Curriculum Vitae et Studiorum
Donatella Iacono
June 2024

Personal Data

First Name: Donatella

Family Name: Iacono

Citizenship: Italian

Office Address: Dipartimento di Matematica, Università degli Studi di Bari Aldo Moro, Via E.Orabona 4, 70125 Bari, ITALIA

E-mail: donatella . iacono @ uniba . it
Office Number: 11, third floor

Personal home page: https://www.donatellaiacono.it

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 15th, 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.

Current Position

• 16 March 2020 - ??

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

Previous Positions and Visiting

• 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 6th, 2006 - December 6th, 2006 Visitor at SISSA, Trieste (Italy).

• December 19th, 2006 - 31st 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.

• 17 December 2010 - 15 March 2020: Researcher at the Mathematics Department of University of Studies of Bari "Aldo Moro", Research field: "Geometry".

• 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.

March 8- April 6 2017: Visitor at SISSA (Trieste).

Award

Abilitazione Scientifica Nazionale, Professore Prima Fascia (Full Professor habilitation), from 24 May 2021.

Research Interests

My research field is Algebraic Geometry and my interests concern the De- formation 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.

Pubblicazioni e Preprints

20) IACONO D., MARTINENGO E., *Deformations of morphisms of sheaves*, in preparazione.

19) IACONO D., MARTINENGO E., *On the local structure of the Brill-Noether locus of locally free sheaves on a smooth variety,* accettato per la pubblicazione in Rendiconti del Seminario Matematico della Università di Padova, 12 August 2023.

18) IACONO D., MANETTI M., *Homotopy abelianity of the DG-Lie algebra controlling deformations of pairs (variety with trivial canonical bundle, line bundle)*; INTERNATIONAL JOURNAL OF MATHEMATICS, 2021, 32 (11), 2150086; https://doi.org/10.1142/S0129167X21500865

17) BINI G., IACONO D., *Deformations of Calabi-Yau manifolds in Fano toric varieties*, RENDICONTI DEL CIRCOLO MATEMATICO DI PALEREMO SERIES 2, 2021, 70 (3), 1399-1412; https://doi.org/10.1007/s12215-020-00564-9.

16) IACONO D., MANETTI M., *On deformations of pairs (manifold, coherent sheaf);* CANADIAN JOURNAL OF MATHEMATICS, Volume 71 (5), 2019, 1209-1241; http://dx.doi.org/10.4153/CJM-2018-027-8.

15) IACONO D., MANETTI M., *On adjoint map of homotopy abelian DG-Lie Algebras*. ARCHIVUM MATHEMATICUM, vol. 55 (1), 2019, 7-15; ISSN 00448753.

14) IACONO D., *On the abstract Bogomolov-Tian-Todorov Theorem*. RENDICONTI DI MATEMATICA E DELLE SUE APPLICAZIONI, Serie VII, 38, 2017, 175-198; ISSN 1120-7183 (printed version).

13) DONNO A., IACONO D., *Distances and isomorphisms in 4-regular circulant graphs*. Proceedings of ICNAAM 2015, Rhodes, Greece 23-29 September 2015, AIP Conference Proceedings, Volume 1738, 2016; ISSN: 0094243X ISBN: 978-073541392-4, doi: 10.1063/1.4952041.

12) BINI G., IACONO D., *Diffeomorphism classes of Calabi-Yau varieties*. RENDICONTI DEL SEMINARIO MATEMATICO, Volume 73, Issue 1-2, 2015, 9-20; ISSN 0373-1243 (printed version).

11) IACONO D., *Deformations and obstructions of pairs (X,D)*. INTERNATIONAL MATHEMATICS RESEARCH NOTICES (IMRN), Volume 2015, rnu242, 2015, 9660-9695; ISSN 1073-7928 (printed version).

10) DONNO A., IACONO D., *The Tutte polynomial of the Sierpinski and Hanoi graphs*. ADVANCES IN GEOMETRY 13, Issue 4, 2013, 663–694; ISSN (Online) 1615-7168; ISSN (Print) 1615-715X, doi 10.1515/ advgeom-2013-0017.

