

FLAVIO D’ALESSANDRO

CURRICULUM VITAE

Education

Type	Year	Institution	Notes
Laurea in Matematica	1992	University of Rome “La Sapienza” Department of Mathematics “G. Castelnuovo”	110/110 <i>cum laude</i> Advisor: Professor A. de Luca
Post graduate studies	1992	Istituto Nazionale di Alta Matematica “Francesco Severi”	September 1992 –March 1993
Ph.D. in Mathematics	1996	University of Naples “Federico II”	Advisor: Professor A. de Luca
Ph.D. in Theoretical Computer Science	1997	University of Paris 7 “Denis Diderot” Paris, France	Advisor: Professor Pascal Weil

Titles

- Qualification ASN (Abilitazione Scientifica Nazionale) Sector: 01/A2
“Algebra e Geometria”, Associate Professor, 2013
- Qualification as “Maitre de conferences” in Computer Science, Section 27, Comité Nationale des Universités, Ministère de l’Education Nationale, France, 1998

Spoken languages: Italian, English, French

Academic Appointments

Start	End	Institution	Position
2.3.2020	present	University of Rome “La Sapienza” Department of Mathematics “G. Castelnuovo”	Associate Professor
Start	End	Institution	Position
1.11.2000	1.3.2020	University of Rome “La Sapienza” Department of Mathematics “G. Castelnuovo”	University Researcher
1.8.2000	30.11.2000	Department of Mathematics University of Turku, Finland Sponsor scientist: Prof. Juhani Karhumaki	Postdoctoral Researcher
1.9.1999	30.6.2000	University of Rome “La Sapienza” Department of Mathematics “G. Castelnuovo” Sponsor scientist: Prof. A. de Luca	Postdoctoral Researcher
1.9.1998	31.8.1999	University of Paris 7 “Denis Diderot” Paris, France	Attaché Temporaire d’Enseignement et Recherche (A.T.E.R.)
1.1.1997	31.8.1998	Laboratoire d’Informatique Algorithmique: Fondements et Applications University of Paris 7, Paris, France Sponsor scientist: Prof. Christian Choffrut	Postdoctoral Researcher

Long scientific stays abroad

- **October 1993 – September 1999:** Laboratoire d’Informatique Théorique et Programmation (LITP), University of Paris 7 “Denis Diderot” (6 years).
- **Academic year 2018-2019:** Department of Mathematics, Bogazici University, Istanbul, Turkey, invited by Prof. A. Boysal, (6 month).

- **Academic year 2016-2017:** Department of Mathematics, Bogazici University, Istanbul, Turkey, invited by Prof. S. Deger, (1 year).
- **June–July 2015:** Department of Mathematics, Bogazici University, Istanbul, Turkey, invited by Prof. S. Deger, (2 months).
- **June–July 2013:** Department of Mathematics, Bogazici University, Istanbul, Turkey, invited by Prof. S. Deger, (2 months).
- **October–February 2009-2010:** Department of Mathematics, Bogazici University, Istanbul, Turkey, invited by Prof. T. Budak, (5 months).
- **October 2005:** (LIAFA) Laboratoire d’Informatique Algorithmique: Fondements et Applications, University of Paris 7, Paris, France, invited by Prof. C. Choffrut, (1 month).
- **August 2001:** Department of Mathematics, University of Turku, **Finland**, invited by Prof. J. Karhumaki, (1 month).
- **August–October 2000:** Department of Mathematics, University of Turku, **Finland**, invited by Prof. J. Karhumaki, (3 months).

