Curriculum Vitae et Studiorum Donatella Iacono

February 2017

Personal Data

First Name:	Donatella
Family Name:	Iacono
Date of Birth:	October 8^{th} , 1979
Citizenship:	Italian
Office Address:	Dipartimento di Matematica,
	Università degli Studi di Bari "Aldo Moro"
	Via E.Orabona 4, 70125 Bari, ITALY
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Education

• July 18th, 2002

Degree in Mathematics at University of Studies of Rome "La Sapienza", defending the thesis "Su Certi gruppi di Permutazioni" (On Some Permutation Groups), advisor Prof. M.J De Resmini, final grade 110/110 cum laude.

• December 15^{th} , 2006

Phd Degree in Mathematics at University of Studies of Rome "La Sapienza", defending the thesis "Differential Graded Lie Algebras and Deformations of Holomorphic Maps", advisor Prof. M.Manetti.

<u>Current Position</u>

• 17 December 2010 - ??

Researcher at the Mathematics Department of University of Studies of Bari "Aldo Moro", Research field: "Geometry".

Previous Positions

• 1998 - 2002

Undergraduate student at University of Studies of Rome "La Sapienza" (Italy).

• November 2002 - October 2006

Phd student in Mathematics at University of Studies of Rome "La Sapienza" (Italy).

• November 6^{th} , 2006 - December 6^{th} , 2006

Visitor at SISSA, Trieste (Italy).

• December 19^{th} , 2006 - 31^{st} January 2009

Post doc in the Mathematical Physical Sector of SISSA; Research field: "Moduli Spaces and Deformation Theory"; Supervisor: Prof. Barbara Fantechi.

• February 2007

Visitor at the Institute Mittag-Leffler in Stockholm (Sweden), during the "Moduli Spaces" Program.

• February 2009

Visitor at the Mathematical Department "G. Castelnuovo" of Sapienza Università di Roma.

• March 2009 - September 2009

Post-doc at the Institut für Mathematik, Johannes Gutenberg-Universität, Mainz (Germany).

• October 2009 - March 2010

Visitor at the Max-Planck-Institut für Mathematik in Bonn (Germany).

• April 2010 - December 2010

Post doc at the Mathematics Department of University of Studies of Rome "La Sapienza"; Research field: "Algebraic Geometry"; Supervisor: Prof. Kieran O'Grady.

• 15-21 May 2012

Visitor at the Max-Planck-Institut für Mathematik in Bonn (Germany).

• 1 January 2012 - 31 December 2013

"Marie Curie" European Fellowship at Imperial College London. Supervisor: Prof. R. Thomas.

• 8-17 February 2017

Visitor at the Mathematical Department of Università di Milano.

<u>Research Interests</u>

My research field is Algebraic Geometry and my interests concern the Deformation Theory, with particular attention to the approach via Differential Graded Lie Algebras and L-infinity Algebras; Moduli Spaces; Dg-schemes and Dg-Manifolds; Derived Algebraic Geometry; Stack.

Publications and Preprints

- 1. Bini G., Iacono D.: "Diffeomorphism classes of Calabi-Yau varieties"; To appear in Rendiconti del Seminario Matematico Università e Politecnico di Torino; arxiv: 1612.04311.
- Donno A., Iacono D.: "Distances and isomorphisms in 4-regular circulant graphs"; Proceedings of ICNAAM 2015, Rhodes, Greece 23-29 September 2015, Volume 1738, ISSN: 0094243X ISBN: 978-073541392-4, doi: 10.1063/1.4952041.
- Iacono D.: "Deformations and obstructions of pairs (X,D)"; International Mathematics Research Notices (IMRN), Volume 2015, rnu242, 9660-9695; arxiv: 1302.1149.
- Donno A., Iacono D.: "The Tutte polynomial of the Sierpinski and Hanoi graphs"; Advances in Geometry 13, Issue 4, 663-694, 2013; ISSN (Online) 1615-7168, ISSN (Print) 1615-715X, doi 10.1515/ advgeom-2013-0017.
- Iacono D., Manetti M.: "Posetted trees and Baker-Campbell-Hausdorff product"; Mediterranean Journal of Mathematics, vol. 10, 2013, p. 611-623; ISSN: 1660-5446, doi: 10.1007/s00009-012-0235-z; arXiv:1106.4685.
- Iacono D., Manetti M.: "Semiregularity and obstructions of complete intersections"; Aadvances in Mathematics, vol. 235, 2013, p. 92-125; ISSN: 0001-8708, doi: 10.1016/j.aim.2012.11.011

