

CURRICULUM VITAE ET STUDIORUM OF  
**Tullio CECCHERINI-SILBERSTEIN**  
(updated September 2nd, 2015)

**Generalities.**

*Place and date of birth:* Rome, November 11 1966.

*Citizenship:* Italian.

*Marital status:* married.

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*Home page:* <http://www.ing.unisannio.it/tullio/>

**Languages spoken:**

Italian, English, French, and Russian; basic German; and some Hebrew.

**Academic degrees:**

1985: Diploma di Maturità Classica, Liceo Ginnasio Statale “Giulio Cesare” with mark 60 / 60.

1990: Laurea in Matematica, Università degli Studi di Roma “La Sapienza” with mark 110 / 110 cum Laude; title of the dissertation: “Azione di gruppi mediante automorfismi della algebra di Cuntz di ordine infinito”, advisor: Professor Sergio Doplicher.

1993: Master (of Arts) degree in Mathematics, University of California at Los Angeles (UCLA).

1994: PhD in Mathematics, UCLA; title of the dissertation: “Approximately inner and centrally free commuting squares of type  $II_1$  factors and their classification”, advisor: Professor Sorin Popa.

1995-98: Ricercatore (= maitre de conférences) di Analisi Matematica à l’Università degli Studi dell’Aquila.

1998 –: **Professore Associato** di Analisi Matematica à l’Università degli Studi del Sannio (Benevento).

2014: National Habilitation **Professore Ordinario** (= full professor) in:

- (i) MAT/05 Analisi Matematica, Probabilità e Statistica Matematica (= Mathematical Analysis)
- (ii) MAT/03 Algebra e Geometria (= Algebra and Geometry).

**Academic positions:**

1990-94: Graduate student at the Mathematics Department, UCLA.

1991-92: Leave of absence (from UCLA) at the IHES (Institut des Hautes Etudes Scientifiques), Bures-sur-Yvette (Paris), France.

1992-93: Teaching Assistant (TA) and Research Assistant (RA) at the Mathematics Department, UCLA.

1994-96: Post-doc at the Section de Mathématiques de l' Université de Genève, Geneva.

1995-98: Ricercatore di Analisi Matematica: Dipartimento di Matematica Pura ed Applicata, Università degli Studi dell' Aquila, L' Aquila.

Nov. 1996- Jan. 1997: Visiting at the Steklov Mathematical Institute. Moscow (Russia).

Oct. 1997- Sept. 1998: Collaborateur Scientifique: Institut de Mathématiques, Université de Neuchâtel, Neuchâtel (Switzerland).

**Nov. 1998–: Professore Associato di Analisi Matematica: Facoltà di Ingegneria, Università degli Studi del Sannio di Benevento.**

Nov.–Dec. 2000: Visiting at the Institut für Mathematik, Technische Universität Graz (Austria).

January 2004: Visiting Associate Professor at the Mathematics Department, UCSD.

February 2003: Visiting at DIMACS (Rutgers University).

November 2003 - October 2004: Leave of absence at the Dipartimento di Matematica “G. Castelnuovo” Università di Roma “La Sapienza”.

February 2004: Visiting Associate Professor at the Math Dept of UC San Diego.

Fall 2004: Visiting Associate Professor at the Math Dept of the Texas A & M University, College Station, TX.

Fall 2006: Visiting Associate Professor at the Math Dept of UC San Diego.

January 2007: Visiting at the Institut für Mathematik, Technische Universität Graz (Austria).

October-November 2007: Visitor at IHES, Bures-sur-Yvette, France.

October-November 2008: Visitor at IHES, Bures-sur-Yvette, France.

December 2009: Visitor at Tata Institute of Fundamental Research (TIFR), Mumbai, India.

February 2010: Visitor at the Math Department Kyushu University, Fukuoka, Japan.

August 2010: Visiting Associate Professor at the Math Dept of UC San Diego.

April 2011: Visting at the Chebyshev Laboratory, St.Petersburg State University, St.Petersburg, Russia.

July 2011: Visiting Associate Professor at the Math Dept of UC Los Angeles.

August 2011: Visiting Associate Professor at the Math Dept of UC San Diego.

July 2012: Visiting Associate Professor at the Math Dept of UC Los Angeles.

June 2013: Visitor at ICTP Trieste.

February 2014: Visitor at IHP, Paris.

July-August 2014: Visiting Associate Professor at the Mathematics Department, UCSD.

July 2015: Visiting Associate Professor at the Mathematics Department, UCSD.

### **Organizing and administrative activities:**

**Editor** of the International Journal *Groups, Geometry, and Dynamics*, published by the European Mathematical Society (Editor in chief: Rostislav I. Grigorchuk).

**Coordinator in chief** of the Italian national project GNAFA-CNR “Analytic, geometrical and combinatorial aspects of ergodic theory, of dynamical systems and group actions”.

**Coordinator in chief** of the Italian national project INdAM “Analytic, geometrical and combinatorial aspects of the theory of dynamical systems and formal languages”.

**Member of the organizing and scientific committee** of the International Conference “International Conference on GROUP THEORY: combinatorial, geometric, and dynamical aspects of infinite groups” Gaeta (Italy) June 1-6 2003.

(<http://atlas-conferences.com/cgi-bin/calendar/d/facf89>).

**Member of the organizing and scientific committee** of the INdAM Conference “Geometric Group Theory, Random Walks and Harmonic Analysis” Cortona (Italy) June 13-18 2004.

(<http://www.math.tugraz.at/cortona/>).

**Organizer** of the Workshop “Groups and Languages” INdAM, Roma September 9-10, 2010.

(<http://www.altamatematica.it/it/node/68>).

**Member of the organizing and scientific committee** of the INdAM Conference “Groups, Graphs and Random Walks” Cortona, 2-6 June 2014.

(<http://www.math.tugraz.at/mathc/woess60/index.php>).

**European Science Foundation (RGLIS)**: funding of 13000 EURO for the INdAM workshop “Groups, Graphs and Random Walks” Cortona, 2-6 June 2014.

**Director of the INdAM research unit** at the Università del Sannio (Benevento), since 2014.

**Member of the organizing and scientific committee** of the “Rencontre Mathématique à Genève en l’honneur de Pierre de la Harpe” Geneva, 13-14 Octobre 2014.

(<https://sites.google.com/site/delaharpe70/>).

**Member of the organizing and scientific committee** of “Groupes, Géométrie et Systèmes Dynamiques, une journée mathématique en l’honneur de Michel Coornaert. IRMA (Strasbourg) le 27 février 2015.

(<http://www.ing.unisannio.it/tullio/michel2.html>)

### **Grants and Prizes:**

Prize of the Scuola Matematica Interuniversitaria (1989)

Grant of CNR = National Research Council (1989-90)

Grant of CNR = National Research Council (1990-92)

Prize of CNR = National Research Council (1991)

Prize of CNR = National Research Council (1992)

Grant of CNR = National Research Council (1993-95)

Grant of EMS = European Mathematical Society (1993)

Grant of CNR = National Research Council (1998-99)

Grant of INdAM = National Institute for Advanced Mathematics (2000-01)

Grant of INdAM = National Institute for Advanced Mathematics (2004)

Grant of INdAM = National Institute for Advanced Mathematics (2011)

Prize of the BURC = University Bureau of Campania Region (2008)

Grant of INdAM = National Institute for Advanced Mathematics (2014)

Grant of ESF = European Science Foundation (2014)

**Research advisor and PhD referee:**

1998-2001. **PhD Advisor** (jointly with Prof. A. Machì) of dr Francesca Fiorenzi (XIII Ciclo di Dottorato). Title of the dissertation: *Automi cellulari e gruppi finitamente generati*. Università degli Studi di Roma “La Sapienza”. Dr Fiorenzi is presently *maître de conférences* au Laboratoire de Recherche en Informatique of the Université Paris-Sud, France.

2003-2008. **PhD Advisor** (jointly with Prof. F. Scarabotti) of dr Daniele D’Angeli (XIX Ciclo di dottorato). Title of the dissertation: *Groups, Probability, Combinatorics: Different Aspects in Gelfand Pairs Theory* Università degli Studi di Roma “La Sapienza”. Dr D’Angeli is presently an *adjunct professor* at the Mathematics Department of the Technische Universität in Graz (Austria).

2003-2008. **PhD Advisor** (jointly with Prof. F. Scarabotti) of dr Alfredo Donno (XIX Ciclo di dottorato). Title of the dissertation: *Gelfand Pairs: From Self-Similar Groups to Markov Chains* Università degli Studi di Roma “La Sapienza”. Dr Donno is presently *associate professor* at the Università telematica Niccolò Cusano in Rome.

