

Curriculum Vitae

Dr. Michael H. Schraudner

Addresses (office/home)

Centro de Modelamiento Matemático (CMM)
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Date of birth Place of birth Citizenship Marital status

May 2, 1976
Bamberg, Germany
German citizen, Chilean resident (permanencia definitiva, RUT 22.188.516-3)
married, one child

Research Interests

Dynamical systems and ergodic theory; more specifically symbolic and topological dynamics, in particular multidimensional subshifts, shifts of finite type, sofic systems, algebraic shifts, countable-state Markov shifts, automorphisms, subsystems, factors, tiling systems and cellular automata

Applications of symbolic dynamics (subshifts, tilings, cellular automata) in statistical physics and biology; relations to recursion theory and C^* -algebras

Interest in coding theory, formal languages, graph theory, combinatorics and combinatorial optimization

Employment

Since 11/2009

Assistant Professor (research oriented) at CMM, Universidad de Chile
Research in symbolic dynamics, topological dynamics and ergodic theory; teaching undergraduate and graduate courses; organization of seminars

09/2006 – 10/2009

Postdoctoral Fellow at the chair of Prof. A. Maass, CMM, Universidad de Chile
Research in symbolic dynamics, topological dynamics and ergodic theory

11/2001 – 08/2006

Research Fellow and **Teaching Assistant** at the chair of Prof. W. Krieger, University of Heidelberg
Research in symbolic dynamics; teaching and co-teaching various courses; co-supervising seminars and tutoring graduate students

04/1999 – 09/2001

Teaching Assistant at the Faculty of Mathematics, University of Heidelberg
Teaching and grading various exercise classes

Education

- 11/2004 **Ph.D. in Mathematics**, University of Heidelberg, mark 1.0 **Magna cum laude**
Thesis: *On the automorphism groups of topological countable state Markov shifts* (symbolic dynamics), Advisor: Prof. W. Krieger
- 10/2000 **M.Sc. (Diploma) in Mathematics**, University of Heidelberg, mark 1.0 **with excellence** (mit Auszeichnung)
Thesis: *PQ-trees and the consecutive-ones-problem* (combinatorial optimization), Advisor: Prof. G. Reinelt
- 04/1997 **B.Sc. (Prediploma) in Mathematics and B.Sc. (Prediploma) in Physics**, University of Heidelberg
- 10/1995 – 10/2000 Studies in Mathematics, Physics and Computer Sciences, University of Heidelberg, Germany
- 1992 – 1995 Secondary school: Graf-Münster-Gymnasium, Bayreuth, Germany, final exam (Abitur) mark 1.0
- 1982 – 1992 Elementary and secondary school, Hollfeld, Germany

Scholarships, Grants, Projects

- 03/2014 – 02/2018 **Proyecto FONDECYT regular** No. 1140015: *Symbolic dynamics on finitely generated groups*, **principal investigator**. 4-year grant financed by the Chilean Science Council (CONICYT); evaluated by three referees with an average of 4.72 out of 5 points (rank 11) within 62 projects proposed in Mathematics
- 11/2012 – 10/2015 **CONICYT Anillo project**: *Center for Dynamical Systems and related fields*. 3-year group grant financing activities in dynamical systems, **main researcher**
- 01/2012 – 03/2014 **MathAmSud project DySTil**: *Dynamical Study of Tilings*, **local coordinator Chile**. 2-year international grant financing mutual research stays between the participating groups in Argentina, Brazil, Chile and France
- 03/2010 – 02/2014 **Proyecto FONDECYT regular** No. 1100719: *Symbolic dynamics with a focus on multidimensional subshifts II*, **principal investigator**. 4-year grant financed by the Chilean Science Council (CONICYT); evaluated by three referees with an average of 4.70 out of 5 points (rank 6) within 56 projects proposed in Mathematics
- 01/2009 – 12/2011 **Projet International de Coopération Scientifique - PICS**, CNRS project to enhance established mathematical collaborations between France and Chile, finances local expenses of research stays in France (resp. Chile), **co-investigator**
- 11/2007 – 10/2009 **Proyecto FONDECYT postdoctorado** No. 3080008: *Symbolic dynamics with a focus on higher-dimensional subshifts*, **principal investigator**. 2-year grant financed by the Chilean Science Council (CONICYT); evaluated by three referees and ranked at 6th place within a total of 110 proposed projects
- 07/1998 – 09/1998 Selected participant of the **annual summer school at CERN** (European Laboratory for Particle Physics), Geneva, Switzerland
- 10/1995 – 10/2000 **Scholarship** according to the Bavarian law for promoting outstanding students

