

CURRICULUM VITAE

Name: *Piotr M. Hajac*
Date/Place of Birth: *20 November 1964 / Poland*
Address: *Mathematical Institute of the Polish Academy of Sciences*
ul. Śniadeckich 8, Warsaw 00–956, Poland
(<http://www.impan.gov.pl/~pmh>)

Education:

- 1988, M.Sc., *summa cum laude*, in theoretical physics, conferred by Wrocław University, Poland.
- 1988, top grade in the entrance examination for Ph.D. studies at Wrocław University.
- 1989/90, visiting graduate student at the Mathematical Institute of Oxford University, G. Britain.
- 1990 – 1994, Ph.D. student in the Department of Mathematics of the University of California at Berkeley.
- 21 May 1994, Ph.D. in Mathematics conferred by the University of California at Berkeley.
- 14 June 2002, habilitation degree in Mathematics conferred by the Mathematical Institute of the Polish Academy of Sciences.

Employment:

- 1990/91 and 1991/92, Graduate Student Instructor, Department of Mathematics, UC Berkeley.
- First semester of 1993/94, Graduate Student Research Assistant in the Center for Pure and Applied Mathematics in Berkeley.
- 20 June 1994 – 12 August 1994, Lecturer in the Department of Mathematics, UC Berkeley.
- Since 1 October 1994, Assistant Professor (adiunkt) in the Department of Mathematical Methods in Physics, Warsaw University, Poland. My duties at the University include teaching mathematics to physics students.
- 1 October 1999 – 30 September 2003, an Assistant Professor (adiunkt) at the Mathematical Institute of the Polish Academy of Sciences. Since 1 October 2003, an Associate Professor (docent) therein. As of 25 January 2008, the director of the Noncommutative Geometry Independent Research Unit of the Institute.

Fellowships and awards:

- 1988/89, stipend for Ph.D. studies, Institute of Theoretical Physics, Wrocław University.
- 1989/90, Soros Scholarship for one year of study at the Mathematical Institute of Oxford University.
- 1990, Overseas Research Student award by the Committee of Vice Chancellors of British Universities.
- 1992/93, George C. and Helen N. Pardee Scholarship for graduate study in Mathematics at UC Berkeley.
- 1996, I came third in the international competition for postdoctoral fellowships of the Italian National Research Council (Consiglio Nazionale delle Ricerche) and was awarded a 12-month postdoctoral position in Italy.
- 1997/98, postdoctoral fellow in the Department of Applied Mathematics and Theoretical Physics, Faculty of Mathematics, University of Cambridge, G. Britain.
- 1 March 2001 – 28 February 2003, Marie Curie postdoctoral fellow at the Mathematical Institute of Munich University, Germany.
- 2003, my paper *Hopf-cyclic homology and cohomology with coefficients* was selected as one of the seven distinguished papers written by the employees of the Mathematical Institute of the Polish Academy of Sciences in 2003.

Research grants:

- 1994–1997: the Polish Committee for Scientific Research (KBN) grant devoted to quantum groups (participant).
- 1998–2001: *Topological Quantum Groups, their Quasi-classical Analysis, and Applications in the Description of Physical Symmetries*, Polish Government grant (participant).
- 2001–2003: the European Commission grant accompanying the Marie Individual Fellowship *Noncommutative Geometry of Galois Type Extension*.
- 2003–2004: *Index Theory for Noncommutative Fibrations*, Polish Government grant (director).
- 2004–2007: *Hopf-cyclic Cohomology and Noncommutative Index Theory*, Polish Government grant (director).
- 2004–2008: *Noncommutative Geometry and Quantum Groups*, EU transfer-of-knowledge grant (director).
- 2005–2008: *Noncommutative Geometry and Quantum Groups*, Polish Government matching grant (director).
- 2007–2011: *K-theory and spectral geometry for Galois-type extensions of noncommutative algebras*, Polish Government grant (director).

