

ROSANNA LAKING

PERSONAL INFORMATION

DATE OF BIRTH: 28 February 1989
NATIONALITY: British
WORK ADDRESS: Università di Verona, Strada le Grazie 15, 37134 Verona, Italy
EMAIL: rosanna.laking@univr.it
LANGUAGES: English (native), Italian

EMPLOYMENT HISTORY

DEC 2021 Tenure-track Lecturer (RtdB), **University of Verona**, Verona, Italy.
- PRESENT

APR 2021 Postdoctoral Researcher, **University of Verona**, Italy.
- DEC 2021 Mentor: Prof. Lidia ANGELERI HÜGEL

JAN 2021 Marie Skłodowska-Curie Fellow, **University of Verona**, Italy.
- MAR 2021 Mentor: Prof. Lidia ANGELERI HÜGEL

OCT 2020 Research Fellow, **Hausdorff Research Institute for Mathematics**, Germany.
- DEC 2020 Part of Junior Trimester Program: New Trends in Representation Theory

JAN 2019 Marie Skłodowska-Curie Fellow, **University of Verona**, Italy.
- SEPT 2020 Mentor: Prof. Lidia ANGELERI HÜGEL

OCT 2017 Postdoctoral Researcher, **Max Planck Institute for Mathematics**, Germany.
- SEPT 2018 Mentor: Prof. Jan SCHRÖER

OCT 2016 Postdoctoral Researcher, **University of Bonn**, Germany.
- SEPT 2017 Mentor: Prof. Jan SCHRÖER

JUN 2016 Postdoctoral Researcher, **University of Manchester**, UK.
- AUG 2016 Mentor: Prof. Mike PREST

EDUCATION HISTORY

SEPT 2012 PhD in PURE MATHEMATICS, **University of Manchester**, UK
- MAY 2016 Thesis title: “String algebras in representation theory” | Advisor: Prof. Mike PREST

SEPT 2008 MSci (1st class) in MATHEMATICS, **University of Bristol**, UK
- JULY 2012 Project title: “Equivalences of categories” | Advisor: Prof. Jeremy RICKARD

PUBLISHED PAPERS

- *Simples in a cotilting heart* (with L. ANGELERI HÜGEL and I. HERZOG).
Mathematische Zeitschrift, Volume 307, Article number 12 (2024).
- *Infinite-dimensional representations of algebras*.
in *Modern Trends in Algebra and Representation Theory*.
Cambridge University Press, LMS Lecture Note Series, Number 486, 146–168 (2023).
- *Cosilting modules over cluster-tilted algebras of type \tilde{A}* (with K. BAUR).
Journal of Pure and Applied Algebra, Volume 226, Issue 10 (2022).
- *Cotilting sheaves over weighted noncommutative regular projective curves* (with D. KUSSIN).
Documenta Mathematica, Volume 25, 1029–1077 (2020).
- *Definability and approximations in triangulated categories* (with J. VITÓRIA).
Pacific Journal of Mathematics, Volume 306, 557–586 (2020).
- *Purity in compactly generated derivators and t -structures with Grothendieck hearts*.
Mathematische Zeitschrift, Volume 295, 1615–1641 (2020).

- *Krull-Gabriel dimension and the Ziegler spectrum.*
in *Proceedings of the 17th Workshop and International Conference on Representations of Algebras.*
American Mathematical Society, Contemporary Mathematics Series, Volume 705, 115–130
(2018).
- *Krull-Gabriel dimension of a domestic string algebra* (with M. PREST and G. PUNINSKI).
Transactions of the American Mathematical Society, Volume 370, 4813–4840 (2018).
- *The Ziegler spectrum for derived-discrete algebras* (with K.K. ARNESEN, D. PAUKSZTELLO and M. PREST). *Advances in Mathematics, Volume 319, 653–698* (2017).
- *Morphisms between indecomposable complexes in the bounded derived category of a gentle algebra* (with K.K. ARNESEN and D. PAUKSZTELLO).
Journal of Algebra, Volume 467, 1–46 (2016).