Publications & Preprints (p = peer-reviewed ISI journals)

- 10/2000 *PQ-Bäume und das Consecutive-1s-Problem*, M.Sc. thesis, University of Heidelberg; online-publication: www.iwr.uni-heidelberg.de/groups/comopt
- 11/2004 *Über die Automorphismengruppen topologischer Markovshifts mit abzählbar unendlicher Zustandsmenge*, Ph.D. thesis, University of Heidelberg; online-publication: www.ub.uni-heidelberg.de/archiv/5097
- 03/2006 (p) *On the algebraic properties of the automorphism groups of countable state Markov shifts*, Ergodic Theory Dynam. Syst. **26(2)**, 551-583 (2006)
Countable state Markov shifts with automorphism groups being a direct sum, online-publication: www.ub.uni-heidelberg.de/archiv/5829
- 04/2007 (p) *The canonical-boundary representation for automorphism groups of locally compact countable state Markov shifts*, Israel J. Math. **159**, 253-275 (2007)
- 01/2008 (p) *A matrix formalism for conjugacies of higher-dimensional shifts of finite type*, Colloq. Math. **110(2)**, 493-515 (2008)
- 04/2008 (p) \mathbb{Z}^d group shifts and Bernoulli factors (joint with M. Boyle), Ergodic Theory Dynam. Syst. **28(2)**, 367-387 (2008)
- 01/2009 (p) \mathbb{Z}^d shifts of finite type without equal entropy full shift factors (joint with M. Boyle), J. Diff. Eq. Appl. **15(1)**, 47-52 (2009)
- 01/2010 (p) *Projectional entropy and the electrical wire shift*, Discrete Contin. Dyn. Syst. Series A **16(1)**, 333-346 (2010)
- 09/2010 (p) *Multidimensional sofic shifts without separation and their factors* (joint with M. Boyle and R. Pavlov), Trans. Am. Math. Soc. **362(9)**, 4617-4653 (2010)
- to appear (p) *Classification of sofic projective subdynamics of multidimensional shifts of finite type* (joint with R. Pavlov), 50 pages, accepted with Trans. Am. Math. Soc.
- (p) *Entropies realizable by block gluing \mathbb{Z}^d shifts of finite type* (joint with R. Pavlov), 49 pages, accepted with Journal d'Analyse Mathématique
- (p) *Projective subdynamics of uniformly mixing multidimensional shifts of finite type*, 38 pages, accepted with Ergodic Theory Dynam. Syst.
- submitted (p) *Speed of convergence of non-sofic projective subdynamics of multidimensional shifts of finite type* (joint with M. Sablik), 28 pages, submitted
- preprints *A class of equal-entropy extensions of \mathbb{Z}^d full shifts*, 14 pages, preprint
Minimal projective subdynamics (joint with A. Quas), 19 pages, preprint
Entropy minimality of \mathbb{Z}^d shifts of finite type (joint with S. Lightwood), 16 pages, work in progress
Joint realization of projective subdynamics in \mathbb{Z}^2 shifts of finite type (joint with R. Briceño), 18 pages, work in progress
Strongly aperiodic tilings of the discrete Heisenberg group (joint with A. Sahin and I. Ugarcovici), 10 pages, work in progress
On a classification of one-sided near Markov shifts, work in progress