2013—. **PhD Advisor** of dr Matteo Cavaleri (XXVIII Ciclo di dottorato).

**Member of the committee for PhD in mathematics at:**

- Università “La Sapienza” di Roma (dr S. Carpi, dr M. Del Muto, dr S. Capobianco),
- Università di Palermo (dr D.E. Otera),
- Université de Paris-Sud Orsay (dr D.E. Otera),
- Université “Louis Pasteur” de Strasbourg (dr F. Krieger),
- Université de Neuchâtel (dr S. Moon),
- Ecole Polytechnique Fédérale de Lausanne (dr J. Kellerhals),
- Politecnico di Milano (dr M. Abu Ayyash).

**Teaching experience (graduate):**

November-December **2000**, TU Graz (Austria), Graduate course: *Groups, graphs and Amenability*.

September **2003** - February **2004**, Università di Roma “La Sapienza”, Graduate course: *Aspetti combinatori, analitici e dinamici in teoria dei gruppi e dei linguaggi formali*.

January **2005**, TU Graz (Austria), Graduate course: *Groups, graphs and Expanders: the Zig-Zag product*.

November **2006**, Rice University (Houston, USA), Minicourse: *Growth of finitely generated groups and Gromov’s theorem for groups of polynomial growth*.

January **2007**, TU Graz (Austria), Graduate course: *Gelfand pairs and applications to Probability*.

December **2009**, Tata Institute for Fundamental Research (TIFR MUmbai, India) Minicourse: *Automata and Groups*.

February **2010**, Kyushu University (Fukuoka, Japan), Minicourse: *On the Okounkov-Vershik approach to the Representation Theory of the Symmetric Groups*.

April **2011**, Chebyshev Laboratory at St. Petersburg State University, Minicourse: *Symbolic Dynamics and One-dimensional Cellular Automata*.

June **2013**, ICTP-SISSA-Moscow School on Geometry and Dynamics, ICTP Trieste, Minicourse: *The Garden of Eden theorem for cellular automata over amenable groups*.

December **2014**, Università de Chile, Santiago del Cile, Minicourse: *Cellular automata and groups*.

### **Teaching experience (undergraduate) abroad:**

**1992-1993:** (Fall Quarter) Teaching assistant to Prof. Ph. Curtis for MATH 31A, (UCLA);

**1992-1993:** (Winter Quarter) Teaching assistant to Prof. P. Welch for MATH 31B, (UCLA);

**1995-1996:** (first semester) Cours de II cycle: “La Transformée de Laplace”: Section de Mathématiques Université de Genève, Geneva, Switzerland;

**2004-2005:** (I semestre) Course MATH 151 (Calculus for Engineers). Math Dept of the Texas A & M University, College Station, TX;

**2006-2007:** (Fall Quarter) Course MATH 20/B (Calculus). University of California San Diego; La Jolla, CA;

**2006-2007:** (Fall Quarter) Course MATH 20/F (Linear Algebra). University of California San Diego; La Jolla, CA.

**2010:** (Summer Quarter) Course MATH 20/B (Calculus). University of California San Diego; La Jolla, CA.

**2010:** (Summer Quarter) Course MATH 20/F (Linear Algebra). University of California San Diego; La Jolla, CA.

**2011:** (Summer Quarter) Corso MATH 131A (Real Analysis). University of California at Los Angeles, CA.

**2011:** (Summer Quarter) Course MATH 31A (Calculus). University of California at Los Angeles, CA.

**2011:** (Summer Quarter) Course MATH 20/B (Calculus). University of California at San Diego;

**2011:** (Summer Quarter) Course MATH 10/B (Precalculus). University of California at San Diego.

**2012:** (Summer Quarter) Course MATH 2 (Finite Mathematics). University of California at Los Angeles, CA.

**2012:** (Summer Quarter) Course MATH 31A (Calculus). University of California at Los Angeles, CA.

**2015:** (Summer Quarter) Course MATH 10/A (Precalculus). University of California at San Diego, CA.

**2015:** (Summer Quarter) Course MATH 20/A (Calculus). University of California at San Diego, CA.

### **Teaching experience (undergraduate) in Italy:**

**1995-1996** (secondo semestre) Esercitazioni di Analisi Matematica I (CL in Informatica) per il Prof. S. Campi; Università dell’ Aquila.

(secondo semestre): Esercitazioni di Analisi Matematica II (CL in Matematica) per il Prof. P. D’ Ancona; Università dell’ Aquila.

**1996-1997** Esercitazioni di Analisi Matematica I (CL in Informatica) per il Prof. J. Myjak; Università dell’ Aquila;

Esercitazioni di Istituzioni di Analisi Superiore (CL in Matematica) per il Prof. J. Myjak; Università dell’ Aquila.

**1997-1998:** (secondo semestre) Esercitazioni di Analisi Matematica I (CL in Informatica) per la Prof.ssa D. De Acutis; Università dell’ Aquila;

(secondo semestre) Esercitazioni di Istituzioni di Analisi Superiore (CL in Matematica) per il Prof. J. Myjak; Università dell’ Aquila.

**1998-1999:** Corso di Analisi Matematica II (CL in Ingegneria informatica); Università del Sannio;

(I semestre) Corso di Analisi Matematica I (CD in Ingegneria delle infrastrutture); Università del Sannio.

**1999-2000:** (I quadrimestre) Corso di Analisi Matematica I (CD in Ingegneria delle infrastrutture e CD in Ingegneria delle Telecomunicazioni); Università del Sannio;

(I quadrimestre) Corso di Analisi Matematica I (CD in Ingegneria Informatica); Università del Sannio;

(II quadrimestre) Corso di Analisi Matematica II (CD in Ingegneria delle infrastrutture e CD in Ingegneria delle Telecomunicazioni); Università del Sannio;

(II quadrimestre) Corso di Analisi Matematica II (CD in Ingegneria Informatica); Università del Sannio;

(II quadrimestre) Corso di Analisi Matematica II (CD in Ingegneria informatica); Università del Sannio;

(II quadrimestre) Corso di Analisi Matematica II (CD in Ingegneria delle infrastrutture, CD in Ingegneria delle Telecomunicazioni e CD in Ingegneria Energetica); Università del Sannio.

**2001-2002:** Precorso (18 ore) di Matematica (CD/L in Ingegneria civile, CD/L in Ingegneria delle Telecomunicazioni e CD/L in Ingegneria Energetica);

Precorso (18 ore) di Matematica (CD/L in Ingegneria Informatica); Università del Sannio.

(II semestre) Corso di Matematica II (CD in Ingegneria informatica); Università del Sannio;

(II semestre) Corso di Matematica II (CD in Ingegneria delle infrastrutture, CD in Ingegneria delle Telecomunicazioni e CD in Ingegneria Energetica); Università del Sannio;

**2002-2003:** (I semestre) Corso di Matematica I (CD in Ingegneria informatica); Università del Sannio;

(I semestre) Corso di Matematica I (CD in Ingegneria delle Telecomunicazioni); Università del Sannio.

(II semestre) Corso di Matematica II (CD in Ingegneria delle infrastrutture, CD in Ingegneria delle Telecomunicazioni e CD in Ingegneria Energetica); Università del Sannio.

**2004-2005:** (II semestre) Corso di Matematica II (CD in Ingegneria informatica); Università del Sannio;

(II semestre) Corso di Matematica II (CD in Ingegneria delle Telecomunicazioni); Università del Sannio.

**2005-2006:** (II semestre) Corso di Matematica II (CD in Ingegneria informatica); Università del Sannio;

(II semestre) Corso di Matematica II (CD in Ingegneria delle Telecomunicazioni); Università del Sannio.

**2006-2007:** (II semestre) Corso di Matematica II (CD in Ingegneria informatica); Università del Sannio;

(II semestre) Corso di Matematica II (CD in Ingegneria delle Telecomunicazioni); Università del Sannio.

**2007-2008:** (II semestre) Corso di Matematica II (CD in Ingegneria informatica); Università del Sannio.

(II semestre) Corso di Matematica II (CD in Ingegneria delle Telecomunicazioni); Università del Sannio.

(II semestre) Corso di Matematica II (CD in Ingegneria Civile ed Energetica); Università del Sannio.

**2008-2009:** (II semestre) Corso di Matematica II (CD in Ingegneria informatica e Telecomunicazioni); Università del Sannio.

