Evelyne Hubert
Inria Senior Researcher

http://www-sop.inria.fr/members/Evelyne.Hubert

Inria Université Côte d'Azur
2004, route des lucioles
06902 Sophia Antipolis
Evelyne.Hubert@inria.fr

<div align="right">CAREER</div>

Institut National de Recherche en Informatique et Automatique, France (since 1999)
Research Scientist. *Directrice de Recherche* since 2017.

Isaac Newton Institute, Cambridge, UK (2019)
Simmons fellow for the program *Geometry and structure preservation in computational differential equations*.

Fields Institute, Toronto, Canada (2015-2016)
Visiting fellow for the thematic program on *Computer Algebra*.

Institute for Mathematics and its Applications, Minneapolis, USA (2006-2007)
Fulbright fellow for the year long program *Applications of Algebraic Geometry*.

Mathematical Science Research Institute, Berkeley, USA (1998 - 1999)
MSRI postdoctoral fellow in the *Symbolic Computation in Geometry and Analysis* program.

University of Waterloo, Canada (1997 - 1998)
Postdoctoral fellow in the Symbolic Computation Group, jointly with the Maplesoft company.

<div align="right">EDUCATION</div>

Université de Nice Sophia Antipolis (2012):
Habilitation à Diriger des Recherches en Sciences, Sciences Fondamentales et Apliquées.
Thesis : *Algebraic and Differential Invariants*.

Institut National Polytechnique de Grenoble (1997):
PhD in Applied Mathematics prepared in the Laboratoire de Modélisation et de Calcul.
Thesis : *Algebra and Algorithms for Singularities of Implicit Differential Equations*.

Imperial College, London, UK (1993):
Master of Sciences in Mathematics of the University of London.
Thesis: *Parameterization and Computation of Stable Manifolds in Dynamical Systems*.

Ecole Nationale Supérieure d'Informatique et de Mathématiques Appliquées de Grenoble (1993):
Diplôme d'ingénieur. Major in scientific computing.

<div align="right">DISTINCTIONS</div>

2019: Simmons fellow at the *Isaac Newton Institute* through the *Geometry, compatibility and structure preservation in computational differential equations*   [https://www.newton.ac.uk/event/gcs]

2017: Plenary speaker at the 14th international symposium on *Orthogonal Polynomials, Special Function and Applications.*   [http://www.kent.ac.uk/smsas/personal/opsfa/]

2011: Plenary speaker at the triennal conference *Foundations of Computational Mathematics.*
[http://www.damtp.cam.ac.uk/user/na/FoCM11]

2010: Plenary speaker at the ACM *International Symposium on Symbolic and Algebraic Computation.*
[http://www.issac-conference.org/2010]

2006-07: *Fulbright Scholar* for the program at the *Institute for Mathematics and its Applications*, Minneapolis.
[http://eca.state.gov/fulbright/fulbright-programs]

<div align="right">BIBLIOGRAPHY</div>

Publications can be consulted from the webpage: [www-sop.inria.fr/members/Evelyne.Hubert/publications]

PhD theses

2022- : *Stratification of orbit space by orbit type : a constructive approach through equivariants.* Martin Jalard, Université Côte d'Azur. Funded by École Normale Supérieure de Rennes.

2019-2022: *Crystallographic Groups and Chebyshev Polynomials in Global Optimization.* Tobias Metzlaff, Université Côte d'Azur. Part of the Marie Sklodowska-Curie Innovative Training Network POEMA [`http://poema-network.eu`]. Now postdoctoral fellow at the Technische Universität Kaiserslautern.

2017-2020 : *Fundamental equivariants and symmetry preservation in multivariate interpolation and H-bases.* Erick Rodriguez Bazan, Université Côte d'Azur. Now R&D engineer in industry.

2016-2019 : *Modeling shapes with skeletons: scaffolds and anisotropic convolution.* Alvaro Fuentes Suarez, Université Côte d'Azur. Part of the Marie Sklodowska-Curie Innovative Training Network ARCADES [`http://arcades-network.eu`]. Now R&D engineer in industry.

2011-15: *Multivariate moment problems : polytope reconstruction and symmetric cubatures.* Mathieu Collowald, Université de Nice. Now *professeur agrégé* in Antibes.

2002-06: *Formal solutions to partial differential equations.* Nicolas Le Roux, Université de Limoges, co-supervised with Moulay Barkatou. Now *professeur agrégé* in Rennes.

Postdoctoral fellows

2009-10: *Reconstruction of trees from laser scanner data* : Xingua Song was co-supervised with B. Mourrain. Now software engineer at Magna PowerTrain (Austria).

2006: *Probabilistic algorithms for computing resolvent representations* : Thomas Cluzeau. Now associate professor, Université de Limoges.

