

# Eleonore Faber

## Curriculum Vitae

School of Mathematics  
University of Leeds  
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🌐 [www1.maths.leeds.ac.uk/~pmtmf/index.html](http://www1.maths.leeds.ac.uk/~pmtmf/index.html)

### Employment

- 08/2017- **University Academic Fellow**, *University of Leeds*, Leeds (UK).
- 09/2015-06/2017 **Post doctoral assistant professor**, *University of Michigan*, Ann Arbor (USA).
- 06/2015-08/2015 **Post doctoral fellow**, *Universität Wien*, Vienna (Austria).  
Return Phase of Erwin-Schrödinger-Fellowship of the FWF
- 02/2015-05/2015 **Post doctoral fellow**, *Institut Mittag-Leffler*, Djursholm (Sweden).  
Program *Representation Theory*
- 09/2012-01/2015 **Post doctoral fellow**, *University of Toronto*, Toronto (Canada).  
Erwin-Schrödinger-Fellowship of the FWF
- 01/2013-05/2013 **Post doc/research member**, *MSRI*, Berkeley (USA).  
Program *Commutative Algebra*
- 12/2007-08/2012 **Ph.D.-research assistant/Post doc**, *Universität Wien*, Vienna (Austria).  
06/2012-08/2012: Post doc in FWF-project P21461, 12/2011-05/2012: L'Oréal Fellowship, 01/2011-11/2011: Ph.D.-research assistant FWF-project P21461, 01/2010-12/2010: doc-forte fellowship, 12/2007-12/2009: Ph.D.-research assistant in FWF-projects P21461, P18992

### Education

- 2012 **Ph.D. in Mathematics**, *Universität Wien*, Fakultät für Mathematik, Vienna (Austria).  
Ph.D. thesis *Normal crossings in local analytic geometry*, Advisor: V.-Prof. H. Hauser; Promotio sub auspiciis Praesidentis rei publicae 03/12/2012, Defensio 10/31/2011
- 2007–2008 **Ph.D. student in Mathematics**, *Universität Innsbruck*, Institut für Mathematik, Innsbruck (Austria).
- 2007 **M.S. (Dipl.-Ing.) in Technical Mathematics**, *Universität Innsbruck*, Institut für Mathematik, Innsbruck (Austria).  
Master thesis *Torische Varietäten, Explosionen und das Newtonpolyeder*, Advisor: Ao.-Univ. Prof. H. Hauser
- 1999–2003 **High School**, education at the Wirtschaftskundl. Realgymnasium der Ursulinen, Innsbruck (Austria).  
school leaving examination (Matura) passed with distinction

### Research Interests

(Non-Commutative) Algebraic Geometry, Representation Theory, Commutative Algebra, Singularity Theory, Homological Algebra, Cluster Algebras, Cluster Categories

### Publications

- [1] K. Baur, E. Faber, S. Gratz, K. Serhiyenko and G. Todorov. Conway–Coxeter friezes and mutation: a survey. accepted for publication in *Advances from the Mathematical Sciences - Research from the 2017 Association for Women Mathematics Symposium* Springer 2018. 18pp <https://arxiv.org/abs/1806.06441>
- [2] R.-O. Buchweitz, E. Faber and C. Ingalls. Noncommutative resolutions of discriminants. In Proceedings from ICRA 2016, volume 705 of *Contemp. Math.*, pages 37–52. Amer. Math. Soc., Providence, RI, 2018. <http://arxiv.org/abs/1702.00791>

- [3] K. Baur, E. Faber, S. Gratz, K. Serhiyenko and G. Todorov. Mutation of friezes. *Bull. Sci. math.*, 142:1–48, 2018. <http://arxiv.org/abs/1612.05374>.
- [4] B. Doherty, E. Faber, and C. Ingalls. Computing global dimension of endomorphism rings via ladders. *J. Algebra*, 458:307–350, 2016. <http://arxiv.org/abs/1508.06287>.
- [5] P. Aluffi and E. Faber. Chern classes of splayed intersections. *Canadian J. Math.*, 67(6):1201–12018, 2015. <http://arxiv.org/abs/1406.1182>.
- [6] H. Dao, E. Faber, and C. Ingalls. Noncommutative (crepant) desingularizations and the global spectrum of commutative rings. *Algebr. Represent. Theory*, 18(3): 633–664, 2015. <http://arxiv.org/abs/1401.3000>.
- [7] E. Faber. Characterizing normal crossing hypersurfaces. *Math. Ann.*, 361:995–1020, 2015.
- [8] P. Aluffi and E. Faber. Splayed divisors and their Chern classes. *J. Lond. Math. Soc. (2)*, 88(2):563–579, 2013.
- [9] A. Benito, E. Faber, and K. E. Smith. Measuring singularities with Frobenius: the basics. In *Commutative algebra*, pages 57–97. Springer, New York, 2013.
- [10] E. Faber. Towards transversality of singular varieties: splayed divisors. *Publ. Res. Inst. Math. Sci.*, 49(3):393–412, 2013.
- [11] E. Faber and D. Westra. Blowups in tame monomial ideals. *J. of Pure and Applied Algebra*, 215:1805–1821, 2011.
- [12] E. Faber and H. Hauser. Today's menu: geometry and resolution of singular algebraic surfaces. *Bull. Amer. Math. Soc.*, 47(3):373–417, 2010.