- Fioremza D., Iacono D, Martinengo E.: "Differential graded Lie algebras controlling infinitesimal deformations of coherent sheaves"; J. Eur. Math. Soc. (JEMS) 14, 2012, no. 2, 521-540;ISSN: 1435-9855, doi: 10.4171/JEMS/310; arXiv:0904.1301.
- Iacono D.: "A Semi-regularity map annihilating obstructions to deforming holomorphic maps"; Canadian Mathematical Bulletin vol. 54, p. 472-486, ISSN: 0008-4395, doi: 10.4153/CMB-2011-012-3; arXiv: 0707.2454.
- Ceccherini-Silberstein T., Donno A., Iacono D.: "The Tutte polynomial of the Schreier graphs of the Grigorchuk group and of the Basilica group"; "Ischia Group Theory 2010"Proceedings of the Conference, World Scientific Publishing Company, 2011, ISBN-10: 9814350389; arxiv:1010.2902.
- Iacono D., Manetti M.: "An algebraic proof of Bogomolov-Tian-Todorov theorem"; in "Deformations Spaces", Vieweg Aspects of Mathematics 39, 2010, 113-133; arXiv:0902.0732.
- Iacono D.: "Deformation of closed subschemes"; Rend. Mat. Appl., Serie VII, 30 (I), 2010, 89-109. Preprint MPIM2010-28 of the Institute Max Plank of Bonn; arxiv:1003.3333.
- Iacono D.: "L-infinity Algebras and Deformations of Holomorphic Maps", International Mathematics Research Notices (IMRN) 2008, rnn013-36. Preprint 28 (2006/2007) of the Institute Mittag-Leffler (Stockholm); arXiv 0705.4532.
- 13. Iacono D.: "Algebre di Lie Differenziali Graduate e Deformazioni di Mappe Olomorfe", Synthesis of PhD Thesis, Bollettino Unione Matematica Italiana, Sez. A, Serie VIII, Vol. X-A, (2007), 251-254.
- Iacono D.: "Local structure of abelian covers", Journal of Algebra 301 (2006), 601-615; arXiv: math. AG/0511700.

<u>Other Publications</u>

• "Differential Graded Lie Algebras and Deformation of Holomorphic maps", PhD Thesis, Rome, (2006) arXiv:math.AG/0701091.

Talks

• February 3^{rd} , 2004

"Reflexive Coherent Sheaves", among Junior Seminar, at University of Studies of Rome "La Sapienza".

• November 16^{th} , 2004

"Chern Classes of Coherent sheaves on complex varieties", among seminar on the Hodge Conjecture, at University of Studies of Rome "La Sapienza" (available note in Italian:

http://www.mat.uniroma1.it/seminari/geo-alg/dispense/classidichern.pdf).

• December 6^{th} and 13^{th} , 2005

"Introduction to rational connected varieties I, II", Algebraic Geometry Seminar at University of Studies of Rome "La Sapienza".

• May 27^{th} , 2006

"Differential Graded Lie Algebras and Deformation of Holomorphic maps" at the congress "Giornate di Geometria Algebrica ed argomenti correlati VIII" at University of Trieste and SISSA.

• October 18^{th} , 2006

"Differential Graded Lie Algebras and Deformation of Holomorphic maps", among Algebra and Geometry Seminar at at University of Studies of Rome "La Sapienza".

• October 23^{rd} , 2006

"Differential Graded Lie Algebras and Deformation of Holomorphic maps" at the congress "Progressi Recenti in Geometria Reale e Complessa", Levico Terme (Trento).

