Decreto Rettore Università di Roma "La Sapienza" n. 2525/2019 del 7/08/2019

FLAVIO D'ALESSANDRO

Curriculum Vitae ai fini della pubblicazione

Roma, 26.08.2019

Part I - General Information

Full Name: Flavio D'Alessandro

Spoken languages: *Italian, English, French*

Part II - Education

Type	Year	Institution	Notes
Laurea in Matematica	1992	University of Rome "La Sapienza" Department of Mathematics "G. Castelnuovo"	110/110 *cum laude* Advisor: Professor A. de Luca
Post graduate studies	1992	Istituto Nazionale di Alta Matematica "Francesco Severi"	September1992 –March 1993
Ph.D. in Mathematics	1997	University of Naples "Federico II"	Advisor: Professor A. de Luca
Ph.D. in Theoretical Computer Science	1997	University of Paris 7 Paris, France	Advisor: Professor Pascal Weil

Titles

- 2014, qualification ASN (Abilitazione Scientifica Nazionale) Sector: 01/A2 "Algebra e Geometria", Associate Professor, (II Fascia), from 30.12.2014 until 30.12.2020

- 1998, qualification as "Maitre de conferences" in Computer Science, Section 27, Comité Nationale des Universités, Ministère de l'Education Nationale, France

Part III - Appointments

IIIA - Academic Appointments

Start	End	Institution	Position
1.11.2000	present	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

IIIB - Other Appointments: Short scientific stays abroad as visiting researcher

Start	Duration	Institution
1.10.2016	8 months	Department of Mathematics, Bogazici University, Istanbul, Turkey invited by Prof. T. Budak
19.6.2015	1 month	Department of Mathematics, Bogazici University, Istanbul, Turkey invited by Prof. T. Budak
15.6.2013	1 month	Department of Mathematics, Bogazici University, Istanbul, Turkey invited by Prof. T. Budak
1.12.2010	1 week	Laboratoire d'Informatique Algorithmique: Fondements et Applications University of Paris 7, Paris, France invited by Prof. C. Choffrut
15.9.2009	5 months	Department of Mathematics, Bogazici University, Istanbul, Turkey
13.9.2008	1 week	Laboratoire d'Informatique Algorithmique: Fondements et Applications University of Paris 7, Paris, France invited by Prof. C. Choffrut
10.4.2007	10 days	Laboratoire d'Informatique Algorithmique: Fondements et Applications University of Paris 7, Paris, France invited by Prof. C. Choffrut
1.3.2007	10 days	Department of Computer Science, University of Frankfurt "J. W. Goethe", invited by Prof. Andreas Malcher

Start	Duration	Institution
1.10.2005	2 months	1) Laboratoire d'Informatique Algorithmique: Fondements et Applications University of Paris 7, Paris, France invited by Prof. C. Choffrut, Prof. J. Mairesse, 2) Department of Computer Science, University of Amiens, France invited by Prof. G. Richomme
1.7.2004	1 month	Laboratoire d'Informatique Algorithmique: Fondements et Applications University of Paris 7, Paris, France invited by Prof. C. Choffrut
1.12.2003	10 days	Laboratoire d'Informatique Algorithmique: Fondements et Applications University of Paris 7, Paris, France invited by Prof. C. Choffrut
1.7.2001	1 month	Laboratoire d'Informatique Algorithmique: Fondements et Applications University of Paris 7, Paris, France invited by Prof. C. Choffrut
1.8.2001	1 month	Department of Mathematics, University of Turku, Finland, invited by Prof. J. Karhumaki

Contracts and Scholarships

- Scholarship from Finnish Government for Postdoctoral studies at Department of Mathematics, University of Turku (August-November 2000)

- "Attaché Temporaire d'Enseignement et Recherche (ATER)", Université de Paris 7, (September 1998–August 1999)

- 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

Part IV - 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 (graduate) in Italy

2018-2019 Course titled "Theory of Automata", Department of Mathematics, University of Rome "La Sapienza", Laurea magistrale in Matematica, 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.

