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Curriculum Vitae

December 2025

Positions held:

- current position: Professor, Florida Atlantic University, since 2013.
- Associate Professor, Florida Atlantic University, 2007-2013.
- Visiting Professor, Norwegian University of Science and Technology (NTNU), Trondheim, Norway, Fall 2005.
- Assistant Professor, Florida Atlantic University, 2001-2007.

Postdoctoral Experience:

- Postdoctoral Fellow/ Visiting Professor at Florida Atlantic University, 1999–2001.
- Postdoctoral Fellow at the University of Antwerp (UIA), Belgium, 8/1998–7/1999.
- Scientific Assistant, Charles University, Prague, Czech Republic, 1996–1998.

Professional Preparation:

- Doctoral studies at Munich University (LMU), 1991-1996, “*Auslander-Reiten-Köcher für artinsche Ringe mit Polynomidentität*”, advisor: Prof. Dr. Wolfgang Zimmermann.
- Diploma in mathematics at Munich University (LMU), 1983-1987 and 1988-1991.
- M.Sc. studies at Warwick University, England, 1987-1988.

Recent meetings organized:

- *AMS Special Session on Representations of Algebras and Related Combinatorics*, at the University of Virginia in Charlottesville, VA, March 11-13, 2022, with Khrystyna Serhiyenko (University of Kentucky), the meeting was held online.
- *Recent Progress in Euclidean Geometry*, at Florida Atlantic University, March 16, 2018, on the occasion of the 65th birthday of Professor Paul Yiu, with Yuan Wang (FAU).
- *AMS Special Session on Linear Operators in Representation Theory and in Applications*, at Texas Tech University in Lubbock, TX, April 11-13, 2014, with Gordana Todorov (Northeastern University).
- *Symposion on Enumerative Combinatorics*, at Florida Atlantic University, April 4, 2014, on the occasion of the retirement of Dr. Heinrich Niederhausen.

Doctoral Students:

- **Audrey Moore**, “*Auslander-Reiten theory for systems of submodule embeddings*”, 2006–09, first position after Ph.D.: Assistant Professor at Delaware State Univ.
- **David Snyder**, “*Linear operators with two invariant subspaces*”, 2021–25.

Awards:

- TIAA-CREF Faculty Service Award for outreach to high schools (MA Θ), April 2005.
- Bolzano Prize (Prague) for research in representation theory, January 1999.

External Funding:

- Simons Foundation, *Travel and Collaboration Grant*, (2012-18).

Outreach to High Schools:

- I coordinated ten regional MA Θ competitions for high school students on January 29, 2022; January 25, 2020; January 19, 2019; January 20, 2018; January 21, 2017; March 12, 2016; March 7, 2015; January 18, 2014; January 13, 2007; and on January 7, 2006. At each event, around 900 - 1500 students compete in 13 individual, team, and school contests. This is a joint project with colleagues from Florida Atlantic University and the American Heritage High School in Plantation.

Recent Invitations:

- Visitor, Bielefeld Univ., two weeks in December 2024.
- Visitor, Bielefeld Univ., two weeks in May 2023.
- Visitor, Bielefeld Univ., two weeks in January 2023.
- Visitor, Copernicus Univ. Toruń, November 2022 (one month).

Recent Visitors:

- Amina Aicha Khennaoui, Ph.D. (Univ. Constantine, Algeria), November 2025 – April 2026, Fulbright Scholar
- Justyna Kosakowska, Ph.D. (Copernicus Univ. Toruń, Poland), February 1–14, 2019.
- Xiuhua Luo, Ph.D. (Nantong Univ., China), Postdoctoral Fellow during AY 2017–18.

Editorial Board:

- Journal of Mathematics and Music, 2026–29.

Publications and Preprints:

38. with X. Luo, *Gorenstein-projective modules over the ring of dual integers*, (2025), 18 pp., <https://arxiv.org/abs/2509.22091>
37. with X. Luo, *A reflection equivalence for Gorenstein-projective quiver representations*, 35 pp., <https://arxiv.org/pdf/2204.04695>
36. with J. Kosakowska, M. Schreiner, *Abelian p -groups with a fixed elementary subgroup or a fixed elementary quotient*, Arch. Math. **125**, 235–246 (2025), <https://doi.org/10.1007/s00013-025-02150-w>
35. with C. M. Ringel, *Invariant subspaces of nilpotent operators. Level, mean and colevel: The triangle $\mathbb{T}(n)$* , Bull. Iranian Math. Soc. (2025) **51:37**, 179 pp., <https://doi.org/10.1007/s41980-025-00972-6>

