

Curriculum Vitae

Gordana G. Todorov

March 01, 2021

EDUCATION:

- Novosadski Univerzitet, Novi Sad, Yugoslavia Received equivalent to B.S. in October, 1971.
- Northeastern University, Boston, Massachusetts Received M.S. in June, 1974.
- Brandeis University, Waltham, Massachusetts Received Ph.D. in June, 1979.
Thesis advisor: Maurice Auslander.

EMPLOYMENT HISTORY:

- Professor, Department of Mathematics, Northeastern University, Boston, Massachusetts, June 2011 - Present
- Associate Professor, Department of Mathematics, Northeastern University, Boston, Massachusetts, September 1986 - June 2011
- Assistant Professor, Department of Mathematics, Northeastern University, Boston, Massachusetts, September 1980 - August 1986
- Assistant Professor, Department of Mathematics, University of Georgia, Athens, Georgia, September 1979 - August 1980

GRANTS:

- NSF/DMS-1818413 (May 01.2018-April 30.2021) *Maurice Auslander International Conference*, PI.
- NSF/DMS-1521103 (May 01.2015-April 30.2017) *Maurice Auslander International Conference*, PI.
- Support for Cluster Algebra Program at MSRI, Fall 2012.
- NSF/DMS-1162304 (Feb. 2012 - Jan. 2015) *Maurice Auslander International Conference*, PI.
- NSA-grant MSPF-08G-228 (January 2009 - June 2011), *Representation Theory, Cluster Categories*, PI.
- ENHACE-grant, Office of the Provost, Northeastern University (October 2007 - December 2008), *Cluster Categories and Related Topics in Representation Theory*, PI.
- Supported by several NSF and RSDF Grants (in the past).

AREA of INTEREST:

Representation theory of Artin algebras, Non-commutative algebra, Homological conjectures, Representations of quivers, Cluster categories, Cluster algebras, Semi-invariants, Triangulated categories, Derived categories, Friezes.

1. RESEARCH

PUBLICATIONS:

[BCJKT] *Infinite friezes and triangulations of annuli*, (with K. Baur, I. Canakci, K. M. Jacobsen, M. Kulkarni), arXiv:2007.09411, (submitted).

[IT14] *Picture groups and maximal green sequences*, (with Kiyoshi Igusa), arXiv:200720 (to appear in AIMS' Journals).

[IRT20] *Continuous Quivers of Type A (III), Embeddings of Cluster Theories*, (with Kiyoshi Igusa, Job D. Rock), arXiv:2004.10740v1.

[IRT] *Continuous quivers of type A(I), The generalized barcode theorem*, (with K. Igusa, J. Rock), arXiv:1909.10499, (submitted).

[BTZ] *Dynamical Combinatorics and Torsion Classes*, (with Emily Barnard and Shijie Zhu), arXiv:1911.10712v1, (to appear in Journal of Pure and Applied Algebra).

- [BFGST18b] *Friezes satisfying higher Sl_k -determinants*, (with Karin Baur, Eleonore Faber, Sira Gratz, Khrystyna Serhiyenko), arXiv:1810.10562v1, (to appear in Algebra and Number Theory).
- [IT19] *Cyclic posets and triangulation clusters*, (with Kiyoshi Igusa), arXiv:1903.04318. Sci. China Math, July 2019, Vol.62, No.7: 1289-1316.
- [BFGST17] *Conway-Coxeter Friezes and Mutation: A Survey*, (with Karin Baur, Eleonore Faber, Sira Gratz, Khrystyna Serhiyenko), arXiv:1806.06441. In Association for Women in Mathematics Research Symposium, pp. 47-68. Springer, Cham, 2017.
- [NRTZ] *Dominant Dimension and Tilting Modules*, (with Van Nguyen, Idun Reiten and Shijie Zhu), arXiv:1706.00475v2, Mathematische Zeitschrift, (2019), 292(3), 947-973.
- [NTZ] *Preprojective algebras of tree-type quivers*, (with Van Nguyen and Shijie Zhu), arXiv: 1612.01585. Communications in Algebra (2019), 47 (1), 252-275.
- [BFGST18a] *Mutation of A_n friezes*, (with Karin Baur, Eleonore Faber, Sira Gratz, Khrystyna Serhiyenko), arXiv: 1612.05374. Bulletin des Sciences Mathematiques (2018), 142, 1-48.
- [BHIT] *Semi-invariant pictures and two conjectures about maximal green sequences*. (with Thomas Brustle, Stephen Hermes and Kiyoshi Igusa), arXiv:1503.07945. Journal of Algebra 473 (2017) 80-109.
- [IOTW3] *Modulated semi-invariants*, (with Kiyoshi Igusa, Kent Orr and Jerzy Weyman), arxiv: 1507.03051.
- [IOTW4] *Picture groups of finite type and cohomology in type A_n* , (with Kiyoshi Igusa, Kent Orr and Jerzy Weyman), arXiv:1609.02636v1.
- [IT15] *Continuous Cluster Categories II; Continuous Cluster-Tilted Categories*, (with Kiyoshi Igusa), arXiv:1909.05340
- [IT13] *Signed exceptional sequences*, (with Kiyoshi Igusa), arXiv:1706.02041v1.
- [ITW] *Periodic trees and semi-invariants*, (with Kiyoshi Igusa, Jerzy Weyman) arXiv1407.0619.
- [IT12] *Continuous cluster categories of type D* , (with Kiyoshi Igusa), arXiv:1309.7409.
- [IRTT] *Lattice structure of torsion classes for path algebras*, (with Osamu Iyama, Idun Reiten, Hugh Thomas), arXiv:1312.3659. Bull. London Math. Soc. (2015) 47 (4): 639-650.
- [IT11] *Cluster categories coming from cyclic posets*, (with Kiyoshi Igusa), ArXiv:1303.6697, Communications in Algebra, Vol. 43, (2015), pp 4367-4402.
- [IT10] *Continuous Cluster Categories I*, (with Kiyoshi Igusa), arXiv:1209.1879, Algebras and Representation Theory, Vol.18, (2015), pp.65-101.
- [IT9] *Continuous Frobenius categories*, (with Kiyoshi Igusa), arXiv:1209.0038. Abel Symposia, Volume 8, (2013), Algebras, Quivers and Representations, The Abel Symposium 2011.
- [BBT] *Projective dimension of modules over cluster-tilted algebras*. (with Louis Beaudet, Thomas Brustle), arXiv:1111.2013, Algebras and Representation Theory, December 2014, Volume 17, Issue 6, pp 1797-1807: doi.org/10.1007/s10468-014-9472-0
- [AIRT] *Preprojective algebras and c -sortable words*. (with Claire Amiot, Osamu Iyama, Idun Reiten), arXiv:1002.4131, Proc. London Math. Soc. 103(4)(2011)
- [ART] *The ubiquity of generalized cluster categories*. (with Claire Amiot, Idun Reiten), arXiv:0911.4819, Adv. Math., 226 (2011), pp. 3813-3849.
- [Tod] *Cluster Categories and their relation to Cluster Algebras, Semi-invariants and Homology of torsion free nilpotent groups*. Volumen 48, numero 3 (2007) pag. 27-52 Revista de la Union Matematica Argentina.
- [IOTW] *Cluster complexes via Semi-invariants*. (with K. Igusa, K.Orr, J. Weyman), ArXiv:math. 0708.0798, Compositio Mathematica (2009), 145 : 1001-1034.