Master theses

2016: *Rotation Invariants of ternary quartics* : Paul Görlach, University of Bonn. Went on for a PhD with Bernd Sturmfels in Leipzig (Germany).

2011: *Reconstruction of branching structures from laser scanner data* : Joachim Dehais, UPMC, was co-supervised with B. Mourrain.

2002: *A Newton method to compute power series solutions of nonlinear PDEs* : Nicolas Le Roux, Université de Limoges. Nicolas became a PhD student, co-supervised with M. Barkatou.

2000: *Differential primitive element in the nonlinear case* : Thomas Cluzeau, Université de Limoges. Thomas continued as a PhD student with Moulay Barkatou and Jacques-Arthur Weil, at Université de Limoges.

Journal editorial boards

2022 : Co-editor for the special issue *Computational Algebra and Geometry: A special issue in memory and honor of Agnes Szanto* in the *Journal of Symbolic Computation*
[`https://www.sciencedirect.com/journal/journal-of-symbolic-computation/about/call-for-papers`]

2017- : Associate editor of the journal of the Society for the *Foundations of Computational Mathematics*
[`http://link.springer.com/journal/10208`]

2013 : Co-editor for the issue of *Foundations of Computational Mathematics* celebrating P. Olver.
[`http://link.springer.com/journal/10208/13/4`]

2013 : Co-editor of the special issue *Effective Methods in Algebraic Geometry* in the *Journal of Symbolic Computation.*
[`http://www.sciencedirect.com/science/journal/07477171/51`]

2007- : Associate editor of the *Journal of Symbolic Computation.*
[`http://www.journals.elsevier.com/journal-of-symbolic-computation`]

Conference program and scientific committees

2023-2026 : President of the society Foundation of Computational Mathematics.

2023 : Co-organizer for the conference *Symmetry, Stability, and interactions with Computation* at CIRM, Marseille.
[https://conferences.cirm-math.fr/2892.html].

2023: Chair of the software presentation committee of the *International Symposium on Symbolic and Algebraic Computation* (ISSAC), a yearly ACM conference.

2023: Member of the selection committee for the Smale prize. [http://focm-society.org/smale_prize.php]

2020, 23 : Member of the selection committee for plenary speakers for FoCM, a triennal conference.
[http://focm-society.org/2020/], [https://focm2023.org]

2003, 08, 14, 20: Member of the program committee of the *International Symposium on Symbolic and Algebraic Computation* (ISSAC), a yearly ACM conference. [http://www.issac-symposium.org]

2018: Scientific and organization leader for the conference *Symmetry and Computation* at CIRM, Marseille.
[http://scientific-events.weebly.com/1772.html].

2017: Co-organizer of the first joint meeting of the London Mathematical Society and the Institute of Mathematics and its Application in London with the theme *Symmetry & Computation*.

2017: Co-organizer of the mini-symposium *Symmetry and Structure in Algebraic Computation* at the SIAM conference on *Applied Algebraic Geometry* at the Georgia Institute of Technology, USA.
[http://www.siam.org/meetings/ag17]

2007, 09, 11, 13, 15, 17: Member of the scientific advisory board and program committee of the conference MEGA (Effective Method in Algebraic Geometry). This is a selective biennial conference based in Europe.
After 10 years on the advisory board, I suggested renewal and offered my resignation in 2017.
[http://mega2015.science.unitn.it]

2016: Co-organizer of the collaborative workshop *Women in Shape-2: Modeling Boundaries of Objects in 2- and 3-Dimensions* at the Nesin Mathematical Village, Turkey. [https://matematikkoyu.org/eng/events/2016-wis2]

2008, 11, 14: Principal organizer of the workshop *Symbolic Analysis* at the triennial conference *Foundations of Computational Mathematics* in Hong Kong, Budapest and Montevideo. [https://www.fing.edu.uy/eventos/focm2014/]

2013: Co-organizer of the mini-symposium *Computational Aspects of the Moving Frame Methods* at the SIAM conference on *Applied Algebraic Geometry* in Fort Collins, Colorado (2013). [http://www.siam.org/meetings/ag13]

2010: Member of the program committee of the *Differential Algebra and Related Topic* conference in Beijing. This is a semi-regular conference partly based on invitations. [http://mmrc.iss.ac.cn/~dart4/]

2004: Member of the program committee of the *International Conference on Polynomial System Solving*, in honor of D. Lazard.

Scientific event organization

2023: Co-organizer of the event *White elephants: Inclusivity and Broadening Participation* at the ACM conference *International Symposium on Symbolic and Algebraic Computation*.

2021: Co-organizer of the *FoCM online seminar series* [http://focm-society.org/events.php].