### Preprints

- [13] E. Faber. Trace ideals, normalization chains, and endomorphism rings. 2018. 17pp, submitted.
- [14] K. Baur, E. Faber, S. Gratz, K. Serhiyenko and G. Todorov. Friezes satisfying higher  $SL_k$ -determinants. 2018. <https://arxiv.org/abs/1810.10562> 46pp
- [15] R.-O. Buchweitz, E. Faber and C. Ingalls. The magic square of reflections and rotations. 2018. <http://arxiv.org/abs/1806.04600>. 27pp, submitted.
- [16] E. Faber, G. Muller and K.E. Smith. Non-commutative resolutions of toric varieties. 2018. <http://arxiv.org/abs/1805.00492>. 39pp, submitted.
- [17] R.-O. Buchweitz, E. Faber and C. Ingalls. A McKay correspondence for reflection groups. 2018. <http://arxiv.org/abs/1709.04218>. 56pp, submitted.
- [18] A. Benito and E. Faber. Integrable derivations of some hypersurfaces in positive characteristic. 2018. in preparation. 23pp
- [19] R.-O. Buchweitz, E. Faber and C. Ingalls. Lusztig–McKay algebras. 2018. in preparation.

### Theses

- [20] E. Faber. Normal crossings in local analytic geometry. PhD thesis, Universität Wien, 2011. <http://othes.univie.ac.at/16942/>.
- [21] E. Faber. Torische Varietäten, Explosionen und das Newtonpolyeder. Master's thesis, Universität Innsbruck, 2007. [http://www.math.toronto.edu/efaber/files/diplomarbeit\\_faber.pdf](http://www.math.toronto.edu/efaber/files/diplomarbeit_faber.pdf).

### Non-refereed publications

- [22] E. Faber. Noncommutative desingularizations of discriminants of reflection groups. extended abstract 3 pp., to appear in: *Singularities*. Abstracts from the workshop held September 25–October 1, 2016. Organized by Francois Loeser, András Némethi, and Duco van Straten. *Oberwolfach Rep.*, 13 (2016), no. 3, 2671–2674.
- [23] R.-O. Buchweitz and E. Faber. Swallowtail on the shore. *Snapshots of modern mathematics from Oberwolfach*, No. 7, 2014. available at <http://imaginary.org/snapshot/swallowtail-on-the-shore>.
- [24] E. Faber. Towards transversality of singular varieties: splayed divisors. extended abstract 3 pp., in: *Singularities*. Abstracts from the workshop held September 23–29, 2012. Organized by András Némethi, Duco van Straten and Victor A. Vassiliev. *Oberwolfach Rep.*, 9 (2012), no. 3, 2828–2831.

## Awards, Honours

11/2012 Würdigungspreis of the Ministry of Science and Research of Austria (BMWF) (2,500EUR)

- 03/2012 Promotio sub auspiciis Praesidentis rei publicae (a distinction given to people who have passed all major exams during high school and university with the best possible mark)
- 2011 “For Women in Science” Award of L’Oréal Austria, the Austrian commission for UNESCO and the Austrian Academy of Sciences (20,000EUR)
- 2002,03 Participation in the final round of the Austrian Mathematical Olympiad (Advanced)
- 2001 1st prize in the final round of the Austrian Mathematical Olympiad (Beginners)

## Grants

- 2018 Recipient of a Marie Curie Individual Fellowship of the European Union (183,454.80EUR)
- 2015 Recipient of an Oberwolfach Leibniz Fellowship (total stay of 3 months at the MFO in summer 2016, 2017)
- 02/2015- Recipient of an Institut Mittag-Leffler Post doc fellowship, Program *Representation theory*, Institut  
05/2015 Mittag-Leffler, Djursholm
- 01/2013- MSRI research membership January 2013–May 2013, programme *Commutative algebra*, Mathemat-  
05/2013 ical Science Research Institute, Berkeley (12,000USD)
- 07/2012 Recipient of a scholarship of excellence for sub auspiciis 2012 (Exzellenzstipendium für Promovierte  
sub auspiciis der Universität Wien 2012) of the rector of the University of Vienna (4,500EUR)
- 09/2012- Recipient of Erwin-Schrödinger-Fellowship J3326-N25 of the FWF, (09/2015-05/2016 declined)  
05/2016 (140,180EUR)
- 2010 Recipient of a doc-fForte Fellowship of the Austrian Academy of Sciences (30,000EUR)
- 2009 Research Fellowship (Forschungsstipendium) F443 of the Universität Wien (8,000EUR)
- 2005,06,07 Scholarship of excellence (Leistungsstipendium) Leopold-Franzens-Universität Innsbruck

## Travel grants

- 09/2016 Recipient of an US Junior Oberwolfach fellowship of the NSF for attending the workshop *Singularities*
- 11/2015 AWM-NSF travel grant for attending the Joint Mathematics Meetings in Seattle, WA, USA, January  
6–10, 2016 (1362USD)
- 04/2014 Travel grant for attending the 2015 Summer Research Institute in Algebraic Geometry in Salt Lake  
City from the AMS and CMI (569USD) – declined
- 2013 AWM Travel grant for attending the AWM Symposium at Santa Clara University, CA, USA, March  
2013
- 2012,2013 Recipient of an Oberwolfach Leibniz graduate travel fellowship for attending the workshops *Singu-  
larities* and *Matrix factorizations in Algebra, Geometry, and Physics*
- 2007 Grant for travel expenses (Förderungsstipendium) of the Leopold-Franzens-Universität Innsbruck