- [To] *Cluster Categories and their Relation to Cluster Algebras, Semi-invariants*. Milan Journal of Mathematics, 76 (2007), 1-28.
- [ABST2] *m-cluster categories and m-replicated algebras*. (with I. Assem, T. Bruestle, R. Schiffler), ArXiv:math.RT/0608727, Journal of Pure and Applied Algebra, 212(2008), 884-901.
- [ABST1] *Cluster categories and duplicated algebras*., (with I. Assem, T. Brustle, R. Schiffler), J. of Algebra 305 (2006) 548-561.
- [BMRT] *Clusters and seeds in acyclic cluster algebras*. (with A. B. Buan, R. J. Marsh, I. Reiten), Includes appendix co-authored by P. Caldero and B. Keller. Proc. Amer. Math. Soc. 135, No. 10 (2007), 3049-3060.
- [BMRRT] *Tilting theory and cluster combinatorics*. (with A. B. Buan, R. J. Marsh, M. Reineke, I. Reiten), Adv. Math. 204 (2006), 572-618. ("Fast Breaking Paper" in October 2007, Essential Science Indicators from Thomson Scientific.)
- [IT8] *On the finitistic global dimension conjecture for Artin algebras*. Representations of algebras and related topics, 201–204, Fields Inst. Commun., 45, Amer. Math. Soc., Providence, RI, 2005. (with K.Igusa)
- [MT] *Representation theory and algebraic geometry*. Papers from the Memorial Conference for Maurice Auslander held at Brandeis University, Waltham, MA, March 24–26, 1995. Edited by A. Martsinkovsky and G. Todorov. London Mathematical Society Lecture Note Series, 238. Cambridge University Press, Cambridge, 1997. viii+123 pp. ISBN: 0-521-57789-6 16-06 (00B25 00B30)
- [TY] *Locally finitely presented bifunctors*. Representation theory of algebras (Cocoyoc, 1994), 659–670, CMS Conf. Proc., 18, Amer. Math. Soc., Providence, RI, 1996. (with R.Yang)
- [GT2] *Extensions, kernels and cokernels of homologically finite subcategories*. Representation theory of algebras (Cocoyoc, 1994), 227–235, CMS Conf. Proc., 18, Amer. Math. Soc., Providence, RI, 1996. (with R.Gentle)
- [GT1] *Approximations, adjoint functors and torsion theories*. Representations of algebras (Ottawa, ON, 1992), 205–219, CMS Conf. Proc., 14, Amer. Math. Soc., Providence, RI, 1993. (with R.Gentle)
- [APT] *Homological theory of idempotent ideals*. Trans. Amer. Math. Soc. 332 (1992), no. 2, 667–692. (with M.Auslander, M.I.Platzeck)
- [TZ] *Remarks on Auslander algebras*. J. Pure Appl. Algebra 70 (1991), no. 3, 307–314. (with D.Zacharia)
- [IST] *Finite projectivity and contravariant finiteness*. Proc. Amer. Math. Soc. 109 (1990), no. 4, 937–941. (with K.Igusa, S.O.Smalø)
- [IT6] *Tits form numbers*. Comm. Algebra 17 (1989), no. 9, 2197–2222. (with K.Igusa)
- [IPTZ] *Auslander algebras of finite representation type*. Comm. Algebra 15 (1987), no. 1-2, 377–424. (with K.Igusa, M.I.Platzeck, D.Zacharia)
- [IT5] *A numerical characterization of finite Auslander-Reiten quivers*. Representation theory, I (Ottawa, Ont., 1984), 181–198, Lecture Notes in Math., 1177, Springer, Berlin, 1986. (with K.Igusa)
- [BT] *On a theorem of Nazarova and Roïter*. Representation theory, I (Ottawa, Ont., 1984), 50–54, Lecture Notes in Math., 1177, Springer, Berlin, 1986. (with O.Bretscher)
- [IT4] *Preprojective partitions and the determinant of the Hom matrix*. Proc. Amer. Math. Soc. 94 (1985), no. 2, 189–197. (with K.Igusa)
- [IT3] *A characterization of finite Auslander-Reiten quivers*. J. Algebra 89 (1984), no. 1, 148–177. (Reviewer: Sheila Brenner) 16A64 (16A62) (with K.Igusa)
- [IT2] *Radical layers of representable functors*. J. Algebra 89 (1984), no. 1, 105–147. (with K.Igusa)
- [T2] *A note on preprojective partitions over hereditary Artin algebras*. Proc. Amer. Math. Soc. 85 (1982), no. 4, 523–528.

[PT] *TrD-periodic modules over self-injective algebras*. Representations of algebras (Puebla, 1980), pp. 285–301, Lecture Notes in Math., 903, Springer, Berlin-New York, 1981. (with M.I. Platzeck)

[T] *Almost split sequences for TrD-periodic modules*. Representation theory, II (Proc. Second Internat. Conf., Carleton Univ., Ottawa, Ont., 1979), pp. 600–631, Lecture Notes in Math., 832, Springer, Berlin, 1980.