Short scientific stays abroad

- Laboratoire d’Informatique Algorithmique: Fondements et Applications, University of Paris 7, Paris, France, invited by Prof. C. Choffrut, December 2010.
- Laboratoire d’Informatique Algorithmique: Fondements et Applications, University of Paris 7, Paris, France, invited by Prof. C. Choffrut, September 2008.
- Laboratoire d’Informatique Algorithmique: Fondements et Applications, University of Paris 7, Paris, France, invited by Prof. C. Choffrut, April 2007.
- Laboratoire d’Informatique Algorithmique: Fondements et Applications, University of Paris 7, Paris, France, invited by Prof. C. Choffrut, July 2004.
- Laboratoire d’Informatique Algorithmique: Fondements et Applications, University of Paris 7, Paris, France, invited by Prof. C. Choffrut, December 2003.
- Laboratoire d’Informatique Algorithmique: Fondements et Applications, University of Paris 7, Paris, France, invited by Prof. C. Choffrut, July 2001.

Contracts and Scholarships

- “Attaché Temporaire d’Enseignement et Recherche (ATER)” Université de Paris 7, (September 1998–August 1999)
- Scholarship from Finnish Government for Postdoctoral studies at Department of Mathematics, Turku University (August–November 2000)
- Scholarship from the Italian Consiglio Nazionale delle Ricerche (CNR) for Postdoctoral studies at Equipe “Automates et applications”, “Laboratoire d’Informatique Algorithmique: Fondements et Applications” (LIAFA), University of Paris 7, Paris, France (September 1997–August 1998)
- Scholarship from the Italian Consiglio Nazionale delle Ricerche (CNR) for Postdoctoral studies at Dipartimento di Matematica “G. Castelnuovo” (September 1999–June 2000)
- Ph.D. scholarship from University of Naples “Federico II” (November 1993 – October 1996)
- Scholarship from the Istituto Nazionale di Alta Matematica (INDAM), 1992

Teaching Experience

Ph.D. courses

- 2003-2004 Ph.D. course, Algebraic and Combinatorial Methods in Formal Language Theory, Department of Mathematics, University of Rome “La Sapienza”,
- 2006-2007 Cycle of lectures in the Doctoral course of Algebraic Informatics, with Professor Aldo de Luca, Department of Mathematics, University of Naples “Federico II”.

Teaching Experience (M.Sc.) Abroad

- 1998-1999 Temporary Position of Assistant Professor (ATER, Attaché Temporaire d'Enseignement et Recherche), Unité de Formation et Recherche en Informatique, Bachelor in Computer Science, (teaching load: 192 hours), University of Paris 7 "Denis Diderot", (**courses taught in French**)
- 2009-2010 Course titled "Algebraic Theory of Automata", Master of Science in Mathematics, (48 hours, 12 weeks), Department of Mathematics, Faculty of Science and Arts, Bogazici University, Istanbul (Turkey) (**course taught in English**)

Teaching Experience (undergraduate 4th year and Master) Abroad

- 2017 Course titled "Foundations of Automata Theory", (45 hours, 6 weeks), Bachelor in Mathematics, Summer School, Bogazici University, Istanbul (Turkey), (**course taught in English**)
- 2015 Course titled "Foundations of Automata Theory", (45 hours, 6 weeks), Bachelor in Mathematics, Summer School, Bogazici University, Istanbul (Turkey), (**course taught in English**)
- 2013 Course titled "Algebraic Theory of Variable Length Codes", (45 hours, 6 weeks), Bachelor in Mathematics, Summer School, Bogazici University, Istanbul (Turkey), (**course taught in English**)
- 2009 Course titled "Algebraic Theory of Variable Length Codes" (48 hours, 12 weeks), Master of Science, Department of Math, Faculty of Science and Arts, Bogazici University, Istanbul (Turkey), (**course taught in English**)

Teaching Experience (graduate) in Italy

- 2022-2023 Course titled "Theory of Automata", Department of Mathematics, University of Rome "La Sapienza", Laurea magistrale in Matematica, (Master of Science in Mathematics), second year

This course aims to provide a mathematical rigorous presentation of the Theory of finite automata in the context of the Algebraic theory of semigroups.