2017-2018 Course titled "Theory of Automata", Department of Mathematics, University of Rome "La Sapienza", Laurea magistrale in Matematica, second year

2015-2016 Course titled "Theory of Automata", Department of Mathematics, University of Rome "La Sapienza", Laurea magistrale in Matematica, second year

2014-2015 Course titled "Theory of Automata", Department of Mathematics, University of Rome "La Sapienza", Laurea magistrale in Matematica, second year

2013-2014 Course titled "Theory of Automata", Department of Mathematics, University of Rome "La Sapienza", Laurea magistrale in Matematica, second year

2012-2013 Course titled "Theory of Codes", Department of Mathematics, University of Rome "La Sapienza", Laurea magistrale in Matematica, second year

This course aims to provide a mathematical rigorous presentation of the Theory of variable length unique factorization codes in the context of the Algebraic Combinatorics of words and Discrete Mathematics.

2011-2012 Course titled "Theory of Automata", Department of Mathematics, University of Rome "La Sapienza", Laurea magistrale in Matematica, second year

2010-2011 Course titled "Theory of Codes", Department of Mathematics, University of Rome "La Sapienza", Laurea magistrale in Matematica, second year

2009-2010 Course titled "Theory of Automata", Department of Mathematics, University of Rome "La Sapienza", Laurea magistrale in Matematica, second year

2008-2009 Course titled "Theory of Codes", Department of Mathematics, University of Rome "La Sapienza", Laurea magistrale in Matematica, second year

2007-2008 Course titled "Theory of Automata", Department of Mathematics, University of Rome "La Sapienza", Laurea magistrale in Matematica, second year

2006-2007 Course titled "Theory of Codes", Department of Mathematics, University of Rome "La Sapienza", Laurea magistrale in Matematica, second year

2005-2006 Course titled "Theory of Automata", Department of Mathematics, University of Rome "La Sapienza", Laurea magistrale in Matematica, second year

2004-2005 Course titled "Theory of Automata", Department of Mathematics, University of Rome "La Sapienza", Laurea magistrale in Matematica, second year

2003-2004 Course titled "Theory of Automata", Department of Mathematics, University of Rome "La Sapienza", Laurea magistrale in Matematica, second year

2001-2002 Course titled "Theory of Codes", Department of Mathematics, University of Rome "La Sapienza", Laurea magistrale in Matematica, second year

Teaching Experience (undergraduate) in Italy

2013-2014 Exercise classes of "Database: An introduction to SQL", undergraduate course, 24 hours, Department of Mathematics, University of Rome "La Sapienza"

2012-2013 Exercise classes of "Database: An introduction to SQL", undergraduate course, 24 hours, Department of Mathematics, University of Rome "La Sapienza"

2011-2012 Exercise classes of "Database: An introduction to SQL", undergraduate course, 24 hours, Department of Mathematics, University of Rome "La Sapienza"

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"

2002-2003 Exercise classes of "Programming in C", undergraduate course, 24 hours, Department of Mathematics, University of Rome "La Sapienza"

2003-2004 Exercise classes of "Programming in C", undergraduate course, 24 hours, 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"

Teaching Experience (M.Sc.) Abroad

2009-2010 Course titled "Algebraic Theory of Automata", (48 hours, 12 weeks), Department of Mathematics, Faculty of Science and Arts, Bogazici University, Istanbul (Turkey) (**course taught in English**)

Teaching Experience (undergraduate) Abroad

2015 Course titled "Foundations of Automata Theory", (36 hours, 6 weeks), Summer School, Bogazici University, Istanbul (Turkey), (**course taught in English**)

2013 Course titled "Algebraic Theory of Variable Length Codes", (36 hours, 6 weeks), Summer School, Bogazici University, Istanbul (Turkey), (**course taught in English**)

2009 Course titled "Algebraic Theory of Variable Length Codes" (48 hours, 12 weeks), Department of Math, Faculty of Science and Arts, Bogazici University, Istanbul (Turkey), (**course taught in English**)