## Conference organization grants

- 06/2018 London Mathematical Society Workshop Grant for the Workshop *WINART2*, University of Leeds  
(UK), (together with K. Baur, G. Benkart, E. Kirkman and C. Walton) - 7,000GBP
- 04/2018 Financial support for the organization of the Workshop *RRAGE: Ragnar’s Ramifications in Algebra  
and Geometry Emerging*, Fields Institute Toronto (Canada),(together with M. Gualtieri and C. Ingalls)  
– support from the Fields Institute 20,000CAD
- 07/2015 Financial support for the organization of the Workshop *Geometric Algebra: bridges between com-  
mutative algebra, noncommutative geometry and representation theory*, Fields Institute Toronto  
(Canada),(together with J. Bell, R.-O. Buchweitz and C. Ingalls) – support from the Fields Institute  
18,000CAD and from the NSF 9,000CAD

## Teaching

- Semester II 2018-19 **(upcoming) Course Instructor**, *University of Leeds*, MATH3195M/MATH5195M (Commutative rings).  
solely responsible for lecture, assignments and exams
- Semester II 2017-18 **Course Instructor**, *University of Leeds*, MATH5253M (Commutative Algebra and Algebraic Geometry).  
solely responsible for lecture, assignments and exams
- Winter 2017 **Course Instructor**, *University of Michigan*, Math 412 (Introduction to Modern Algebra).  
1 section, solely responsible for lecture, assignments and exams
- Fall 2016 **Course Instructor**, *University of Michigan*, Math 116 (Calculus II).  
taught 2 sections, also responsible for grading of weekly homeworks and quizzes, exam grading
- Winter 2016 **Course Instructor**, *University of Michigan*, Math 433 (Introduction to Differential Geometry).  
solely responsible for lecture, assignments and exams
- Fall 2015 **Course Instructor**, *University of Michigan*, Math 115 (Calculus I).  
taught 2 sections, also responsible for grading of weekly homeworks and quizzes, exam grading
- Winter 2014 **Course Instructor**, *University of Toronto at Scarborough*, MATA36H3 (Calculus II for the Physical Sciences).  
solely responsible for lecture, course coordination, assignments and exams, 206 students enrolled
- Fall 2013 **Teaching Assistant**, *University of Toronto*, MAT1352 (Graduate course Characteristic Classes and K-Theory).  
grading
- Fall 2012 **Teaching Assistant**, *University of Toronto*, MAT1350 (Graduate course Homological Algebra).  
grading
- WS 2011 **Instructor**, *Universität Wien, Fakultät für Mathematik*, Übungen zur Algebra.  
algebra exercises for bachelor students in mathematics
- WS 2006 **Tutor**, *Universität Innsbruck, Institut für Mathematik*, Algorithmische Mathematik 4.  
mathematics for bachelor students in computer science
- WS 2005/  
SS 2006 **Demonstrator**, *Universität Innsbruck, Institut für Mathematik*, Programmieren für Mathematiker & Einführung in die mathematische Software.  
programming courses for bachelor students in mathematics

## Organizational activities

- (ongoing) Organizer of the Leeds Algebra Seminar at University of Leeds, 2017–
- Organizer of the Workshop *RRAGE - Ragnar's Ramifications in Algebra and Geometry Emerging*, Fields Institute Toronto (Canada), July 2019 (together with M. Gualtieri and C. Ingalls)
- Organizer of the Workshop *WINART2-Women In Noncommutative Algebra And Representation Theory*, University of Leeds (UK), May 2019 (together with K. Baur, G. Benkart, E. Kirkman, and C. Walton)
- Organizer of the Conference *Interactions between Commutative Algebra, Representation Theory, and Algebraic Geometry: A conference in memoriam Ragnar-Olaf Buchweitz*, Universität Münster (Germany), March 2019 (together with L. Hille)
- Organizer of the Special Session *Algebraic Geometry and Commutative algebra* at CSASC 2018, Bratislava (Slovakia), September 2018 (together with A. Fernando-Boix)
- Host of Oberwolfach Simons Visiting Professor Colin Ingalls at University of Leeds, May 2018
- Organizer of the Workshop *Geometric Algebra: bridges between commutative algebra, noncommutative geometry and representation theory*, Fields Institute Toronto (Canada), July 2015 (together with J. Bell, R.-O. Buchweitz and C. Ingalls)