Teaching

2nd semester 2014	Graduate course Dinámica Topológica (4 + 2h a week)
1st semester 2014	Graduate course Teoría de Información (Ergodic Theory, Entropy and Coding theory) (4 + 2h a week)
2nd semester 2013	Graduate course Introducción a la Dinámica Simbólica (4 + 2h a week) Ph.D. seminar Dinámica Simbólica Multidimensional (Multidimensional Symbolic Dynamics) (2h a week)
1st semester 2013	Graduate course Teoría de Información (Ergodic Theory, Entropy and Coding theory) (4 + 2h a week)
2nd semester 2012	Graduate course Introducción a Sistemas Dinámicos (4 + 2h a week) Working group Dinámica Simbólica Multidimensional (Multidimensional Symbolic Dynamics) (2h a week)
1st semester 2012	Graduate course Teoría de Información (Ergodic Theory, Entropy and Coding theory) (4 + 2h a week)
2nd semester 2011	Graduate course Introducción a la Dinámica Simbólica (4 + 2h a week) Working group Dinámica Simbólica Multidimensional (Multidimensional Symbolic Dynamics) (2h a week)
1st semester 2011	Graduate course Teoría de Información (Ergodic Theory, Entropy and Coding theory) (4 + 2h a week) Ph.D. seminar Tópicos en Dinámica Topológica (Topological Dynamics) (3h a week)
2nd semester 2010	Graduate course Laboratorio de Dinámica Simbólica con SAGE (Symbolic dynamics with SAGE) (4h a week)
1st semester 2010	Graduate course Teoría de Información (Ergodic Theory, Entropy and Coding theory) (4 + 2h a week)
2nd semester 2008	Graduate course Introducción a la Dinámica simbólica (2h a week)
Summer 2006	Graduate course Discrete Dynamical Systems (2h a week) Teaching Assistant for Analysis 1 (taught 2h a week to 230 students)
Winter 2005/2006	Graduate course Ergodic Theory (2h a week) Teaching Assistant for Analysis 2 (taught 90min a week plus one third of the main lectures – 4h a week – due to illness of Professor to 180 students)
Summer 2005	Teaching Assistant for Analysis 1 (taught 90min a week to 200 students) Co-supervising a seminar on Dynamical Systems
Up to 2004	Teaching and grading several exercise classes in Analysis, Linear Algebra, Ordinary Differential Equations, Functional Analysis and Algorithms & Data Structures (to 20-35 students) Co-teaching a couple of weeks to substitute absence of professors in courses on Linear Algebra, Functional Analysis and Symbolic Dynamics Co-supervising several seminars for graduate students on Discrete Dynamical Systems and Symbolic Dynamics

Conferences, Seminars & Talks (titles in italics)

- July 14 – 17, 2014 **5th Pingree Park Dynamics Workshop**, Colorado, USA, *Strongly aperiodic SFTs on the (discrete) Heisenberg group*
- February 24 – 28, 2014 **Groups Acting on Rooted Trees**, IHP Paris, France
- January 27 – 31, 2014 **Random Walks on Groups**, IHP Paris, France
- January 20 – 24, 2014 **Holomorphic and Symbolic Dynamics**, Toulouse, France, *Properties of automorphism groups of SFTs and countable state Markov shifts* (invited talk)
- November 4 – 8, 2013 **floripadynsys: Workshop on Dynamics, Numeration and Tilings**, Florianopolis, Brazil, *A class of equal-entropy extensions of multidimensional full shifts* (invited talk)
- August 5 – 9, 2013 **Mathematical Congress of the Americas 2013**, Guanajuato, Mexico, *Non-sofic projective subdynamics of multidimensional shifts of finite type* (invited 30-minute special session talk)
- June 3 – 7, 2013 **Automata Theory and Symbolic Dynamics Workshop**, PIMS & University of British Columbia, Vancouver, Canada, *Entropy minimality of multidimensional shifts of finite type* (invited talk)
- January 14 – 18, 2013 **SubTile2013**, CIRM (Luminy), Marseille, France
- December 10 – 14, 2012 **School on Information and Randomness 2012**, Puerto Varas, Chile
- December 3 – 7, 2012 **First school on Dynamical Systems and Computation – DySyCo**, CMM, Santiago, Chile, **Main organizer**
- May 21 – 25, 2012 **CANT 2012 – School on Combinatorics, Automata and Number Theory**, CIRM (Luminy), Marseille, France, *Entropy minimality in \mathbb{Z}^d shifts of finite type* (selected 30-minute talk)
- April 18 – 20, 2012 **XXV Jornada de Matemática de la Zona Sur**, Concepción, *Entropies realizable in block gluing \mathbb{Z}^d shifts of finite type* (invited)
- April 02 – 06, 2012 **Laminations and Symbolic Dynamics**, CIRM (Luminy), Marseille, France, *Entropies realizable in block gluing \mathbb{Z}^d shifts of finite type*
- March 27, 2012 Dynamics seminar Northwestern University, Chicago, USA, *Entropies realizable in block gluing \mathbb{Z}^d shifts of finite type*
- March 17 – 18, 2012 **AMS Spring Eastern Sectional Meeting**, Washington D.C., USA, *Entropies realizable in block gluing \mathbb{Z}^d shifts of finite type* (invited)
- March 14, 2012 Seminar DePaul University, Chicago, USA, *An introduction to multidimensional shifts of finite type*
- January 23 – 27, 2012 **1st Franco-Chilean Congress of Combinatorics & Dynamics**, Cap Hornu, Baie de Somme, France, Minicourse *Multidimensional symbolic dynamics* (invited)
- August 07, 2011 **4th Pingree Park Dynamics Workshop**, Colorado, USA, *Entropies realizable in block gluing \mathbb{Z}^d shifts of finite type*
- February 03, 2011 Dynamics seminar at University of British Columbia, Vancouver, Canada, *Factor maps onto and equal entropy extensions of \mathbb{Z}^d full shifts* (invited)
- January 31, 2011 Rainwater seminar, University of Washington, Seattle, USA, *Projective subdynamics of (uniformly mixing) \mathbb{Z}^d shifts of finite type*
- January 21, 2011 Seminar at the University of Victoria, Victoria B.C., Canada, *Projective subdynamics of uniformly mixing \mathbb{Z}^d shifts of finite type* (invited)