9) IACONO D, MANETTI M., *Posetted Trees and Baker-Campbell-Hausdorff Product*. MEDITERRANEAN JOURNAL OF MATHEMATICS, vol. 10, 2013, 611-623; ISSN: 1660-5446, doi: 10.1007/s00009-012-0235-z.

8) IACONO D., MANETTI M., *Semiregularity and obstructions of complete intersections*. ADVANCES IN MATHEMATICS, vol. 235, 2013, 92-125; ISSN: 0001-8708, doi: 10.1016/j.aim.2012.11.011.

7) FIORENZA D., IACONO D., MARTINENGO E., *Differential graded Lie algebras controlling infinitesimal deformations of coherent sheaves*. JOURNAL OF THE EUROPEAN MATHEMATICAL SOCIETY, vol. 14, 2012, 521-540; ISSN 1435-9855, doi: 10.4171/JEMS/310.

6) IACONO D., *A Semi-regularity map annihilating obstructions to deforming holomorphic maps*. CANADIAN MATHEMATICAL BULLETIN, vol. 54, 2011, 472-486; ISSN 0008-4395, doi: 10.4153/CMB-2011-012-3.

5) CECCHERINI-SILBERSTEIN T., DONNO A., IACONO D., *The Tutte polynomial of the Schreier graphs of the Grigorchuk group and of the Basilica group*. In: ISCHIA GROUP THEORY 2010, Proceedings of the Conference, 2011, 45-68; ISBN: 978-981-4350-38-9, doi: 10.1142/9789814350051_0006.

4) IACONO D., MANETTI M., *An algebraic proof of Bogomolov-Tian-Todorov theorem*. In "Deformation Spaces: Perspective on Algebro-Geometric Moduli", Aspect of Mathematics vol. 39, 2010, 113-133, Vieweg Verlag; ISBN 978-3-8348-1271-1, doi: 10.1007/978-3-8348-9680-3_5.

3) IACONO D., *Deformations of algebraic subvarieties*. RENDICONTI DI MATEMATICA E DELLE SUE APPLICAZIONI, vol. 30 (I), 2010, 89-109; ISSN 1120-7183.

2) IACONO D., *L-infinity Algebras and Deformations of Holomorphic Maps*. INTERNATIONAL MATHEMATICS RESEARCH NOTICES, vol. 2008, 2008, 1-36; ISSN 1073-7928, doi: 10.1093/imrn/rnn013.

1) IACONO D., *Local structure of abelian covers*. JOURNAL OF ALGEBRA, vol. 301, 2006, 601-615; ISSN 0021-8693, doi: 10.1016/j.jalgebra.2006.01.025.

Editor
Editor together with E. Colombo, B. Fantechi, P. Frediani, R. Pardini del volume "Birational Geometry and Moduli Spaces", Springer INDAM Series, vol. 39, Springer Verlag, Berlin, 2020.

Books
"Teorema dei quattro colori" together with S. Milella, August 2023 in the series: Le Scienze: "RIVOLUZIONI MATEMATICHE I grandi Teoremi da Pitagora a Nash".

Other publications

5) "Patrimonio inVita: Piante, animali, forme", Percorsi museali 3, V. Montenegro, V. Cavallaro, D.Iacono, M. Marino, L. Passantino. Università degli Studi di Bari Aldo Moro, 2024. ISBN 978-88-6629-077-3.

4) "La Spirale del Tempo", Percorsi museali 2, V. Montenegro, V. Cavallaro, D.Iacono, M. Marino, L. Passantino. Università degli Studi di Bari Aldo Moro, 2024. ISBN 978-88-6629-073-5.

3) "L'albero che non ti aspetti", Percorsi museali 1, V. Montenegro, V. Cavallaro, D.Iacono, M. Marino, L. Passantino. Università degli Studi di Bari Aldo Moro, 2024. ISBN 978-88-6629-068-1.

2) IACONO D., Algebre di Lie Differenziali Graduate e Deformazioni di Mappe Olomorfe. Abstract of PhD Thesis, Bollettino Unione Matematica Italiana, Sez. A, Serie VIII, Vol. X-A, 2007, 251-254.

1) IACONO D., "Differential Graded Lie Algebras and Deformation of Holomorphic maps", PhD Thesis, Roma, (2006) , arXiv:math.AG/0701091.