- Organizer of the GAGA-seminar at the University of Vienna, 2009–2012 (together with H. Hauser)
- Organizer of the ESI-program *Algebraic vs. Analytic Geometry*, Erwin-Schrödinger-Institute Vienna (Austria), November 19 – December 13, 2011 (together with C. Bruschek, N. Lubbes and G. Rond) – support from the ESI 20,000EUR and from the Clay Mathematics Institute 10,000USD
- Organizer of *ETH-Day*, ESI, Vienna (Austria), March 4, 2011, (together with C. Bruschek and H. Hauser)
- Organizer of *The Vienna PDE-Day*, Erwin-Schrödinger-Institute, Vienna (Austria), January 29, 2010, (together with H. Hauser)
- Assistance at the exhibition *IMAGINARY*, Vienna (Austria) and Berkeley (USA), February–March 2009
- Organizer of *The Vienna Algebra Day*, Erwin-Schrödinger-Institute, Vienna (Austria), October 31, 2008, (together with H. Hauser)
- Assistance at the organization of *The Vienna Geometry Day*, Erwin-Schrödinger-Institute, Vienna (Austria), April 25, 2008
- Organizer of the conference *The 1st  $\alpha - \omega$ -conference in Algebraic Geometry*, Obergurgl (Austria), October 2007, (together with C. Bruschek, H. Hauser, M. Scheicher and D. Wagner)

## Service

- Peer-reviewing for *Advances in Mathematics*, *Algebras and Representation theory*, *Annales de l'Institut Fourier*, *Clay Mathematics Proceedings*, *Compositio Mathematica*, *International Mathematics Research Notices (IMRN)*, *Journal of Algebra*, *Journal of Algebra and its Applications*, *Journal of Pure and Applied Algebra*, *Journal of Singularities*, *Journal of Symbolic Computation*, *Manuscripta Mathematica*, *Transactions of the AMS*.
- Reviewing for *Mathematical Reviews* (since November 2013, 24 articles).
- Served on a National Science Foundation (NSF) review panel 2017.
- Member of the EPSRC Early Career Forum of the Mathematical Sciences 2017–19
- Internal Examiner for PhD thesis of Amani Alfadhli (University of Leeds)

## Memberships

- American Mathematical Society (AMS) since 2006
- Association for Women in Mathematics (AWM) since 2013
- Austrian Mathematical Society (ÖMG) since 2012
- London Mathematical Society (LMS) since 2018

## Selected Invited Research Talks

(Five most important marked with \*)

1. (upcoming) *2019 International Conference on Singularity Theory*, Tsinghua Sanya International Mathematics Forum, Sanya City, Hainan (China), December 2019; Talk: *TBA*
2. (upcoming) Oberseminar *Algebraische Geometrie*, Universität Hannover, Hannover (Germany), June 2019; Talk: *TBA*
3. (upcoming) Follow up of IRTATCA, Barcelona (Spain), June 2019; 4 Lectures on *The McKay correspondence and noncommutative desingularizations*
4. (upcoming) CIMPA School, Isfahan (Iran), April 2019; 4 Lectures on *The McKay correspondence and noncommutative desingularizations*
5. (upcoming) Algebraic Geometry Seminar, Loughborough University, Loughborough (UK), March 2019; Talk: *TBA*

6. (upcoming) London Algebra Colloquium, Queen Mary University London, London (UK), January 2019; Talk: *TBA*
7. Meeting on *Free divisors and hyperplane arrangements*, Paris (France), December 2018; Talk: *Reflection arrangements, their discriminants, and the McKay correspondence*
8. Algebra Seminar, York University, York (UK), November 2018; Talk: *Noncommutative resolutions of toric varieties*
9. LaCIM Seminar, UQAM, Montréal (Canada), October 2018; Talk: *Cluster structures on Grassmannians and  $SL_k$ -friezes*
10. One day meeting in Combinatorial Algebraic Geometry, University of Bristol, Bristol (UK), September 2018; Talk: *Noncommutative resolutions and rings of differential operators of toric varieties*
11. 18th International Conference on Representations of Algebras (ICRA 2018), Prague, Czech Republic, August 2018; Talk: *Noncommutative resolutions of toric varieties*
12. Conference *DART IX - Differential Algebra and Related Topics*, University of Leeds, Leeds (UK), July/August 2018; Talk: *Integrable derivations of hypersurfaces in characteristic  $p$*
13. Algebra and Number Theory Seminar, Universität Graz, Graz (Austria), July 2018; Talk: *From the magic square of reflections and rotations to the McKay correspondence*
14. Algebraic Geometry Seminar, Universität Wien, Vienna (Austria), July 2018; Talk: *Frieze und Clusterkategorien*
15. Algebra and Analysis Seminar, University of Nottingham, Nottingham (UK), May 2018; Talk: *The McKay correspondence and noncommutative singularity theory*
16. Pure Mathematics Colloquium, Lancaster University, Lancaster (UK), April 2018; Talk: *Symmetries and singularities via the McKay correspondence*
17. Algebra Seminar, Carleton University, Ottawa (Canada), April 2018; Talk: *Friezes and mutations*
18. Séminaire de Géométrie Algébrique, Université de Montpellier, Montpellier (France), March 2018; Talk: *Noncommutative desingularizations and the McKay correspondence for reflection groups*
19. Algebraic Geometry Seminar, Universidad Autónoma de Madrid, Madrid (Spain), December 2017; Talk: *Endomorphism rings and rings of differential operators of finite global dimension*
20. Singularity Day, University of Liverpool, Liverpool (UK), November 2017; Talk: *Noncommutative desingularizations of discriminants of reflection groups*
21. Algebra Seminar, University of Manchester, Manchester (UK), November 2017; Talk: *Global dimension of endomorphism rings and rings of differential operators of toric algebras*
22. Algebra Working Seminar, University of Leeds, Leeds (UK), November 2017; Talk: *Friezes: from Conway–Coxeter to Caldero–Chapoton*
23. Algebra Seminar, University of Glasgow, Glasgow (UK), October 2017; Talk: *Conic modules and global dimension of rings of differential operators*
24. \*Workshop *Noncommutative Algebraic Geometry and Related Topics*, RIMS, Kyoto (Japan), September 2017; Talk: *Endomorphism rings of conic modules over toric algebras*
25. BLOC (Bristol Leicester Oxford City Colloquium), University of Oxford, Oxford (UK), August 2017; Talk: *A McKay correspondence for reflection groups*
26. Workshop *Matrix factorisations and related topics*, ICMS, Edinburgh (UK), July 2017; Talk: *Matrix factorizations of discriminants of reflection groups*
27. 2017 Maurice Auslander International conference, Woods Hole Oceanographic Institute, Woods Hole, MA (USA), May 2017; Talk: *Endomorphism rings of conic modules over toric algebras*
28. Conference *AWM research symposium 2017*, University of California at Los Angeles (UCLA), Los Angeles, CA (USA), April 2017; Talk in the special session *WINART: Representations of algebras: Noncommutative resolutions of toric rings*
29. Conference *AWM research symposium 2017*, University of California at Los Angeles (UCLA), Los Angeles, CA (USA), April 2017; Talk in the special session *Commutative Algebra: Integrable derivations of some hypersurfaces in characteristic  $p > 0$*