2017: Local co-organizer for the conference MEGA (Effective Method in Algebraic Geometry) in Nice.

2006: Co-organizer of the *Conference* CAFÉ, *in memory of Manuel Bronstein* at Inria Sophia Antipolis.

2004: Chair of the *Forum des Jeunes Mathématiciennes. Mathématiques, Informatique et Sciences du Vivant*. This was part of a biennal conference series aimed at gathering junior and senior female mathematicians.

2002-06: Founding chair of the *Seminaires Croisés* at Inria Sophia Antipolis. A series of workshops gathering several teams of the institute around talks given by doctoral students. In 2006, the action was applauded as the successful initiative for internal scientific communication by the *comité des projets*.

2000-02 Organizer of regular cross-team seminars and lecture series at Inria Sophia Antipolis. The project-teams involved were CAFÉ, SAGA/GALAAD and APICS.

Councils and selection committees

2022: Hiring commitee for an Associate Professor of Mathematics at Université de Limoges

2021: Editorial review committee for *SIAM publications* on the *J. on Algebra and Applied Geometry.*

2021-2030: Board of Directors of the society Foundation of Comptutational Mathematics

2021: Hiring commitee for Junior Research positions at Inria-Saclay Ile de France.

2020: Hiring commitee for a Professor of Mathematics at Université Versaille Saint Quentin

2018: National hiring commitee for Senior Research positions at *Inria.*

2017, 18: Hiring commitee for Junior Research positions at Inria-Nancy Grand Est.

2017-19 : Inria representative at the *Conseil Académique de l'Université Côte d'Azur*

2016, 17: Hiring commitee for Junior Research positions at Inria Rennes Bretagne Atlantique.

2015-19: Elected member of the *Commission d'Évaluation* for Inria, chaired by Y. Maday.

2015-17 : *Commission de Développement Technologique* at Inria Méditerrranée, chaired by T. Turletti.

2012-16: *Comité Permanent de Ressources Humaines* at Université de Nice Sophia Antipolis (section 25, 26 et 60).

2005-15: *NICE*, visiting professors and postdocs at Inria Méditerrranée.

2002-06: Elected member of the council of the national society *Femmes et Mathématiques.*

2002-05: *COLORS*, regional collaborations of Inria Méditerrranée, chaired by R. Dieng.

2000-03: *Comité du Suivi Doctoral* of Inria Méditerrranée chaired first by J. Zérubia and then T. Vieville.

Jurys

2022: Reviewer and committee member for the Habilitation of Marc Pouget, Université de Lorraine.
Bivariate systems and topology of plane curves: algebraic and numerical methods

2021: Committee member for the PhD of Zhangchi Chen, Université Paris-Saclay.
Differential invariants of parabolic surfaces and of CR hypersurfaces

2019: Reviewer for the Habilitation of Georg Regensburger, University of Linz, Austria.
Algebraic and algorithmic approaches to analysis: integro-differential equations, positive steady states, and wavelets

2018: Reviewer for the professor promotion of Wei Li at the Chinese Academy of Science in Beijing, China.
Constructive Differential Algebraic Geometry and Difference Algebra

2018: Committee member for the PhD of Timothé Pecatte, Ecole Normale Supérieure de Lyon.
Lower bounds and algorithms for the reconstruction of affine powers sums

2016: Reviewer for the PhD of Louis Dumont, Université de Paris-Saclay.
Efficient algorithms for the symbolic computation of certain contour integrals with one parameter

2015: Committee member for the PhD of Romain Basson, Université de Rennes.
Invariants for Hyperelliptic Curves of Genus 3

2015: Committee member for the PhD of Romain Casati, Université de Grenoble.
Contributions to the Numerical Modeling of Thin Structures for Computer Graphics.

2013: Committee member for the PhD of Cédric Zanni, Université de Grenoble.
Skeleton-based Implicit Modeling & Applications.

2013: Committee member for the PhD of Jules Svartz, Université de Pierre & Marie Curie.
Polynomial Systems with Symmetry: Algorithms, Complexity, Applications

2013: Committee member for the PhD of Christine Jost, University of Stockholm.
Topics in Computational Algebraic Geometry and Deformation Quantization.

2009, 10: Jury de l'oral de l'Agrégation de Mathématiques, épreuve de Modélisation, spécialité Calcul Formel.

2006: Reviewer for the PhD thesis of Elisabeth D'Alfonso, Universidad de Buenos Aires.
Symbolic Methods for Differential Algebraic Equation Systems

2005: Committee member for the PhD of Min Wu, Chinese Academy of Sciences, Beijing.
On Solutions of Linear Functional Systems and Factorization of Modules over Laurent-Ore Algebras.