PREPRINTS AND PAPERS IN PREPARATION

- *Mutation of torsion pairs for a finite-dimensional algebra* (with L. ANGELERI HÜGEL and F. SENTIERI). In preparation.
- *Bricks and mutation* for the proceedings of the 20th Workshop and International Conference on Representations of Algebras to be published by the European Mathematical Society in the *EMS series of congress reports*. Submitted for peer review.
- *Torsion pairs via the Ziegler spectrum* (with L. ANGELERI HÜGEL and F. SENTIERI).
Preprint arXiv:2403.00475, 2024.
- *Mutation and torsion pairs* (with L. ANGELERI HÜGEL, J. STOVICEK and J. VITÓRIA).
Preprint arXiv:2201.02147, 2022.

PRIZES AND OTHER DISTINCTIONS

- JAN 2023 Abilitazione Scientifica Nazionale
 Professore universitario di Seconda Fascia 01/A2 - GEOMETRIA E ALGEBRA
- OCT 2022 Fellowship to attend Trimester Programme - Hausdorff Institute, Bonn
- NOV 2022 Research program "Spectral Methods in Algebra, Geometry and Topology"
- AUG 2022 International Conferences on Representations of Algebras (ICRA) Award
 Awarded by scientific committee of the ICRA for outstanding work by young mathematicians in the field of Representations of Finite-Dimensional Algebras
- OCT 2020 Fellowship to attend Junior Trimester Programme - Hausdorff Institute, Bonn
- DEC 2020 Research program "New Trends in Representation Theory"
- JAN 2019 Marie Skłodowska-Curie Individual Fellowship
- MAR 2021 Two year research fellowship

MEMBERSHIP OF PROJECTS

- OCT 2023 Member of PRIN (SQUARE)
- SEP 2025 *Project on Structures for Quivers, Algebras and Representations (SQUARE)*
- MAR 2021 Member of the Network on Silting
- FEB 2024 *Network of 18 researchers funded by the Deutsche Forschungsgemeinschaft*
- JAN 2020 External member of the REDCOM project
- DEC 2022 *Project funded by the Fondazione Cariverona*

MAIN SPEAKER AT CONFERENCES, MEETINGS AND WORKSHOPS

- SEP 2024 **Women in Representation Theory: Quivers, mutations, and beyond,**
 Bielefeld University, Germany
 Title: "Torsion pairs and the Ziegler spectrum"

- JUL 2024 **Simple-mindedness, silting and stability**,
University of Cumbria, Ambleside Campus, U.K
Title: "Mutability criteria for rigid subcategories"
- JUL 2024 **Perspectives in Representation Theory, 9ECM Satellite Conference**,
University of Coimbra, Portugal (invited speaker)
Title: "Tilts of the module category and cosilting pairs"
- DEC 2023 **Representation Theory and Non-Commutative Geometry / ARTIG 3**,
University of Paderborn, Germany (invited speaker, delivered online)
Title: "Extending the brick/ τ -rigid correspondence"
- SEPT 2023 **Silting in Representation Theory, Singularities, and Noncommutative Geometry**,
CMO-BIRS, Casa Matemática Oaxaca, Mexico (invited participant and selected speaker)
Title: "Simple tilts and mutation"
- MAR 2023 **Combinatorial aspects of representation theory**,
Norwegian Academy of Sciences and Letters, Oslo, Norway (invited speaker)
Title: "Mutation of cosilting sets"
- FEB 2023 **Representation Theory of Quivers and Finite Dimensional Algebras**,
Mathematisches Forschungsinstitut Oberwolfach, Germany (selected plenary)
Title: "Mutation of closed sets of the Ziegler spectrum"
- OCT 2022 **A Path in Algebra**,
University of Padova, Italy (invited speaker)
Title: "Simple objects in the heart"
- SEPT 2022 **Representation Theory and Triangulated Categories**,
University of Paderborn, Germany (invited speaker)
Title: "Injective-like objects in triangulated categories"
- SEPT 2022 **Silting Theory, Algebras and Representations**,
Prague, Czech Republic (invited speaker)
Title: "Mutation and the Ziegler Spectrum"
- AUG 2022 **20th International Conference on Representations of Algebras**,
Buenos Aires, Argentina (ICRA prizewinner talk)
Title: "Simples in a cotilting heart"
- AUG 2022 **20th International Conference on Representations of Algebras**,
Montevideo, Uruguay (invited workshop speaker)
Title: "Torsion pairs and mutation" (series of three talks)
- JAN 2022 **Flash Talks in Representation Theory**,
NTNU, Norway (invited speaker)
Title: "Simples objects in the heart and their injective envelopes"
- OCT 2021 **Homological Methods in Representation Theory**,
Fraueninsel, Germany (invited speaker)
Title: "Mutation in large silting theory"
- SEPT 2021 **Celebration of the work of of Bill Crawley-Boevey (online)**
University of Manchester, UK (invited speaker)
Title: "Mutation in large silting theory"
- JAN 2020 **Representation Theory of Quivers and Finite Dimensional Algebras**,
Mathematisches Forschungsinstitut Oberwolfach, Germany (selected plenary)
Title: "Torsion pairs for cluster-tilted algebras of type \tilde{A} "
- SEPT 2019 **Representation Theory in Bielefeld - Past and Future**,
University of Bielefeld, Germany (invited speaker)
Title: "Infinite-dimensional representations over finite-dimensional algebras"
- JUN 2019 **Conference: Interactions between Representation Theory, Algebraic Topology and Commutative Algebra (IRTACA) follow up**,
Centre de Recerca Matemàtica, Spain (invited speaker)
Title: "Definability and t-structures in triangulated categories"