30. Commutative Algebra Seminar, University of Michigan, Ann Arbor, MI (USA), March 2017; Talk: *Resolutions of conic modules over toric algebras*
31. Analysis Seminar, University of Western Ontario, London, ON (Canada), March 2017; Talk: *Reflection groups and the McKay correspondence*
32. Kolloquium, Universität Münster, Münster (Germany), January 2017; Talk: *A glimpse into the world of singularities*
33. 2017 Joint Mathematics Meetings, AMS Special Session *New Developments in Noncommutative Algebra and Representation Theory*, Hyatt Regency Atlanta and Marriott Atlanta Marquis, Atlanta, GA (USA), January 2017; Talk: *Mutation of  $A_n$ -friezes*
34. Representation Theory and related topics seminar, Northeastern University, Boston, MA (USA), November 2016; Talk: *Noncommutative resolutions of curves*
35. Algebra and Algebraic Geometry seminar, University of British Columbia, Vancouver, BC (Canada), October 2016; Talk: *Noncommutative resolutions of singularities and the McKay correspondence*
36. \* Workshop *Singularities*, Mathematisches Forschungszentrum Oberwolfach, Oberwolfach (Germany), September 2016; Talk: *Noncommutative desingularizations of discriminants of reflection groups*
37. \* Workshop *Bridges between Noncommutative Algebra and Algebraic Geometry*, BIRS, Banff, Alberta (Canada), September 2016; Talk: *McKay's correspondence, Auslander's theorem, and reflection groups*. Video available at: <http://www.birs.ca/events/2016/5-day-workshops/16w5088/videos/watch/201609150900-Faber.html>
38. \* 17th International Conference on Representations of Algebras (ICRA 2016), Syracuse University, Syracuse, NY (USA), August 2016; Talk: *Noncommutative resolutions of discriminants*. Video available at: <https://www.youtube.com/watch?v=C9T4ELKd5EA> – PLENARY TALK
39. Oberseminar Algebra und Geometrie, Universität Münster, Münster (Germany), July 2016; Talk: *Nichtkommutative Auflösungen von Diskriminanten von Spiegelungsgruppen*
40. Universität Wien, Vienna (Austria), May 2016; Talk: *Singularities in Algebraic Geometry and Representation Theory*
41. 2016 Maurice Auslander International conference, Woods Hole Oceanographic Institute, Woods Hole, MA (USA), May 2016; Talk: *A McKay correspondence for reflection groups*
42. 2016 Joint Mathematics Meetings, AWM-AMS Special Session *Commutative Algebra and Its Interactions with Algebraic Geometry*, Washington State Convention Center, Seattle, WA (USA), January 2016; Talk: *A McKay correspondence for reflection groups*
43. HCM Seminar, Hausdorff Center for Mathematics, Bonn (Germany), December 2015; Talk: *Singularities in Algebraic Geometry and Representation Theory*
44. Commutative Algebra Seminar, University of Michigan, Ann Arbor, MI (USA), November 2015; Talk: *A McKay correspondence for reflection groups*
45. Workshop *Preprojective Algebras Interacting with Singularities, Cohen-Macaulay Modules and Weighted projective Spaces*, CMO, Oaxaca (Mexico), October 2015; Talk: *A McKay correspondence for reflection groups*. Video available at: <http://www.birs.ca/events/2015/5-day-workshops/15w5116/videos/watch/201510061803-Faber.html>
46. Capsule research talk, University of Michigan, Ann Arbor, MI (USA), August 2015; Talk: *Free divisors, desingularizations and the McKay correspondence*
47. Conference *Differential and combinatorial aspects of singularities*, Technische Universität Kaiserslautern, Kaiserslautern (Germany), August 2015; Talk: *Desingularizing free divisors, or: a McKay correspondence for reflection groups, part I*
48. Algebraic Geometry Seminar, Universität Wien, Vienna (Austria), June 2015; Talk: *The McKay correspondence and reflection groups*
49. "Tell us about ..." Seminar, Institut Mittag-Leffler, Djursholm (Sweden), March 2015; Talk: *The McKay correspondence*
50. Workshop *Introductory Workshop for the IML Program Representation Theory*, Uppsala Universitet, Uppsala (Sweden), February 2015; Talk: *The global spectrum of a commutative ring*