TALKS SINCE 2005

- (1) *TBA*, Women in Math, June 21-25, 2021.
- (2) *TBA*, FD-seminar, June 03, 2021.
- (3) *TBA*, ARTA, May 17-28, 2021.
- (4) *TBA*, AMS meeting (formerly San Francisco), May 01, 2021.
- (5) *Infinitesimal semi-invariant pictures and co-amalgamation*, Special Session on Interactions between Representation Theory, Poisson Geometry, and Noncommutative Algebra AMS-Spring Central Sectional Meeting (formerly at the University of Cincinnati), April 17, 2021
- (6) *Friezes, Quiver Representations and Cluster Theory*, Colloquium, University of Alabama Tuscaloosa, AL 35487, March 30, 2021.
- (7) *Infinitesimal semi-invariant pictures and co-amalgamation*, Flash Talks in Representation Theory NTNU, Trondheim, January 08, 2021.
- (8) *Friezes, Quiver Representations and Cluster Theory*, GASC, Northeastern University, Boston, MA, February 10, 2020.
- (9) *Continuous Quivers of Type A*, GMRT (Geometric Methods in Representation Theory), University of Missouri, Columbia, MO, November 23-25, 2019.
- (10) *Continuous Quivers of Type A*, Algebraic Representation Theory and Related Topics, Tsinghua Sanya International Mathematics Forum, October 6-11, 2019.
- (11) *Infinite Friezes*, KUMUNU algebra conference, Lincoln, Nebraska, September 21-22, 2019.
- (12) *Infinite Friezes*, AMS, University of Wisconsin-Madison, Madison, WI, September 14-15, 2019.
- (13) *Title*, The XXXIst Meeting on REPRESENTATION THEORY of ALGEBRAS, University of Sherbrooke, Sherbrooke, Canada, September 6-7, 2019.
- (14) *Continuous clusters and continuous mutations*, RRAGE: Ragnar's Ramifications in Algebra and Geometry Emerging Workshop, The Fields Institute, Toronto, Canada, July 8-12, 2019.
- (15) *Torsion Theories and Kappa Map*, Cluster Algebras 2019, (CA19), RIMS, Kyoto, Japan, June 10, 2019.
- (16) WINART 2, Women in Noncommutative Algebra and Representation Theory 2, University of Leeds. May 20-24, 2019.
- (17) *Friezes satisfying higher Sl_k -determinants*, Algebra Seminar, NTNU, Trondheim, Norway, May 9, 2019.
- (18) *Cyclic Posets*, AMS, University of Connecticut Hartford, April 13-14, 2019.
- (19) *Cyclic Posets and Triangulation Clusters*, AWM Research Symposium, Rice University, Houston Texas, April 5-6, 2019.
- (20) *Friezes satisfying higher Sl_k -determinants*, University of Münster, March 19-23, 2019.
- (21) University of Iowa, November 2018 (invited, but had to cancel).
- (22) Oaxaca, Mexico, October 2018 (invited, but had to cancel).
- (23) *Cyclic Posets and Triangulation Clusters*, ARTA, (in honor of Jose Antonio de la Pena), September 24-28, 2018.
- (24) *Cyclic Posets and Cluster Structures*, The XXXth Meeting on REPRESENTATION THEORY of ALGEBRAS, Sherbrooke, Canada, September 7, 2018.
- (25) *Cyclic posets and cluster structures*, Representation Theory Seminar, NTNU, Trondheim, Norway, August 22, 2018.
- (26) *Picture Groups and their Homology*, 3rd International Colloquium on Representations of Algebras, in honor of Alexander Zavadskij, Medellin, Colombia, June 27-29.
- (27) *Picture Groups and their Homology*, Cluster Algebras Mathematical Physics (CAMP), Michigan State University, May 7-11, 2018.
- (28) *Picture Groups and their Homology II*, Cluster Algebra Seminar, University of Connecticut, Storrs, April 6, 2018.
- (29) *Picture Groups and their Homology I*, Algebra Seminar, University of Connecticut, Storrs, April 4, 2018.
- (30) *Homology of Picture Groups*, Conference: Cluster Algebras: Twenty Years On, March 19-23, 2018, CIRM - Centre International de Rencontres Mathématiques, Luminy, France.
- (31) *Preprojective Algebras*, 2018 Joint mathematics Meetings, AWM Workshop, San Diego, January 13, 2018.
- (32) *Cluster Categories coming from Cyclic Posets*, US-Mexico Conference on Representation theory, Categorification, and Noncommutative Algebra, Mathematics Institute, UNAM, Mexico City, Nov.27 - Dec.1, 2017.
- (33) *Fin.dim and phi-dim*, Fifth Conference on Geometric Methods in Representation Theory, University of Iowa, Iowa City, Iowa, November 18-20, 2017.
- (34) *Fin.dim and phi-dim*, XXIXth Meeting on Representation Theory of Algebras, University of Sherbrooke, September 29-30, 2017.
- (35) *Tilting modules and dominant dimension*, Algebra Extravaganza - in honor of Ellen Kirkman and Martin Lorenz, Temple University, Philadelphia, July 24-28, 2017,