- 2021-2022 Course titled "Theory of Automata", Department of Mathematics, University of Rome "La Sapienza", Laurea magistrale in Matematica, (Master of Science in Mathematics), second year

- 2020-2021 Course titled “Theory of Automata”, Department of Mathematics, University of Rome “La Sapienza”, Laurea magistrale in Matematica, (Master of Science in Mathematics), second year
- 2020-2019 Course titled “Theory of Automata”, Department of Mathematics, University of Rome “La Sapienza”, Laurea magistrale in Matematica, (Master of Science in Mathematics), second year
- 2018-2019 Course titled “Theory of Automata”, Department of Mathematics, University of Rome “La Sapienza”, Laurea magistrale in Matematica, (Master of Science in Mathematics), second year
- 2017-2018 Course titled “Theory of Automata”, Department of Mathematics, University of Rome “La Sapienza”, Laurea magistrale in Matematica, (Master of Science in Mathematics), second year
- 2015-2016 Course titled “Theory of Automata”, Department of Mathematics, University of Rome “La Sapienza”, Laurea magistrale in Matematica (Master of Science in Mathematics), second year
- 2014-2015 Course titled “Theory of Automata”, Department of Mathematics, University of Rome “La Sapienza”, Laurea magistrale in Matematica, (Master of Science in Mathematics), second year
- 2013-2014 Course titled “Theory of Automata”, Department of Mathematics, University of Rome “La Sapienza”, Laurea magistrale in Matematica, (Master of Science in Mathematics), second year
- 2012-2013 Course titled “Theory of Codes”, Department of Mathematics, University of Rome “La Sapienza”, Laurea magistrale in Matematica, (Master of Science in Mathematics), second year
- 2011-2012 Course titled “Theory of Automata”, Department of Mathematics, University of Rome “La Sapienza”, Laurea magistrale in Matematica, (Master of Science in Mathematics), second year
- 2010-2011 Course titled “Theory of Codes”, Department of Mathematics, University of Rome “La Sapienza”, Laurea magistrale in Matematica, (Master of Science in Mathematics), second year
- 2009-2010 Course titled “Theory of Automata”, Department of Mathematics, University of Rome “La Sapienza”, Laurea magistrale in Matematica, (Master of Science in Mathematics), second year
- 2008-2009 Course titled “Theory of Codes”, Department of Mathematics, University of Rome “La Sapienza”, Laurea magistrale in Matematica, (Master of Science in Mathematics), second year

- 2007-2008 Course titled “Theory of Automata”, Department of Mathematics, University of Rome “La Sapienza”, Laurea magistrale in Matematica, (Master of Science in Mathematics), second year
- 2006-2007 Course titled “Theory of Codes”, Department of Mathematics, University of Rome “La Sapienza”, Laurea magistrale in Matematica, (Master of Science in Mathematics), second year
- 2005-2006 Course titled “Theory of Automata”, Department of Mathematics, University of Rome “La Sapienza”, Laurea magistrale in Matematica, (Master of Science in Mathematics), second year
- 2004-2005 Course titled “Theory of Automata”, Department of Mathematics, University of Rome “La Sapienza”, Laurea magistrale in Matematica, (Master of Science in Mathematics), second year
- 2003-2004 Course titled “Theory of Automata”, Department of Mathematics, University of Rome “La Sapienza”, Laurea magistrale in Matematica, (Master of Science in Mathematics), second year
- 2001-2002 Course titled “Theory of Codes”, Department of Mathematics, University of Rome “La Sapienza”, Laurea magistrale in Matematica, (Master of Science in Mathematics), second year
- 2000-2001 Course titled “Foundations of Computer Science”, Department of Mathematics, University of Rome La Sapienza, Laurea quadriennale in Matematica, (Master of Science in Mathematics), third year

Special Courses at Sapienza University

- 2009-2010 “*Minicorso di eccellenza*” titled *Formal Languages*, Department of Mathematics, University of Rome “La Sapienza”
- 2008-2009 “*Minicorso di eccellenza*” titled *Finite Automata*, Department of Mathematics, University of Rome “La Sapienza”