51. Homological Methods Seminar, University of Toronto, Toronto, ON (Canada), January 2015; Talk: *Resolution of singularities gone noncommutative*
52. Workshop *Homological Interactions between Representation Theory and Singularity Theory*, University of Edinburgh, Edinburgh (UK), December 2014; Talk: *Noncommutative resolutions of not necessarily normal rings*
53. 2014 AMS Fall Western Sectional Meeting Session *Developments from MSRI Programs in Commutative Algebra and Noncommutative Algebraic Geometry and Representation Theory*, San Francisco State University, San Francisco, CA (USA), October 2014; Talk: *Computing the global spectrum of a commutative ring*
54. 16th International Conference on Representations of Algebras (ICRA 2014), Tsinghua Sanya International Mathematics Forum, Sanya City, Hainan (China), August 2014; Talk: *Noncommutative resolutions and the global spectrum of a commutative ring*
55. Oberseminar *Algebraische Geometrie und Komplexe Analysis*, Ruhr-Universität, Bochum (Germany), July 2014; Talk: *Resolution of singularities and non-commutative rings*
56. Symposium *Singularities and their Topology*, Leibniz Universität Hannover, Hannover (Germany), July 2014; Talk: *Non-commutative resolutions and the global spectrum of commutative rings*
57. Sixth Iberoamerican Congress on Geometry, The Graduate Center, CUNY, New York, NY (USA), May 2014; Talk: *Resolution of singularities and noncommutative rings*
58. 2014 AMS Spring Central Sectional Meeting Session *Developments from PASI 2012: Commutative Algebra and Interactions with Related Disciplines*, Texas Tech University, Lubbock, TX (USA), April 2014; Talk: *The global spectrum and non-commutative resolutions of singularities*
59. Commutative Algebra Seminar, University of Michigan, Ann Arbor MI (USA), April 2014; Talk: *From resolution of singularities to non-commutative rings: the global spectrum*
60. 2013 CMS Winter Meeting Session *Representations of Algebras*, Ottawa Marriott, Ottawa, ON (Canada), December 2013; Talk: *The global spectrum of a commutative ring*
61. 2013 CMS Winter Meeting Session *Connections between Noncommutative Algebra and Geometry*, Ottawa Marriott, Ottawa, ON (Canada), December 2013; Talk: *Non-commutative resolutions of non-normal rings*
62. Algebra Seminar, University of Waterloo, Kitchener ON (Canada), November 2013; Talk: *Free and splayed divisors: singularities and transversality*
63. Algebraic Geometry Seminar, Queen's University, Kingston, ON (Canada), November 2013; Talk: *Non-commutative resolutions of singularities and the global spectrum*
64. Algebra and Statistics Colloquium, University of New Brunswick, Fredericton, NB (Canada), November 2013; Talk: *Non-commutative resolutions of singularities and the global spectrum*
65. Conference *23rd annual Route 81 conference on Algebraic Geometry and Commutative Algebra*, Syracuse University, Syracuse, NY (USA), October 2013; Talk: *Non-commutative desingularization and the global spectrum*
66. Workshop *Noncommutative Algebraic Geometry and Related Topics*, RIMS, Kyoto (Japan), July 2013; Talk: *Non-commutative resolutions and non-normal rings*
67. Research Programme *Geometry of Topological D-branes, Categories and Applications*, Erwin Schrödinger International Institute for Mathematical Physics, Wien (Austria), June 2013; Talk: *Non-commutative desingularizations of non-normal rings*
68. Algebraic Geometry Seminar, University of Michigan, Ann Arbor MI (USA), May 2013; Talk: *Non-commutative resolutions and non-normal rings*
69. Conference *AWM research symposium 2013*, Santa Clara University, Santa Clara, CA (USA), March 2013; Talk: *Algebraic criteria for transversality of singular hypersurfaces*
70. Post doc seminar, MSRI, Berkeley (USA), March 2013; Talk: *Free divisors: examples, conjectures*
71. Workshop *Free divisors and differential equations*, Tokyo University of Agriculture and Technology, Tokyo (Japan), November 2012; Talk: *Free divisors and transversality*
72. \* Workshop *Singularities*, Mathematisches Forschungszentrum Oberwolfach, Oberwolfach (Germany), September 2012; Talk: *Towards transversality of singular varieties: splayed divisors*
73. Workshop and Conference *Doc course: Singularities*, Universidad de Sevilla, Sevilla (Spain), July 2012, plenary speaker; Talk: *Transversality of singular hypersurfaces*