- (36) *Cluster Categories Coming from Cyclic Posets*, International Workshop on Cluster Algebras and Related Topics, Chern Institute of Mathematics, Nankai University, Tianjin, China, July 10 - July 13, 2017.
- (37) *Continuous Cluster Categories*, Workshop on representation theory of algebras, Tsinghua University, Beijing, P. R. China, July 3 - July 7, 2017. (3 lectures)
- (38) *Continuous Cluster Categories*, Workshop on Cluster Categories at University of Connecticut, Storrs, May 15-19, 2017. (5 lectures)
- (39) *Tilting modules which are generated and cogenerated by projective-injective modules*, Idun 75, NTNU, Trondheim, Norway, May 10-13, 2017.
- (40) *Dominant dimension and tilting modules*, AWM Research Symposium 2017, WINART Special Session: Representations of Algebras, UCLA, April 7-9, 2017.
- (41) *Cluster mutations and frieze mutations*, Quivers, cluster algebra and mathematical physics, The Institute of Mathematical Science (IMS), Chinese University of Hong Kong, Hong Kong, 19-22 Dec, 2016.
- (42) *Cohomology of picture groups for Dynkin quivers of type A*, Homological Methods in Commutative Algebra, AMS Sectional Meeting, North Carolina State University, Raleigh, NC, November 12-13, 2016.
- (43) *Picture groups for Dynkin quivers and cohomology in type An*, Noncommutative Algebras and their Representations, AMS Sectional Meeting, Minneapolis, MN, October 28-30, 2016.
- (44) *Cluster Algebras and Cluster Categories*, 2nd International Colloquium on Representations of Algebras and Its Applications; Alexander Zavadskij. Bogota, Colombia, October 10-13, 2016. (4 lectures)
- (45) *Cluster mutations and mutations of Conway-Coxeter friezes*, Noncommutative Ring Theory and Noncommutative Algebra, AMS Sectional Meeting, Brunswick, ME, September 24-25, 2016.
- (46) *Cluster mutations and mutations of Conway-Coxeter friezes*, XXVIIIth Meeting on Representation Theory of Algebras, Sherbrooke, September 30, 2016.
- (47) *Cluster Theory*, XXI Coloquio Latinoamericano de Algebra, Buenos Aires, 25-29 de julio de 2016. (plenary)
- (48) *Semi-invariant pictures, c-vectors, maximal green sequences*, Advances in Representation Theory, ARTA Mar del Plata, Argentina, March 7-18, 2016.
- (49) *Introduction to cluster categories*, Women in Noncommutative Algebra and Representation Theory (WINART), Banff, March 27-April 1, 2016.
- (50) *Semi-invariant pictures, c-vectors, maximal green sequences*, Representation Theory Seminar, Northeastern University, February 19, 2016.
- (51) *Semi-invariant pictures, c-vectors, maximal green sequences*, Representation Theory Seminar, Northeastern University, December 10, 2015.
- (52) *Semi-invariant pictures, c-vectors, maximal green sequences*, The first joint meeting SBM - SBMAC - RSME, Universidade Federal do Cear, Fortaleza, Brazil, December 7-10, 2015. (I was not able to attend but had poster presentation of my talk).
- (53) *Semi-invariant pictures, c-vectors, maximal green sequences*, Algebra Seminar, NTNU, Trondheim, Norway, November 10, 2015.
- (54) *Modulated semi-invariants and c-vector theorem*, Cluster algebra seminar, UConn, October 23, 2015.
- (55) *Semi-invariant pictures and maximal green sequences*, Every Topic Seminar, Brandeis, October 8, 2015.
- (56) *Continuous Cluster Categories*, The XXVIIth Meeting on Representation Theory of Algebras, 4-5 September, 2015, Bishop's University, Lennoxville, Canada.
- (57) *Continuous Frobenius and Continuous Cluster Categories*, International Conference in Homological algebra, University of Kentucky, Lexington, KY, July 22-24, 2015, Plenary speaker.
- (58) *Semi-invariant Pictures and Cluster Theory*, Advances in Representation Theory of Algebras (ARTA) Centro de Investigaci'on en Matem'aticas, A.C. (CIMAT), Guanajuato, Mexico: June 22 - 26, 2015.
- (59) *Semi-invariant Pictures and Cluster Theory*, Opening Perspectives in Algebra, Representations, and Topology, OP-ART, CRM, Barcelona May 25 to 29, 2015.
- (60) *Semi-invariant Pictures and Cluster Theory*, International Conference on Representation Theory and Commutative Algebra, A conference in honor of Jerzy Weyman's 60th Birthday April 24-April 27 at the University of Connecticut.
- (61) *Semi-invariant pictures and some applications*, The 40th Annual New York Regional Graduate Mathematics Conference, Syracuse University, Saturday, April 11, 2015.
- (62) *IO pictures, Picture Groups and Maximal Green Sequences*, AMS Special Session on Cluster Algebras (a Mathematics Research Communities session) San Antonio, January 10-13, 2015.
- (63) *Maximal green sequences, Picture groups and Spherical domains of semi-invariants*, Thematic program "Cluster Algebras", "Cluster algebras in combinatorics and topology", December 13-17, 2014, in Center for Mathematical Challenges (CMC), KIAS, Seoul, Korea.
- (64) *Picture groups*, "Geometric Methods in Representation Theory", University of Iowa. (Nov. 22, 23, 24, 2014), Keynote speaker.