Teaching Experience (undergraduate) in Italy

- 2022-2023 Istituzioni di Matematiche, undergraduate course (1st year of “laurea triennale”) Department of Geology, University of Rome “La Sapienza”
- 2021-2022 Istituzioni di Matematiche, undergraduate course (1st year of “laurea triennale”) Department of Geology, University of Rome “La Sapienza”
- 2020-2021 Istituzioni di Matematiche, undergraduate course (1st year of “laurea triennale”) Department of Geology, University of Rome “La Sapienza”

- 2019-2020 Istituzioni di Matematiche, undergraduate course (1st year of “laurea triennale”) Department of Geology, University of Rome “La Sapienza”
- 2013-2014 Exercise classes of “Database: An introduction to SQL”, undergraduate course, Department of Mathematics, University of Rome “La Sapienza”
- 2012-2013 Exercise classes of “Database: An introduction to SQL”, undergraduate course, Department of Mathematics, University of Rome “La Sapienza”
- 2011-2012 Exercise classes of “Database: An introduction to SQL”, undergraduate course, Department of Mathematics, University of Rome “La Sapienza”
- 2002-2003 Exercise classes of “Programming in C”, undergraduate course, Department of Mathematics, University of Rome “La Sapienza”
- 2003-2004 Exercise classes of “Programming in C”, undergraduate course, Department of Mathematics, University of Rome “La Sapienza”
- 2002-2003 A Primer course of Mathematics for the students of the Faculty of Sciences, University of Rome “La Sapienza”
- 2001-2002 A Primer course of Mathematics for the students of the Faculty of Sciences, University of Rome “La Sapienza”

Ph.D. Thesis Supervisor

- Andrea Benso, “XXXVIII ciclo di Dottorato in Matematica”, University of Florence, Italy, from November 2022

(M.Sc.) Thesis Supervisor

- Francesco De Domenico,
Title: “Some trade-off between groups and context-free languages: the theorem of Muller and Schupp” M.Sc, Department of Mathematics “Guido Castelnuovo”, University of Rome “La Sapienza”, October 2023
- Andrea Benso,
Title: “On vector partition functions and some applications” M.Sc, Department of Mathematics “Guido Castelnuovo”, University of Rome “La Sapienza”, July 2022

- Francesco Massaroni,
Title: “On the Commutative Equivalence Conjecture in the Theory of Codes” M.Sc, Department of Mathematics “Guido Castelnuovo”, University of Rome “La Sapienza”, July 2021
- Gianmarco Stefanelli,
Title: “On the Ambiguity of Context-free Languages” M.Sc, Department of Mathematics “Guido Castelnuovo”, University of Rome “La Sapienza”, January 2020
- Giulia Presciutti,
Title: “On the Road Coloring Problem for Graphs” M.Sc, Department of Mathematics “Guido Castelnuovo”, University of Rome “La Sapienza”, October 2018
- Guido Sorrentino,
Title: “Synchronizing Automata and Cerny Conjecture” M.Sc, Department of Mathematics “Guido Castelnuovo”, University of Rome “La Sapienza”, September 2016
- Francesco Piesco,
Title: “On Some Counting Properties of Context-free Languages” M.Sc, Department of Mathematics “Guido Castelnuovo”, University of Rome “La Sapienza” December 2011
- Alessandra Zinnopilo,
Title: “On the Growth Function of Algebraic Languages” M.Sc, Department of Mathematics “Guido Castelnuovo”, University of Rome “La Sapienza”, July 2007
- Claudia De Felici,
Title: “The Finite Power Property for Formal Languages” M.Sc, Department of Mathematics “Guido Castelnuovo”, University of Rome “La Sapienza”, March 2005
- Alessandra Croene,
Title: “On the Equivalence Problem for Codes” M.Sc, Department of Mathematics “Guido Castelnuovo”, University of Rome “La Sapienza”, March 2003

(B.Sc.) Thesis Supervisor

- Enrico Poncetta,
Title: “On the Rabin–Shepherdson theorem for 2-way automata” B.Sc, Department of Mathematics “Guido Castelnuovo”, University of Rome “La Sapienza”, February 2010

