

Curriculum Vitae of Josef Schicho

Affiliation and address

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Personal data

Date of Birth: June 28, 1964
Place of Birth: Wien (Austria)
Nationality: Austria

Main areas of research

computational algebra ◦ polynomial equations ◦ computational kinematics ◦ symbolic computation

Education

1974 – 1982	Bundesrealgymnasium Linz
1982 – 1985	Studies of Mathematics at Graz University of Technology
1985 – 1989	Studies of Mathematics at University of Vienna
Jul 1989	Graduation, Mag. rer. nat. (University of Vienna)
1989 – 1995	Studies of Mathematics at University of Linz
Jan 1995	Graduation, Dr. techn. (University of Linz)
Jun 2001	Habilitation for Mathematics (University of Linz)

Career history

1992 - 1997:	System Administrator, University of Linz
1998 - 2001:	Research Assistant, University of Linz
2001 - 2003:	Associated Professor, University of Linz
since 2004	Group Leader, Johann Radon Institute
since 2013:	Associated Professor, University of Linz

Scientific Services

Author of more than 100 refereed articles in mathematics and kinematics.
Supervisor of 15 PhD thesis (3 ongoing)

Editor of the J. Symb. Comp.
General Chair for ISSAC 2004 and MEGA 2007.
Programm Committee Member for various conferences in the fields of Symbolic Computation and Computational Algebra.
Referee for numerous journals in mathematics
Reporter of the FWF (Austrian Science Fund), Mathematics.

Most important research projects funded in the past

P12662-TEC “Computation of Adjoints”, (funded by FWF) 1998–2000:
Principal Investigator
Special Research Area 13 “Numeric and Symbolic Scientific Computation” (funded by FWF), 1998–2008:
Principal Investigator in subprojects 1303 (1998–2008) and 1315 (2003–2008)
P15551 “Explicit Resolution” (funded by FWF), 2003–2005:
Co-investigator (together with H. Hauser)
P18992-N18 “Solution of Algebraic Equations” (funded by FWF), 2006–2008:
Principal Investigator (together with H. Hauser)
P21461-N23 “Solution of Algebraic Equations II” (funded by FWF), 2009–2013:
Co-investigator (together with H. Hauser)
Doctorate Program “Computational Mathematics” (funded by FWF), started 2008:
Principal Investigator in subproject 9
Marie Curie Training Network ARCADES (funded by EEC), 2016–2019:
Leader of Workpackage 5
Marie Curie Training Network GRAPES (funded by EEC), started 2019:
Scientist in Charge for JKU
P26607 “Algebraic Methods in Kinematics” (funded by FWF), 2014–2019
Principal Investigator (together with H.-P. Schröcker)
P26607 “Algebra of Motions” (funded by FWF), started 2019:
Principal Investigator (together with H.-P. Schröcker)

Refereed Publications

- [1] J. Schicho. On the choice of pencils in the parametrization of curves. *J. Symb. Comp.*, 14(6):557–576, 1992.
- [2] J. Schicho. On algorithmic parametrization methods in algebraic geometry. In J. Pfalzgraf and D. Wang, editors, *Automated practical reasoning*, pages 81–90. Springer, 1995.
- [3] J. Schicho. A note on a theorem of Fried and MacRae. *Arch. Math.*, 65:239–243, 1995.
- [4] J. Schicho. Rational parametrization of surfaces. *J. Symb. Comp.*, 26(1):1–30, 1998.
- [5] H. Hule and J. Schicho. On two conjectures about systems of algebraic equations. *Riv. Math. Parma*, 5:201–204, 1997.
- [6] J. Schicho. Inversion of rational maps with Gröbner bases. In B. Buchberger and F. Winkler, editors, *Gröbner bases and applications*, pages 495–503. Cambridge Univ. Press, 1998.
- [7] J. Schicho. Rational parameterization of real algebraic surfaces. In *Proc. ISSAC'98*, pages 302–308. ACM Press, 1998.
- [8] H. Hong and J. Schicho. Algorithms for trigonometric curves (simplification, implicitization, parameterization). *J. Symb. Comp.*, 26(3):279–300, 1998.
- [9] J. Schicho. A degree bound for the parameterization of a rational surface. *J. Pure Appl. Alg.*, 145:91–105, 1999.
- [10] G. Bodnár and J. Schicho. A computer program for the resolution of singularities. In H. Hauser, editor, *Resolution of Singularities*, volume 181 of *Progr. Math.*, pages 231–238. Birkhäuser, 2000.
- [11] G. Bodnár and J. Schicho. Automated resolution of singularities for hypersurfaces. *J. Symb. Comp.*, 30:401–428, 2000.
- [12] J. Schicho. The multiple conical surfaces. *Beitr. Alg. Geom.*, 42:71–87, 2001.
- [13] P. Pau and J. Schicho. Quantifier elimination for trigonometric polynomials. *J. Symb. Comp.*, 29:971–983, 2000.
- [14] J. Schicho. Proper parametrization of real tubular surfaces. *J. Symb. Comp.*, 30:583–593, 2000.
- [15] J. Schicho. Proper parametrization of surfaces with a rational pencil. In *Proc. ISSAC'2000*, pages 292–299. ACM Press, 2000.
- [16] G. Bodnár and J. Schicho. An improved algorithm for the resolution of singularities. In *Proc. ISSAC'2000*, pages 30–37. ACM Press, 2000.

- [17] G. Landsmann, J. Schicho, F. Winkler, and E. Hillgarter. Symbolic parametrization of pipe and canal surfaces. In *Proc. ISSAC'2000*, pages 202–208. ACM Press, 2000.
- [18] J. Schicho. The parametrization problem for algebraic surfaces. In *Computational algebra and applications, Proc. EACA'99*. Universidad de la Laguna, Tenerife, 1999. invited lecture.
- [19] S. Pérez-Díaz, J. Schicho, and J. R. Sendra. An algorithmic criteria for deciding the properness of rational parametrizations. In *Proc. EACA 2000*. Univ. of Catalunya, 2000.
- [20] G. Bodnár and J. Schicho. Two computational techniques for singularity resolution. *J. Symb. Comp.*, 32:39–54, 2001.
- [21] G. Landsmann, J. Schicho, and F. Winkler. The parametrization of canal surfaces and the decomposition into a sum of two squares. *J. Symb. Comp.*, 32:119–132, 2001.
- [22] S. Pérez-Díaz, J. Schicho, and J. R. Sendra. Properness and inversion of rational parametrizations of surfaces. *AAECC*, 13:29–51, 2002.
- [23] J. Schicho. Simplification of surface parametrizations. In *Proc. ISSAC 2002*, pages 229–237. ACM Press, 2002.
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- [26] J. Schicho. Simplification of surface parametrizations – a lattice polygon approach. *J. Symb. Comp.*, 36:535–554, 2003.
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- [114] M. Gallet, G. Grasegger, and J. Schicho. Counting realizations of Laman graphs on the sphere. *Electr. J. Comb.*, 27:1–18, 2020.
- [115] V. Bartzos, I. Emiris, and J. Schicho. On the multihomogeneous bezout bound on the number of embeddings of minimally rigid graphs. *AAECC*, 2020. to appear.
- [116] J. Capco, M. Safey el Din, and J. Schicho. Robots, computer algebra and 8 connected components. In *ISSAC 2020*. ACM, 2020. to appear.