1998-1999 Temporary Position of Assistant Professor (ATER, Attaché Temporaire d'Enseignement et Recherce), Unité de Formation et Recherche en Informatique, (teaching load: 192 hours), University of Paris 7 "Denis Diderot", (**courses taught in French**)

Supervision of "Tesi di laurea magistrale, specialistica"

- Gianmarco Stefanelli,
  Title: "On the Ambiguity of Context-free Languages" (magistrale), Department of Mathematics "Guido Castelnuovo", University of Rome "La Sapienza", (2018, work in progress)

- Giulia Presciutti,
  Title: "On the Road Coloring Problem for Graphs" (magistrale), Department of Mathematics "Guido Castelnuovo", University of Rome "La Sapienza", October 2018

- Guido Sorrentino,
  Title: "Synchronizing Automata and Cerny Conjecture" (magistrale), Department of Mathematics "Guido Castelnuovo", University of Rome "La Sapienza", September 2016

- Francesco Piesco,
  Title: "On Some Counting Properties of Context-free Languages" (specialistica), Department of Mathematics "Guido Castelnuovo", University of Rome "La Sapienza" December 2011

- Alessandra Zinnopilo,
  Title: "On the Growth Function of Algebraic Languages" (specialistica), Department of Mathematics "Guido Castelnuovo", University of Rome "La Sapienza", July 2007

- Claudia De Felici,
  Title: "The Finite Power Property for Formal Languages" (specialistica), Department of Mathematics "Guido Castelnuovo", University of Rome "La Sapienza", March 2005

- Alessandra Croene,
  Title: "On the Equivalence Problem for Codes" (specialistica), Department of Mathematics "Guido Castelnuovo", University of Rome "La Sapienza", March 2003

Supervision of "Tesi di laurea triennali"

- Enrico Poncetta,
  Title: "On the Rabin–Shepherdson theorem for 2-way automata" (triennale), Department of Mathematics "Guido Castelnuovo", University of Rome "La Sapienza", February 2010

- Giorgia Marson,
  Title: "Synchronizing Automata and Cerny conjecture" (triennale), Department of Mathematics "Guido Castelnuovo", University of Rome "La Sapienza", January 2009

- Claudio Stirpe,
  Title: "On the Periodicity Properties for Finite Length Sequences" (triennale), Department of Mathematics "Guido Castelnuovo", University of Rome "La Sapienza", September 2006

- Eleonora Ciampini,
  Title: "On Well Quasi-orders for Formal Languages" (triennale), Department of Mathematics "Guido Castelnuovo", University of Rome "La Sapienza", September 2004

Part V - Awards and Honors

Year	Title
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, pp. 287-298, 2017.
1998	C. Choffrut, F. D'Alessandro, Commutativity in Free Inverse monoids, Theoretical Computer Science, 1998, vol. 204, 35–54. **special issue in honour of Prof. M. P. Schützenberger. Edited by Prof. D. Perrin**
2017	A. Carpi, F. D'Alessandro, On incomplete and synchronizing finite sets, Theoretical Computer Science, 2017, vol. 356, 104–117. **special issue in honour 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 in honour of 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"

Part VI - Funding Information

As Principal Investigator

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

2012–2019 University project from Università di Roma "La Sapienza" titled "Teoria delle rappresentazioni e applicazioni", Principal Investigator: Prof. Paolo Papi

2012–2015 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)

Part VII - Research Activities

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

1. **Combinatorics on Free Structures:** Linear representation of free groups; commutativity problems of free inverse monoids; Algebraic Combinatorics on words

2. **Vector Partition Functions:** Application to semi-linear sets and context-free languages

3. **Theory of Finite Automata:** Synchronization of automata and of oriented colored graphs; Quantum finite automata; Automata with multiplicities

4. **Formal Language Theory:** Recognizable languages; Context-free languages

Board of Examiners for Doctoral Dissertations

- Referee and member of the commission for the Ph.D. thesis titled "Descriptional 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 á 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

- Member of the commission for a position of researcher (ricercatore universitario), 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

- **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
  CIAA (International Conference on Implementation and Application of Automata) 2012
  WORDS (International Conference on Mathematical Theory of Words) 2003, 2005, 2007, 2009, 2011 2013
  DLT (Developments in Language Theory) from 2004 to 2011
  DCFS (Descriptional Complexity of Formal Systems) 2005, 2011, 2012

Invited Lecture

- "Well quasi-orders and formal languages", "DLT 2008, Developments in Language Theory", Kyoto, Japan, September 2008.