74. Workshop *Aspects of Singularities*, Université Lille 1, Lille (France), June 2012; Talk: *Splayed divisors: transversality of singular hypersurfaces*
75. Algebraic geometry seminar, University of Michigan, Ann Arbor, MI (USA), May 2012; Talk: *Characterizing normal crossing hypersurfaces*
76. Workshop *Linz–Wien Workshop on Algebraic geometry*, St. Michael in der Obersteiermark (Austria), January 2012; Talk: *Transversality of singular hypersurfaces*
77. Research Programme *Algebraic vs. Analytic Geometry*, Erwin Schrödinger International Institute for Mathematical Physics, Wien (Austria), December 2011; Talk: *Free divisors, singularities and normal crossings*
78. Stipendienverleihung “For Women in Science” 2011, Austrian Academy of Sciences, Wien (Austria), November 14 2011; Talk: *Geometrie von Singularitäten*
79. Homological methods seminar, University of Toronto, Toronto, ON (Canada), September 2011; 2 Talks: *Normal crossing divisors and their singularities* and *Visualizing Singularities*
80. Workshop *Free divisors*, Warwick (UK), June 2011; Talk: *Normal crossing divisors and Jacobian ideals*
81. Workshop *Resolution of singularities II*, Cuenca (Spain), April 2011; Talk: *An algebraic characterization of normal crossings*
82. Workshop *Wien–Linz Workshop on Algebraic Geometry*, Krems (Austria), November 2010; Talk: *About the logarithmic residue and a conjecture by K. Saito*
83. Universidad Autónoma de Madrid, Madrid (Spain), June 2010; 2 Talks: *A conjecture about singularities of normal crossing divisors*
84. Seminar de Álgebra, Universidad de Sevilla, Seville (Spain), June 2010; Talk: *Normal crossings, free divisors and Jacobian ideals*
85. Workshop *Resolution of singularities*, Cuenca (Spain), January 2010; Talk: *Blowups in tame monomial ideals*
86. Workshop *Wien–Linz Workshop on Algebraic Geometry*, Rastendorf (Austria), January 2010; Talk: *Normal crossings and logarithmic differential forms*
87. Algebraic Geometry seminar, Tokyo Institute of Technology, Tokyo (Japan), December 2008; Talk: *Problems and phenomena in resolution of singularities*
88. Workshop *Wien–Linz Workshop on Algebraic Geometry*, Spitz an der Donau (Austria), July 2008; Talk: *Geometry and resolution of surfaces*
89. 4th YMIS *Arc Spaces, Integration and Combinatorial Algebra*, Sedano (Spain), February 2008; Talk: *Blowups in monomial ideals*
90. Workshop *Algebraic Geometry and Singularities*, Nove Hradý (Czech Republic), May 2007; Talk: *Newtonpolyeder und Explosionen*
91. Workshop *Algebraic Geometry and Singularities*, Obergurgl (Austria), September 2006; Talk: *Toric Varieties*

### Undergraduate Talks

1. Maths all around lecture, University of Leeds, Leeds (UK), March 2018; Talk: *From Plato via da Vinci to Coxeter: Symmetry*
2. Michigan Math Club, University of Michigan, Ann Arbor MI (USA), November 2016; Talk: *Diamonds and diagonals: frieze patterns*
3. Michigan Math Club, University of Michigan, Ann Arbor MI (USA), December 2015; Talk: *A, D, and E*

### Poster Presentations

1. Stipendienverleihung “For Women in Science” 2011, Austrian Academy of Sciences, Wien (Austria), November 2011; Poster *Geometrie von Singularitäten*
2. Stipendienverleihung 2010, Austrian Academy of Sciences, Wien (Austria), February 2010; Poster: *Synthetic Geometry of Singularities*

### Selected attended Conferences, Workshops, Schools, etc.

1. (upcoming) Workshop *Toric geometry*, Mathematisches Forschungszentrum Oberwolfach, Oberwolfach (Germany), September 2019