(II semestre) Corso di Matematica II (CD in Ingegneria Civile e CD in Ingegneria Energetica); Università del Sannio.

(II semestre) Corso di Calcolo Integrato (CD in Informatica); Università di Roma "La Sapienza".

**2009-2010:** Corso di Matematica (CD in Ingegneria Energetica) Università del Sannio.

(II semestre) Corso di Calcolo Integrato (CD in Informatica); Università di Roma "La Sapienza".

**2010-2011:** Corso di Matematica (CD in Ingegneria Energetica) Università del Sannio.

**2011-2012:** Corso di Matematica (CD in Ingegneria Energetica) Università del Sannio.

**2012-2013:** Corso di Matematica (CD in Ingegneria Energetica) Università del Sannio.

**2013-2014:** Corso di Matematica (CD in Ingegneria Energetica) Università del Sannio.

**2014-2015:** Corso di Matematica (CD in Ingegneria Energetica) Università del Sannio.

### **Conferences and workshops attended by Tullio CECCHERINI-SILBERSTEIN:**

- (1) “Quantum groups, operator algebras and duality and their application to physics”: International Conference sponsored by Istituto Nazionale di Alta Matematica (INdAM): Cortona, September 25 - 30, 1989.
- (2) “Advanced Research Workshop and Conference on Operator Algebras, Mathematical Physics and Low Dimensional Topology”: Istanbul July 1 - 5, 1991.
- (3) International Conference on “Operator Algebras”, a satellite conference of the ECM (European Congress of Mathematics) Paris 1992: Orleans July 1 - 4, 1992.
- (4) West-Operator Algebra Conference: Reno (Nevada) October 25-27, 1992.
- (5) CBMS conference “Classification of Amenable Subfactors” ten lectures by S. Popa: Eugene (Oregon) August 23-29, 1993. (6) International Conference “Algèbres d’ Operateurs”, a satellite conference of the ICM (International Congress of Mathematics) Zurich 1994: Genève July 19-23, 1994.
- (7) Workshop on “Cohomology of groups”, Chateau d’ Oex (Switzerland): March 29 - 31, 1995.
- (8) “XV Convegno Nazionale di Analisi Armonica”, Alghero (Italy): June 19 - 23, 1995.
- (9) “XVI Convegno Nazionale di Analisi Armonica”, Grado (Italy) May 20 - 23, 1996.
- (10) Euroconference in Algebra and Discrete Mathematics: “Group Theory: from Finite to Infinite”; Il Ciocco Castelveccchio Pascoli (LU), Italy) July 13 - 18, 1996.
- (11) “XVII Convegno Nazionale di Analisi Armonica”, S. Margherita Ligure (Italy) March 21–24, 1997.
- (12) Workshop on General Combinatorial Group Theory (CRM Montreal): April 5–13, 1997.
- (13) INdAM Meeting “Random Walks and Discrete Potential Theory” Cortona June 23 - 27, 1997.
- (14) Workshop on “Géométrie et Combinatoire des Groupes” Geneva (Switzerland): February 23 - 27, 1998.
- (15) “XVIII Convegno Nazionale di Analisi Armonica”, Ponza (Italy): June 22–26, 1998.
- (16) International Conference on the 90th anniversary of L.S. Pontryagin, Steklov Mathematical Institute and Lomonosov University, Moscow: August 31 - September 6, 1998.
- (17) International conference “Mathematics Towards the Third Millennium” Accademia dei Lincei (Roma): May 26-29, 1999.
- (18) “XIX Convegno Nazionale di Analisi Armonica”, Aosta (Italy): June 7–10, 1999.
- (19) International Conference ‘Paul Erdős and his mathematics’ Budapest: July 4-11, 1999.
- (20) Rencontres de Mathématiques : “Automata 99”, ENS Lyon (France): October 27-29, 1999.
- (21) “XX Convegno Nazionale di Analisi Armonica”, Como June 5-7, 2000.
- (22) International Conference “Geometric and Combinatorial Group Theory” Technion, Haifa (Israel), June 13-23, 2000.
- (23) Workshop on “Groupes et Languages”. Neuchatel (CH), June 24-27, 2000.
- (24) “XXI Convegno Nazionale di Analisi Armonica”, Piano di Sorrento, May 28-31, 2001.
- (25) ESI Workshop on “Random walks and geometry”: Vienna, June 25 - July 6, 2001.
- (26) “Probabilistic models and disordered systems”: Roma, February 4-7, 2002.
- (27) Rencontres de Mathématiques : “Groupes associés aux automates”: ENS Lyon, May 3-4, 2002.
- (28) “XXII Convegno Nazionale di Analisi Armonica” Isole Tremiti, June 3-7, 2002.
- (29) Rencontres de Mathématiques : “Property  $\tau$ ”: ENS Lyon, June 13-14, 2002.

- (30) International workshop on “Semigroups, Automata, and Formal Languages”: Crema, June 17-21, 2002.
- (31) Oberwolfach Meeting: “Profinite Groups and Discrete Subgroups of Lie Groups”: Oberwolfach May 18-24, 2003
- (32) “XXIII Convegno Nazionale di Analisi Armonica” Padova, May 26-29, 2003.
- (33) “International Conference on Group Theory: combinatorial, geometrical and dynamical aspects of infinite groups” Gaeta (LT), June 1-6, 2003. (34) “Probability in Mathematics. In Honour of Hillel Furstenberg” Jerusalem and Beer Sheva (Israel) June 17 - 24, 2003.
- (35) “Geometric and Group Theory Methods in Algebraic Structures” September 15-27, 2003, Tbilisi-Batumi, Georgia.
- (36) “Automorphic Forms, Group Theory and Graph Expansion” IPAM-UCLA Los Angeles. February 9 - 13, 2004.
- (37) “XXIV Convegno Nazionale di Analisi Armonica”. Sestri Levante March 29-31, 2004.
- (38) INdAM Meeting “Geometric Group Theory, Random Walks and Harmonic Analysis” June 13–20 2004, Cortona Italy).
- (39) Conference on the occasion of Pierre de la Harpe’s 60th birthday: Geneva, Switzerland. September 30 - October 2, 2004.
- (40) “Asymptotic group invariants and their applications”: Fall Workshop 1: Math. Dept., Texas A & M University, College Station, TX, Nov 6, 2004.
- (41) “Asymptotic group invariants and their applications”: Fall Workshop 2: Math. Dept., Texas A & M University, College Station, TX, Dec 8, 2004.
- (42) “XXV Convegno Nazionale di Analisi Armonica”. Bologna, April 5-9, 2005.
- (43) International Conference “Asymptotic and Probabilistic Methods in Geometric Group Theory”: University of Geneva, Switzerland. June 20-25, 2005.
- (44) “5th International Algebraic Conference”. Odessa (Ukraine), July 20-27, 2005.
- (45) ESI Workshop on “Discrete Probability”, Vienna, March 20-25, 2006.
- (46) “XXVI Convegno Nazionale di Analisi Armonica”. Cortona, May 22-26, 2006.
- (47) “Special day on Groups and Dynamics” Fall Workshop, Texas A & M University, College Station, TX, Nov 18, 2006.
- (48) “XXVII Convegno Nazionale di Analisi Armonica”. Caramanico Terme (PS), Italy, May 21-26 2007.
- (49) Workshop on “Groups and their action”, Banach Center in Bedlewo, Poland, July 1-7, 2007.
- (50) “6th International Algebraic Conference”. Kamyanets-Podilsky (Ukraine), July 1-7, 2007.
- (51) “The First Petra International Conference on Mathematics”. Al-Hussein Bin Talal University, Ma’an, Jordan, October 24-25, 2007.
- (52) “Groups generated by automata”, workshop at the Centro Stefano Franscini (ETH Zuerich) at Ascona (Switzerland), February 10-15, 2008.
- (53) “XXVIII Convegno Nazionale di Analisi Armonica”. Perugia, Italy, May 19-23, 2008.
- (54) “Analyse, géométrie et dynamique sur les groupes”, Neuchâtel, June 11-13, 2008.
- (55) International conference “Differential Equations and Topology” dedicated to the Centennial of L.S. Pontryagin”, Moscow, June 17-22, 2008.
- (56) ESI Workshop on “Structural Probability” Vienna, November 3-14, 2008.
- (57) “XXX Convegno Nazionale di Analisi Armonica”, Gargnano (BS), June 6-11, 2010.