- "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.

TALKS in international and national conferences

- "WORDS 2019, International Conference in Combinatorics on Words", Institute of Advanced Studies, University of Loughborough, Loughborough, UK, September 2019.

- "DLT 2008, Developments in Language Theory", Tokyo, Japan, September 2018.

- "LATA 2017, 11th International Conference on Language and Automata Theory and Applications", Umea, Sweden, March 2017.

- "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.

- "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.

- "AutoMathA 2009, Automata: From Mathematics to Applications", International Conference sponsored by European Science Foundation, University of Liege, Belgium, June 2009. **(Invited Speaker)**

- "Around Cerny Conjecture", International Workshop, Wroclow University, Wroclow, 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 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.

- "On the Cerny Conjecture", Department of Mathematics, Koç University, Istanbul, Turkey, April 1st 2008.

- "On the Synchronization Problem for Finite Automata", Department of Computer Science, University of Rome "La Sapienza", Italy, April 2008.

- "The Cerny Conjecture", Department of Mathematics, Politecnico di Milano, Milano, Italy, February 2008.

- "On the Synchronization Problem for Finite Automata", Department of Statistics, University of Rome "La Sapienza", Italy, January 2008.

- "On the Growth Function of Context-free Languages", Department of Mathematics, University of Florence, Italy, June 2006.

- "On the Growth Function of Context-free Languages", Department of Mathematics, University of Rome "La Sapienza", Italy, March 2006.

- "Bounded Context-free Languages", Department of Computer Science, University of Frankfurt "Wolfgang Goethe", Germany, February 2006.

- "On the Growth Function of Context-free Languages", Department of Computer Science, University of Milan, Italy, January 2006.

- "Automata with Multiplicities in the Tropical Semi-ring", talk presented in the work group "Systèmes à events discretes", responsables: Jean Mairesse, Sylvaine Lombardy, Laboratoire LIAFA, University of Paris 7, Paris, France, November 2005.

- "Unavoidable Sets, Well Quasi-orders and Derivation Systems", Laboratoire LARIA, University of Amiens, France, November 2005.

- "Free Groups of Quaternions" Laboratoire LABRI, University of Bordeaux, France, October 2005.

- "Free Groups of Quaternions", Laboratoire LIAFA, University of Paris 7, Paris, France, October 2005.

- "Free Groups of Quaternions", University of Milan, Milan, Italy, October 2005.

- "Unavoidable Sets and Well Quasi-orders", Laboratoire LIAFA, University of Paris 7, Paris, France, June 2004.

- "Open Problems in the Theory of Codes" Department of Mathematics, University of Rome "La Sapienza", Italy, March 2003.

- "On the conjecture of the commutative equivalence in the theory of codes", "Young Algebra Seminar" (organized by Prof. F. Gavarini), Department of Mathematics, University of Rome "Tor Vergata", May 2002.

- "Commutativity in the Free Inverse Monoid", Laboratoire LIAFA, University of Paris 7, Paris, France, May 1997.

- "Commutativity in the Free Inverse Monoid", Laboratoire LIFAR, University of Rouen, France, June 1997.

- "The Finite Power Property for Rational Sets of the Free Group", University of Marne-La-Vallée, Paris, France, April 1997.