Refereeing, editing, teaching and organizational experience:

- *Refereeing*: I refereed articles for Central European Journal of Mathematics (once), Communications in Mathematical Physics (four times), Documenta Mathematica (once), Duke Mathematical Journal (once), Journal of Functional Analysis (once), Journal of Mathematical Physics (four times), Journal of Noncommutative Geometry (once), K-Theory (twice), Proceedings of the London Mathematical Society (once), Reports in Mathematical Physics (twice), proceedings (five times), a book project for the Kluwer Academic Publishers (once), and a book for the European Mathematical Society Publishing House.
- *Editorial work*: Together with W. Pusz, I edited the proceedings *Noncommutative Geometry and Quantum Groups* published by the Banach Center Publications as volume 61, Warszawa 2003, 348 pages. In 2007, two books edited by me were accepted for publication by the European Mathematical Society Publishing House: *Lecture Notes on Noncommutative Geometry and Quantum Groups* and *Quantum Symmetry in Noncommutative Geometry*.
- *Department of Mathematics, UC Berkeley*: 3 semesters of undergraduate calculus (discussion classes), 1 semester of graduate algebra (homework grading), 1 semester graduate lecture course (lecturing on the real analysis).
- *Department of Mathematical Methods in Physics, Warsaw University*: 2 semesters of algebra, 1 semester of mathematical methods in physics, 3 semesters of calculus (undergraduate discussion classes).
- *Institut des Hautes Études Scientifiques (IHES) in Bures-sur-Yvette, France*: In October 1998, co-organiser of the European Postdoctoral Forum organized on the occasion of the 40th anniversary of IHES.
- *Mathematical Institute of the Polish Academy of Sciences, Warsaw*: Between 8 November 1999 and 26 February 2001, I was running a weekly seminar *Noncommutative Geometry*. The seminar resumed on 15 October 2003.
- *Stefan Banach International Mathematical Center, Warsaw*: I was a co-organiser (in charge of the scientific programme) of the school/conference *Noncommutative Geometry and Quantum Groups*, which took place between 17 and 29 September 2001. On 20 August 2003, jointly with R. Matthes, I ran a one-day noncommutative geometry workshop. Also, I was in charge of the meeting *Noncommutative Geometry and Quantum Groups 2007* organized together with A. Connes and R. Nest. Since October 2008, I co-organise a monthly mathematical colloquium of the Polish Mathematical Society and the Banach Center.
- *Mathematical Institute of Munich University*: In the winter semester of 2002/03, I ran a weekly workshop on *Hopf-cyclic cohomology*.
- *University of New Brunswick, Fredericton, Canada*: I was a co-organiser of the *First Canadian Hopf algebra conference: the rôle of Hopf algebras in Noncommutative Geometry* that took place in September 2008.

Short Visits:

- *Mathematics Section of the International Centre for Theoretical Physics, Trieste, Italy*: June to December 1995, October to December 1996, December 1998, June to August 1999, July 2000.
- *Institut des Hautes Études Scientifiques (IHES), Bures-sur-Yvette, France*: August to September 1996, September 1999, July 2004, September 2006, August 2007, August 2008.
- *International School for Advanced Studies (SISSA), Trieste, Italy*: February 1997, April to September 1998, April and December 1999, February 2007, February 2009.

- *Leipzig University, Germany*: August 1998, June and August 1999, March and September 2000, August 2001, April 2002, September 2003, April 2004, June 2005.
- *Erwin Schrödinger International Institute for Mathematical Physics (ESI), Vienna, Austria*: November 1998, August 2000, September 2001.
- *Institut Mittag-Leffler, Djursholm, Sweden*: January to February 2004.
- *Institut Henri Poincaré, Paris, France*: June and July 2004.
- *University of Swansea, G. Britain*: June 2005, August 2006, December 2008.
- *University of New Brunswick, Fredericton, Canada*: January/February 2007, February 2008.
- *Other visits*: Institute of Mathematics, National Autonomous University of Mexico, Mexico (January 1997); Mathematical Institute, Oxford University, G. Britain (March 1997); Department of Mathematics, Exeter University, G. Britain (March 1998); Wrocław University, Poland (November and December 2000); Mathematical Institute, Munich University, Germany (December 2000), Mathematisches Forschungsinstitut Oberwolfach (MFO), Germany (Research in Pairs, September 2002); Department of Mathematics, University of Western Ontario, London, Canada (April 2003); University of Newcastle, Australia (August 2005); Max Planck Institut, Leipzig, Germany (November 2005, September 2007), University of Glasgow, G. Britain (November 2007).