- (65) *Picture groups and Spherical domains of semi-invariants*, "Geometric Methods in Representation Theory", University of Iowa. (Nov. 22, 23, 24, 2014), Keynote speaker.
- (66) *Morphisms determined by objects*, Maurice Auslander Memorial Workshop, Bielefeld, Germany, November 13, 2014, Invited speaker.
- (67) *Finitely Presented Functors and Auslander-Reiten Theory*, Representation Theory Seminar, Northeastern University, Boston, November 7, 2014.
- (68) *Cluster morphism categories and cubical categories*, XXVth Meeting on Representation Theory of Algebras, September 5-6, 2014, University of Sherbrooke, Sherbrooke, Canada.
- (69) *From Cluster algebras, via Semi-invariants to Maximal green sequences*, Algebraic Structures and Their Applications, Spineto (Siena), Italy, June 16-20, 2014,
- (70) *Cluster categories and cubical categories*, Representation Theory Seminar, CIMAT, Guanajuato, Mexico, May 19-June 2, 2014.
- (71) *Cluster Algebras, Semi-invariants and Picture Groups*, Workshop "Cluster algebras and Hall algebras", Canadian Mathematical Society, University of Montreal, May 8-12, 2014.
- (72) *Periodic Trees and Semi-invariants*, Linear Operators in Representation Theory and in Applications, Special Session at AMS Sectional Meeting, Texas Tech University, Lubbock, TX, April 11-13, 2014.
- (73) *Periodic Trees, Cluster Tilting Objects and Semi-invariants*, Cluster Algebras and Combinatorics, Munster, February 6 - February 8, 2014.
- (74) *Semi-invariants, cluster complexes, group pictures*, Conference on Geometric Methods in Representation Theory, University of Missouri, Columbia, MO, November 23-25, 2013.
- (75) Lattice structure of torsion classes for hereditary algebras, Mathematics Conference, Union College, October 19-20, 2013.
- (76) Lattice structure of torsion classes for hereditary algebras, Bishop's University, XXVth Meeting on Representation Theory Dedicated to the memory of Michael C. R. Butler, October 4-5, 2013.
- (77) *Clusters in Continuous Cluster Categories*, AMS Sectional Meeting, Colorado, Boulder, April 13-14, 2013.
- (78) *Cyclic posets, their representations and related categories*, Advances in Representation Theory of Artin Algebras, ARTA, Guanajuato, Mexico, December 3-7, 2012.
- (79) *Continuous Cluster Categories*, Cluster Algebras Seminar, MSRI, October 2, 2012.
- (80) *Relations between Cluster Algebras and Cluster Categories*, Connections For Women: Joint Workshop on Commutative Algebra and Cluster Algebras, MSRI, August 22-24, 2012.
- (81) *Morphisms determined by objects in Continuous Cluster Categories*, International Conference on Representations of Algebras (ICRA 2012) Bielefeld University, 13-17 August 2012.
- (82) *Morphisms determined by objects*. CMS Canadian Mathematical Society, Summer 2012, Regina, Saskatchewan, June 2-4, 2012.
- (83) *Functors, words and morphisms determined by objects*, Conference on Cluster Categories and Cluster Tilting, honoring Idun Reiten on the occasion of her 70th birthday, Trondheim, Norway, March 27th to 30th, 2012.
- (84) *From Frobenius categories to Cluster Structures*, CMS Canadian Mathematical Society, Winter 2011, Toronto, Ontario, December 10-12, 2011.
- (85) *Projective dimension of modules over cluster-tilted algebras*, Representation Theory Seminar, Northeastern University, October 28, 2011.
- (86) *Cluster Categories*, Cluster Algebras and Categorification Seminar, Northeastern University, October 6, 2011.
- (87) *Properties of Continuous Cluster Categories*, AMS Meeting, Wake Forest University, Winston-Salem, NC, September 24-25, 2011.
- (88) *Clusters in Continuous Cluster Categories*, XXIIIrd Meeting on Representation Theory of Algebras, Bishop's University, Sherbrooke, Quebec, Canada, 16 - 17, September 2011.
- (89) *Continuous Cluster Categories*, AMS Sectional Meeting, University of Iowa, Iowa City, IO March 18-20, 2011.
- (90) *Continuous Cluster Categories*, Representation Theory Seminar, University of Sherbrooke, Sherbrooke, Canada, March, 2011.
- (91) *Trace subfunctors and modules over preprojective algebras*, AMS Fall Eastern Sectional Meeting, Special Session on Representations of Algebras, Syracuse, NY, October 2-3, 2010
- (92) *Generalized cluster categories and c-sortable words*, Non-commutative Algebra and Derived Categories Session, 2010 CMS Summer Meeting, Fredericton, New Brunswick, Canada, June 4, 2010.
- (93) *Functor categories, module categories and words in Coxeter groups*, Representation Theory of Algebras Session, 2010 CMS Summer Meeting, Fredericton, New Brunswick, Canada, June 5, 2010.
- (94) *Preprojective algebras and c-sortable words*, South-American Meeting on Representations of Algebras and Related Topics, Mar del Plata, Argentina, March 8-13, 2010.
- (95) *Module categories associated to the words in Coxeter groups*, Special Session on Representations of Finite Dimensional Algebras, AMS Meeting, Riverside CA, November 8, 2009.

- (96) *Preprojective algebras, approximations, and c-sortable words*, Algebra seminar lecture, University of Trondheim, NTNU, Trondheim, Norway, October 29, 2009.
- (97) *Categories associated to the words in Coxeter groups*, XXIst Meeting on Representation Theory of Algebras, University of Sherbrooke, Quebec, Canada, October 3, 2009.
- (98) *The psi function and representation dimension*, "Homological Conjectures in Representation Theory of Artin Algebras" workshop, Wuppertal, Germany, 19th August 2009.
- (99) *The psi function*, "Homological Conjectures in Representation Theory of Artin Algebras" workshop, Wuppertal, Germany, 17th August 2009.
- (100) *c-sortable words and preprojective algebras*, "Homological and Geometric Methods in Algebra" conference, University of Trondheim, Trondheim, Norway, August 10-14, 2009.
- (101) *Finitely presented functors, words, subcategories of module categories over preprojective algebras*, XVIII Latin American Algebra Colloquium, Sao Pedro, Brazil, August 3-8, 2009.
- (102) *Weight Spaces of Semi-invariants*, Algebra seminar lecture, University of Trondheim, Trondheim, Norway, November, 2008.
- (103) *Representation and Presentation Spaces; Semi-invariants and their Weights*, The XXth Meeting on representation theory of Algebras, University of Sherbrooke, Quebec, Canada, October 25, 2008.
- (104) *Cluster Categories, Cluster algebras, Semi-invariants*, Colloquium talk, Florida State University, Boca Raton, September 16, 2008.
- (105) *Klaster kategorije i algebre*, Algebra seminar, Novosadski Univerzitet, Novi Sad, Serbia, July 8, 2008.
- (106) *Finitistic Dimension Conjecture and Representation Dimension*, CIMPA-UNESCO, IPM School on Representation Theory of Algebras Tehran, Iran, June 22 - 25, 2008.
- (107) *Semi-invariants on Presentation spaces*, Colloquium of Non Commutative Algebra, Université de Sherbrooke and Bishop's University, Quebec, Canada, June 9 - 14, 2008.
- (108) *Auslander-Reiten Theory*, Tapas seminar, Northeastern University, May, 2008.
- (109) *Cluster Categories*, GASC seminar, Northeastern University, December 10, 2007.
- (110) *Cluster Categories, Cluster Algebras and Cluster Tilted Algebras*, Representation theory seminar, Universidad del Sur, Bahia Blanca, Argentina, November 1,2,5, 2007. (3 lectures)
- (111) *Cluster categories and their relation to cluster algebras and semi-invariants*, Seminario Matematico e Fisico di Milano, Universit degli Studi, Milan, Italy, September 26, 2007.
- (112) *Semi-invariants and simplicial complexes of cluster tilting objects*, Algebra seminar, Universit degli Studi, Padova, Italy, September 21, 24, 25, 2007. (3 lectures)
- (113) *Cluster Algebras, Cluster Categories*, Representation theory seminar, UMass, Amherst, September 17, 2007.
- (114) *Cluster complexes via Semi-invariants*, ICRA 12, Torun, Poland, August 15-25, 2007.
- (115) *Clusters and seeds in acyclic cluster algebras*, Universidad Autonoma de Zacatecas, joint AMS-SMM, Special Session on Representation Theory. May 23-25, 2007.
- (116) *Auslander-Reiten theory in cluster categories*, Tapas seminar, Northeastern University, May 17, 2007.
- (117) *Clusters and seeds in acyclic cluster algebras*, University of Arizona, AMS Special Session on Representations of Algebras. April 21-23, 2007.
- (118) *m-cluster categories and m-replicated algebras*, Cluster Algebras Session, CMS Winter 2006 Meeting, Toronto, Ontario, December 9 - 11, 2006.
- (119) *m-cluster categories*, International Conference on Representations of Algebras and Related Topics Northeastern University, Boston, Massachusetts, October 6 - 7, 2006.
- (120) *m-cluster categories and m-replicated algebras*, Joint work with I.Assem, T. Brustle, R. Schiffler, The XVI-IIth Meeting on Representation Theory of Algebras, Universite de Sherbrooke, Canada, 15th and 16th of September 2006.
- (121) *Auslander-Reiten formula, Triangulated, Derived, Cluster categories*, Series of lectures in "Informal cluster seminar", Northeastern University, August 2006.
- (122) *Generalized semi-invariants and the cluster complex*, Tapas seminar, Northeastern University, June 12, 2006.
- (123) *Clusters and Seeds*, Workshop on Cluster Algebras and Cluster Tilted Algebras, Bielefeld, May 25-27, 2006.
- (124) *Cluster Categories and their relation to Cluster algebras, Semi-invariants and Homology of torsion free nilpotent groups*. CIMPA - UNESCO, Mar del Plata, Argentina, March 2006. Homological methods and representations of non-commutative algebras. (Series of 4 one hour long lectures.)
- (125) *Cluster categories I,II, III* BIREP, Bielefeld, Germany, December 17-18, 2005. (series: 3 times 1hour)
- (126) *Cluster categories and Nilpotent groups*. Representation theory Conference, Northeastern University, October 7, 2005.
- (127) *Cluster categories*. XVIIth Meeting on Representation theory of algebras, Sherbrooke and Bishop's University, Canada, September 17, 2005. (50min)
- (128) *Cluster categories and related topics*. 16 Coloquio Latinoamericano de Álgebra, Colonia del Sacramento, Uruguay, August 1,2005. (40min)