- Giorgia Marson,
Title: “Synchronizing Automata and Cerny conjecture” B.Sc, Department of Mathematics “Guido Castelnuovo”, University of Rome “La Sapienza”, January 2009
- Claudio Stirpe,
Title: “On the Periodicity Properties for Finite Length Sequences” B.Sc, Department of Mathematics “Guido Castelnuovo”, University of Rome “La Sapienza”, September 2006
- Eleonora Ciampini,
Title: “On Well Quasi-orders for Formal Languages” B.Sc, Department of Mathematics “Guido Castelnuovo”, University of Rome “La Sapienza”, September 2004

Award and Honors

- 2023 **European Association of Theoretical Computer Science EATCS Best Paper Award**, “FOSSACS 2023, 26th International Conference on Foundations of Software and Computation”
Sorbonne Université and Institut Henri Poincaré, for the paper:
Baumann P., Flavio D’Alessandro, Ganardi M., Ibarra O. I.,
McQuillan I., Schutze L., Zetsche G.
Unboundedness problems for machines with reversal-bounded counters,
Lecture Notes in Computer Science, Springer, Vol. 13992
- 2017 **Springer Best Paper Award**, “LATA 2017, 11th International Conference on Language and Automata Theory and Applications”
Umea (Sweden), for the paper:
Flavio D’Alessandro, Oscar H. Ibarra, Ian McQuillan,
On Finite-Index Indexed Grammars and Their Restrictions,
Lecture Notes in Computer Science, Springer, Vol. 10168,
- 1998 C. Choffrut, F. D’Alessandro, Commutativity in Free Inverse monoids, Theoretical Computer Science, 1998, vol. 204, 35–54.
special issue in memory of Prof. M. P. Schützenberger.
D. Perrin editor
- 2021 O. H. Ibarra, I. McQuillan, A. Carpi, F. D’Alessandro,
Relationships Between Bounded Languages, Counter Machines,
Finite-Index Grammars, Ambiguity, and Commutative Equivalence,
Theoretical Computer Science, 2021, vol. 862, 97–118
special issue for the 70th birthday of Prof. Gheorge Paun.
Ion Petre editor
- 2020 A. Carpi, F. D’Alessandro, Coding by minimal linear grammars
Theoretical Computer Science, 2020, vol. 834, 14–25.
special issue in memory of Prof. Aldo de Luca.
C. De Felice, D. Perrin, A. Restivo editors
- 2017 A. Carpi, F. D’Alessandro, On incomplete and synchronizing finite sets, Theoretical Computer Science, 2017, vol. 356, 104–117.
special issue in memory of Prof. Alberto Bertoni.
P. Campadelli, M. Goldwurm, G. Pighizzini editors
- 2006 F. D’Alessandro, B. Intrigila, S. Varricchio, On the structure of the counting function of sparse context-free languages
Theoretical Computer Science, 1998, vol. 204, 35–54.
special issue for the 60th birthday of Prof. C. Choffrut.
A. Bertoni, Z. Ésik, J. Karhumäki editors

Memberships

Year	Title
From 1999	Member of “Gruppo Nazionale per le Strutture Algebriche, Geometriche e le loro Applicazioni” (GNSAGA) section “Strutture Algebriche e Geometria Combinatoria”

Funding Information

As Principal Investigator

- 2022 Tübitak (The Scientific Council of Turkey) Visiting Scientist Program 2221, Title of the Project: “Algebraic and Combinatorial Problems on Semi-linear sets and Discrete Structures”, with Prof. S. Deger, Host Institution: Department of Mathematics, Bogazici University, Istanbul, Turkey, (April 2022-September 2022)
- 2019 Tübitak (The Scientific Council of Turkey) Visiting Scientist Program 2221, Title of the Project: “Algebraic and Combinatorial Problems in Discrete Structures and Context-free languages”, with Prof. A. Boysal, Host Institution: Department of Mathematics, Bogazici University, Istanbul, Turkey, (April 2019-September 2019)
- 2017 European Framework Program Marie-Curie/Tübitak Co-Funded Brain Circulation Scheme 2236, Title of the Project: “Algebraic and Combinatorial Methods in Formal Languages and Discrete Structures”, with Prof. N. S. Deger, Host Institution: Department of Mathematics, Bogazici University, Istanbul, Turkey, Academical year 2016-2017
- 2017 “Fondo per il finanziamento delle attività base di ricerca (FFABR)” funded by the Italian Ministry of Research
- 2010 University project from Università di Roma “La Sapienza” titled “Algebraic and combinatorial methods in formal language theory and discrete structures”
- 2009 University project from Università di Roma “La Sapienza” titled “Algebraic and combinatorial methods in formal language theory and discrete structures”
- 2008 University project from Università di Roma “La Sapienza” titled “Algebraic and combinatorial methods in the theory of automata, languages and graphs”