34. *Hammocks to visualize the support of a finitely presented functor*, J. Algebra **616** (2023), 68–96, <https://arxiv.org/pdf/2111.06525>
33. with J. Kosakowska, *The socle tableau as a dual version of the Littlewood-Richardson tableau*, dedicated to Andrzej Skowroński 26 pp., J. London Math. Soc. (2022), 1–23. <https://arxiv.org/pdf/2007.12221>
32. with J. Kosakowska, *Finite direct sums of cyclic embeddings*, Advances in representation theory of algebras, 159–169, Contemp. Math., **761**, Amer. Math. Soc., Providence, RI, (2021) <https://arxiv.org/abs/1905.05688>
31. with J. Kosakowska and H. R. Thomas, *Two Partial Orders for Littlewood-Richardson Tableaux*, The Electronic Journal of Combinatorics **26** (2019) #P3.20, 1–18, <https://www.combinatorics.org/ojs/index.php/eljc/article/view/v26i3p20/7880>
30. *From Schritte and Wechsel to Coxeter groups*, In: Mathematics and Computation in Music. MCM 2019. Lecture Notes in Computer Science, **11502** (2019), 113–124, Springer, https://doi.org/10.1007/978-3-030-21392-3_9
29. *2:3:4-Harmony within the Tritave*, Journal of Mathematics and Music (2019), 1–23, <https://doi.org/10.1080/17459737.2019.1605626>
28. with P. Dowbor and H. Meltzer, *The “0,1-property” for exceptional objects for nilpotent operators of degree 6 with one invariant subspace*, J. Pure Appl. Alg. **223** (2019), 3150–3203 <https://doi.org/10.1016/j.jpaa.2018.10.013>
27. with J. Kosakowska, *The Boundary of the Irreducible Components for Invariant Subspace Varieties*, Math. Zeitschrift **290**, 953–972 (2018), <https://doi.org/10.1007/s00209-018-2047-8>
26. with M. Kaniecki and J. Kosakowska, *Operations on arc diagrams and degenerations for invariant subspaces of linear operators. Part II*, Communications in Algebra **46**, 2243–2263 (2018) <https://dx.doi.org/10.1080/00927872.2017.1376212>
25. with J. Kosakowska, *Box moves on Littlewood-Richardson tableaux and an application to invariant subspace varieties*, dedicated to Fred Richman, J. Algebra **491**, 241–264 (2017), <https://dx.doi.org/10.1016/j.jalgebra.2017.07.025>
24. with A. Moore, *A Swiss Cheese Theorem for Linear Operators with Two Invariant Subspaces*, Proc. Amer. Math. Soc. **143**, 5097–5111 (2015), <https://arxiv.org/abs/1409.5772>
23. with J. Kosakowska, *Operations on Arc Diagrams and Degenerations for Invariant Subspaces of Linear Operators*; dedicated to Professor Daniel Simson, Trans. Amer. Math. Soc. **367**, 5475–5505 (2015), <https://arxiv.org/abs/1202.2813>
22. with J. Kosakowska, *Arc Diagram Varieties*; 24pp, Contemporary Mathematics “Expository Lectures on Representation Theory”, **607**, 205–224 (2014) <https://arxiv.org/abs/1211.5798>
21. with H. Tyler, *The Auslander-Reiten Components in the Rhombic Picture*; dedicated to Mark Kleiner on the occasion of his 65th birthday, Comm. Algebra **42** (2014), no. 3, 1312–1336. <https://arxiv.org/abs/1204.1654>

20. *Hall polynomials via automorphisms of short exact sequences*, dedicated to Professor Wolfgang Zimmermann, *Algebras and Representation Theory* **15** (2012), 449–481.
<https://doi-org.ezproxy.fau.edu/10.1007/s10468-010-9250-6>
19. *The entries in the LR-tableau*, *Mathematische Zeitschrift* **268** (2012), 211–222.
<https://doi-org.ezproxy.fau.edu/10.1007/s00209-010-0667-8>
18. with C. Petrero, *Abelian groups with a p^2 -bounded subgroup, revisited*, *J. Alg. Applic.* **10** (2011), 377–389. <https://www.worldscinet.com/jaa/10/1003/S0219498811004823.html>
17. with G. Marks, *Extensions of simple modules and the converse of Schur’s Lemma*, in: *Advances in Ring Theory, Trends in Mathematics*, 229–237, Birkhäuser Verlag, 2010. https://doi-org.ezproxy.fau.edu/10.1007/978-3-0346-0286-0_15
16. with H.-D. Gronau, *“Orthogonal covers by multiplication graphs”*, *Discrete Appl. Math.* **157** (2009), 2048–2056,
<https://doi-org.ezproxy.fau.edu/10.1016/j.dam.2008.08.004>
15. *“Systems of submodules and an isomorphism problem for Auslander-Reiten quivers,”*, *Bull. Belg. Math. Soc. Simon Stevin* **15** (2008), 523–546.
<https://doi-org.ezproxy.fau.edu/10.36045/bbms/1222783098>
14. with C. M. Ringel, *“Invariant subspaces of nilpotent linear operators. I”*, *Journal für die reine und angewandte Mathematik* **614** (2008), 1–52.
<https://dx.doi.org/10.1515/CRELLE.2008.001>
13. with C. M. Ringel, *“The Auslander-Reiten Translation in Submodule Categories”*, dedicated to Idun Reiten, *Transactions of the AMS* **360** (2008), 691–716.
<https://dx.doi.org/10.1090/S0002-9947-07-04183-9>
12. with C. M. Ringel, *“Submodule categories of wild representation type”*, *Journal of Pure and Applied Algebra* **205** (2006), 412–422.
<https://authors.elsevier.com/sd/article/S002240490500157X>
11. *“Bounded Submodules of Modules”*, dedicated to Claus Michael Ringel on the occasion of his 60th birthday, *Journal of Pure and Applied Algebra* **203** (2005), 45–82.
<https://dx.doi.org/10.1016/j.jpaa.2005.02.003>
10. *“A Construction of Metabelian Groups”*, *Archiv der Mathematik* **84** (2005), 392–397.
<https://dx.doi.org/10.1007/s00013-005-1243-z>
9. *A family of noetherian rings with their finite length modules under control*, dedicated to Helmut Lenzing on the occasion of his 60th birthday, *Czechoslovak Journal of Mathematics* **52** (3), (2002), 545–552. <https://dx.doi.org/10.1023/A:1021723728841>
8. *Ring units in iterated cyclic extensions, and in NTRU*, *Tatra Mountains Math. Pub.* **25** (2002), 127–136.
7. *When are artinian PI-rings artin algebras?*, *Communications in Algebra* **29**, (2001), 1659–1668. <https://dx.doi.org/10.1081/AGB-100002125>
6. *The finite length modules for thin \mathbb{Z} -graded rings*, *Communications in Algebra* **29** (3) (2001), 1041–1067. <https://dx.doi.org/10.1081/AGB-100001666>