National and European projects

2019-2023 H2020-MSCA-ITN POEMA: Polynomial Optimization, Efficiency through Moments and Algebra.

2016-20: H2020-MSCA-ITN ARCADE: Algebraic Representations for Computer-Aided Design of Complex Shapes.

2011-15 ANR GEOLMI: Géométrie et algèbre des inégalités matricielles linéaires.

2010-12 ARC and Agropolis project PlantScan3D a collaboration between VirtualPlant, Evasion, Galaad as for the Inria project teams, as well as INRA Clermont Ferrand and Montpellier.

Bilateral collaborations

2012-13: PHC Tournesol: Extracting Multidimensional Shapes: cubature rules and Padé approximants. Principal Investigator with Annie Cuyt, University of Antwerp.

2005: Inria-DREI actions with the USA: Algebra and algorithms in the moving frame method. A collaboration with Peter Olver, University of Minnesota.

2004-05: PAI Amadeus: Gröbner bases for operator algebras. A collaboration between the project-team Café and the Research Institute in Symbolic Computation, Hagenberg Austria.

2001-2002: France-Canada Research Fund Project: Comparison and Extension of Two Approaches for Computer Handling of Differential System. Principal Investigator, with Greg Reid, University of Western Ontario.

2001-02: Programme de Recherches Avancées franco-chinois de l'AFCRST: Efficient algorithms for Ore polynomials. A collaboration between the project-team Café and the laboratory of Mathematics Mechanization at the Academia Sinica, Beijing.

2001-02: PAI Alliance: Moving Frames and Differential Systems. Principal Investigator with Elizabeth Mansfield, University of Kent.

Visiting Positions

2019: Isaac Newton Institute in Cambridge: Simons fellow during the program *Geometry, compatibility and structure preservation in computational differential equations*.

2019: Artic University of Norway: Tromso Research Foundation guest Professor in the department of Mathematics

2018: Institute for Computational and Experimental Research in Mathematics: a two month invitation during the program *Nonlinear Algebra*.

2013-14: Institute for Mathematical Sciences in Singapore: a one month invitation during the program *Inverse Moment Problems*

2010,13: La Trobe University, Melbourne, Australia : invitations for two one month visits from Peter van der Kamp.

2007: University of Waterloo, Canada : an invitation from George Labahn and the start of a sustained collaboration.

2003: Mathematical Science Research Institute in Berkeley (2003): a one month invitation during the program *Computational Commutative Algebra*.

The exchanges with Michael Singer were mutually influential, in particular in [20] and
Singer, M. Model theory of partial differential fields: from commuting to noncommuting derivations. Proc. AMS 135 (2007).

2002: Yale University, New Haven, USA : an invitation from Irina Kogan, turned into a successful collaboration.

Recent shorter invited visits

2017: University of Kent, Canterbury, UK : a two week visit to A. Loureiro and P. Clarkson supported by the research in pair program of the London Mathematical Society.

2015: Aalto University, Helsinki, Finland: visiting scientist at the Aalto Science Institute, with additional support from the Institut Français. A one week visit sponsored by Cordian Riener.

2014: University of Konstanz, Germany : visiting scientist in the "Konstanz: Women in Maths" program, a one week invitation sponsored by Salma Kuhlmann.

2014: Johannes Kepler University, Linz, Austria : visiting professor of the Doktoratskolleg "Computational Mathematics", a one week invitation sponsored by Franz Winkler.

The publications can be consulted from the webpage: [`www-sop.inria.fr/members/Evelyne.Hubert/publications`] and the videos of representative talks are linked on
[`www-sop.inria.fr/members/Evelyne.Hubert/publications/video.html`].

International journals

[1] E. Rodriguez Bazan and E. Hubert. Symmetry in multivariate ideal interpolation. *Journal of Symbolic Computation*, 115:174–200, 2023.

[2] E. Hubert and E. Rodriguez Bazan. Algorithms for fundamental invariants and equivariants. *Mathematics of Computation*, 91(337):2459–2488, 2022.

[3] E. Rodriguez Bazan and E. Hubert. Multivariate interpolation: Preserving and exploiting symmetry. *Journal of Symbolic Computation*, 107:1–22, 2021.

[4] E. Hubert. Invariant algebraic sets and symmetrization of polynomial systems. *Journal of Symbolic Computation*, 95:53–67, 2019.

[5] P. Görlach, E. Hubert, and T. Papadopoulo. Rational invariants of even ternary forms under the orthogonal group. *Foundations of Computational Mathematics*, 19:1315–1361, 2019.

[6] A. Fuentes Suárez, E. Hubert, and C. Zanni. Anisotropic convolution surfaces. *Computers and Graphics*, 82:106–116, 2019.