• November 26^{th} and December 5^{th} , 2006

"Introduction to Differential Graded Lie Algebras I, II" at SISSA.

• February 20^{th} , 2007

"Differential Graded Lie Algebras and Deformation of Holomorphic maps", at the Mittag-Leffler Institute of Stockholm (Sweden).

• March 9^{th} , 2007

"Differential Graded Lie Algebras and Deformations of Manifolds", at SISSA.

• April 2^{th} , 2007

"Deformation functor associated with a pair of morphisms of Differential Graded Lie Algebras" at SISSA.

• September 14^{th} , 2007

"Differential Graded Lie Algebras and Deformations of Holomorphic Maps" at the "School (and Workshop) on The Geometry of the Special Varieties" at Povo (Trento) • October 22^{nd} , 24^{th} , 30^{th} , 2007

"Introduction to Category Theory I, II, III", among Lectures on "Closed Model Categories of Differential Graded Algebras and Schemes" at SISSA.

• November 6^{th} , 13^{th} , 20^{th} , 2007

"Introduction to Closed Model Category I, II, III", among Lectures on "Closed Model Categories of Differential Graded Algebras and Schemes" at SISSA.

• May 20^{th} , 2008

"Differential Graded Lie Algebras and Deformations of Holomorphic Maps", at "Giornate di Geometria Algebrica e Differenziale", University of Milano.

• June 3^{rd} , 2008

"Deformation Theory and Moduli Spaces", at SISSA.

• January 16th, 2009

"Unobstructed deformations and Tian-Todorov Theorem", at SISSA.

• Febraury 18^{th} , 2009,

"Deformation theory via DGLA" at "Workshop on Deformation Theory in Algebraic Geometry", Johannes-Gutenberg University in Mainz.

• April 18^{th} , 2009

"Introduction to Grassmannian and Quadrics", at Kleine AG, University of Bonn.

• June 4^{th} , 2009

"Deformation theory via DGLA", at "i-MATH School on Derived Algebraic Geometry", Universidad de Salmanca (Spain).

• September 25^{th} , 2009

"A new look at the BTT-theorem", at "MJdR, A conference in honour of Marialuisa J. de Resmini", University of Studies of Rome "La Sapienza".

• September 30^{th} , 2009

"A new look at the BTT-theorem", Johannes-Gutenberg University in Mainz.

• October 23^{rd} , 2009

"Introduction to deformation of maps", Max-Planck-Institut für Mathematik, Bonn (Germany).

• November 16^{th} , 2009

"Teorema di Bogomolov-Tian-Todorov: una dimostrazione algebrica", University of Milano.

• November 17^{th} , 2009

"Teoria delle deformazioni con DGLA e algebre L-infinito", University of Pavia.

• October 4^{th} , 2010

"Modern Deformation theory", at "Young Researchers in Arithmetic and Algebraic Geometry", at Institut für Mathematik, Johannes Gutenberg-Universität, Mainz (Germany).

• October 25^{th} , 2010

"Stability conditions on triangulated categories, III", University of Studies of Rome "La Sapienza".

• February 27^{th} , 2012

"Obstructions of complete intersections", at Magic Seminar, Imperial college (London).

• March $8^{th},\,2012$

"Ostruzioni di Intersezioni complete", at "Giornate di Geometria 3", 8-9 March 2012, University of Pavia

• July 11^{th} , 2012

"Obstructions of complete intersections", at Seminar Geometrie-Topologie, University of Bielefeld, Germany.

• May 3^{rd} - 7^{th} , 2013

"psi classes on the moduli space of stable curves I, II", Imperial College (London).

• May 21^{st} , 2013

"Deformation theory and DGLA", Imperial College (London).

• June 10^{th} , 2013

"Deformations of pairs (X,D)", Imperial College (London).

• June 11^{th} , 2014

"Spazi di Moduli", Colloqui Matematici, University of Studies of Bari.

• May 25^{th} - June 5^{th} 2015

short course "Deformation Theory", at "Algebraic varieties and their moduli", Centro di Ricerca Matematica, Ennio de Giorgi, Pisa.