2. (upcoming) Workshop *Noncommutative surfaces and Artin's conjecture*, American Institute for Mathematics, San Jose, CA (USA), September 2019
3. (upcoming) Workshop *Singularities and Homological Aspects of Commutative Algebra*, Mathematisches Forschungszentrum Oberwolfach, Oberwolfach (Germany), February 2019
4. *EPSCR Early Career Forum*, University of Southampton, Southampton (UK), December 2018
5. Workshop *Stability Conditions and Representation Theory of Finite-Dimensional Algebras*, CMO, Oaxaca (Mexico), October–November 2018
6. *Induction course for new lecturers in the mathematical sciences 2018*, Isaac Newton Institute, Cambridge (UK), September 2018
7. *Applied Algebra and Geometry Fourth meeting*, University of Nottingham, Nottingham (UK), January 2018
8. *EPSCR Early Career Forum*, Queen Mary University, London (UK), December 2017
9. *Mentoring workshop for graduate advisors in mathematics*, University of Michigan, Ann Arbor, MI (USA), May 2017
10. Conference *A View Toward Algebraic Geometry: A conference in honor of David Eisenbud's 70th birthday*, Harbor View Hotel, Martha's Vineyard, MA (USA), May 2017
11. Workshop *Women in Noncommutative Algebra and Representation Theory*, BIRS, Banff, Alberta (Canada), March–April 2016
12. Conference *Theory and applications of syzygies*, Universität des Saarlandes, Saarbrücken (Germany), July 2015
13. Workshop *Representation Theory*, Uppsala Universitet, Uppsala (Sweden), May 2015
14. Conference *Approximation and infinite dimensional geometry*, CIRM, Luminy (France), March 2015
15. Conference *CAAC 2015: Combinatorial Algebra meets Algebraic Combinatorics*, Queen's University, Kingston, ON (Canada), January 2015
16. Conference *GAeL XXII (Géométrie Algébrique en Liberté)*, SISSA, Trieste (Italy), June 2014
17. Workshop *Matrix Factorizations in Algebra, Geometry and Physics*, Mathematisches Forschungszentrum Oberwolfach, Oberwolfach (Germany), September 2013
18. Workshop *The Commutative algebra of Singularities in Birational Geometry*, MSRI, Berkeley (USA), May 2013
19. Workshop *Interactions between Noncommutative Algebra, Representation theory and Algebraic Geometry*, MSRI, Berkeley (USA), April 2013
20. Workshop *Representation theory, homological algebra and free resolutions*, MSRI, Berkeley (USA), February 2013
21. Workshop *Introductory Workshop: Noncommutative Algebraic Geometry and Representation Theory*, MSRI, Berkeley (USA), January 2013
22. Workshop *Connections for women: Noncommutative Algebraic Geometry and Representation Theory*, MSRI, Berkeley (USA), January 2013
23. 22nd annual Route 81 conference *Interactions between commutative algebra and algebraic geometry in honour of Tony Geramita*, Queen's University, Kingston (Canada), October 2012
24. Fields Medal Symposium *Fundamentals of the Langlands programme*, Fields Institute, Toronto (Canada), October 2012
25. Clay Summer School *Resolution of Singularities*, Obergurgl (Austria), June 2012
26. School *D-modules and applications in singularity theory*, Sevilla (Spain), June 2011
27. Conference *Multiplier Ideals in Commutative Algebra and Singularity Theory*, CIRM, Luminy (France), January 2011
28. Conference *Geometry at Large I + II*, Wien (Austria), April / May 2010
29. Workshop *Combinatorial, Enumerative and Toric Geometry*, MSRI, Berkeley (USA), March 2009
30. 5th YMIS *Grothendieck Duality, Valuations, Resolution of Singularities and Tropical Geometry*, Sedano (Spain), February 2009
31. Conference *Workshop: On the Resolution of Singularities*, RIMS, Kyoto (Japan), December 2008
32. Conference *Deformations of Singularities*, Budapest (Hungary), October 2008

33. Conference *Seminar on Singularities: algebraic methods*, Garachico (Spain), September 2008
34. The 1st  $\alpha - \omega$ -conference in Algebraic Geometry, Obergurgl (Austria), October 2007
35. MEGA 2007 (Effective Methods in Algebraic Geometry), Strobl (Austria), June 2007
36. 3rd YMIS *Algebra and Topology of Singularities*, Sedano (Spain), March 2007
37. 2nd YMIS *Combinatorial Convexity and Algebraic Geometry. Applications*, Sedano (Spain), March 2006

### Short Research Stays ( $\leq$ one month)

1. (upcoming) CRM Montréal for the program *Quiver varieties* (August 2019), invited by Prof. J. Kamnitzer and Prof. H. Thomas
2. UQAM, Montréal (October 2018), invited by Prof. H. Thomas
3. Carleton University (October 2018, April 2018), invited by Prof. C. Ingalls
4. Universität Graz (July 2018), invited by Prof. K. Baur
5. Universität Wien (July 2018), invited by Prof. H. Hauser
6. *Research in Pairs: A McKay correspondence for reflection groups* in Oberwolfach (June 2018), together with Prof. C. Ingalls
7. IMAG Montpellier (March 2018), invited by Prof. D. Calaque and Dr. S. Morra
8. Universidad Autónoma de Madrid (December 2017, June 2011, June 2010), invited by Dr. A. Benito and Prof. O. Villamayor
9. University of Toronto (March 2017, August 2016, September 2011), invited by Prof. R.-O. Buchweitz
10. Universität Münster (July 2016), invited by Prof. L. Hille
11. Technische Universität Kaiserslautern (July 2016), invited by Prof. M. Schulze
12. *Research in Pairs: Noncommutative desingularizations of discriminants* in Oberwolfach (July 2015), together with Prof. R.-O. Buchweitz and Prof. C. Ingalls
13. Ruhr-Universität in Bochum (July 2014), invited by Prof. H. Flenner
14. University of Michigan in Ann Arbor (April 2014, May 2013, April–May 2012), invited by Prof. K.E. Smith and Dr. A. Benito
15. University of New Brunswick in Fredericton (November 2013), invited by Prof. C. Ingalls
16. Erwin Schrödinger International Institute for Mathematical Physics in Vienna for the program *Geometry of Topological D-branes, Categories and Applications* (June 2013), invited by Prof. L. Katzarkov
17. Universidad de Sevilla (June 2010), invited by Prof. L. Narváez-Macarro
18. Tokyo Institute of Technology (December 2008), invited by Prof. S. Ishii