Invited lectures and conference talks:

- *Strong connections on quantum principal bundles*: Oxford University, G. Britain (February 1995).
- *Hopf Galois extensions and quantum principal bundles*: Třešť, Czech Republic, conference on “*Noncommutative Geometry and its Applications*” (May 1995).
- *Highlights of Noncommutative Geometry*: University of Trieste, Italy (December 1995).
- *Connections on the quantum Hopf fibration $S^2_{q,\infty} \rightarrow RP^2_q$* : Munich University, Germany (February 1996).
- *Noncommutative Geometry of Hopf-Galois extensions*: short lecture course at the International School for Advanced Studies in Trieste, Italy (June 1996).
- *Examples of quantum fibrations and exact sequences of quantum groups*: Leipzig University and Mainz University, Germany (Winter 1997).
- *Overview of the Quantum Double Torus*: Prague, Czech Republic, the 6th Colloquium on “*Quantum Groups and Integrable Systems*” (June 1997); Munich University (June 1997); the annual meeting of the Japanese Mathematical Society, Tokyo, Japan (October 1997); Research Institute for Mathematical Sciences, Kyoto University, Japan (October 1997); University of Florence, Italy (July 2000).
- *Chern-Connes pairing for the quantum Hopf line bundle*: International Centre for Theoretical Physics, Trieste, Italy, “*School on Algebraic K-Theory and Applications*” (September 1997); University of Tsukuba, Japan (October 1997).
- *Bundles over quantum sphere and Noncommutative Index Theorem*: Institut de Recherche Mathématique Avancée (IRMA) de Strasbourg, France (November 1997); Munich University and Leipzig University, Germany (December 1997); Oxford University, G. Britain (January 1998); University of Newcastle, Australia (August 2001); Fields Institute, Toronto, Canada, (March 2002).
- *Frame, cotangent and tangent bundles of the quantum plane*: University of York, G. Britain (March 1998).
- *Noncommutative geometry of quantum fibrations*: Leipzig University, Germany (April 1998); University of Ancona, Italy (May 1998).
- *Noncommutative quotient spaces from Z_2 -actions on quantum spheres*: International Centre for Theoretical Physics, Trieste, Italy (October 1999).
- *Quantum-group equivariant connections and Chern-Connes pairing for noncommutative quotient spaces*: Bariloche, Argentina, conference on “*Quantum Symmetries in Theoretical Physics and Mathematics*” (January 2000).
- *C^* -algebra and K -theory of quantum RP^2* : Wrocław University, Poland (May 2000); International Centre for Theoretical Physics and International School for Advanced Studies, Trieste, Italy (July 2000); Catholic University of Leuven, Belgium (January 2001).
- *Strong connections and left-right Hopf-Galois extensions*: Munich University, Germany (July 2000).
- *Noncommutative geometry of algebraic bundles*: University of Sydney, Australia (August 2001).
- *Galois type extensions of noncommutative algebras*: Banach Center, Warsaw, Poland school/conference on “*Noncommutative Geometry and Quantum Groups*” (September 2001).