• September 3^{rd} 2015

"Deformations of pairs (X,D)", at "Non commutative Geometry and higher structures", Sapienza Università di Roma, 31 August- 4 September 2015.

• August 30^{th} 2016

"Unobstructed deformation problems ", at special session: "Classification of Projective Varieties and Related Topics", 1st Join Meeting Brazil-Italy in Mathematics, Rio de Janeiro 29 August- 2 September 2016.

• September 13^{th} 2016

"Unobstructed deformation problems ", at "Women in Homotopy Theory and Algebraic Geometry", 13-15 September 2016, Berlin (Germany).

• Febraury 15^{th} , 2017

"Deformazioni di coppie", University of Pavia.

Other Seminars

• 25 March 2015: "Numeri e Crittografi", Orientamento Consapevole: "La Matematica tra numeri e forme, algoritmi e modelli", University of Bari.

• 27 June 2015: "Crittografia: Da Whatsapp a Wikileaks, tra spie e segreti di Stato", with Sabina Milella, in "Alumni Mathematica al Bgeek", Bgeek, Palaflorio Bari.

• 28 May 2016: "Mathoon: la matematica da guardare", with Sabina Milella, in "Alumni Mathematica al Bgeek", Bgeek, Palaflorio Bari.

Teaching

• October - December 2005

Teacher Assistant at University of Studies of Rome "La Sapienza" (Prof. Zeppilli, Prof. Sambusetti). Course delivered: Geometry I (Faculty: Physics).

• April - July 2009

Exercise classes at the Institut für Mathematik, Johannes Gutenberg-Universität, Mainz (Germany), Summer Semester 2009. Course delivered: Geometry I (Prof. Dr. Margarita Kraus and Prof. Dr. Cynthia Hog-Angeloni).

• May - June 2010

Teacher Assistant at University of Studies of Rome "La Sapienza" (Prof. Barucci, Prof. de Concini, Prof. D'Andrea). Course delivered: Algebra I (Faculty: Mathematics).

• October 2010- January 2011

Teacher Assistant at University of Studies of Rome "La Sapienza" (Prof. Fiorenza and Prof. Manetti) Course delivered: Linear Algebra (Faculty: Mathematics).

Teaching at University of Bari

• Accademic Year 2010-2011.

Teacher Assistant for Geometry II (Prof. B. Casciaro) (Mathematics).

• Accademic Year 2011-2012.

Precorso di Matematica (Computer Science, Brindisi).

Discrete Mathematics (Computer Science, Brindisi).

Laboratorio Informatico-Geometria (Mathematics).

• Accademic Year 2012-2013.

Discrete Mathematics (Computer Science, Brindisi).

Laboratorio Informatico-Geometria (Mathematics).

• Accademic Year 2013-2014.

Discrete Mathematics (Computer Science, Brindisi).

Teacher Assistant for Geometry 4 (Prof. M. Boratynski) (Mathematics).

• Accademic Year 2014-2015.

Precorso di Matematica (Mathematics).

Discrete Mathematics (Computer Science).

• Accademic Year 2015-2016.

Discrete Mathematics (Computer Science).

Teacher Assistant for Geometry (Prof. G. Dileo) (Physics).

• Accademic Year 2016-2017.

Discrete Mathematics (Computer Science).

Teacher Assistant for Geometry (Prof. G. Dileo) (Physics).

Other Activities

• I organized, together with Prof. Barbara Fantechi, a series of ten Lectures on "Closed Model Categories of Differential Graded Algebras and Schemes", October-December 2007.

• Organization of "MJdR, A conference in honour of Marialuisa J. de Resmini", University of Studies of Rome "La Sapienza", 24-25 September 2009.

• Organization of the "Workshop in Deformation theory II", University of Studies of Rome "La Sapienza", 30 August - 3 September 2010.

• I organized, together with Dr. Guido Carlet, the Mathematical Physics Sector Colloquium and seminars at SISSA : May 2008 - January 2009

• Since March 2014, I co-organize, Colloqui Matematici at University of Studies of Bari.

