D **199** (2004), 317–338.

32. (with L. Faybusovich) *Calculation of universal barrier functions for cones generated by Chebyshev systems over finite sets*, SIAM Journal on Optimization **14** (2004), 965-979.

33. (with S. Fallat) *Jordan structures of totally nonnegative matrices*, Canadian Journal of Mathematics **57** (2005), 82–96.

34. (with S. Fallat , A. W. Herman and C. R. Johnson) *Compressions of totally positive matrices*, SIMAX **28** (2006), 68–80.

35. (with M. Shapiro and A. Vainshtein) *Cluster algebras and Weil-Petersson forms*, Duke Math. J. **127** (2005), 291–311.

36. (with A. Kasman) *On KP Generators and the Geometry of the HBDE*, Journal of Geometry and Physics **56** (2006), no. 2, 282–309.

37. (with A. Kasman) *HBDE and rank-one condidtions* Journ. of Comp. and Appl. Math. **207** (2007) 80–87.

38. (with A. Bloch) *Lie Algebraic aspects of the finite nonperiodic Toda flows*, Journ. of Comp. and Appl. Math. **207** (2007) 3–25.

39. (with M. Bertola) *Biorthogonal Laurent polynomials,Töplitz determinants, minimal Toda orbits and isomonodromic tau-functions*, Constructive Approximation **26** (2007), 383–430.

40. (with M. Shapiro and A. Vainshtein) *On the properties of the exchange graph of a cluster algebra*, Math. Res. Let. **15** (2008), no.2, 321–330.

41. (with M. Bertola) *Effective inverse spectral problem for rational Lax matrices and applications*, Inter. Math. Res. Notices, 2007, no. 23, Art. ID rnm103, 39 pp.

42. (with K. Vaninsky) *The family of analytic Poisson brackets for the Camassa–Holm hierarchy*, Math. Res. Let. **15** (2008) , no. 5, 867–879.

43. (with I. Nenciu) *Multi-Hamiltonian structures for the defocusing Ablowitz-Ladik equation* , Comm. Pur. Appl. Math. **62** (2009), 147–182.

44. (with M. Bertola, J. Szmigielsky) *The Cauchy two-matrix model*, Comm. Math. Phys. **287** (2009), 983–1014.

45. (with M. Shapiro and A. Vainshtein) *Poisson Geometry of Directed Networks in a Disk*, Selecta Math. **15** (2009), no. 1, pp. 61-103.

46. (with M. Bergvelt, A. Kasman) *Spin Calogero Particles and Bispectral Solutions of the Matrix KP Hierarchy*, Math. Phys., Analysis & Geometry **12** (2009), 181–200.

47. (with M. Yakimov) *Completeness of determinantal Hamiltonian flows on the matrix affine Poisson space*, Lett. Math. Phys. **90** (2009), 161–173.

48. (with M. Bertola, J. Szmigielsky) *Cubic String Boundary Value Problems and Cauchy Biorthogonal Polynomials*, J. Phys. A: Math. Theor. **42** (2009) 454006 (13pp) doi:10.1088/1751-8113/42/45/454006.

49. (with M. Bertola, J. Szmigielsky) *Cauchy Biorthogonal Polynomials*, J. Approx. Theory **162** (2010), no. 4., 832–867

50. (with M. Shapiro and A. Vainshtein) *Generalized Bäcklund–Darboux transformations for Coxeter–Toda flows from cluster algebra perspective*, Acta Mathematica **206** (2011), no.2, 245–310.

51. (with O. Korovnnichenko) *Matrix Weyl functions and non-Abelian Coxeter-Toda lattices*, "Notions of positivity and the geometry of polynomials", Trends in Mathematics (2011), 221-237, Springer.

52. (with M. Shapiro and A. Vainshtein) *Poisson Geometry of Directed Networks in an Annulus*, J. European Math. Soc. **14** (2012), 541-570.

53. (with M. Shapiro, A. Stolin and A. Vainshtein)*Poisson structures compatible with

the cluster algebra structure in Grassmannians, Lett. Math. Phys. **100** (2012), 139–150.

54. (with M. Shapiro, S. Tabachnikov and A. Vainshtein)*Higher pentagram maps, weighted directed networks, and cluster dynamics*, Electron. Res. Announc. Math. Sci. **19** (2012), 1–17, DOI:10.3934/era.2012.19.1

55. (with M. Shapiro and A. Vainshtein) *Cluster structures on simple complex Lie groups and Belavin-Drinfeld classification*, Moscow Math. Journal **12** (2012), 293–312.

56. (with M. Bertola, J. Szmigielsky) *Strong asymptotics for Cauchy biorthogonal polynomials with application to the Cauchy two–matrix model*, J. Math. Phys. **54** (2013) , no. 4, 25 pages, DOI: 10.1063/1.4802455.

57. (with M. Bertola, J. Szmigielsky) *Cauchy-Laguerre two-matrix model and the Meijer-G random point field*, Comm. Math. Phys. **326** (2014), 111–144.

58. (with M. Shapiro and A. Vainshtein) *Cremmer-Gervais cluster structure on SL_n*, Proc. Natl. Acad. Sci. USA **111** (2014), no. 27, 9688–9695.

59. (with M. Shapiro, S. Tabachnikov and A. Vainshtein) *Integrable cluster dynamics of directed networks and pentagram maps*, Adv. Math. **300** (2016), 390–450.

60. *Inverse moment problem for non-Abelian Coxeter double Bruhat cells*, Methods of Functional Analysis and Topology, **22** (2016), no. 2, 117–136.

61. (with M. Shapiro and A. Vainshtein) *Generalized cluster structure on the Drinfeld double of GL_n*, C. R. Math. Acad. Sci. Paris **354** (2016), no. 4, 345–349.

62. (with M. Shapiro and A. Vainshtein) *Exotic cluster structures on SL_n: the Cremmer–Gervais case*, Memoirs of the AMS **246** (2017), no. 1165.

63. (with T. Nakanishi and D. Rupel) *Hamiltonian and Lagrangian formalisms of mutations in cluster algebras and application to dilogarithm identities*, Journal of Integrable Systems **2** (2017), issue 1, https://doi.org/10.1093/integr/xyx005, 35 pages.

64. (with M. Shapiro and A. Vainshtein) *Drinfeld double of GL_n and generalized cluster structures*, Proc. London Math. Soc. **116** (2018), no. 3, 429–484.

65. (with T. Nakanishi) *Asymptotic sign coherence conjecture*, Experimental Mathematics (2019), DOI: 10.1080/10586458.2019.1650401.

66. (with M. Shapiro and A. Vainshtein) *Periodic staircase matrices and generalized cluster structures*, IMRN (2020), doi:10.1093/imrn/rnaa148, 41 pages.

67. (with M. Shapiro and A. Vainshtein) *Plethora of cluster structures on GL_n*, accepted to Memoirs of the AMS, arXiv:1902.02902, 92 pages.

68. (with M. Shapiro and A. Vainshtein) *Generalized cluster structures related to the Drinfeld double of GL_n*, revised version submitted to J. London Math. Soc., arXiv:2004.05118, 28 pages.

69. (with V. P. Johnson and O. M. Kuznetsova) *Validity of the tests for time-to-event data in studies with Pocock and Simon covariate-adaptive randomization*, to be

submitted to Statistics in Medicine.

Book

1. (with M. Shapiro and A. Vainshtein) *Cluster algebras and Poisson geometry*, AMS Mathematical Surveys and Monographs **167** (2010), xvi+246 pp.