January 20, 2011	Dynamics seminar at University of British Columbia, Vancouver, Canada, <i>Projective subdynamics of \mathbb{Z}^d shifts of finite type</i> (invited)
December 15 – 18, 2010	First Joint Meeting AMS – SoMaChi , Pucón, Chile, <i>Classification of \mathbb{Z} projective subdynamics of uniformly mixing multidimensional shifts of finite type</i> (invited)
December 10 – 14, 2010	School on Information and Randomness 2010 , Pucón, Chile
Sept. 27 – Oct. 7, 2010	X Escuela de primavera , DIM - Universidad de Chile, Santiago, <i>Minicurso - Dinámica simbólica</i> (three lectures)
September 10, 2010	13ièmes Journées Montoises – ANR SubTile satellite , Amiens, France, <i>Projective subdynamics of (uniformly mixing) \mathbb{Z}^d shifts of finite type</i>
May 25 – 31, 2010	Bicentennial Workshop on Dynamical Systems , San Pedro de Atacama, Chile, <i>Projective subdynamics of multidimensional shifts of finite type</i>
February 8 – 26, 2010	Math-Info 2010 – a thematic month at CIRM , CIRM (Luminy), Marseille, France, <i>(Non-)Existence of full shift factors for \mathbb{Z}^d shifts of finite type</i> (talk) and <i>Uniqueness and non-uniqueness of measures of maximal entropy for \mathbb{Z}^d subshifts of finite type</i> (talk + workshop)
October 22 – 23, 2009	Workshop: ANR project SubTile , Université d’Picardie, Amiens, France, <i>Classification of sofic projective subdynamics of \mathbb{Z}^d shifts of finite type</i>
October 07,13, 2009	Minicourse on <i>Hochman’s subdynamics results</i> , Universidad de Santiago and CMM, Santiago, two lectures
September 07 – 11, 2009	Dynamical Systems at Valparaíso – a satellite conference of the III CLAM , Universidad Católica de Valparaíso, Valparaíso, Chile, <i>Classification of sofic projective subdynamics of \mathbb{Z}^d shifts of finite type</i> (invited)
Aug. 31 – Sept. 04, 2009	III CLAM (Congreso Latino Americano de Matemáticos), Universidad de Santiago, Santiago
August 10, 2009	Joint seminar of the Dynamical Systems Group in Santiago, CMM, Santiago, <i>Projectional entropy of multidimensional shifts</i>
June 16, 2009	Seminar at the Universidad Nacional Autónoma de México (UNAM), Mexico D.F., <i>Subshifts multidimensionales – una introducción básica y algunas preguntas abiertas</i>
June 10, 2009	Tartaglia seminar at the Universidad Autónoma de San Luis Potosí, Mexico, <i>Introducción a la dinámica simbólica en dimension dos</i> (invited)
May 26, 2009	Seminar at the Université d’Picardie, Amiens, France, <i>Topological entropies of multidimensional subshifts and of their projective subdynamics</i> (invited)
May 11 – 15, 2009	A conference in ergodic theory – Dynamical systems and Randomness , Institut Henri Poincaré, Paris, France
March 12 – 14, 2009	I Encuentro en Matemática Discreta , Universidad Nacional de Salta, Argentina, <i>Subshifts multidimensionales – una introducción</i> (invited)
December 15 – 19, 2008	Workshop: Information and Randomness 2008 , CMM, Santiago
October 9, 2008	VII Escuela internacional de sistemas dinámicos , Universidad Católica de Valparaíso, Valparaíso, Chile, <i>El shift de los ríos serpenteando</i>
June 30, 2008	Misiurewicz’s birthday conference , Bedlewo, Poland, <i>Large entropy \mathbb{Z}^d shifts with restrictive subsystems and factors</i> (selected 30-minute talk)