- (129) *Cluster categories and some related topics*. Algebra Seminar, Tokyo Univ. of Agr. and Technology, Japan, July 22, 2005. (60min)
- (130) *Representations of quivers and related topics* - Tapas Graduate seminar, Northeastern University (with Kristen Webster and Jerzy Weyman), May 18, 2005
- (131) *Pictures - from cluster categories to cohomology of nilpotent torsion free groups*. AMS meeting, University of Santa Barbara, Santa Barbara CA, April 17, 2005.
- (132) *Cluster categories*. AMS meeting, Texas Tech University, Lubbock, TX, April 8, 2005.

2. TEACHING

3. SERVICES

Committees

- (1) Dean's Awards Committee (Spring 2021)
- (2) COS INVEST Search Committee (Spring 2020)
- (3) Graduate Committee (2020/2021)
- (4) Faculty advisor for AWM Student Chapter
- (5) Dean's Awards Committee (Spring 2020)
- (6) Mathematics Department Self Study (Spring 2020)
- (7) Graduate Committee (2019/2020)
- (8) Promotion to Full Professor of Alex Martsinkovsky (Spring/Fall 2020)
- (9) Tenure on Entrance for Milen Yakimov (Spring/Fall 2020)
- (10) Merits and Loads Committee (2019/2020)
- (11) T/TT search Committee (2019/2020)
- (12) T/TT search Committee (2018/2019)
- (13) Promotion Committee for Mboyo Esole (2018)
- (14) Merits and Loads Committee (2016/2017)
- (15) Special Projects Committee (2016/2017)
- (16) Special Projects Committee (2015/2016)
- (17) Special Projects Committee (2014/2015)
- (18) Search Committee for Research Instructors (2014/2015)
- (19) Graduate Council (University level committee) (Fall 2013-2015)
- (20) Search Committee for Research Instructors(2013/2014)
- (21) Search Committee for Applied Assistant/Associate Professor (2013/2014)
- (22) Executive Committee (January 2013 - 2015)
- (23) Search Committee for Research Instructors (2012/2013)
- (24) Merits and Raises Committee (January 2012 for 2011).
- (25) Space Committee (Spring 2012) (future space for Mathematics Department).
- (26) Enrollment & Admissions Policy Committee (Fall 2011)
- (27) Faculty Senate (Fall 2011, Spring 2012)
- (28) Search Committee for Research Instructors (2011/2012, hired Ramis Movasagh and Dylan Rupel).
- (29) Internal Space Committee Fall 2011, Spring 2012.
- (30) Merits and Raises Committee (in 2011 for 2010).
- (31) Search Committee for a Research Instructor (2010/2011, hired Ryan Kinser and Leonid Petrov).
- (32) Raises Committee (2009/2010).
- (33) Graduate Committee (Admissions) (2004-2007)
- (34) Hiring Committee (Fall 2006 - Spring 2007)
- (35) Hiring Committee (Fall 2005 - Spring 2006)

Officers

- (1) Graduate Director (January 2013 - March 2014)
- (2) Graduate Director (Fall 2007 - January 2008)
- (3) Interim Graduate Coordinator (Spring 2006)