As Investigator

- 2012–2023 University project from Università di Roma “La Sapienza” titled “Teoria delle rappresentazioni e applicazioni”, Principal Investigator: Prof. Paolo Papi
- 2013–2016 National project PRIN “Linguaggi formali e automi: strutture matematiche e orientamenti applicativi” funded by the Italian Ministry of Research; Principal Investigator: Prof. Antonio Restivo
- 2008–2010 National project PRIN “Aspetti matematici ed applicazioni emergenti degli automi e dei linguaggi formali”, funded by the Italian Ministry of Research; Principal Investigator: Prof. Antonio Restivo
- 2005–2007 National project PRIN “Automi e linguaggi: aspetti matematici ed applicativi”, funded by the Italian Ministry of Research; Principal Investigator: Prof. Antonio Restivo
- 2003–2005 National project PRIN “Linguaggi formali ed automi: metodi, modelli ed applicazioni”, funded by the Italian Ministry of Research; Principal Investigator: Prof. Antonio Restivo
- 2001–2003 National project PRIN “Linguaggi formali ed automi: teoria ed applicazioni”, funded by the Italian Ministry of Research; Principal Investigator: Prof. Antonio Restivo
- 2001–2007 University project from Università di Roma “La Sapienza” titled “Algebraic and combinatorial methods in the theory of automata, languages and graphs”; Principal Investigator: Prof. Aldo de Luca (from 2001 until 2003); Prof. A. Morgana (from 2004 until 2007)
- 2005–2010 International project “AutoMatha” supported by ESF (European Science Foundation), Coordinator in chief: Prof. J. -E. Pin (University of Paris 7 “Denis Diderot”)
- 2007–2008 International project “Programma Vigoni”, Ateneo Italo-Tedesco (CRUI/DAAD) “Reducing complexity by introducing structures” supported by German and Italian Ministries of Research; Principal Investigator: Prof. C. Mereghetti (University of Milan)

Research Interests

Discrete Mathematics; Algebraic Theory of Automata; Algebraic Combinatorics on Discrete Structures:

1. **Algebraic combinatorics of polyhedra:** Counting problems of integer points in polyhedra and application to semi-linear sets and context-free languages
2. **Combinatorics on Free Structures:** Linear representation of free groups; commutativity problems of free inverse monoids; Algebraic Combinatorics on words
3. **Theory of Finite Automata:** Synchronization of automata and of oriented colored graphs; Quantum automata; Automata with multiplicities
4. **Mathematical Theory of Formal Language :** Context-free languages; Semi-linear languages; Languages accepted by quantum finite automata

Board of Examiners for Doctoral Dissertations

- Referee and member of the commission for the Ph.D. thesis titled “Descriptive Complexity and Parikh Equivalence” of Giovanna Lavado, University of Milan, Milan, Italy, January 2015
- Referee and member of the commission for the Ph.D. thesis titled “Autour des automates: génération aléatoire et contribution à quelques extensions” of Vincent Carnino, Université Paris-Est Marne-la-Valle, Paris, France, December 2014
- Referee and member of the commission for the Master thesis titled “State succinctness of algebraic description of automata” of Emre Erdogan, Bogazici University, Istanbul, Turkey, April 2017