- (58) Workshop on Ergodic Theory and Dynamical systems, Rice University, Houston TX, March 21-22, 2011.
- (59) Workshop on “Group Actions on Measure Spaces” Texas A & M University, College Station TX, March 24-27, 2011.
- (60) Oberwolfach meeting “Finite-dimensional approximations of groups and algebras”, Oberwolfach (Germany), May 16-20, 2011.
- (61) “XXXI Convegno Nazionale di Analisi Armonica”, INdAM Roma, June 2011.
- (62) Agora Meeting (Actions, Groups, Operator Algebras *Topological Dynamics*, Nouan-le-Fuzelier, Orléans, January 9-13, 2012.
- (63) Séminaire LaWiNe (Lausanne-Wien-Neuchâtel, Mathematical Seminar on Sofic Groups), Université de Genève, December 21st 2012.
- (64) Séminaire Tripode, Institut Camille Jordan (Lyon 1), February 22nd, 2013.
- (65) Kervaire Seminar “Geometry of groups 2013”, Les Diablerets (Switzerland), March 10-15, 2013.
- (66) ICTP-SISSA-Moscow School on “Geometry and Dynamics”, Trieste, June 3-15, 2013.
- (66) “International Workshop on Noncommutative Analysis And Its Future Prospects” Hokkaido University, Sapporo, Japan, August 5-7, 2013.
- (67) “Groups Acting on Rooted Trees and around” (IHP trimester on random walks and asymptotic geometry of groups) January 6 - April 4, 2014), IHP Paris, February 24-28, 2014.
- (68) INdAM Meeting ”Groups, graphs and Random Walks” Cortona June 2-6, 2014.
- (69) “Topics in Geometric Group Theory” IMAR Bucharest, Romania, September 29 - October 5, 2014.
- (70) “Workshop on Symbolic Dynamics on finitely presented Groups” CMM Santiago de Chile, Chile, December 15 - 19, 2014.
- (71) “XXXV Convegno Nazionale di Analisi Armonica”, Matera (Italy) May 28th, 2015.
- (72) Growth, Symbolic Dynamics and Combinatorics of Words in Groups, École normale supérieure Paris, June 1-5, 2015.
- (73) AMS-EMS-SPM International Meeting, Porto (Portugal), June 9-14, 2015.

### **Talks delivered by Tullio CECCHERINI-SILBERSTEIN:**

- (1) *Canonical actions on the Cuntz algebra of infinite order*: talk at the Functional Analysis Seminar (Ed Effros) Math. Dept. UCLA; February 1991.
- (2) *Indice di Jones, quadrati commutativi ed il problema della classificazione dei sottofattori*: talk at the Operator Algebras and Algebraic Quantum Field Theory Seminar (S. Doplicher), Dipartimento di Matematica, Università di Roma, La Sapienza; June 1992.
- (3) *Random walks on discrete groups: a theorem of Varopoulos*: talk at the summer course on “Harmonic Analysis” in Cortona (Italy); July 1992.
- (4) *Local Observables and Particle Statistics (after Doplicher–Haag–Roberts)*: series of seminars at the Math. Dept. UCLA, Winter Quarter 1992-93.
- (5) *Approximately inner and centrally free commuting squares of type  $II_1$  factors and their classification*: talk at the Functional Analysis Seminar (Ed Effros) Math. Dept. UCLA; May 1994.
- (6) *Le théorème spectral pour les opérateurs auto-adjoints*: talk at the Séminaire Mathématique de la Suisse Romande sur la cohomologie des groupes discrets, Lausanne (Switzerland); February 1995.
- (7) *Discrete potential theory, combinatorial Laplacian and random walks*: talk at the Workshop “Cohomology of groups”, Château d’Oex (Switzerland); March 1995.
- (8) *Operatori di Markov su gruppi iperbolici*: talk at the Convegno di Analisi Armonica, Alghero (Italy); June 1995.
- (9) *Sur un théorème de Varopoulos*: talk at the Section de Mathématiques de l’Université de Genève; October 1995.
- (10) *Moyennabilité et croissance des groupes à un seul relateur*: talk at the Section de Mathématiques de l’Université de Genève; febbraio 1996.
- (11) *Amenabilità e crescita di gruppi ad un solo relatore I, II*: talks at the Harmonic Analysis Seminar (A. Figà-Talamanca and C. Nebbia), Dipartimento di Matematica, Università di Roma, La Sapienza; March 1996.
- (12) *Metodi analitici nella teoria dei gruppi: hopfianità dei gruppi liberi*: talk at the Harmonic Analysis Seminar (A. Figà-Talamanca and C. Nebbia), Dipartimento di Matematica, Università di Roma, La Sapienza; March 1996.
- (13) *Aspetti analitici nella teoria combinatorica dei gruppi*: talk at the Convegno Nazionale di Analisi Armonica, Grado (Italy); May 1996.
- (14) *Amenability and growth of one-relator groups*: talk at the Euroconference in Algebra and Discrete Mathematics: “Group Theory: from Finite to Infinite”; Il Ciocco Castelveccchio Pascoli (LU) Italy; July 1996.
- (15) *Amenable groups and cellular automata*: talk at the Seminar on Dynamical Systems (D.V. Anosov), Moscow State University; December 1996.
- (16) *Grafi amenabili e grafi paradossali*: talk at the Harmonic Analysis Seminar (A. Figà-Talamanca and C. Nebbia), Dipartimento di Matematica, Università di Roma, La Sapienza; March 1997.
- (17) *Gruppi amenabili ed automi cellulari*: talk at the Convegno Nazionale di Analisi Armonica, S. Margherita Ligure (Italy); March 1997.
- (18) *Graphes moyennables et graphes paradoxaux*: talk at the Section de Mathématiques de l’Université de Genève; March 27, 1997.
- (19) *Amenability and growth of one-relator groups*: talk at the Workshop on General Combinatorial Group Theory, CRM (Montreal); April 1997.

- (20) *Growth series and random walks on some hyperbolic graphs*: talk at the Conference “Random Walks and Discrete Potential Theory”, Cortona (Italy); June 24, 1997.
- (21) *Moyennabilité et paradoxes*: Colloquium at the Math. Dept. Université de Neuchâtel, Neuchâtel (Switzerland); October 1997.
- (22) *Amenability and paradoxes*: talk at the Math. Dept. Università degli Studi di Milano, Milano; January 12, 1998.
- (23) *Groupes moyennables et automates cellulaires*: talk at the Workshop “Géométrie et Combinatoire des groupes”, Geneva; January 23, 1998.
- (24) *Around Amenability*: talk at the Convegno Nazionale di Analisi Armonica, Ponza (Italy); June 25, 1998.
- (25) *Amenabilità e paradossi*: talk at the Dipartimento di Matematica “Vito Volterra”, Università degli Studi di Ancona, Ancona; July 8, 1998.
- (26) *Paradoxical decompositions of free Burnside groups*: talk at the International Conference in Mathematics on the 90th anniversary of L.S. Pontryagin, Moscow; August 31, 1998.
- (27) *Teoria ergodica e teoria combinatorica dei numeri*: series of seminars held in collaboration with Fabio Scarabotti at the Dipartimento di Matematica “Guido Castelnuovo” dell’Università “La Sapienza”, Roma; January - June 1999.
- (28) *Théorie de Ramsey ergodique*: talk at the Section de Mathématiques de l’Université de Genève; May 21, 1999.
- (29) *Un invito alla teoria di Ramsey ergodica*: talk at the Convegno Nazionale di Analisi Armonica, Aosta; June 10, 1999.
- (30) *Garden of Eden Theorems for Amenable subshifts*: Hebrew University Jerusalem (IL), April 6, 2000.
- (31) *Il gruppo di Grigorchuk di crescita intermedia*: Convegno Nazionale di Analisi Armonica. Como, June 7, 2000.
- (32) *Paradoxical decompositions of free Burnside groups*: International Conference “Geometric and Combinatorial Group Theory”. Technion, Haifa (IL) June 13, 2000.
- (33) *Inner Amenability of Richard Thompson’s group  $F$* : Institut für Mathematik, TU Graz, December 2000.
- (34) *Croissance des langages libres du contexte*: Departement de Mathématiques, Université de Neuchâtel, Neuchâtel (Svizzera); May 3rd, 2001.
- (35) *Growth tightness of context free languages*: Section de Mathématiques, Université de Genève, May 11, 2001.
- (36) *Linguaggi context-free e loro crescita*: Convegno Nazionale di Analisi Armonica, Piano di Sorrento, May 30, 2001.
- (37) *Growth tightness of context free languages*: “Random Walks and Geometry” at the ESI Vienna, June 28, 2001.
- (38) *Entropy of graphs, formal languages and symbolic dynamical systems*. Royal Institute of Technology (KTH), Stockholm, December 5, 2001.
- (39) *Random walks e amenabilità: il teorema di Tarski*: “Probabilistic models and disordered systems”: Roma February 4-7, 2002.
- (40) *Metodi di random walks in teoria dei gruppi: amenabilità e hopfianità*: Seminario di Probabilità di Roma I. Roma February 20, 2002.
- (41) *Introduzione agli espansori e ai grafi di Ramanujan*: Istituto Nazionale di Alta Matematica, Roma, February 27, 2002.