• Organization of the "Algebraic varieties and their Moduli", at Centro di Ricerca Matematica Ennio De Giorgi - Scuola Normale Superiore, Pisa, May 25^{th} - June 5^{th} 2015.

Languages

Italian (Native), English (Fluent), German (Working Knowledge $\sim B1$).

Schools and Conferences

• March - May 2002, Rome (Italy)

Student Scholarship at the Mathematic Department of University of Studies of Rome "La Sapienza".

• October 22^{nd} - 25^{th} , 2002, Ischia (Italy)

Workshop "Teoria dei gruppi e Applicazioni" organized by University of Studies of Salerno.

• June 1^{st} - 7^{th} , 2003, Cortona (Italy)

Workshop "Moduli, Lie theory, Interactions with physics" organized by Istituto Nazionale di Alta Matematica "F. Severi" INDAM (National Institute of High Mathematics)

• September 2^{nd} - 10^{th} , 2003, Cetraro (Italy)

Summer Course "Symplectic 4-Manifolds and Algebraic Surfaces" organized by Centro Internazionale Matematico Estivo CIME (International Mathematical Summer Center).

• January 19^{th} - 23^{rd} , 2004, Trieste (Italy)

"Workshop on Deformation Theory in Algebraic and Symplectic Geometry", organized by SISSA.

• June 7^{th} - 9^{th} , 2004, Roma (Italy)

"International conference trends in Geometry - in memory of Beniamino Segre".

• June 22^{th} - 25^{th} , 2005, Ferrara (Italy)

Conference "Geometry of Algebraic Varieties".

• October 17^{th} - 21^{st} , 2005, Mainz (Germany)

"Autumn School in Deformation theory of Algebraic Structures", at Mathematics institute "Johannes Gutenberg" of Mainz (Germania).

• May 5^{th} - 7^{th} , 2006, Pisa (Italy)

Conference "Birational geometry of varieties", at Mathematical Department of University of Pisa.

• May 26^{th} - 29^{th} , 2006, Trieste (Italy)

"Giornate di Geometria Algebrica ed argomenti correlati VIII" at University of Trieste and SISSA.

• October 22^{nd} - 26^{th} , 2006, Levico Terme (Italy)

"Progressi Recenti in Geometria Reale e Complessa".

• January 15^{th} - 19^{th} , 2007, Paris (France)

Workshop "Higher Structures in Geometry and Physics", at the Institute Henri Poincaré

• February 2007, Stockholm (Sweden)

Special Semester "Moduli Spaces", at the Mittag-Leffler Institute.

- June 3^{rd} 9^{th} , 2007, Levico Terme (Italy)
- "Algebraic Geometry in Higher Dimension".
- June 18th July 2nd, 2007, Grenoble (France)

Summer School in Mathematics on "Geometry of complex Projective Varieties and the Minimal Model Program".

• September 10^{th} - 15^{th} , 2007, Povo (Italy)

"School (and Workshop) on The Geometry of Special Varieties", organized by Centro Internazionale per la Ricerca Matematica (CIRM).

• January 2^{nd} - 11^{th} , 2008, Bonn (Germany)

"Moduli Sapces: Winter School nd Conference", organized by Max Planck Institute of Bonn (Germany).

• March 25^{th} - 30^{th} , 2008, Gargnano del Garda (Italy)

"Spring School: Holomorphic Symplectic Manifolds and Derived Category", organized by Dipartimento di Matematica dell' Universita' di Milano.

• June 15^{th} - 28^{th} , 2008, Pisa (Italy)

"Aspects of Moduli Theory", organized by Centro di Ricerca Matematica Ennio De Giorgi - Scuola Normale Superiore.

• August 11^{th} - 15^{th} , 2008, Bonn (Germany)

"Algebraic and Geometric Deformation Spaces", organized by Hausdorff Center for Mathematics and Max-Planck Institute.

• September 1^{st} - 6^{th} , 2008, Povo (Italy)

"School (and Workshop) on The Geometry of Algebraic Stacks", organized by Centro Internazionale per la Ricerca Matematica (CIRM).