Other activities

- Member of the commission for a position of associate professor (Settore concorsuale 01/A2, Settore scientifico disciplinare MAT/03 Geometria), Università degli Studi Link Campus University, Roma, Italy 2023
- Member of the commission for a position of researcher (ricercatore universitario a tempo indeterminato), Department of Computer Science, University of Milan, Milan, Italy 2006

Activity as Organizer of Scientific Meetings

- Giornate di Informatica Teorica in memoria di Aldo de Luca, Dipartimento di Matematica “Guido Castelnuovo”, Rome, Italy, 11-12 July 2019, <https://giornateonline.science.blog/>
- Groups and Languages, international meeting dedicated to Toni Machí on his 70th birthday, Istituto di Alta Matematica “Francesco Severi”, Rome, Italy, September 2010

Activity as a Reviewer

- **Reviewer for the following international journals:**

International Journal of Algebra and Computation,
Information and Computation
Theoretical Computer Science
RAIRO Informatique Théorique
Journal of Automata, Languages and Combinatorics
International Journal of Foundations of Computer Science
Fundamenta Informatica
Theory of Computing Systems
Acta Informatica
Matematicki Vesnik
Ricerche di Matematica

- **Reviewer for the following international conferences:**

ICALP (International Colloquium on Algorithms, Languages and Programming) 2006
STACS (Symposium on Theoretical Aspects of Computer Science) 2010, 2011
MFCS (Mathematical Foundations of Computer Science) 2005, 2014
AFL (Algebraic Formal Languages) 2014,

LATA (International Conference on Language and Automata Theory and Applications) 2009, 2015, 2016, 2020

CIAA (International Conference on Implementation and Application of Automata) 2012

WORDS (International Conference on Words and its Applications to Computer Science) 2003, 2005, 2007, 2009, 2011 2013

DLT (Developments in Language Theory) from 2004 to 2011, 2019, 2022

DCFS (Descriptive Complexity of Formal Systems) 2005, 2011, 2012

Invited Lecture

- “On a conjecture of Brlek and Reutenauer”, 2nd Workshop on Algebraic Combinatorics of the Symmetric Groups and Coxeter Groups, Cetraro, Italy, July 2022
- “On the Commutatively Equivalence of Context-free Languages”, Giornate di Informatica Teorica in memoria di Aldo de Luca, Dipartimento di Matematica “Guido Castelnuovo”, Rome, Italy, July 2019.
- “AutoMathA 2009, Automata: From Mathematics to Applications”, International Conference sponsored by European Science Foundation, University of Liege, Belgium, June 2009.
- “Well quasi-orders and formal languages”, “DLT 2008, Developments in Language Theory”, Kyoto, Japan, September 2008.

TALKS in international and national conferences

- “FOSSACS 2023, International Conference on Foundations of Software Science and Computation Structures”, Sorbonne Université and Institut Henri Poincaré, April 2023.
- “WORDS 2019, International Conference in Combinatorics on Words”, Institute of Advanced Studies, University of Loughborough, Loughborough, UK, September 2019.
- “DLT 2018, 22nd International Conference on Developments in Language Theory”, Tokyo, Japan, 10-14 September, 2018.
- “AFL 2017, 15th International Conference on Automata and Formal Languages”, Debrecen, Hungary, 4-6 September, 2017.
- “LATA 2017, 11th International Conference on Language and Automata Theory and Applications”, Umea, Sweden, March 2017.