[7] A. Fuentes Suárez and E. Hubert. Scaffolding skeletons using spherical Voronoi diagrams: feasibility, regularity and symmetry. *Computer Aided Design*, 102:83–93, 2018.

[8] M. Collowald and E. Hubert. Algorithms for computing cubatures based on moment theory. *Studies in Applied Mathematics*, 141(4):501–546, 2018.

[9] E. Hubert and G. Labahn. Computation of the invariants of finite abelian groups. *Mathematics of Computations*, 85(302):3029–3050, 2016.

[10] M. Collowald, A. Cuyt, E. Hubert, W.-S. Lee, and O. Salazar Celis. Numerical reconstruction of convex polytopes from directional moments. *Advances in Computational Mathematics*, 41(6):1079–1099, 2015.

[11] E. Musso and E. Hubert. Lagrangian curves in a 4-dimensional affine symplectic space. *Acta Applicandae Mathematicae*, 134(1):133–160, 2014.

[12] E. Hubert and G. Labahn. Scaling invariants and symmetry reduction of dynamical systems. *Foundations of Computational Mathematics*, 13(4):479–516, 2013.

[13] E. Hubert and M.-P. Cani. Convolution Surfaces based on Polygonal Curve Skeletons. (An Application of Symbolic Integration to Graphics). *Journal of Symbolic Computation*, 47(6):680–699, 2012.

[14] E. Hubert. Convolution surfaces based on polygons for infinite and compact support kernels. *Graphical Models*, 74(1):1–13, 2012.

[15] C. Zanni, E. Hubert, and M.-P. Cani. Warp-based helical implicit primitives. *Computers & Graphics*, 35(3):517 – 523, 2011.

[16] E. Hubert. Differential invariants of a Lie group action: syzygies on a generating set. *Journal of Symbolic Computation*, 44(3):382–416, 2009.

[17] T. Cluzeau and E. Hubert. Probablistic algorithms for computing resolvent representations for regular differential ideals. *Applicable Algebra in Engineering Communication and Computing*, 19(5):365–392, 2008.

[18] E. Hubert and I. Kogan. Smooth and algebraic invariants of a group action: local and global constructions. *Foundations of Computational Mathematics*, 7(4):455–493, 2007.

[19] E. Hubert and I. Kogan. Rational invariants of a group action. Construction and rewriting. *Journal of Symbolic Computation*, 42(1-2):203–217, 2007.

[20] E. Hubert. Differential algebra for derivations with nontrivial commutation rules. *Journal of Pure and Applied Algebra*, 200(1-2):163–190, 2005.

[21] T. Cluzeau and E. Hubert. Resolvent representation for regular differential ideals. *Applicable Algebra in Engineering, Communication and Computing*, 13(5):395–425, 2003.

[22] E. Hubert. Factorization-free decomposition algorithms in differential algebra. *Journal Symbolic Computation*, 29(4-5):641–662, 2000. Symbolic computation in algebra, analysis, and geometry (Berkeley, CA, 1998).

[23] G. Moore and E. Hubert. Algorithms for constructing stable manifolds of stationary solutions. *IMA Journal of Numerical Analysis*, 19(3):375–424, 1999.

[24] A. Kapaev and E. Hubert. A note on the Lax pairs for Painlevé equations. *Journal of Physics. A. Mathematical and General*, 32(46), 1999.

[25] E. Hubert. Essential components of an algebraic differential equation. *Journal of Symbolic Computation*, 28(4-5):657–680, 1999.

[26] E. Hubert. Detecting degenerate behaviors in first order algebraic differential equations. *Theoretical Computer Science*, 187:7–25, 1997.

Reviewed international conferences

[27] E. Rodriguez Bazan and E. Hubert. Ideal interpolation, H-bases and symmetry. In *Proceedings of the 45th International Symposium on Symbolic and Algebraic Computation*, ISSAC'20, pages 402–409, New York, NY, USA, 2020. Association for Computing Machinery.

[28] E. Rodriguez Bazan and E. Hubert. Symmetry preserving interpolation. In *Proceedings of the 2019 on International Symposium on Symbolic and Algebraic Computation*, ISSAC'19, pages 34–41, New York, NY, USA, 2019. Association for Computing Machinery.

[29] A. Panotopoulou, E. Ross, K. Welker, E. Hubert, and G. Morin. Scaffolding a skeleton. In *Research in shape analysis*, volume 12 of *Assoc. Women Math. Ser.*, pages 17–35. Springer, Cham, 2018.

[30] A. Fuentes Suárez and E. Hubert. Convolution surfaces with varying radius: formulae for skeletons made of arcs of circles and line segments. In *Research in shape analysis*, volume 12 of *Assoc. Women Math. Ser.*, pages 37–60. Springer, Cham, 2018.