• Febraury 16^{th} - 20^{th} , 2009, Mainz, (Germany).

"Workshop on Deformation Theory in Algebraic Geometry", organized by the Mathematical Institute of the Johannes-Gutenberg University in Mainz.

• June 1^{st} - 5^{th} , 2009, Salmanca (Spain)

"i-MATH School on Derived Algebraic Geometry", organized by Universidad de Salmanca as activity of the i-MATH trimester on Derived Algebraic Geometry.

• August 21^{st} - 28^{th} , 2009, Berlin (Germany)

"BMS Summer School and Conference on Moduli", organized by Humboldt-Universität in Berlin.

• August 31^{st} - September 3^{rd} , 2009, Mainz, (Germany).

"Summer School on Local System", organized by the Mathematical Institute of the Johannes-Gutenberg University in Mainz. • September 7^{th} - 12^{th} , 2009, Sevilla (Spain)

"Advanced School on Homotopy Theory and Algebraic Geometry", organized by the Mathematical Research Institute of the University of Sevilla.

• September $25^{th} - 26^{th}$, 2009

"MJdR, A conference in honour of Marialuisa J. de Resmini", University of Studies of Rome "La Sapienza".

• August 30^{th} - September 3^{rd} , 2010

"Workshop in Deformation Theory II", University of Studies of Rome "La Sapienza".

• September $9^{th} - 10^{th}$, 2009

"Groups and Languages", University of Studies of Rome "La Sapienza".

• October 4^{th} - 7^{th} , 2010

"Young Researchers in Arithmetic and Algebraic Geometry", at Institut für Mathematik, Johannes Gutenberg-Universität, Mainz (Germany).

• June 3rd- 11th, 2011

"Algebra, Topology and Fjords!", Summer School, Sophus Lie Center, Nordfjordeid (Norway).

• March 8^{th} -March 9^{th} , 2012,

"Giornate di Geometria 3", University of Pavia.

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• January 21^{st}- 25^{th}, 2013,
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"Geometry of Sheaf in Low Dimension", Winter School Centro Stefano Franscini, Ascona (Swiss).

• April 2^{nd} - 5^{th} , 2013,

"Higher Structure 2013: Operads and Deformation Theory", Newton Institute, Cambridge (UK).

• February 17^{th} - 21^{st} , 2014,

"Workshop in Higher structures in algebraic analysis", Università degli Studi di Padova.

• May 25^{th} - June 5^{th} , 2015,

"Algebraic varieties and their moduli", Centro di Ricerca Matematica, Ennio de Giorgi, Pisa.?

• August 31^{st} - September 4^{th} , 2015,

"Non commutative Geometry and higher structures", Sapienza Università di Roma.

• June 6^{th} - 10^{th} , 2016,

"The Hodge Conjecture: State of the Art", Levico Terme, Trento (Italy).

• August 29^{th} - September 2^{nd} , 2016,

"Classification of Projective Varieties and Related Topics", 1st Join Meeting Brazil-Italy in Mathematics, Rio de Janeiro (Brasil).

• September 13^{th} - 15^{th} , 2016,

"Women in Homotopy Theory and Algebraic Geometry", Berlin.

Other Schools

• July 28^{th} - August 30^{th} , 2002, Perugia (Italy)

I attended the courses of Algebra (Prof. Kovacs) and Algebraic Geometry (Prof. Manetti), at the Summer School organized by Scuola Matematica Interuniversitaria SMI.

• August 14^{th} - 27^{th} , 2005, Cortona (Italy)

I attended the courses of Algebraic Geometry (Prof. A. Corti and C. Peterson) at the Summer school organized by Scuola Matematica Interuniversitaria SMI. Final Grade: A.

Professors for references

• Prof. Marco Manetti, "La Sapienza" University of Rome (Italy), (Phd Advisor); e-mail: manetti@mat.uniroma1.it.

• Prof. Barbara Fantechi, SISSA-ISAS Trieste, (Italy); e-mail: fantechi@sissa.it

Donatella Iacono