June 25, 2008	School on symbolic dynamics and homeomorphisms of the Cantor set , University of Copenhagen, Copenhagen, Denmark, <i>Countable state Markov shifts – An introduction</i> (invited)
May 12, 2008	Joint seminar of the Dynamical Systems Group in Santiago, CMM, Santiago, <i>Mixing notions for \mathbb{Z}^d shifts and implications on factors</i>
November 07 – 10, 2007	VII Simposio Chileno de Matemática , Sociedad de Matemática de Chile, Punta de Tralca, Chile, <i>Subsystems and factors of higher-dim. shifts</i>
July 25 – 27, 2007	Coloquio LVI de sistemas dinámicos , Universidad de Santiago, Santiago, \mathbb{Z}^d <i>sofic systems and \mathbb{Z}^d shifts of finite type without full shift factors</i>
July 17 – 25, 2007	VI Escuela internacional de sistemas dinámicos , Universidad de Santiago, Santiago, <i>The centralizer of a subshift</i> , Minicourse (invited)
July 02 – 04, 2007	Workshop on Symbolic Dynamics and Coding , University of Marne-la-Vallée, Paris, France, <i>(Non-)Existence of equal entropy full shift factors for \mathbb{Z}^d shifts of finite type</i> (selected 30-minute-talk)
March 30, 2007	Seminar of the Millennium Science Nucleus at CMM, Santiago, <i>New results concerning the classification of higher-dimensional algebraic shifts</i>
January 22,24, 2007	Symbolic Dynamics seminar at CMM, Santiago, <i>Introduction to algebraic vector shifts and recent results on factoring onto full shifts</i> , two lectures
December 11 – 15, 2006	Workshop: Information and Randomness 2006 , CMM, Santiago
November 20, 2006	Dynamics seminar at Universidad Católica de Santiago, Santiago, <i>Some properties of the automorphism groups of countable state Markov shifts</i>
October 30 – 31, 2006	Coloquio LV de sistemas dinámicos , Universidad de Chile, Santiago
September 20 – 27, 2006	Symbolic Dynamics seminar at CMM, Santiago, <i>The dimension group and the dimension representation of shifts of finite type</i> , three lectures
June 18 – 24, 2006	Workshop on Ergodic Theory and Dynamical Systems , Szklarska Poreba, Poland, <i>A matrix formalism for topological conjugacy of 2-dimensional shifts of finite type</i> (selected 30-minute-talk)
May 21 – 25, 2006	Workshop: Dynamique et Alea , Cote d'Opal (Merlimont), France, <i>Topological conjugacy of 2-dimensional shifts of finite type</i>
September 13, 2005	Seminar at the George-Washington-University, Washington D.C., USA, <i>The cardinality of the automorphism group of a countable state Markov shift</i> (invited)
September 08, 2005	Dynamics seminar at the University of Maryland, College Park MD, USA, <i>Algebraic properties of the automorphism groups of countable state Markov shifts</i> (invited)
July 17 – 24, 2005	Visegrad Conference on Dynamical Systems , Prague, Czechia, <i>The canonical-boundary representation of locally compact Markov shifts</i>
December 08, 2003	Seminar at the University of Heidelberg, Heidelberg, Germany, <i>Expansive automorphisms of one-sided shifts</i>
July 07 – 18, 2003	Warwick Symposium on symbolic dynamics and ergodic theory , Warwick (Coventry), UK
July 22 – 26, 2002	Workshop: Chaines de Markov topologiques denombrables , CIRM, Luminy (Marseilles), France, <i>The automorphism groups of countable state Markov shifts</i> (invited)