Banche dati
Arxiv: https://arxiv.org/find/math/1/au:+Iacono_D/0/1/0/all/0/1

Google Scholars: https://scholar.google.it/citations?user=eyaT3BAAAAAJ&hl=it

Scopus: https://www.scopus.com/authid/detail.uri?authorId=55926911100

WoS:https://www.webofscience.com/wos/author/record/167809

Teaching Activities

Teaching at Università degli Studi di Bari Aldo Moro https://www.donatellaiacono.it/teaching.html

- Academic year 2023/2024: (all Mat/03)

- Matematica Discreta, Lecture and Exercise class (70/ 86 hours), CdL: ITPS.

- Geometria Algebrica (32/ 56 hours), CdL: Matematica.

- Exercise class for Geometria 3 (30/ 70 hours), CdL: Matematica

- Academic year 2022/2023: (all Mat/03)

- Matematica Discreta, Lecture and Exercise class (86/ 86 hours), CdL: ITPS.

- Corso di Matematica (Precorso 8 hours), CdL: Informatica e ITPS.

- Geometria Algebrica (32/ 56 hours), CdL: Matematica.

- Exercise class for Geometria 3 (30/ 70 hours), CdL: Matematica

- Academic year 2021/2022: (all Mat/03)

- Matematica Discreta, Lecture and Exercise class (86/ 86 hours), CdL: ITPS.

- Corso di Matematica (Precorso), CdL: Informatica e ITPS.

- Geometria Algebrica (32/ 56 hours), CdL: Matematica.

- Tutorato for Geometria 1 (25 hours), CdL: Matematica.

- Academic year 2020/2021: (all Mat/03)

- Matematica Discreta, Lecture and Exercise class (86/ 86 hours), CdL: ITPS.

- Geometria Algebrica (28/ 60 hours), CdL: Matematica.

- Exercise class for Geometria 2 (30/ 70 hours), CdL: Matematica

- Academic year 2019/2020: (all Mat/03)

- Exercise class for Geometria 1 and Geometria 2 (60/ 140 hours), CdL: Matematica

- Exercise class for Geometria (30/ 86 hours), CdL: Fisica.

- Geometria Algebrica (32/ 60 hours), CdL: Matematica.

- Academic year 2018/2019: (all Mat/03)

- Matematica Discreta, Lecture and Exercise class (86/ 86 hours), CdL: Informatica.

- Exercise class for Geometria (30/ 86 hours), CdL: Fisica.

- **Academic year 2017/2018:** (all Mat/03)

- Matematica Discreta, Lecture and Exercise class (86/ 86 hours), CdL: Informatica.

- Exercise class for Geometria (30/ 86 hours), CdL: Fisica.

- **Academic year 2016/2017:** (all Mat/03)

- Matematica Discreta, Lezioni (56/ 86 hours), CdL: Informatica.

- Exercise class for Geometria (30/ 86 hours), CdL: Fisica.

- **Academic year 2015/2016:**

- Matematica Discreta, Lecture and Exercise class (86/ 86 hours, Mat/02), CdL: Informatica.

- Exercise class for Geometria, (30/ 86 hours, Mat/03), CdL: Fisica.

- **Academic year 2014/2015:**

- Matematica Discreta, Lecture and Exercise class (86/ 86 hours, Mat/02), CdL: Informatica.

- Precorso,(Mat/03) CdL: Matematica.

- **Academic year 2013/2014:** (all Mat/03)

- Matematica Discreta, Lecture and Exercise class (86/ 86 hours), CdL: Informatica, Brindisi.

- Exercise class for Geometria 4 (30 hours), CdL: Matematica.

- **Academic year 2012/2013:** (all Mat/03)

- Matematica Discreta, Lecture and Exercise class (86/ 86 hours), CdL: Informatica, Brindisi.

- Laboratorio Matematico Didattico (20 hours), Geometria CdL: Matematica.

- **Academic year 2011/2012:** (all Mat/03)

- Precorso di Matematica CdL: Informatica, Brindisi.

- Matematica Discreta, Lecture and Exercise class (86/ 86 hours), CdL: Informatica, Brindisi.

- Laboratorio Matematico Didattico (20 hours), Geometria CdL: Matematica.

- Academic year 2010/2011: (all Mat/03)

- Exercise class for Geometria 2 (30 hours), CdL: Matematica.