- (43) *La proprietà (T) di Kazhdan*: Istituto Nazionale di Alta Matematica, Roma May 21 and 28, 2002.
- (44) *Entropie de graphes et applications*: Institut de Mathématiques, Université de Neuchâtel, May 27, 2002.
- (45) *Espansori anisotropi: il teorema di Alon-Boppana*: “Convegno Nazionale di Analisi Armonica” Isole Tremiti, June 3, 2002.
- (46) *Entropy of symbolic dynamical systems and of formal languages*: International workshop on “Semi-groups, Automata, and Formal Languages”. Crema, June 19, 2002.
- (47) *Distribuzioni e misure sulla frontiera dell'albero*: Istituto Nazionale di Alta Matematica “F. Severi”. Roma, Nov 6 2002.
- (48) *The Tarski number of free Burnside groups*. Mathematics Department, UC San Diego. Jan 24 2003.
- (49) *Amenable groups, symbolic dynamical systems, formal languages and their entropy*. Department of Mathematics, Texas A & M University. Jan 29 2003.
- (50) *Amenable groups: Tarski's theorem*. Department of Mathematics, Rutgers University. Feb 5 2003.
- (51) *Amenable groups, symbolic dynamical systems, formal languages and their entropy*. Department of Mathematics . Princeton University. Feb 6 2003.
- (52) *La teoria di Kaloujnine e i codici di Reed-Muller*. “Convegno Nazionale di Analisi Armonica”. Padova May 27 2003.
- (53) *Amenable groups and paradoxical decompositions: a theorem of Tarski*. Mathematics Department University of Haifa (Israel), June 15 2003.
- (54) *Amenable groups and paradoxical decompositions: a theorem of Tarski*. Al Quds University, Abu Dis (Palestine Authority), June 21st 2003.
- (55) *Amenable groups and paradoxical decompositions: a theorem of Tarski*. “Geometric and Group Theory Methods in Algebraic Structures” September 15-27, 2003, Tbilisi-Batumi, Georgia.
- (56) *Amenability for Banach Algebras,  $C^*$ -algebras and von Neumann algebras*. Series of talks at the Math Dept UCSD (Feb 2004), San Diego, CA.
- (57) *Generalized Kaloujnine groups, uniseriality and the height of automorphisms*. Section de Mathématiques, Université de Genève, March 19 2004.
- (58) *Gruppi a crescita lineare*. “Convegno Nazionale di Analisi Armonica”. Sestri Levante 29 march 2003.
- (59) *Finite Gelfand pairs: (new) examples and application*. Math Dept Texas A & M University, College Station, TX, Sept 15 2004.
- (60) *Coppie di Gelfand finite: nuovi esempi ed applicazioni*. Dipartimento di Matematica “Guido Castelnuovo” dell'Università “La Sapienza”, Roma. Sept 27 2004.
- (61) *Couples de Gelfand finis : (nouveaux) exemples et applications*. Conference on the occasion of Pierre de la Harpe's 60th birthday, Geneva, Switzerland. October 2nd 2004.
- (62) *Amenability and paradoxical decompositions: Tarski's theorem*. Math. Dept., Texas A & M University, College Station, TX, October 6th 2004.
- (63) *Amenability and paradoxical decompositions: Tarski's theorem*. Math. Dept., University of Iowa, Iowa City, IA, October 29th 2004.
- (64) *Finite Gelfand pairs: (new) examples and application*. Math. Dept., University of Iowa, Iowa City, IA, November 1st 2004.
- (65) *Cellular Automata, subshifts and amenable groups*. Fall Workshop 1: Asymptotic group invariants and their applications. Math. Dept., Texas A & M University, College Station, TX, November 6th 2004.

- (66) *Automata, linear languages and their growth*. Fall Workshop 2: Asymptotic group invariants and their applications. Math. Dept., Texas A & M University, College Station, TX, December 8th 2004.
- (67) *On a graph of intermediate growth* Math. Dept., Texas A & M University, College Station, TX, January 19th 2005.
- (68) *Coppie di Gelfand finite: nuovi esempi ed applicazioni*. “Convegno Nazionale di Analisi Armonica”. Padova, April 9th 2005.
- (69) *Cellular automata, amenability and group rings*. 5th International Algebraic Conference, Odessa (Ukraine), July 20-27 2005.
- (70) *Il teorema dell’alternativa di Tits*. Dipartimento di Matematica “G. Castelnuovo”, Università di Roma “La Sapienza”, February 15th 2006.
- (71) *Trees, wreath products and finite Gelfand pairs*, ESI Vienna Workshop in “Discrete Probability”, March 21st 2006.
- (72) *Gruppi sofici e surgiuntività di alcuni sistemi dinamici* “Convegno Nazionale di Analisi Armonica”. Cortona, May 22nd 2006.
- (73) *Linear cellular automata, sofic groups and stable finiteness of group rings*, Algebra Colloquium, Math. Dept. UCSD, November 6th, 2006.
- (74) *Linear cellular automata, sofic groups and stable finiteness of group rings*, Functional Analysis Colloquium, Math. Dept. UCLA, November 9th, 2006.
- (75) *Growth of finitely generated groups and Gromov’s theorem for groups of polynomial growths : I, II & III*, Special Student Seminar (Minicourse), Math. Dept. Rice University, Houston, November 16-17, 2006.
- (76) *Linear cellular automata, sofic groups and stable finiteness of group rings*, Special Colloquium, Math. Dept. Rice University, Houston, November 17th, 2006.
- (77) *Minimal ergodic topological action do not determine the measurable orbit equivalence class*, “Special day on Groups and Dynamics” Fall Workshop, Texas A & M University, College Station, TX, November 18th, 2006.
- (78) *Minimal ergodic topological action do not determine the measurable orbit equivalence class*, Convegno Nazionale di Analisi Armonica, Caramanico Terme (PS), Italy, May 24th, 2007.
- (79) *Minimal ergodic topological action do not determine the measurable orbit equivalence class*, Workshop “Groups and their actions”, Banach Center Bedlewo (Poland), July 2nd, 2007.
- (80) *Minimal ergodic topological action do not determine the measurable orbit equivalence class*, “6th International algebraic conference in Ukraine”, Kamyanets-Podilsky, July 6th, 2007.
- (81) *Finite Gelfand pairs: new examples and applications*, “The First Petra International Conference in Mathematics”, Al-Hussein Bin Talal University, Ma’an (Jordan), October 25th, 2007.
- (82) *Automates cellulaires et groupes : groupes moyennables et groupes sophiques*, Seminaire de théorie de groupes, Université de Paris VI (Chevaleret), Paris, November 5th, 2007.
- (83) *Expansive actions on uniform spaces and surjective maps*, Convegno Nazionale di Analisi Armonica, Perugia, May 22nd, 2008.
- (84) *Espaces uniformes, automates cellulaires et groupes surjonctifs*, “Analyse, géométrie et dynamique sur les groupes”, Neuchâtel, June 11-13, 2008.
- (85) *Uniform spaces, cellular automata and surjective groups*, International conference “Differential Equations and Topology” dedicated to the Centennial of L.S. Pontryagin”, Moscow, June 17-22, 2008.
- (86) *Uniform spaces, cellular automata and surjective groups*, “ESI Workshop on Structural Probability”, Schrodinger Institute, Vienna, November 5th, 2008.