[31] A. J. Fuentes Suárez and E. Hubert. Scaffolding skeletons using spherical Voronoi diagrams. In *LAGOS'17—IX Latin and American Algorithms, Graphs and Optimization*, volume 62 of *Electron. Notes Discrete Math.*, pages 45–50. Elsevier Sci. B. V., Amsterdam, 2017.

[32] L. Larsson, G. Morin, A. Begault, R. Chaine, J. Abiva, E. Hubert, M. Hurdal, M. Li, B. Paniagua, G. Tran, and Cani M.-P. Identifying perceptually salient features on 2d shapes. In K. Leonard and S. Tari, editors, *Research in Shape Modeling*, volume 1 of *Association for Women in Mathematics Series*. Springer, 2015.

[33] E. Hubert and G. Labahn. Rational invariants of scalings from Hermite normal forms. In *ISSAC 2012—Proceedings of the 37th International Symposium on Symbolic and Algebraic Computation*, pages 219–226. ACM, New York, 2012.

[34] E. Hubert and P. Olver. Differential invariants of conformal and projective surfaces. *Symmetry Integrability and Geometry: Methods and Applications*, 3(097), 2007.

[35] E. Hubert. Improvements to a triangulation-decomposition algorithm for ordinary differential systems in higher degree cases. In *ISSAC 2004*, pages 191–198. ACM press, 2004.

[36] E. Hubert and N. Le Roux. Computing power series solutions of a nonlinear pde system. In *ISSAC*, pages 148–155. ACM Press, 2003.

[37] E. Hubert. The general solution of an ordinary differential equation. In *ISSAC 1996*, pages 189–195. ACM Press, 1996.

Book Chapters

[38] E. Hubert. Rational Invariants of a Group Action. In P. Boito, G. Chèze, C. Pernet, and M. Safey El Din, editors, *Journees Nationales de Calcul Formel*, volume 3 of *Les cours du CIRM*, CEDRAM - Center for Diffusion of Academic Mathematical Journals, 2013.

[39] E. Hubert. Algebraic and differential invariants. In F. Cucker, T. Krick, A. Pinkus, and A. Szanto, editors, *Foundations of computational mathematics, Budapest 2011*, number 403 in London Mathematical Society Lecture Note Series, pages 168–190. Cambrige University Press, 2012.

[40] E. Hubert. Notes on triangular sets and triangulation-decomposition algorithms II: Differential systems. In F. Winkler and U. Langer, editors, *Symbolic and Numerical Scientific Computing*, number 2630 in Lecture Notes in Computer Science, pages 40–87. Springer Verlag Heidelberg, 2003.

[41] E. Hubert. Notes on triangular sets and triangulation-decomposition algorithms I: Polynomial systems. In F. Winkler and U. Langer, editors, *Symbolic and Numerical Scientific Computing*, number 2630 in Lecture Notes in Computer Science, pages 1–39. Springer Verlag Heidelberg, 2003.

Research reports and publications under review

[42] E. Hubert, T. Metzlaff, Moustrou P., and C. Riener. Optimization of trigonometric polynomials with crystallographic symmetry and spectral bounds for set avoiding graphs. https://hal.inria.fr/hal-03768067, 2023.

[43] E. Hubert, T. Metzlaff, and C. Riener. Orbit space for Weyl groups acting on the compact torus: a unified and explicit polynomial description. https://hal.inria.fr/hal-03590007, 2022.

[44] M. Collowald and E. Hubert. A moment matrix approach to computing symmetric cubatures. https://hal.inria.fr/hal-01188290, 2015.

[45] E. Hubert. Generation properties of Maurer-Cartan invariants. http://hal.inria.fr/inria-00194528, 2007.

Conference presentations & posters

[46] E. Hubert and P. van der Kamp. Integrability of geometric flows of curves in the plane.

2022: Invited talk at the workshop *Solving Polynomial System* at CWI, Amsterdam Netherland. [2]

2022: Invited talk at the workshop *Algebraic combinatorics of the symmetric groups and Coxeter groups*, Cetraro, Italy. [43]

2022: Invited talk at the annual meeting of the national research group *Géométrie Différentielle et Mécanique*, Bordeaux. [2]

2022: Invited talk at the workshop *Interpolation, Approximation, and Algebra Organizers: Carl de Boor, Madison*, Oberwolfach. [?]

2021: Invited talk at the workshop *Group Actions, Invariants and Applications* at the SIAM conference *Moving Frames and their Modern Applications*, BIRS, Canada. [19] [12] [5]

2021: Keynote lecture at *Maple Conference*, online. [12]

2021: Invited speaker at the workshop *Algebraic combinatorics of the symmetric groups and Coxeter groups*, Cetraro, Italy. [?]