Part VIII - Summary of Scientific Achievements

Product type	Number	Database	Start	End
Papers [International]	37	Scopus	1997	2018
Book [Teaching]	1		2013	2018

All the indices below have been computed by using SCOPUS and Journal Citation Reports by Clarivate Analytics, Thompson Reuters

Total Impact Factor *	: 15.7
Average Impact Factor *	: 0.63
Total Citations	: 139
Products	: 37
Average Citations per product	: 139/37=3.756
Hirsch Index	: 7
Academic Seniority	: 22 years (from September 1997)
Normalized Hirsch Index **	: 7/22=0.32

* Total and average impact factors have been calculating considering publication year of the papers and only when annual report for the corresponding journal was present

** H-index divided by the academic seniority

Part IX - Selected Publications for the Evaluation

1. D'ALESSANDRO F., INTRIGILA B., On the commutative equivalence of bounded context-free and regular languages: the code case, Theoretical Computer Science, 2015, vol. 562, 304–319, press and online, IF=0.643, cit.=4;

2. D'ALESSANDRO F., INTRIGILA B., On the commutative equivalence of semi-linear sets of N^k, Theoretical Computer Science, 2015, vol. 562, 476–495, press and online, IF=0.643, cit.=4;

3. D'ALESSANDRO F., INTRIGILA B., On the commutative equivalence of bounded context-free and regular languages: the semi-linear case, Theoretical Computer Science, 2015, vol. 572, 1–24, press and online, IF=0.643, cit.=2;

4. SALEHI O., SAY C., D'ALESSANDRO F., Homing Vector Automata, RAIRO-Theor. Inf. Appl., 2016, vol. 50, 371–386, press and online, IF=0.558, cit.=0;

5. CARPI A., D'ALESSANDRO F., Locally strongly transitive automata in the Černý conjecture and related problems, Journal of Automata, Languages, and Combinatorics, 2019, vol. 24, 1–20, cit.=0;

6. CARPI A., D'ALESSANDRO F., On incomplete and synchronizing finite sets, Theoretical Computer Science, 2017, vol. 664, 67–77, press and online, IF=0.772, cit.=0;

7. D'ALESSANDRO F., IBARRA O. H., MCQUILLAN I., On Finite-Index Indexed Grammars and Their Restrictions, Lecture Notes in Computer Science, 2017, vol. 10168, pp. 287–298, Springer-Verlag, Heidelberg, press and online, cit.=2;

8. SALEHI O., D'ALESSANDRO F., SAY C., Generalized Results on Monoids as Memory, 2017, vol. 252, pp. 234-246, Electronic Proceedings in Theoretical Computer Science, ISSN: 2075-2180, DOI: 10.4204/EPTCS.252, press and online, cit.=0;

9. SALEHI O., D'ALESSANDRO F., SAY C., Language classes associated with automata over matrix groups, RAIRO-Theor. Inf. Appl. 2018, vol. 52, 253–268. Available online at: DOI: 10.1051/ita/2018017, IF=0.350, cit.=0.

10. CARPI A., D'ALESSANDRO F., On the Commutative Equivalence of Context-Free Languages, Lecture Notes in Computer Science, vol. 11088, pp. 169–181, 2018, Springer-Verlag, Heidelberg, press and online, cit.=0.

11. CARPI A., D'ALESSANDRO F., On the commutative equivalence of bounded semi-linear codes, Lecture Notes in Computer Science, vol. 11682, pp. 1–14, 2019, Springer-Verlag, Heidelberg, press and online, cit.=0.

Part X - List of all the Publications

BOOKS

de LUCA A., D'ALESSANDRO F., "Teoria degli Automi Finiti", UNI-TEXT, Vol. 68, pp. 340, July 2013, Springer Italia.

The book, written in Italian, provides a mathematical rigorous presentation of classical and advanced results in Finite Automata Theory in the context of algebraic semigroup theory. The text is conceived for Graduate and Ph.D. students of Mathematics, Engineering, and Computer Science, as well as for researchers in these fields.

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Submitted to international peer-reviewed journals

1. CARPI A., D'ALESSANDRO F., On the Commutative Equivalence of Algebraic Formal Series, submitted, 2019

2. CARPI A., D'ALESSANDRO F., Coding by minimal linear grammars, submitted, 2019

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Flavio D'Alessandro