5. *Endofinite modules over hereditary artinian PI-rings*, Canadian Mathematical Society Conference Proceedings Vol. **24** (1998), 497–511.
4. *The local duality for homomorphisms and an application to pure semisimple PI-rings*, Colloquium Mathematicum **77**, (1998), 121–132.
3. *Auslander-Reiten theory for artinian PI-rings*, Journal of Algebra **77** (1998), 72-81. <http://dx.doi.org/10.1006/jabr.1998.7448>
2. *A dichotomy for finite length modules induced by the local duality*, Communications in Algebra **25**(6), (1997), 1933-1944. <https://dx.doi.org/10.1080/00927879708825964>
1. *Auslander-Reiten-Köcher für artinsche Ringe mit Polynomidentität*, Dissertation, Ludwig-Maximilians-Universität München, 1996.

Recent Conference Talks:

- Relative Homology and Persistence Theory, CMS Summer Meeting in **St. John's, Newfoundland**, *Symmetry and conservation for poset representations*, Final Talk, June 3–5, 2022.
- Advances in Representation Theory of Algebras, ARTA VIII, **Toruń, Poland**, *Posets and Barcodes*, September 19–23, 2022.
- International conference on operator theory ICOT 2022, **Sousse, Tunisia**, *Invariant subspaces of nilpotent linear operators*, December 19–21, 2022.
- Colloquium, **Bielefeld, Germany**, *Hammocks to visualize the support of finitely presented functors*, January 20, 2023.
- International conference on mathematical sciences and applications, **Guelma, Algeria**, *Invariant subspaces of nilpotent linear operators: Algebra & Applications*, May 2–3, 2023.
- Representation Theory Seminar, **Bielefeld, Germany**, *Invariant subspaces of nilpotent linear operators: Level, mean, colevel*, May 12, 2023.
- Colloquium, **Nantong, China**, *Invariant subspaces of nilpotent linear operators: Algebra & Applications*, December 27, 2023.
- Ohio State - Denison Mathematics Conference, **Columbus, Ohio**, *Invariant subspaces of nilpotent linear operators: Algebra & Applications*, May 10-12, 2024.
- Quivers, clusters and Lie theory. A meeting on representation theory to commemorate Christof Geiss' 60th birthday, Mexico City, Mexico, June 9-12, 2024.
- International conference of algebras, ICRA 2024 **Shanghai, China**, *Invariant subspaces of nilpotent operators. Level, mean and colevel: The triangle $\mathbb{T}(n)$* , July 31-August 9, 2024.
- Representation theory seminar, **Bielefeld, Germany**, *Wild categories: screwy or adaptable?*, December 6, 2024.
- International Conference on Operator Theory, ICOT 2024, **Hammamet, Tunisia**, *Invariant subspaces of nilpotent operators: The triangle $\mathbb{T}(n)$* , December 16-18, 2024.
- Representation theory of algebras, celebrating the 80th birthday of Professor Claus Michael Ringel, *The power and the beauty of tubular algebras*, **Beijing, China**, May 29–June 2, 2025.
- Colloquium at Sichuan University, **Chengdu, China**, *Invariant subspaces of nilpotent operators. Algebra & Applications*, June 5, 2025.

- Mathematical Congress of the Americas MCA 2025, Special session on representations of algebras, *Invariant subspaces of nilpotent operators*, **Miami, Florida**, July 21–25, 2025.
- International Conference on Operator Theory, ICOT 2025, **Hammamet, Tunisia**, *Partition numbers, Fibonacci numbers and single-input control systems*, December 22–24, 2025.
- AMS Special Session on “Algebraic, combinatorial and geometric aspects of representation theory”, **Savannah, Georgia**, *Invariant subspaces of nilpotent operators: The triangle $\mathbb{T}(n)$* , March 28–29, 2026.