- APR 2019 **Isfahan Conference on Representations of Algebras**,
University of Isfahan, Iran (invited speaker)
 Title: “Cosilting modules over cluster-tilted algebras”
- AUG 2018 **18th International Conference on Representations of Algebras**,
Prague, Czech Republic (selected plenary)
 Title: “Finiteness conditions on the heart of a t-structure”
- APR 2018 **Conference in Memory of Gena Puninski**,
University of Manchester, UK (invited speaker)
 Title: “Purity in compactly generated derivators”
- APR 2018 **Discrete Categories in Representation Theory**,
University of Bielefeld, Germany (invited speaker)
 Title: “Discrete categories and indecomposable objects”
- AUG 2016 **17th International Conference on Representations of Algebras**,
University of Syracuse, USA (selected plenary)
 Title: “Indecomposable objects in the homotopy category of a derived-discrete algebra”

CONTRIBUTED TALKS AT CONFERENCES, MEETINGS AND WORKSHOPS

- AUG 2019 **Two weeks of silting theory**,
University of Stuttgart, Germany
 Title: “Cosilting modules over cluster-tilted algebras of type \tilde{A} ”
- AUG 2017 **Workshop on the Model Theory of Modules, Algebras and Categories**,
 Ettore Majorana Centre for Scientific Culture, Erice, Italy
 Title: “Locally coherent hearts and elementary cogenerators”
- JUN 2016 **Young Women in Representation Theory**,
University of Bonn, Germany
 Title: “The Krull-Gabriel dimension of a category”
- JUN 2015 **Workshop on Cluster Algebras and Finite-dimensional Algebras**,
University of Leicester, UK
 Title: “Transfinite powers of the radical and the Ziegler spectrum”
- OCT 2014 **Workshop on Cluster Algebras and Preprojective algebras**,
 University of Cardiff, UK
 Title: “Morphisms in $\mathcal{K}^b(\text{proj}\Lambda)$ for Λ a gentle algebra”
- AUG 2014 **16th International Conference on Representations of Algebras**,
Tsinghua Sanya International Mathematics Forum, China
 Title: “Morphisms in $\mathcal{K}^b(\text{proj}\Lambda)$ for Λ a gentle algebra”

OTHER INVITED SEMINARS

- OCT/NOV 2023 **Aarhus Homological Algebra Symposium**,
Aarhus University, Denmark
 Title: “Cosilting sets and the Ziegler spectrum”
- JUN 2023 **Algebra and Representation Theory Seminar**,
Roma Tor Vergata, Italy
 Title: “Cosilting complexes and asymptotic triangulations of the annulus”
- NOV 2022 **Seminar series at Hausdorff Trimester Program**,
Spectral Methods in Algebra, Geometry and Topology, HIM Bonn, Germany
 Title: “Grothendieck hearts in the derived category of a finite-dimensional algebra”
- NOV 2021 **Representation Theory of Algebras and Applications (Brazil)**, online
 Title: “Wide intervals and mutation”
- NOV 2021 **Africa math seminar**, online
 Title: “Wide intervals and mutation”
- OCT 2021 **Seminar Alexander Zavadskij on Representation of Algebras (Columbia)**, online
 Title: “Wide intervals and mutation”