- (87) *Cellular automata and groups: dynamical aspects of infinite groups*, TU Graz, October 1st, 2009.
- (88) *Automates cellulaires et groupes: aspects dynamiques des groupes infinis*, Section de Mathématiques, Université de Genève, November 5th, 2009.
- (89) *Cellular automata and groups: dynamical aspects of infinite groups*, TIFR Mumbai (India), December 19th, 2009.
- (90) *Automata in group theory and in the theory of formal languages* (Minicourse), TIFR Mumbai (India), December 19-22, 2009.
- (91) *Cellular automata and groups: dynamical aspects of infinite groups*, Ramanujan Institute of Mathematics, Madras/Chennai (India), December 24th, 2009.
- (92) *On the Okounkov-Vershik approach to the representation theory of the symmetric groups* (Minicourse), Kyushu University, Fukuoka, Japan, February 2010.
- (93) *Cellular automata and groups: dynamical aspects of infinite groups*, Kyushu University, Fukuoka, Japan, February 10th, 2010.
- (94) *Automati cellulari e gruppi: aspetti dinamici dei gruppi infiniti* Dipartimento di Matematica e Informatica Università di Salerno, February 17th, 2010.
- (95) *On the Okounkov-Vershik approach to the representation theory of the symmetric groups*, XXX Convegno Nazionale di Analisi Armonica, Gargnano (BS), June 2010.
- (96) *Algebraic cellular automata*, TU Graz, Austria, September 2010.
- (97) *On surjunctive groups*, Rice University, Houston TX, March 2011.
- (98) *On surjunctive groups*, Texas A & M University, College Station TX, March 2011.
- (99) *Symbolic Dynamics and One-dimensional Cellular Automata* (Minicourse), Chebyshev Laboratory, St.Petersburg State University, San Pietroburgo (Russia), April 24-28, 2011.
- (100) *Symbolic Dynamics and Cellular Automata on Groups*, Chebyshev Lab Colloquium, Chebyshev Laboratory, St.Petersburg State University, San Pietroburgo (Russia), April 28th, 2011.
- (101) *Symbolic dynamics and sofic groups*, Oberwolfach Seminar, May 16th, 2011.
- (102) *Surjunctivity of cellular automata and sofic groups*, XXXI Convegno Nazionale di Analisi Armonica, INDAM Roma, June, 2011.
- (103) *Surjunctivity of cellular automata and sofic groups*, UCLA, Los Angeles, USA, August 17th, 2011.
- (104) *On surjunctivity I & II*, Séminaire LaWiNe (Lausanne-Wien-Neuchâtel, Mathematical Seminar on Sofic Groups), Université de Genève, December 21st, 2012.
- (105) *Groupes et langages : le problème des mots*, ENS Lyon, February 18th, 2013.
- (106) *Automates cellulaires et groupes*, Séminaire Tripode, Institut Camille Jordan (Lyon 1), February 22nd, 2013.
- (107) *Groupes et langages : le problème des mots*, Séminaire Quantique, IRMA, Université de Strasbourg, March 4th, 2013.
- (108) *Cellular automata, amenable groups, surjunctivity, and sofic groups*, University of Warwick, May 17th, 2013.
- (109) *The Garden of Eden theorem for cellular automata over amenable groups (MINICOUSE)*, ICTP-SISSA-Moscow School on Geometry and Dynamics, Trieste, June 3-15, 2013.
- (110) *Cellular automata and groups*, Kyoto University, Kyoto, Japan, August 2nd, 2013.
- (111) *Advanced Mackey theory for finite groups*, “International Workshop on Noncommutative Analysis And Its Future Prospects” Hokkaido University, Sapporo, Japan, August 7th, 2013.

- (112) *Cellular automata and groups*, University of Tokyo, Tokyo, Japan, August 9th, 2013.
- (113) *Cellular automata on rooted trees*, IHP Paris, February 28th, 2014.
- (114) *Introduction to sofic groups*, UCSD, San Diego, August 4th, 2014.
- (115) *Introduction to linearly sofic groups*, UCSD, San Diego, August 5th, 2014.
- (116) *Rabin automata and cellular automata on regular rooted trees*, UCSD, San Diego, August 8th, 2014.
- (117) *Aspetti algebrici, analitici e logico-informatici della teoria degli automi cellulari sui gruppi*. Università di Verona, September 25th 2014.
- (118) *On soficity and surjunctivity for monoids*, IMAR Bucharest, Romania, October 1st, 2014.
- (119) *Multipass automata and group word problems*, TU Graz, Austria, October 10th, 2014.
- (120) *Sur la soficité et la surjonctivité des monoïdes*, Université de Genève, Switzerland, October 16th, 2014.
- (121) *Cellular automata and groups: Garden of Eden Theorem, Amenable Groups, Surjunctivity and Sofic Groups*, MINICOURSE at the "Workshop on Symbolic Dynamics on finitely presented Groups" CMM Santiago de Chile, Chile, December 15 - 19, 2014.
- (122) *A Garden of Eden Theorem for hyperbolic dynamical systems*, XXXV Convegno Nazionale di Analisi Armonica, Matera (Italy) May 28th, 2015.
- (123) *On soficity and surjunctivity for monoids*, AMS-EMS-SPM International Meeting, Porto (Portugal), June 10, 2015 .

#### Research interests of Tullio CECCHERINI-SILBERSTEIN

- (1) **Functional Analysis:** Operator Algebras:  $C^*$ -algebras, von Neumann algebras, automorphisms, Jones' index, subfactors. Amenability.
- (2) **Harmonic Analysis and Representation Theory:** Random walks on groups and graphs: discrete potential theory. Harmonic analysis on homogeneous spaces. Finite Gelfand pairs and applications. Representation theory. Representation theory of the symmetric group.
- (3) **Geometric and Combinatorial Group Theory:** One relator groups, free groups, nilpotent groups, solvable groups. Asymptotic group theory: theory of growth, the Grigorchuk group, amenability, Richard Thompson's groups. Random walks on groups. Group rings (Kaplansky conjectures on idempotents and on stable finiteness).
- (4) **Symbolic Dynamics and Ergodic Theory:** Cellular Automata; shifts and subshifts; entropy. Ergodic Ramsey Theory. Ergodic theorems. Measurable equivalence relations.
- (5) **Theoretical Computer Science:** Theory of formal languages: regular languages, context-free languages; entropy. Ergodic theory on compact spaces. Coding theory. Automata: finite state automata, push-down automata, Turing machines, Mihly automata (groups associated with automata), Rabin automata, cellular automata. Decision problems (group word problem, cellular automata).
- (6) **Combinatorics:** Combinatorial number theory. Ramsey theory. Graph theory: expanders, Ramanujan graphs.
- (7) **Probability:** Finite Markov chains, random walks on graphs and groups. System Theory.

## Publications of Tullio Ceccherini-Silberstein

### Research articles:

- [1] T. Ceccherini and C. Pinzari: *Simplicity of the fixed point algebra of  $\mathcal{O}_\infty$  under special canonical actions of a compact group*, Boll. Unione Mat. Ital. (7) 5-A (1991), 333-338.
- [2] T. Ceccherini and C. Pinzari: *Canonical Actions on  $\mathcal{O}_\infty$* , J. Funct. Analysis **103** (1992), 26-39.
- [3] T. Ceccherini, S. Doplicher, C. Pinzari and J.E. Roberts: *A Generalisation of the Cuntz Algebras and Model Actions*, J. Funct. Analysis **125** (1994), 416-437.
- [4] T. Ceccherini: *Approximately inner and centrally free commuting squares of type  $II_1$  factors and their classification*, J. Funct. Analysis **142** (1996) 296-336.
- [5] T. Ceccherini-Silberstein: *On a convexity problem in subfactors considered by Baht, Pati and Sunder*, Math. Ann. **307** (1997) 139-142.
- [6] L. Bartholdi, S. Cantat, T. Ceccherini-Silberstein and P. de la Harpe: *Estimates for simple random walks on fundamental groups of surfaces*, Coll. Math. **72** (1997), 173-194.
- [7] T. Ceccherini-Silberstein and R.I. Grigorchuk: *Amenability and growth of one-relator groups*, Enseign. Math. **43** (1997), 337-354.
- [8] T. Ceccherini-Silberstein:  *$C^*$ -algebras associated with von Neumann algebras*, Boll. Un. Mat. Ital. (8) **2-B** (1999), 231-238.
- [9] T.G. Ceccherini-Silberstein, A. Machì and F. Scarabotti: *Amenable groups and cellular automata*, Ann. Inst. Fourier (Grenoble) **49**, 2 (1999), 673-685.
- [10] T. Ceccherini-Silberstein, R.I. Grigorchuk and P. de la Harpe: *Amenability and paradoxical decompositions for pseudogroups and for discrete metric spaces*, Proc. Steklov Inst. Math. **224** (1999), 57-97.
- [11] T. Ceccherini-Silberstein, R.I. Grigorchuk and P. de la Harpe: *Décompositions paradoxales des groupes de Burnside*, C.R. Acad. Sci. Paris. Série I, **327** (1998), p. 127-132.
- [12] T. Ceccherini-Silberstein: *An interplay between ergodic theory and combinatorics*, in Paul Erdős and his mathematics (Budapest, 1999), 45-49, János Bolyai Math. Soc., Budapest, 1999.
- [13] C. Béguin and T. Ceccherini-Silberstein: *Formes faibles de moyennabilité pour les groupes à un relateur*, Bull. Belgian Math. Soc. (Simon Stevin) **7** (2000), p. 135-148.
- [14] T. Ceccherini-Silberstein, A. Machì and F. Scarabotti: *Il gruppo di Grigorchuk di crescita intermedia*, Rend. Circ. Mat. Palermo, Serie II, Tomo **L** (2001), 67-102.
- [15] L. Bartholdi and T.G. Ceccherini-Silberstein: *Salem numbers and growth series of some hyperbolic graphs*, Geom. Dedicata **90** (2002), 107-114.
- [16] T. Ceccherini-Silberstein, F. Scarabotti and F. Tolli: *The top of the lattice of normal subgroups in the Grigorchuk group*, J. Algebra **246** (2001), 292-310.
- [17] T.G. Ceccherini-Silberstein: *Around Amenability*, J. Math. Sci. (New York) **106** (2001), no. 4, 3145-3163.
- [18] T. Ceccherini-Silberstein and F. Scarabotti: *Inner amenability of some groups of piecewise linear homeomorphisms of the real line*, J. Math. Sci. (New York) **106** (2001), no. 4, 3164-3167.
- [19] L. Bartholdi and T.G. Ceccherini-Silberstein: *Growth series and random walks on some hyperbolic graphs*, Monatsh. Math. **136** (2002), 181-202.
- [20] T. Ceccherini-Silberstein: *On the Grigorchuk-Kurchanov conjecture*, Manuscripta Math. **107** (2002) 451-461.