- “NCMA 2016, 8th Workshop on Non-Classical Models of Automata and Applications”, Debrecen, Hungary, August 29-30, 2016.
- “XX Congresso della Unione Matematica Italiana”, Sezione di Algebra, Siena, Italy, September 2015.
- “ICTCS 2015, 17th Italian Conference on Theoretical Computer Science”, Florence, Italy, September 2015.
- “DLT 2013, 17th International Conference on Developments in Language Theory”, Marne-la-Vallée, France, June 18-21, 2013.
- “WORDS 2011, International Conference in Combinatorics on Words”, Prague, Czech Republic, September 2011.
- “3rd International Workshop Non-Classical Models of Automata and Applications (NCMA 2011), Milan, Italy, July 2011.
- “DLT 2010, Developments in Language Theory”, London Ontario, Canada, August 2010.
- “WORDS 2009, International Conference in Combinatorics on Words”, Salerno, Italy, September 2009.
- “MFCS 2009, Mathematical Foundations of Computer Science”, Novy Smolensk, Slovakia, August 2009.
- “Around Cerny Conjecture”, International Workshop, Wroclaw University, Wroclaw, Poland, June 2008.
- “1st Istanbul Design Conference”, Koç University, Istanbul, Turkey, June 2008.
- “AutoMathA 2007, Automata: From Mathematics to Applications”, International Conference sponsored by European Science Foundation, University of Palermo, Palermo, Italy 2007.
- “DLT 2006, Developments in Language Theory”, Santa Barbara, California, USA 2006.
- “WASAM 2004, Workshop on Word Avoidability, Complexity and Morphisms” (an ICALP 2004 satellite workshop), Turku, Finland, July 2004.
- “DLT 2004, Developments in Language Theory”, Auckland, New Zealand, December 2004.
- “DLT 2003, Developments in Language Theory”, Szeged, Hungary, July 2003.

- “9th Italian Conference of Algebraic Combinatorics”, Taormina, Italy, September 2002.
- “WORDS 1999, International Conference in Combinatorics on Words”, Rouen, France, September 1999.
- “4th Italian Conference of Algebraic Combinatorics”, Taormina, Italy, July 1997.
- “2nd Italian Conference of Algebraic Combinatorics”, Milan, Italy, October 1995.

Invited Seminars

- “On a conjecture on rational polyhedra”, Department of Mathematics, Bogazici University, Istanbul, Turkey, October 2022.
- “On the Counting and Growth Functions of Context-free Languages”, Department of Cognitive Sciences, Faculty of Engineering, Middle East Technical University (ODTU), Ankara, Turkey, May 2017.
- “On the Counting and Growth Functions of Context-free Languages”, Department of Mathematics, Bogazici University, Istanbul, Turkey, April 2017.
- “On the Commutatively Equivalence of Bounded Context-free and Regular Languages”, Laboratoire LIAFA, University of Paris 7, Paris, France, October, 2015.
- “On the Commutatively Equivalence of Bounded Context-free and Regular Languages”, Department of Mathematics, Bogazici University, Istanbul, Turkey, June 2015.
- “On the Commutatively Equivalence of Bounded Context-free and Regular Languages”, Department of Computer Science, University of Milan, Italy, January 2015.
- “Synchronizing Automata and the Hybrid Cerny-Road Coloring Problem”, Department of Mathematics, Bogazici University, Istanbul, Turkey, December 2012.
- “Cerny Conjecture, Formal Languages, Synchronizing Automata”, (Istanbul Discrete Mathematics Meetings), Istanbul Center for Mathematical Sciences, Istanbul, Turkey, February 2010.
- “On the Vector Partition Functions”, Department of Mathematics, Bogazici University, Istanbul, Turkey, December 2009.

- “Cerny Conjecture, Synchronizing Automata, Formal Languages”, Department of Mathematics, Bogazici University, Istanbul, Turkey, November 2009.
- “On the Synchronization Problem for Locally Strongly Transitive Automata”, Department of Mathematics ”G. Castelnuovo”, Seminario di Combinatoria, University of Rome “La Sapienza”, Italy, May 2009.
- “Cerny Conjecture, Synchronizing Automata, Formal Languages”, Department of Computer Science, University of Milan, Italy, June 2008.
- “Cerny Conjecture, Synchronizing Automata, Formal Languages”, Department of Mathematics ”G. Castelnuovo”, Seminario di Fisica Matematica, University of Rome “La Sapienza”, Italy, September 2008.
- “On the Cerny Conjecture”, Department of Mathematics, Bogazici University, Istanbul, Turkey, April 2nd 2008.
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Roma, 7th November 2023