



Dr. Jordan McMahon

Education

- 2015–2019 **PhD (Mathematics)**, *University of Graz, Austria*.
Supervisor: Prof. Karin Baur
Title: "*Idempotent Ideals and Higher Auslander–Reiten Theory*"
Defense: 30 September 2019.
- 2013–2015 **MSc (Mathematics)**, *University of Bonn, Germany*.
Supervisor: Prof. Jan Schröer
Title: "*1-Gorenstein Algebras, Gentle Algebras and Singularity Categories*"
- 2010–2013 **BSc(Hons) (Mathematics)**, *University of Waikato, New Zealand*.
Supervisor: Dr. Tim Stokes
Title: "*Varieties of If-Then-Else Algebras*"

Languages

English	Fluent	<i>Native Speaker</i>
German	Fluent	<i>7 years at high school/university 6 years living in Germany/Austria</i>
Hungarian	Moderate	<i>3 years of evening classes</i>
Swedish	Basic	<i>6 months of evening classes</i>

Publications

- *The combinatorics of tensor products of higher Auslander algebras of type A*, with Nicholas Williams. Accepted Glasgow Math J. (2020).
- *Fabric idempotents and higher Auslander-Reiten theory*, J. Pure Appl. Algebra (2020).
- *Explicit correlation and basis set superposition error: The structure and energy of carbon dioxide dimer*, with Joseph Lane. J. Chem. Phys. (2011).

Preprints

- *Higher gentle algebras*, arxiv:1903.07125.
- *Higher support tilting for higher Auslander algebras of linearly oriented type A*, arXiv:1808.05184.
- *Quiddity sequences for SL_3 -frieze patterns*, arXiv:1801.02654.
- *Higher frieze patterns*, arXiv:1703.01864.

Institut für Mathematik und wiss. Rechnen, Heinrichstrasse 36, A-8010 Graz, Österreich

☎ +43 650 520 6333 • ✉ jordanmcmahon37@gmail.com

🌐 <https://imsc.uni-graz.at/mcmahon>

Born 4 June 1993, Dunedin, New Zealand. Skype: jordan.mcmahon77

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Research Stays

- 01.07.2019-18.08.2019 Budapest University of Technology and Economics (HU).
Host: Dr. Erzsébet Lukács.
- 01.05.2019-16.06.2019 Uppsala University (SW).
Host: Dr. Martin Herschend.
- 08.01.2018-24.02.2018 University of Newcastle-upon-Tyne (UK).
Host: Prof. Peter Jørgensen.
- 16.04.2018-03.06.2018 University of Paris-Sud (FR).
Host: Dr. Pierre-Guy Plamondon.

Contributed Talks

- 08.08.2019 Two Weeks of Silting, Stuttgart (DE)
"Higher τ -tilting and stratifications of higher cluster-tilting subcategories"
- 16.04.2019 New Connections and Directions in Representation Theory and Related Topics, Leeds (UK) "Higher gentle algebras"
- 18.02.2019 Graduate Student Meeting on Applied Algebra and Combinatorics, Leipzig (DE)
"Frieze patterns and the Grassmannian".
- 17.09.2018 SWAN First Workshop , Stuttgart (DE)
"Higher cluster-tilting for algebras of type $A_2^d \otimes A_2^d$ via abstract barycentric algebras".
- 16.08.2018 International Conference for Representation Theory of Algebras, Prague (CZ). "Fabric idempotents".
- 26.04.2018 Auslander Distinguished Lectures and International Conference, Woods Hole (USA)
"Fabric idempotent ideals and homological dimensions".

Refereeing for Journals

American Mathematical Monthly; Journal of Algebra and its Applications; Journal of Combinatorial Theory, Series A; Journal of Algebra; Journals of the LMS.

Seminar talks

- 14.05.2019 Uppsala algebra seminar.
- 28.03.2019 Graz algebra and number theory seminar.
- 16.11.2018 Graz Doctoral School of Mathematics and Scientific Computing seminar series.
- 03.06.2018 University of Paris Diderot algebra seminar.
- 23.01.2018 University of Leeds algebra seminar.
- 10.11.2017 Advanced Topics in Discrete Mathematics seminar series (Graz).
- 10.03.2017 Advanced Topics in Discrete Mathematics seminar series (Graz).
- 19.12.2016 University of Waikato mathematics seminar.
- 1.12.2016 Graz algebra and number theory seminar.
- 11.11.2016 Graz Doctoral School of Mathematics and Scientific Computing seminar series.

Teaching Experience

University of Graz

2015–2020 **Teaching Assistant.**

- SoS 20 Lineare Algebra für USW (Lecture and exercise class).

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- SoS 20 Analysis 2 für LAK (Exercise class)
- WS 19/20 Naturwissenschaftliches Rechnen (Lecture and exercise class).
- WS 18/19 Naturwissenschaftliches Rechnen (Lecture and exercise class).
- WS 18/19 Algebra (Exercise class).
- WS 17/18 Naturwissenschaftliches Rechnen (Lecture and exercise class).
- SoS 17 Naturwissenschaftliches Rechnen (Lecture and exercise class).
- WS 16/17 Naturwissenschaftliches Rechnen (Lecture and exercise class).
- WS 16/17 Elementare Zahlentheorie für LAK (Exercise class).
- WS 15/16 Naturwissenschaftliches Rechnen (Lecture and exercise class).

University of Waikato

2012–2013 **Teaching Assistant.**

- 2013A MATH 102 (Exercise class).
- 2012B MATH 102 (Exercise class).

Other Teaching and Qualifications

Feb 2020 **Cambridge CELTA**, *International House, Budapest, Hungary.*
(Certificate in English Language Teaching for Adults)

2019 **Badminton Coaching Certificate**, *Austrian Badminton Association.*

2018-2020 **Badminton Coach**, *Volkschule Jägergrund.*
Weekly coaching session with 8-10 year olds.

Scholarships and prizes

- German Academic Exchange Service (DAAD) Study Scholarship for Graduates of all Disciplines (to study in Bonn in 2014).
- William Georgetti Scholarship (to study in Bonn 2013-2015).
- Rutherford Scholarship (declined, to fund 3 years of PhD studies).
- 2011 DAAD Winter Course Scholarship (to study German at the University of Leipzig for six weeks).
- 2011 Millennium Prize in Mathematics (for first equal in second-year mathematics).
- 2010 Von-Neumann Prize in Mathematics (for first equal in first-year mathematics).

Language Courses and Activities

- 2019 Oct. - Hungarian (A1.IV) *WIFI Steiermark, Graz.*
- 2019 Jul. - 2019 Mar. Hungarian (A1.III) *Magyar Iskola, Budapest.*
- 2017 Jan.- 2019 Mar. Hungarian (A1.I-A1.III), *Urania, Graz.*
- 2018 Sep.- 2019 Mar. Swedish (A1.I-II), *Urania, Graz.*
- 2012 Jan.-Feb. German (B2) Intensive language course, *University of Leipzig, Leipzig.*
- 2008 Dec.-2009 Jan. School exchange, *New Zealand-Bavaria Exchange Programme, Murnau.*

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