- [21] T. Ceccherini-Silberstein and W. Woess: *Growth and ergodicity of context-free languages*, Trans. Amer. Math. Soc. **354** (2002) 4597-4625.
- [22] T. Ceccherini-Silberstein, A. Machì and F. Scarabotti: *On the Entropy of Regular Languages*, Theoret. Comput. Sci. **307** (2003) 93-102.
- [23] T. Ceccherini-Silberstein and W. Woess: *Growth sensitivity of context-free languages*, Theoret. Comput. Sci. **307** (2003) 103-116.
- [24] T. Ceccherini-Silberstein and F. Scarabotti: *Random walks, entropy and hopfianity of free groups*, in "Random walks and geometry" V. A. Kaimanovich Ed., 413-419, Walter de Gruyter, Berlin, 2004.
- [25] T. Ceccherini-Silberstein, F. Fiorenzi and F. Scarabotti: *The Garden of Eden Theorem for Cellular Automata and for Symbolic Dynamical Systems*, in "Random walks and geometry" V. A. Kaimanovich Ed., 73-108, Walter de Gruyter, Berlin, 2004.
- [26] T. Ceccherini-Silberstein, F. Scarabotti and F. Tolli: *Weighted expanders and the anisotropic Alon-Boppana theorem*, European J. Combin. **25** (2004) 735-744.
- [27] T. Ceccherini-Silberstein, Yu. Leonov, F. Scarabotti and F. Tolli: *Generalized Kaloujnine groups, uniseriality and height of automorphisms*, Internat. J. Algebra Comput., **15** (2005), no. 3, 503-527.
- [28] T. Ceccherini-Silberstein: *On the growth of linear languages*, Adv. in Appl. Math., **35** (2005) 243-253.
- [29] T. Ceccherini-Silberstein: *On subfactors with unitary orthonormal basis*, J. Math. Sci. (New York) **137** (2006), 5137-5160.
- [30] T. Ceccherini-Silberstein and M. Coornaert: *The Garden of Eden Theorem for Linear Cellular Automata*, Ergodic Theory Dynam. Systems **26** (2006), 53-68.
- [31] T. Ceccherini-Silberstein, F. Scarabotti and F. Tolli: *Trees, wreath products and finite Gelfand pairs*, Adv. Math. **206** (2006), 503-537.
- [32] T. Ceccherini-Silberstein: *Growth and ergodicity of context-free languages II: the linear case*, Trans. Amer. Math. Soc. **359** (2007), 605-618.
- [33] T. Ceccherini-Silberstein and M. Coornaert: *Injective linear cellular automata and sofic groups*, Israel J. Math. **161** (2007), 1-15.
- [34] T. Ceccherini-Silberstein, F. Scarabotti and F. Tolli: *Finite Gelfand pairs and their applications to Probability and Statistics*, J. Math. Sci. (New York), **141**, no. 2 (2007), 1182-1229.
- [35] T. Ceccherini-Silberstein and M. Coornaert: *Linear cellular automata: Garden of Eden Theorem, linear-surjectivity and group rings*, Algebra Discrete Math. no. 2 (2006), 22-35.
- [36] T. Ceccherini-Silberstein and A.Y. Samet-Vaillant: *Gromov's Translation Algebras, Growth and Amenability of Operator Algebras*, Expo. Math. **26** no. 2 (2008), 141-162.
- [37] T. Ceccherini-Silberstein and M. Coornaert: *On the surjectivity of Artinian linear cellular automata over residually finite groups*, in Algebra and Geometry in Geneva and Barcelona. Trends in mathematics, 37-44 (2007) Birkhäuser.
- [38] T. Ceccherini-Silberstein and M. Coornaert: *Amenability and linear cellular automata over semisimple modules of finite length*, Comm. in Algebra **36** (2008), 1320-1335.
- [39] T. Ceccherini-Silberstein and M. Coornaert: *Linear cellular automata over modules of finite length and stable finiteness of group rings*, J. Algebra **317** (2007), 743-758.
- [40] T. Ceccherini-Silberstein and G. Elek: *Minimal topological actions do not determine the measurable orbit equivalence class*, Groups, Geometry and Dynamics **2** (2008), 139-163.
- [41] T. Ceccherini-Silberstein and A.Y. Samet-Vaillant: *A note on Ends of Operator Algebras*, Ischia Group Theory 2006, 7-12, World Scientific Publishing 2007.

- [42] T. Ceccherini-Silberstein and M. Coornaert: *A note on the Laplace operator*, in “Limits of graphs in group theory and computer science”, 37–40, EPFL Presse, Lausanne, 2009.
- [43] T. Ceccherini-Silberstein and M. Coornaert: *Cellular Automata and Groups*, in Encyclopedia of Complexity and Systems Science, Springer 2009, Part 3 (“Cellular Automata, Mathematical Basis of”), 778–791, DOI: 10.1007/978-0-387-30440-3\_52.
- [44] T. Ceccherini-Silberstein, A. Machì, F. Scarabotti and F. Tolli: *Induced Representations and Mackey Theory*, J. Math. Sci. (New York) **156** (2009), 11–28.
- [45] T. Ceccherini-Silberstein, F. Scarabotti and F. Tolli: *Clifford Theory and Applications*, J. Math. Sci. (New York) **156** (2009), 29–43.
- [46] T. Ceccherini-Silberstein, F. Scarabotti and F. Tolli: *Representation theory of wreath products of finite groups*, J. Math. Sci. (New York) **156** (2009), 44–55.
- [47] T. G. Ceccherini-Silberstein and A. Y. Samet–Vaillant: *Asymptotic Invariants of Finitely-Generated Algebras. A Generalization of Gromov’s Quasi-Isometric Viewpoint*, J. Math. Sci. (New York) **156** (2009), 56–108.
- [48] T. Ceccherini-Silberstein, D. D’Angeli, A. Donno, F. Scarabotti and F. Tolli: *Finite Gelfand Pairs. New examples and applications*, Ischia Group Theory 2008, 7–41, World Scientific Publishing 2009.
- [49] T. Ceccherini-Silberstein and M. Coornaert: *A generalization of the Curtis-Hedlund theorem*, Theoret. Comput. Sci **400** (2008), 225–229.
- [50] T. Ceccherini-Silberstein and M. Coornaert: *Induction and restriction of cellular automata*, Ergodic Theory Dynam. Systems **29** (2009), 371–380.
- [51] T. Ceccherini-Silberstein and M. Coornaert: *Expansive actions on uniform spaces and surjective maps*, Bull. Math. Sci. **1**(1) (2011), 79–98.
- [52] T. Ceccherini-Silberstein and W. Woess: *Context-free pairs of groups I: context free pairs and graphs*, European J. Combin. **33** (2012), 1449–1466.
- [53] T. Ceccherini-Silberstein and M. Coornaert: *On a characterization of locally finite groups in terms of linear cellular automata*, J. Cell. Autom. **6** (2011), 207–213.
- [54] T. Ceccherini-Silberstein and M. Coornaert: *On the reversibility and the closed image property of cellular automata*, Theoret. Comput. Sci. **412** (2011), 300–306.
- [55] T. Ceccherini-Silberstein and M. Coornaert: *A Garden of Eden theorem for linear subshifts*, Ergodic Theory Dynam. Systems **32** (2012), 81–102.
- [56] T. Ceccherini-Silberstein and M. Coornaert: *The Myhill property for strongly irreducible subshifts*, Monatshefte Math. **165** (2012), 155–172.
- [57] T. Ceccherini-Silberstein, A. Donno and D. Iacono: *The Tutte polynomial of the the Schreier graphs of the Grigorchuk group and the Basilica group*, Ischia Group Theory 2010, World Scientific Publishing (in press), arXiv:1010.2902.
- [58] I. Bondarenko, T. Ceccherini-Silberstein, A. Donno and V. Nekrashevych: *On a family of Schreier graphs of intermediate growth associated with a self-similar group*, European J. Combin. **33** (2012), 1408–1421.
- [59] T. Ceccherini-Silberstein and M. Coornaert: *On algebraic cellular automata*, J. Lond. Math. Soc., II. Ser. **84**, No. 3 (2011), 541–558.
- [60] T. Ceccherini-Silberstein, M. Coornaert and J. Dodziuk: *The surjectivity of the combinatorial Laplacian on infinite graphs*, Enseign. Math. **58** (2012), 125–130. arXiv:1103.4901.
- [61] T. Ceccherini-Silberstein, M. Coornaert, F. Fiorenzi and P. Schupp: *Groups, Graphs, Languages, Automata, Games and Second-order Monadic Logic*, European J. Combin. **33** (2012), 1330–1368.