- MAR 2021 **NTNU algebra seminar**, online
Title: "Mutation and minimal inclusions of torsion classes"
- MAR 2021 **Aarhus algebra seminar**, online
Title: "Mutation and minimal inclusions of torsion classes"
- DEC 2020 **Bristol algebra seminar**, online
Title: "Mutation of large cosilting complexes"
- DEC 2020 **Northeastern representation theory seminar**, online
Title: "Mutation of large cosilting complexes"
- JUN 2020 **MALGA seminar**, online
Title: "Minimal inclusions of torsion classes and cosilting mutation"
- APR 2019 **Pure Maths Colloquium**,
University of St Andrews, UK
Title: "Cosilting modules over cluster-tilted algebras"
- MAR 2019 **MALGA seminar**,
University of Verona, Italy
Title: "Definability and approximation theory in triangulated categories"
- DEC 2017 **Bristol Algebra Seminar**,
University of Bristol, UK
Title: "Derived equivalences arising from cotilting modules and finiteness conditions"
- MAY 2017 **Oberseminar Algebra**,
University of Stuttgart, Germany
Title: "Functor categories and techniques for classifying indecomposable objects"
- MAR 2017 **BLOC Meeting**,
City University London, UK (invited speaker)
Title: "Indecomposable objects in the homotopy category of derived-discrete algebras"
- FEB 2017 **MALGA Seminar**,
University of Verona, Italy
Title: "Classification of indecomposable modules via categories of functors"
- NOV 2016 **Oberseminar Darstellungstheorie**,
University of Bonn, Germany
Title: "Krull-Gabriel dimension for string algebras"
- NOV 2016 **BIREP Seminar**,
University of Bielefeld, Germany
Title: "Krull-Gabriel dimension, Ziegler spectra of module categories and applications to compactly generated triangulated categories"
- JAN 2016 **Algebra and Number Theory Seminar**,
University of Graz, Austria
Title: "The Krull-Gabriel dimension of a category"
- APR 2016 **47th meeting of the ARTIN network**,
University of Glasgow, UK (invited speaker)
Title: "The Ziegler spectrum of a derived-discrete algebra."
- DEC 2015 **Lancashire Yorkshire Model Theory Seminar**,
University of Central Lancashire, UK
Title: "Morphisms between pointed modules and pp formulas"
- JUN 2015 **Oberseminar Darstellungstheorie**,
University of Bonn, Germany
Title: "Morphisms in the bounded derived category of a gentle algebra"
- DEC 2014 **Leicester Pure Mathematics Seminar**,
University of Leicester, UK
Title: "Morphisms in $\mathcal{K}^b(\text{proj } \Lambda)$ for Λ a gentle algebra"
- NOV 2014 **Leeds Algebra Seminar**,
University of Leeds, UK