July 05 – 19, 2014	Research stay at Denver University, Denver, USA
Jan. 27 – March 4, 2014	Participation Random Walks and Asymptotic Geometry of Groups , IHP Paris, France
May 30 – June 20, 2013	Research stay at University of British Columbia, Vancouver, Canada (invited by Prof. B. Marcus)
March 12 – 28, 2012	Research stay at Northwestern University & DePaul University, Chicago, USA (invited by Prof. B. Kra and Prof. A. Sahin)
February 09 – 14, 2012	Research stay at Université de Provence, Marseille, France (invited by Prof. M. Sablik, co-financed by FONDECYT regular No. 1100719)
May 15 – May 27, 2011	Research stay in a Research in pairs program at CIRM (Luminy), Marseille, France (invited by Prof. M. Sablik)
Jan. 19 – Feb. 5, 2011	Research stay at University of British Columbia, Vancouver, Canada (invited by Prof. B. Marcus, co-financed by FONDECYT regular No. 1100719)
September 5 – 17, 2010	Work visit at Université d’Picardie, Amiens, France (financed by FONDECYT regular No. 1100719 and PICS project)
February 22 – 26, 2010	Participation Sage days 20 , CIRM (Luminy), Marseille, France
October 14 – 29, 2009	Work visit at Université d’Picardie, Amiens, France (financed by the ANR project SubTile, invited by Prof. F. Durand)
June 8 – 13, 2009	Stay at Universidad Autónoma de San Luis Potosí, Mexico (invited by Prof. E. Ugalde)
May 20 – June 05, 2009	Work visit at Université d’Picardie, Amiens, France (financed by our CNRS project PICS, invited by Prof. F. Durand)
November 02 – 20, 2008	Research stay at MSRI – University of Berkeley, California, USA, Participant in the Ergodic Theory and Additive Combinatorics program
June 15 – 21, 2008	Research stay at Erwin Schrödinger Institut, Vienna, Austria (invited by Prof. K. Schmidt)
September 16 – 24, 2005	Stay at Drew University, Madison NJ, USA (invited by Prof. K. Madden)
September 05 – 15, 2005	Research stay at the University of Maryland, College Park MD, USA (invited by Prof. M. Boyle)
July 04 – 10, 2004	Activity on algebraic and topological dynamics , MPIM Bonn, Germany
June 25 – July 06, 2001	Summerschool on Non-Hyperbolic Dynamical Systems , University of Göttingen, Göttingen, Germany
February 14 – 27, 1999	Research stay at CERN (European Laboratory for Particle Physics), Geneva, Switzerland

Short stays

Research stay at Denver University, Denver, USA

Participation **Random Walks and Asymptotic Geometry of Groups**, IHP Paris, France

Research stay at University of British Columbia, Vancouver, Canada (invited by Prof. B. Marcus)

Research stay at Northwestern University & DePaul University, Chicago, USA (invited by Prof. B. Kra and Prof. A. Sahin)

Research stay at Université de Provence, Marseille, France (invited by Prof. M. Sablik, co-financed by FONDECYT regular No. 1100719)

Research stay in a **Research in pairs** program at CIRM (Luminy), Marseille, France (invited by Prof. M. Sablik)

Research stay at University of British Columbia, Vancouver, Canada (invited by Prof. B. Marcus, co-financed by FONDECYT regular No. 1100719)