- *Noncommutative locally trivial Hopf fibration*: University of Western Ontario, London, Canada (March 2002).
- *Fredholm index and noncommutative Hopf fibrations*: Free University of Brussels, Belgium, conference on “*Hopf Algebras and Noncommutative Geometry*”, (May 2002); Copenhagen University, Denmark (August 2002); International School for Advanced Studies, Trieste, Italy (October 2002).
- *Hopf-cyclic cohomology*: University of Strasbourg, France (January 2003); University of Münster, Germany (January 2003); University of Leipzig, Germany (February 2003); University of Wrocław, Poland (March 2003); Banff International Research Station, Canada, workshop on “*Noncommutative geometry*” (April 2003); University College Cork, Ireland, conference on “*Noncommutative geometry and operator algebras*” (May 2003); University of Wales at Swansea, G. Britain (June 2003); Oxford University, G. Britain (June 2003); Centre International de Recontre Mathématique (CIRM), Marseille, France, conference on “*K-theory and cyclic cohomology*” (February 2004); Vrije Universiteit Brussel, Belgium (November 2004); Queen Mary University of London, G. Britain (May 2005).
- *The Chern-Galois character*: University of Florence, Italy (February 2003); University of Florence, conference on “*Recent advances in noncommutative geometry: spheres, instantons, sigma models*” (March 2004); Victoria University of Wellington, New Zealand, “*International Workshop on Algebra*” (February 2005); Institut de Mathématiques de Jussieu, Paris, France, conference on *Noncommutative Geometry* (March 2005).
- *Noncommutative geometry of Heegaard-type quantum 3-spheres*: Wrocław University, Poland (October 2003).
- *Index computations for new and old quantum spheres*: Vanderbilt University, USA, conference on “*Noncommutative geometry and operator algebras*” (May 2004). Centre International de Recontres Mathématiques, Marseille, France, conference (November 2004); Helsinki University, Finland (April 2005).
- *The Chern-Galois character and Hopf-cyclic cohomology*: University of Wales, Swansea (July 2004).
- *The K-theory of Heegaard-type quantum 3-spheres*: Scuola Internazionale Superiore di Studi Avanzati, Trieste, Italy, conference (October 2004); Katholieke Universiteit Leuven, Belgium (November 2004); University College Cork, Ireland, conference on *Operator Algebras and Applications* (June 2005).
- *The Matsumoto gluing theorem*: University of Newcastle, Australia (January 2005).
- *Non-crossed-product examples of principal extensions of C^* -algebras*: Australian Mathematical Sciences Institute, Canberra, Australia, conference on *Noncommutative Geometry and Index Theory* (July 2005); Pennsylvania State University, State College, USA (September 2005); Ohio State University, Columbus, USA (September 2005); University of Western Ontario, London, Canada (February 2006).
- *Noncommutative geometry approach to principal and associated bundles*: Scuola Internazionale Superiore di Studi Avanzati, Trieste, Italy, conference (June 2006); Isaac Newton Institute for Mathematical Sciences, Cambridge, G. Britain (August 2006), Antwerp University, Belgium, 8-hour lecture course (June 2007).
- *Noncommutative join construction*: Vrije Universiteit Brussel, Belgium, conference (September 2006); University of Piemonte Orientale, Alessandria, Italy, conference (March 2007); University of New Brunswick, Fredericton, Canada, conference (June 2007); University of Western Ontario, London, Canada, (June/July 2007); Wrocław University, Poland (October 2007); SISSA/ICTP, Trieste, Italy, conference (October 2007).
- *Pullbacks of principal comodule algebras*: University of Almeria, Spain, conference (September 2007); Paul Verlaine University, Metz, France, conference (November 2007); University of Western Ontario, London, Canada, conference (December 2007).
- *Equivariant pullbacks and finite free distributive lattices*: Operator Theory and Operator Algebras in Cork, a Conference in Memory of Gerard J. Murphy, University College Cork, Ireland (May 2008); Noncommutative Geometry Workshop, Fields Institute, Toronto, Canada (May 2008).
- *The Peter-Weyl-Galois theory of compact principal bundles*: conference Analysis and Topology in Interaction, Scuola Normale Superiore di Pisa, Cortona, Italy (June 2008); SISSA, Trieste, Italy (June 2008); 9th Conference on Geometry and Topology of Manifolds Workshop, Kraków, Poland (July 2008); AMS Sectional Meeting, 2008 Fall Western Section Meeting, Special Session on Noncommutative Geometry, Vancouver, Canada (October 2008); International Conference on C^* -algebras and Elliptic Theory III, Będlewo, Poland (January 2009).
- *The Chern-Galois character and Ehresmann cyclic homology*: First Canadian Hopf algebra conference: the rôle of Hopf algebras in Noncommutative Geometry, the University of New Brunswick, Fredericton, Canada (September 2008).