Work with Graduate students

- (1) PhD Thesis Committee for Pedro Fernando Fernandez Espinosa, Advisor: Agustín Moreno Cañadas, Bogota University, February 05, 2021. Thesis title: *Categorification of Some Integer Sequences and Its Applications*
- (2) Official PhD advisor at Northeastern for Boris Tsvetikhovskiy, Advisor: Ivan Losev, Northeastern University, June 23, 2020. Thesis title: *On categories \mathcal{O} of quiver varieties overlying the bouquet graph.*
- (3) PhD Thesis Committee for Eric Hanson, Advisor: Kiyoshi Igusa, Brandeis University, November 19, 2020. Thesis title: *Picture Groups and Simple Minded Collections.*
- (4) PhD Thesis Committee for Job D. Rock (Jonathan Rachowicz), Advisor: Kiyoshi Igusa, Brandeis University, March 25, 2020. Thesis title: *Continuous Quivers of Type A.*
- (5) PhD Thesis Committee for Matthew Garcia, Advisor: Alan Mayer, Brandeis University, July 25, 2019. Thesis title: *A Foundation for Mathematical Dilettantism: Continuous Cluster Categories, Synthetic Differential Geometry and Partial Differential Equations.*
- (6) PhD Thesis Committee for Rahul Singh, Advisor: Lakshmibai, Northeastern University, April 22, 2019. Thesis title: *Orbital Varieties, and Conormal Varieties to Schubert Varieties.*
- (7) PhD Thesis Committee for Ying Zhao, Advisor: Kiyoshi Igusa, Brandeis University, March 6, 2019. Thesis title: *Four problems related to maximal green sequences.*
- (8) Ph.D. advisor for Emre Sen, Northeastern University, graduated May 2018.
- (9) Ph.D. advisor for Shijie Zhu, Northeastern University, graduated May 2018.
- (10) PhD Thesis Committee for Moses Kim, Advisor: Kiyoshi Igusa, Brandeis University, March 15, 2018.
- (11) Member of PhD Evaluation Committee at NTNU, Trondheim, Norway, for Torkil Utvik Stai Ph.D. thesis, August 31, 2017. (opponent)
- (12) PhD Thesis Committee: Reuven Hodges, Advisor: Lakshmibai, Northeastern University, Tuesday, April 11, 2017, Thesis title: *Schubert singularities and Levi subgroup actions on Schubert varieties* Advisor: Venkataraman Lakshmibai.
- (13) Member of PhD Evaluation Committee at NTNU, Trondheim, Norway, for Kristin Krogh Arneren Ph.D. thesis, 16 November 2015. (first opponent)
- (14) PhD Thesis Committee: Floran Kacaku, August 17th, 2015, Thesis title: *On the convergence of the mKdV linearization transform in asymptotic spaces*, Advisor: Petar Topalov
- (15) PhD Thesis Committee: Undine Leopold, Thursday, June 26, 2014, Thesis title: *Vertex-Transitive Polyhedra in Three-Space*, Advisor: Egon Schulte
- (16) PhD Thesis Committee for Andrew Duke, April 16, 2014; Thesis title: *Cube-like Regular Incidence Complexes*, Advisor: Egon Schulte.
- (17) External member for PhD Thesis Committee for Steve Hermes, April 8, 2014; Thesis title: *Higher Homotopy Structures of Ginsburg Algebras*, Advisor: Kiyoshi Igusa, Brandeis University.
- (18) PhD Thesis Committee for Jeremy Russell, April 24, 2013; Thesis title: *A Functorial Approach to Linkage and the Asymptotic Stabilization of the Tensor Product*, Advisor Alex Martsinkovsky.
- (19) PhD Thesis Committee for Ilanit Helfand, April 5, 2013; Thesis title: *Constructions of k -orbit Abstract Polytopes*, Advisor: Egon Schulte.
- (20) PhD Thesis Committee for Salvatore Stella, April 5, 2013; Thesis title: *Discrete structures in finite type Cluster Algebras*, Advisor: Andrei Zelevinsky.
- (21) PhD Thesis Committee for Masoumeh (Sepideh) Shafiei, March 28, 2013; Thesis title: *Apolarity for the determinant and permanent*, Advisor: Anthony Iarrobino
- (22) External Member of PhD Thesis Committee for Alex Lesnier, May 14, 2012; Thesis title: *Christoffel words and Markoff triples: an algebraic approach & Projective dimensions in cluster-tilted categories* Advisor Thomas Brustle, University of Sherbrooke, Canada.
- (23) PhD Thesis Committee for Gabriel Cunningham, May 2, 2012; Thesis title: *Automorphic Invariance of Abstract Polytopes*, Advisor Egon Schulte.
- (24) PhD Thesis Committee for Kavita Sutar, January 27, 2012; Thesis title: *Orbit closures of quiver representations*, advisor Jerzy Weyman.
- (25) PhD Thesis Committee for Andrew Carroll, January 27, 2012; Thesis title: *Geometry of representation spaces for gentle string algebras*, advisor Jerzy Weyman.
- (26) Official PhD Thesis reader for Cristina Di Trapano, April 2012; Thesis title: *Semi-invariants of Artin Algebras*, University (had many discussions while Cristina was at Northeastern).
- (27) External committee member for PhD Thesis defense for Jie Zhang, May 16, 2011; Thesis title *On the cluster category of a marked surface*, advisor Thomas Brustle, University of Sherbrooke.
- (28) Spring 2011, Summer 1, 2011, Fall 2011 Regular meetings with Lecturer Lee-Peng Lee - teaching her representation theory.
- (29) PhD Thesis Committee for Shih-Wei Yang, April 16, 2010; Thesis title: *Cluster algebras of finite type via semisimple groups and generalized minors*; Advisor: Andrei Zelevinsky.

- (30) PhD Thesis Committee for Thao Tran, April 16, 2010; Thesis title: *Quantum F-polynomials in the theory of cluster algebras*; Advisor: Andrei Zelevinsky.
- (31) PhD Thesis Committee for Daniel Labardini-Fragoso, December 3, 2010; Thesis title: *Quivers with potentials associated with triangulations of Riemann surfaces*, Advisor: Andrei Zelevinsky
- (32) Official PhD Thesis reader for Giovanni Cerulli-Irelli, April 2008;
- (33) Member of PhD Thesis Committee for Himadri Mukherjee, April 24, 2008; Thesis title: *Singularities of certain class of toric varieties*, Advisor: Venkatraman Lakshmibai.
- (34) Qualifying exams - Preparing and grading: Jan.05, Apr.05, Sept.05, Sept.06, Jan.07
- (35) PhD Thesis Committee for Kristin Webster, June 29, 2009; Thesis title: *Semi-invariants of tubular algebras*, advisor Jerzy Weyman.
- (36) Co-advising Kristin Webster (with Jerzy Weyman).
- (37) PhD Thesis Committee for Jose Malagon-Lopez, March 29, 2007; Thesis title: *Adams operations and lambda operations on classifying oriented cohomology theories*, Advisor: Marc Levine.