2021: Accepted talk at the conference *MEGA: Effective Algebraic Geometry*, (online) Tromso Norway. [2]

2020: Invited talk at the annual meeting of the national research group *Géométrie Différentielle et Mécanique* eventually held online. [19] [12] [5]

2020: Invited speaker at the conference *Symmetry, Randomness, and Computations in Real Algebraic Geometry* at the Institute for Computational and Experimental Mathematics, Providence, USA. [?]

2019: Seminar talk during the program *Geometry, compatibility and structure preservation in computational differential equations* at the Isaac Newton Institute, Cambridge UK. [3, 1]

2019: Keynote speaker at the conference *Artic Applied Algebra* at the Artic University of Norway, Tromsö.

2019: Series lecturer at the conference *Equations Fonctionnelles et Interactions* in Anglet, Fance. [20] [19] [18] [16] [39]

2019: Invited speaker at the conference *A celebration of Symmetry and Computation* at University of Kent, Canterburry UK. [?]

2018: Invited speaker at the conference *Nonlinear Algebra in Applications* at the Institute for Computational and Experimental Mathematics, Providence, USA. [5]

2018: Invited speaker at the meeting *Séminaire Différentiel* held at the Université de Versailles-St Quentin . [?]

2018: Invited speaker at the conference *Algebraic and geometric aspects of numerical methods for differential equations* held at the Mittag-Leffler insitute, Stockholm, Sweden. [8], [44]

2018: Talk at the conference *Symmetry & Computations* held at the Centre International de Recherche en Mathématiques, Marseille, France. [5]

2017: Invited speaker at the first joint meeting of the London Mathematical Society and the Institute of Mathematics and its Applications.

2017: Plenary speaker at the 14th international symposium on *Orthogonal Polynomials, Special Function and Applications*, Canterbury, UK. [8], [44]

2017: Invited talk at the minisymposium *Resultants, Subresultants and Applications* at the SIAM conference *Applied Algebraic Geometry*, Atlanta. [?]

2017: Talk at the minisymposium *Symmetry & Structure in Algebraic Computation* at the SIAM conference *Applied Algebraic Geometry*, Atlanta. [8], [44].

2017: Invited talk at the workshop *Symbolic Analysis* at the conference *Foundations of Computational Mathematics*, Barcelona. [?]

2017: Invited talk at the Journées Nationales du GDR Informatique Mathématiques, Montpellier. [8], [44]

2017: Colloquium talk at the Mathematics department of the University of Kent, UK. [5]

2017: Invited speaker at the inaugural meeting of the Applied Algebra and Geometry network at University of Nottingham, UK. [5]

2016: Invited speaker at the workshop *Sparse Interpolation, Rational Approximation and Exponential Analysis*, Banff International Research Station for Mathematical Innovation and Discovery, Oaxaca, Mexico.

2016: Invited speaker at the conference *Symmetry, Invariants, Reduction* in Aachen, Germany. [4]

2016: Invited speaker at the workshop *Algebraic Vision* at the *American Institute of Mathematics*, San Jose, USA.

2016: Invited speaker at the *Computational Mathematics Colloquium*, University of Waterloo, Canada. [8], [44]

2015: Invited speaker at the *Applied Mathematics Colloquium*, University of Western Ontario, Canada. [8], [44]

2015: Invited speaker at the workshop *Symbolic Combinatorics and Computational Differential Algebra* at the Fields Institute, Toronto, Canada. [8], [44] (Video at `http://fields.utoronto.ca/video-archive/2015/09/411-5142`)

2015: Invited speaker at the conference *Sparse Modelling and Multi-exponential Analysis*, Dagstuhl, Germany. [8], [44]

2015: Invited speaker at the seminar of the Aalto Science Institute, Helsinki, Finland. [12]

2014: Talk at the workshop *Symbolic Analysis* at the conference *Foundations of Computational Mathematics*, Montevideo, Uruguay. [4]

2014: Invited speaker at the conference *Algebraic and analytic aspects of ordinary differential equations* in Aachen, Germany. [9, 12], [33],

2014: Invited speaker at the *Women in Maths* seminar series and *Oberseminar Reelle Geometrie und Algebra*, Konstanz, Germany. [14, 13], [4]

2014: Invited speaker at the *Colloquium of the Research Institute for Symbolic Computation*, Hagenberg, Austria. [9, 12],[33].

2014: Invited speaker at the international conference *Functional Equations in Limoges*, France. [46]

2014: Invited speaker at the conference *Polyhedra, Lattices, Algebra, and Moments* at the Institute of Mathematical Sciences, Singapore. [19], [33].