TEACHING EXPERIENCE

- MAR 2024 **Algebraic Geometry**, University of Verona, Italy
- JUN 2024 *Lectures and exercise classes for Masters students (6 CFU)*
- MAR 2024 **Algebra lineare**, University of Verona, Italy
- JUN 2024 *Lectures for first year computer science undergraduate students (6 CFU)*
- MAR 2023 **Algebraic Geometry**, University of Verona, Italy
- JUN 2023 *Lectures and exercise classes for Masters students (6 CFU)*
- MAR 2023 **Algebra lineare**, University of Verona, Italy
- JUN 2023 *Lectures for first year computer science undergraduate students (6 CFU)*
- NOV 2022 **Torsion pairs in abelian categories**, University of Padova, Italy
-FEB 2023 *Reading course in PhD program, joint with J. Vitória (24 hours)*
- MAR 2022 **Algebra**, University of Verona, Italy
-JUN 2022 *Leading tutorials and setting exercises for second year undergraduate students*
- MAR 2022 **Algebraic Geometry**, University of Verona, Italy
- JUN 2022 *Lectures and exercise classes for Masters students (4 CFU)*
- MAR 2022 **Algebra lineare**, University of Verona, Italy
- JUN 2022 *Lectures for first year computer science undergraduate students (6 CFU)*
- APR 2021 **Representation theory**, University of Verona, Italy
- JUN 2021 *Lectures for Masters students (3 CFU)*
- OCT 2020 **London Mathematical Society Autumn Algebra School**, online
Three online lectures for new PhD students at UK universities
- MAR 2020 **Algebraic Geometry**, University of Verona, Italy (online)
-JUN 2020 *Leading tutorials and setting exercises for Masters students*
- MAR 2019 **Representation Theory**, University of Verona, Italy
-JUN 2019 *Leading tutorials and setting exercises for Masters students*
- JAN 2019 **Lectures on Purity in Triangulated Categories**, University of Verona, Italy
Short lecture series for graduate students
- OCT 2015 **Foundation year mathematics (ON1)**, University of Manchester, UK
-JAN 2016 *Leading tutorials for groups of 30–40 students introducing basic pure mathematics*
- JUL 2015 **MSc Writing Clinic**, University of Manchester, UK
-SEPT 2015 *One-to-one tutoring MSc students to improve their mathematical writing skills*
- OCT 2014 **Foundation year mathematics (OB1)**, University of Manchester, UK
-JAN 2015 *Leading tutorials for groups of 30–40 students introducing basic pure mathematics*
- FEB 2014 **Linear algebra**, University of Manchester, UK
-JUN 2014 *Leading tutorials for groups of 8–10 undergraduate students in concurrence with lectures*
- FEB 2013 **Propositional logic**, University of Manchester, UK
-JUN 2013 *Assisting the lecturer in exercise classes for groups of 30–40 undergraduate students*

STUDENT SUPERVISION

- DEC 2023 **Viola Conte**, University of Padova, Italy
-SEPT 2024 *Master's Thesis*

ORGANISATION OF CONFERENCES AND SEMINARS

- MAY 2020 **FD seminar**
-MAY 2024 *Weekly online seminar with international audience of around 30-70 participants*
- NOV 2020 **19th International Conference on Representations of Algebras**
Online international conference with 770 registered participants

- NOV 2019 **Reading Seminar on ∞ -Categories**
 -FEB 2020 *University of Verona, Italy*
- JAN 2016 **British Postgraduate Model Theory Conference**
University of Manchester, UK
- SEPT 2015 **Infinite-dimensional Representations of Finite-dimensional Algebras**
University of Manchester, UK

RESEARCH VISITS

- OCT/NOV 2023 Aarhus University, Denmark (1 week)
Hosts: Dr. Amit Shah and Dr. Raphael Bennett-Tennenhaus.
- SEP 2021 University of Stuttgart, Germany (1 week)
Host: Dr. Alexandra Zvonareva.
- JAN 2016 University of Graz, Austria (1 week + 1 week)
 AND FEB 2019 *Host: Prof. Karin Baur.*
- JAN 2017 University of Verona, Italy (1 month)
 -FEB 2017 *Host: Prof. Lidia Angeleri Hügel.*
- JUN 2014 NTNU, Trondheim, Norway (1 week)
Host: Kristin Krogh Arnesen.

OUTREACH AND OTHER RESPONSIBILITIES

- NOV 2022 **Member of editorial board of the London Mathematical Society newsletter**
 -PRESENT *Commissioning of features articles and other editorial duties*
- MAY 2020 **MSCA-IF webinar**, University of Verona (online)
Short presentation at careers event, speaking about my experience as a MSCA Fellow
- JUL 2015 **Athena Swan Committee member**, University of Manchester, UK
- AUG 2016 *Student representative on committee promoting the advancement of gender equality*
- JUL 2015 **Making Maths at Manchester**, University of Manchester, UK
Outreach event for school students in their final year of study
- SEPT 2011 **Maths Café tutor**, University of Bristol, UK
Informal drop-in sessions for second year students to accompany formal lecture courses