Organized and co-organized conferences

- (1) *Women in Noncommutative Algebra and Representation Theory 3, WINART3*, workshop, WINART 3 workshop, BIRS-Banff, April 3-8, 2022 (co-organizer and group co-leader).
- (2) *Maurice Auslander Distinguished lectures and International Conference*, Northeastern University, April 22-April 27, 2020, WHOI, Woods Hole. (with Alex Martsinkovsky, Kiyoshi Igusa). (cancelled - COVID 19)
- (3) *Women in Noncommutative Algebra and Representation Theory 2, WINART2*, workshop held at the University of Leeds, May 20-24, 2019 (group co-leader).
- (4) *Maurice Auslander Distinguished lectures and International Conference*, Northeastern University, April 24-April 29, 2019, WHOI, Woods Hole. (with Alex Martsinkovsky and Kiyoshi Igusa)
- (5) *Maurice Auslander Distinguished lectures and International Conference*, Northeastern University, April 25-April 30, 2018, WHOI, Woods Hole. (with Alex Martsinkovsky and Kiyoshi Igusa)
- (6) *Noncommutative Algebra and Representation Theory*, Special Session at AMS Spring Eastern Sectional Meeting, Northeastern University, Boston, MA, April 21-22, 2018. (with Van Nguyen and Alex Martsinkovsky)
- (7) *Maurice Auslander Distinguished lectures and International Conference*, Northeastern University, April 26-May 1, 2017, WHOI, Woods Hole. (with Alex Martsinkovsky and Kiyoshi Igusa) (87 participants)
- (8) *Maurice Auslander Distinguished lectures and International Conference*, Northeastern University, April 27-May 2, 2016, WHOI, Woods Hole. (with Alex Martsinkovsky and Kiyoshi Igusa)
- (9) Women in Noncommutative Algebra and Representation Theory (WINART), Banff, March 27, 2016 - April 1, 2016. (a leader of the Baur-Todorov research group on cluster categories)
- (10) *Maurice Auslander Distinguished lectures and International Conference*, Northeastern University, April 29-May 4, 2015, WHOI, Woods Hole. (with Alex Martsinkovsky and Kiyoshi Igusa) (72 participants)
- (11) *Cluster Algebras*, AMS Mathematics Research Communities, Snowbird, UT, June 8-14, 2014. (with Michael Gekhtman, Mark Gross, Gregg Musiker, David Speyer)
- (12) *Maurice Auslander Distinguished lectures and International Conference*, Northeastern University, May 1-6, 2014, WHOI, Woods Hole. (with Alex Martsinkovsky and Kiyoshi Igusa)
- (13) *Linear Operators in Representation Theory and in Applications*, Special Session at AMS Spring Central Sectional Meeting, Texas Tech University, Lubbock, TX, April 11-13, 2014. (With Markus Schmidmeier).
- (14) *Maurice Auslander Distinguished lectures and International Conference*, Northeastern University, April 18-23, 2013, WHOI, Woods Hole. (With Alex Martsinkovsky and Kiyoshi Igusa).
- (15) *Maurice Auslander Distinguished lectures and International Conference*, Northeastern University, April 25-30, 2012, WHOI, Woods Hole. (With Alex Martsinkovsky and Kiyoshi Igusa). (69 registered participants).
- (16) *Maurice Auslander Distinguished lectures and International Conference*, Northeastern University, April 22-27, 2011, MBL Woods Hole. (With Alex Martsinkovsky and Kiyoshi Igusa). (60 registered participants). This was a special event, with two distinguished speakers, one of them was supported by the College of Science, Dean Murray Gibson gave introductory speech for the Distinguished Lectures.
- (17) *Maurice Auslander Distinguished lectures and International Conference*, Northeastern University, April 22-27, 2010, MBL Woods Hole. (With Alex Martsinkovsky and Kiyoshi Igusa). (46 registered participants)
- (18) *Maurice Auslander Distinguished lectures and International Conference*, Northeastern University, April 23-28, 2009, MBL Woods Hole. (With Alex Martsinkovsky and Kiyoshi Igusa). (43 registered participants)
- (19) *Maurice Auslander Distinguished lectures and International Conference*, Northeastern University, April 25-27, 2008, MBL Woods Hole. (With Alex Martsinkovsky.) (41 registered participants)
- (20) *Conference on Representations of Algebras and Related Topics (usually referred to as "Auslander Conference"*, October 5 - 7, 2007. (with Alex Marsinkovsky)

- (21) Special Session on Representation Theory, Joint AMS-SMM International Meeting, Universidad Autonoma de Zacatecas, Mexico, May 23-25, 2007. (with Christof Geiss, UNAM)
- (22) Tapas, Northeastern University, May 14-June 21, 2007, (36 lectures by Faculty members, Graduate students)
- (23) Alumni Conference, Northeastern University, February 24, 2007. (with Alex Suciú)
- (24) Conference on Representations of Algebras and Related Topics (usually referred to as "Auslander Conference", October 6 - 7, 2006. (with Alex Marsinkovsky)
- (25) Tapas, Northeastern University, May 3-June 15, 2006, (34 lectures by Faculty members, Graduate students, Visitors) (with Robert McOwen)
- (26) Alumni Conference, Northeastern University, February 25, 2006.(with Robert McOwen)
- (27) Special Session on Representations of Algebras, Joint AMS-SMM International Meeting Houston, TX, May 13-15, 2004 (with Rita Esther Zuazua Vega, UNAM)

Other Activities Related to Research / Scholarship

- (1) Reviewing papers: Crelle, Algebra and Representation Theory, Journal of Algebra, Transactions of AMS, Illinois Journal of Mathematics, Communications in Algebra, Advances in Math.
- (2) Reviewing for Northeastern Enhance Grant.
- (3) Reviewing for NSERC, Natural Science and Engineering Research Council of Canada, Discovery Grant.
- (4) NSA Panel
- (5) NSF Panels
- (6) Hiring Committee for a position outside of Northeastern University.
- (7) Reviews for Promotions to Full and Associate Professors outside of Northeastern University.