- [62] T. Ceccherini-Silberstein and M. Coornaert: *On the density of periodic configurations in strongly irreducible subshifts*, Nonlinearity **25** (2012), 2119–2131.
- [63] T. Ceccherini-Silberstein and M. Coornaert: *Sensitivity and Devaney’s chaos in uniform spaces*, Journal of Dynamical and Control Systems **19** (2013), no. 3, 349–357.
- [64] T. Ceccherini-Silberstein, M. Coornaert and F. Krieger: *An analogue of Fekete’s lemma for sub-additive functions on cancellative amenable semigroups*, Journal d’Analyse Mathématique **124** (2014), 59–81.
- [65] T. Ceccherini-Silberstein, M. Coornaert, F. Fiorenzi and Zoran Sunic: *Cellular automata on regular rooted trees*, CIAA 2012, Lect. Notes in Comput. Sci. **7381** (2012), 101–112.
- [66] T. Ceccherini-Silberstein and M. Coornaert: *Surjunctivity and reversibility of cellular automata over concrete categories*, in Trends in Harmonic Analysis, pp. 91–134, Springer INdAM Series, Vol. 3, Springer, 2013.
- [67] T. Ceccherini-Silberstein, F. Scarabotti and F. Tolli: *On some aspects of the representation theory of the alternating group*, International Journal of Group Theory **2** (2013), 187–198.
- [68] T. Ceccherini-Silberstein, M. Coornaert, F. Fiorenzi and Zoran Sunic: *Cellular automata between sofic tree shifts*, Theoret. Comput. Sci. **506** (2013), 79–101.
- [69] T. Ceccherini-Silberstein and M. Coornaert: *The Myhill property for cellular automata on amenable semigroups*, Proc. Amer. Math. Soc. **143** (2015), 327–339.
- [70] T. Ceccherini-Silberstein and M. Coornaert: *On sofic monoids*, Semigroup Forum **89**, 3 (2014), 546–570.
- [71] T. Ceccherini-Silberstein, F. Scarabotti and F. Tolli: *Mackey’s theory of  $\tau$ -conjugate representations for finite groups*, Japan. J. Math. **10** (2015), 1–54.
- [72] T. Ceccherini-Silberstein, F. Scarabotti and F. Tolli: *Mackey’s criterion for subgroup restriction of Kronecker products and harmonic analysis on Clifford groups*. Tohoku Mathematical Journal **67** (2015). arXiv:1401.6767.
- [73] T. Ceccherini-Silberstein, M. Coornaert, F. Fiorenzi, P. Schupp and N. Touikan: *Multi-pass automata and group word problems*. Theoret. Comput. Sci. (2015). arXiv:1404.7442.
- [74] T. Ceccherini-Silberstein and M. Coornaert: *On surjunctive monoids*. Internat. J. Algebra Comput. **25**, No. 4 (2015), 567–606.
- [75] T. Ceccherini-Silberstein and M. Coornaert: *On residually finite semigroups of cellular automata*. International Journal of Group Theory **4** (2015), no. 2, 9–15.
- [76] T. Ceccherini-Silberstein and M. Coornaert: *The Myhill property for hyperbolic homeomorphisms*. arXiv:1506.06945.
- [77] T. Ceccherini-Silberstein and M. Coornaert: *Expansive actions of countable amenable groups with the Myhill property*. arXiv:1508.07553.

#### Research articles in progress:

- [78] T. Ceccherini-Silberstein, F. Scarabotti and F. Tolli: *Advanced Mackey theory for finite groups*.
- [79] T. Ceccherini-Silberstein and M. Coornaert: *Injective algebraic cellular automata and sofic groups*.
- [80] T. Ceccherini-Silberstein, F. Scarabotti and F. Tolli: *Multiplicity-free triples*.

**Books:**

- [81] T. Ceccherini-Silberstein, F. Scarabotti and F. Tolli: *Harmonic Analysis on Finite Groups: Representation Theory, Gelfand Pairs and Markov Chains*. Cambridge Studies in Advanced Mathematics **108**, Cambridge University Press, Cambridge, 2008.
- [82] T. Ceccherini-Silberstein, F. Scarabotti and F. Tolli: *Representation Theory of the Symmetric Groups. The Okounkov-Vershik approach, character formulas and partition algebras*. Cambridge Studies in Advanced Mathematics, **121**, Cambridge University Press, Cambridge, 2010.
- [83] T. Ceccherini-Silberstein and M. Coornaert: *Cellular automata and groups*. Springer Monographs in Mathematics, Springer-Verlag, Berlin, 2010.
- [84] T. Ceccherini-Silberstein, F. Scarabotti and F. Tolli: *Representation Theory and Harmonic Analysis of wreath products of finite groups*. London Mathematical Society Lecture Note Series **410**, Cambridge University Press, Cambridge, 2014.

**Books in progress:**

- [85] T. Ceccherini-Silberstein, M. Coornaert, F. Fiorenzi and P. Schupp: *Groups, Graphs, Automata and Monadic Logic*.
- [86] T. Ceccherini-Silberstein, M. Coornaert and F. Krieger: *Numerical Invariants for Actions of Discrete Amenable Semigroups*.
- [87] T. Ceccherini-Silberstein, M. D'Adderio and E. Zelmanov: *Groups and Geometry*.
- [88] T. Ceccherini-Silberstein, F. Scarabotti and F. Tolli: *Harmonic Analysis on Finite Groups and Finite Fields*.

**Editor:**

- [89] L. Bartholdi, T. Ceccherini-Silberstein, T. Smirnova-Nagnibeda and A. Żuk (guest editors): *Proceedings of the the International Conference in Group Theory (Gaeta, June 1-6 2003)*; Internat. J. Algebra Comput. **15**, n. 5-6 (2005).
- [90] L. Bartholdi, T. Ceccherini-Silberstein, T. Smirnova-Nagnibeda and A. Żuk (Eds): *Infinite Groups: Geometric, Combinatorial and Dynamical Aspects*. Progress in Mathematics, Birkhäuser Verlag, Basel, 2005.
- [91] T. Ceccherini-Silberstein (guest editor): (translation of *Sovremennaya Matematika i Ee Prilozheniya* (Contemporary Mathematics and Its Applications), Vol. 50, Functional Analysis, 2007.) J. Math. Sci. (New York) **156** (2009).
- [92] T. Ceccherini-Silberstein (guest editor): *Groups, Graphs, and Languages*, European J. Combin. **33** (2012).
- [93] T. Ceccherini-Silberstein, Maura Salvatori and Ecaterina Sava-Huss (Eds): *Groups, Graphs, and Random Walks. Cortona 2014, in honor of Wolfgang Woess*. London Mathematical Society Lecture Note Series. Cambridge University Press, Cambridge.

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