Work visit at Université d’Picardie, Amiens, France (financed by FONDECYT regular No. 1100719 and PICS project)

Participation **Sage days 20**, CIRM (Luminy), Marseille, France

Work visit at Université d’Picardie, Amiens, France (financed by the ANR project SubTile, invited by Prof. F. Durand)

Stay at Universidad Autónoma de San Luis Potosí, Mexico (invited by Prof. E. Ugalde)

Work visit at Université d’Picardie, Amiens, France (financed by our CNRS project PICS, invited by Prof. F. Durand)

Research stay at MSRI – University of Berkeley, California, USA, Participant in the **Ergodic Theory and Additive Combinatorics** program

Research stay at Erwin Schrödinger Institut, Vienna, Austria (invited by Prof. K. Schmidt)

Stay at Drew University, Madison NJ, USA (invited by Prof. K. Madden)

Research stay at the University of Maryland, College Park MD, USA (invited by Prof. M. Boyle)

Activity on algebraic and topological dynamics, MPIM Bonn, Germany

Summerschool on Non-Hyperbolic Dynamical Systems, University of Göttingen, Göttingen, Germany

Research stay at CERN (European Laboratory for Particle Physics), Geneva, Switzerland

Student formation

05/2014 – 07/2014	Supervising an internship (12 weeks) of D. Nava Saucedo, CMM
10/2012 – 09/2015	Supervising two 3-year FONDECYT Post-Doctoral projects of M. Delacourt (No. 3130496) and S. Hong (No. 3130718), CMM
10/2012 – 07/2014	Supervising the engineering thesis (memoria) of S. Barbieri, DIM–U. Chile
11/2011 – 07/2012	Supervising a research period of a graduate student R. Briceño, CMM
09/2010 – 10/2013	Supervising a Post-Doctoral fellow A. Ballier, CMM
Up to 08/2006	Co-supervised 3 Diploma students (D. Schauz, P. Parczewski, K. Pflugfelder) at the chair of Prof. W. Krieger, University of Heidelberg

December 15 – 19, 2014

December 5 – 9, 2014

December 03 – 07, 2012

January 23 – 27, 2012

Seminars (2007-present)

Refereeing/Reviewing

(03/2008-present)

Postdoc affairs

(11/2009-present)

Student affairs

(09/2002-08/2006)

Sys-Admin/Web

(04/2004-08/2006)

Languages

Memberships

Erdős number

Computing: Systems

Programming

Applications

Further interests

Conference organization

Workshop **Symbolic Dynamics on finitely presented Groups** (SyDyGr), CMM, Chile, **principal organizer**

School on **Orbit Equivalence and related fields**, USACH, Chile, **co-organizer**

First school on **Dynamical Systems and Computation** (DySyCo), CMM, Chile, **principal organizer**

Primer congreso Franco-Chileno en Dinámica y Combinatoria, Cap Hornu, Baie de Somme, France, **co-organizer**

Administrative Services

Organizing the dynamical systems seminar at CMM

Refereeing papers for **ETDS, Israel J. Math., TransAMS, ProcAMS, Non-linearity**

Reviewing publications for **AMS-MathSciNet** and **Zentralblatt**

Engaging in the organization of the Postdoctoral Program at CMM; counseling postdocs during their stay; providing information for them and organizing meetings

Counseling students; keeping minutes in oral exams; grading homework and grading written exams

Co-supervising three graduate students during their M.Sc. thesis in symbolic dynamics at the chair of Prof. W. Krieger, University of Heidelberg

Maintaining software and hardware of about 8 Apple-Macintosh PCs

In charge of institute's web-pages; re-designing staff home-pages; designing and maintaining internet-companions for some courses

Miscellaneous

german (native), english (fluent), spanish (intermediate), latin

DMV (German Math. Soc.), AMS (American Math. Soc.), TUG (TeX Users Group)

4 (through M. Boyle, T. Downarowicz and R. Mauldin)

Windows, LINUX/UNIX, (Mac OS)

C/C++, Python/Cython, Pascal, Basic

\LaTeX , SAGE, Maple, OpenOffice, HTML (and PHP)

Electronics, Particle physics, Historic and scientific novels, Movies

Santiago, September 2014