2013: Talk at the minisymposium *Computational Aspects of Moving Frames* at the SIAM conference on *Applied Algebraic Geometry*. [46]

2013: Invited speaker at the workshop *Women in Shape (WiSh): Modeling Boundaries of Objects* at the *Institute for Pure & Applied Mathematics*, Los Angeles, USA. [14, 13, 15]

2013: Tutorial lectures at the *Journées Nationales de Calcul Formel*, Centre International de Rencontres en Mathématiques, Marseille, France. [19, 12], [38]

2012: Selected talk at ISSAC, Grenoble, France. [33]

2012: Invited speaker at the conference *Symmetries of Differential Equations: Frames, Invariants and Applications in honor of the 60th birthday of Peter Olver*, Minneapolis, USA. [12]

2012: Invited speaker at the *Geometry seminar*, Politecnico di Torino, Italy. [14, 13, 15]

2011: Plenary lecture at the conference *Foundations of Computational Mathematics*, Budapest, Hungary. [12, 16, 19, 18, 20],[34], [39],[45]

2010: Plenary lecture at the *International Symposium on Symbolic and Algebraic Computation*, Munich, Germany [16, 19, 18, 20],[34],[45].

2010: Plenary lecture at the *Encuentro de Algebra Computacional y Aplicaciones*, Santiago de Compostella, Spain. [14, 13]

2010: Invited speaker at the conference *Harmony of Gröbner Bases and the Modern Industrial Society*, Osaka, Japan. [16]

2010: Invited talk at the AMS workshop *Geometric flows, moving frames and integrable systems*, St Paul, USA. [34],[45]

2009: Invited speaker at the workshop on *Discrete Systems and Special Functions* at the Newton Institute, Cambridge, UK. [16],[34],[45] (Video at `http://www.newton.ac.uk/seminar/20090629153016301`)

2009: Plenary lecture at the conference on *Mathematics Mechanization in honor of W. T. Wu 90th birthday*, Beijing, China. [16, 19, 18, 20]

2008: Invited speaker at the conference *Differential Algebra and Related Topics*, Newark, USA (2008). [16, 19, 18, 20]

2008: Invited speaker at the conference *Differential Algebra and Related Computer Algebra*, Catania, Italy. [16, 19, 18, 20]

2007: Plenary lecture at the *East Coast Computer Algebra Day*, Chesterton, USA. [20]

2007: Seminar talk in *Algebraic Geometry and Application*, IMA, Minneapolis, USA. (Video at `http://ima.umn.edu/2006-2007/seminars/index.html#hubert`) [19, 18]

2006: Invited speaker at the workshop on *Software for Algebraic Geometry* at the IMA, Minneapolis, USA. (Video at `http://ima.umn.edu/2006-2007/W10.23-27.06/abstracts.html#Evelyne++Hubert`) [40]

2006: Invited speaker at the workshop on *Global Integrability of Field Theories*, Daresbury, UK (2006). [40],[20]

2006: Invited speaker in the summer program *Symmetries and Overdetermined Systems of Partial Differential Equations* at the IMA, Minneapolis, USA. [19, 18]

2006: Invited speaker at the conference *Gröbner Bases in Symbolic Analysis*, at Radon Institute for Computational and Applied Mathematics, Linz, Austria. [19, 18]

2005: Invited speaker at the workshop *Challenges in Linear and Polynomial Algebra in Symbolic Computation Software*, Banff, Canada. [19]

2005: Invited tutorial lectures at the *International Symposium on Symbolic and Algebraic Computation*, Beijing, China. [40], [22],[36]

2005: Invited talk at the conference *Foundation of Computational Mathematics*, Santander, Spain. [19, 18]

2005: Selected talk at MEGA (Effective Methods in Algebraic Geometry), Alghero, Italy. [19, 18]

2004: Selected talk at ISSAC, Santander, Spain. [35]

2004: Invited software tutorial at the AARMS Workshop on Symbolic Computation, Halifax, Canada. [41, 40]

2004: Invited talk at the workshop *Applications of Invariant Theory to Differential Geometry* at the Canadian Mathematical Society meeting, Halifax, Canada. [20]

2004: Invited speaker at the workshop *Differential Algebra and Symbolic Computation*, North Carolina State University. [20]

2004: Invited speaker at the *Colloquium of the Research Institute for Symbolic Computation*, Austria. [20]

2003: Selected talk at ISSAC, Philadelphia, USA. [36]

2003: Invited talk at the workshop associated to the CIMPA school *Systems of polynomial equations*, Buenos Aires, Argentina. [20]

2002: Invited talk at the conference *Foundation of Computational Mathematics*, Minneapolis, USA. [21, 17]

2001: Plenary lecture at the conference on *Symbolic and Numeric Computation*, Johannes Kepler Universität, Linz. [22]