- Exams for Matematica Discreta, CdL: Informatica, Brindisi.

- Exams for Istituzioni di Matematica, CdL: Scienze Biologiche.

Altra attività didattica, di laurea e dottorato, in Italia e all'Estero

- 20 May- 23 May 2019

"Some Topics in Deformation Theory and Differential Graded Lie Algebras", **PhD Course (10 hours) for Dottorato in Matematica, Fisica e Applicazioni**, Università di Salerno, academic year 2018/2019.

- 25 May-5 June 2015

"Some Deformation Theory", **short course** for "Algebraic varieties and their moduli", Centro di Ricerca Matematica, Ennio de Giorgi, 25 May-5 June 2015, Pisa.

- October 2010 – January 2011

Tutor for Algebra Lineare, Matematica,Università degli Studi di Roma "La Sapienza" (Prof. Manetti, Prof. Fiorenza)

- May - June 2010

Tutor for Algebra I, Matematica, Università degli Studi di Roma "La Sapienza" (Prof. Barucci, Prof. D'Andrea e Prof. De Concini).

- April 2009- July 2009

Exercise class for Geometrie I at Institut für Mathematik, Johannes Gutenberg-Universität, Mainz, Summer Semester 2009 (Prof. Dr. Margarita Kraus and Prof. Dr. Cynthia Hog-Angeloni).

- October – December 2007

Short course "Closed Model Categories of Differential Graded Algebras and Schemes" with Prof. Barbara Fantechi at SISSA.

- October-December 2005

Tutor for Geometria I, Fisica, Università degli Studi "La Sapienza" di Roma (Prof. Sambusetti e Prof. Zeppilli).

Advisor of Bachelor's Degree in Mathematics

- 4 expected in 2024 on: Congettura di Weil, Grassmanniane, Grafi Euleriani, Immersione di Veronese.

- G.V.: "Uno sguardo al mondo delle curve ellittiche", December 2023.

- O.S.:"Dal Lemma di Urysohn al Teorema di Tietze", December 2023.

- A.A: "Grafi planari e Teorema di Kuratowski", October 2023.

- S.D.: "Le basi di Gröbner", October 2023.

- V.L.: "Il Gruppo Fondamentale e Teorema di Van Kampen", July 2023.

- G.C.: "Morfismi regolari e razionali su varietà", December 2022.

- L.G.: "Basi di Gröbner e applicazioni alla teoria dei grafi", March 2022.

- A.C.: "Geometria iperbolica" in co-tutela, October 2020.

- A. B.: "Introduction to algebraic varieties", Erasmus Internership con l'Università di Tolosa, May 2020.

- M.D.L.: "La varietà di Grassmann", July 2018.

- A.S.: "Il Teorema di Tietze", October 2017.

- F.L.: "Il Gruppo Fondamentale e Teorema di Van Kampen", March 2017.

- P.C.: "Omotopia, Gruppo Fondamentale e Teorema di van Kampen", in co-tutela, March 2017.

- R.T.: "Il Teorema di Bézout", July 2016.

Other Activities

Member of PhD Committee, Università degli Studi di Roma "La Sapienza", Ciclo XXXV, May 2023.

Evaluator of Research projects for National Fund for Scientific and Technological Development (FONDECYT) of The Agencia National de Investigción y Desarrollo (ANID), Chile, 2020 and 2021.

Reviewer and Member of PhD Committee, École Doctorale Sorbonne Université, Paris; December 2021.

Reviewer and Member of PhD Committee for two candidates, Università degli Studi di Roma "La Sapienza", Ciclo XXXII, February 2020.

Reviewer and Member of PhD Committee, Università degli Studi di Roma "La Sapienza", Ciclo XXX, January 2018.

Referee e quick opinion for: Journal of Geometry and Physics, Pure and Applied Mathematics Quarterly, International Mathematics Research Notices, Journal of Algebra, Mathematische Zeitschrift, Inventiones, Crelle, Advances in Mathematics, Bulletin of the London Mathematical Society, Rendiconti del Circolo Matematico di Palermo, AIP Conference Proceedings, Advanced Courses in Mathematics-CRM Barcelona.

Selected Seminar

1. 20 June 2023: "*Deformation theory via DGLA and applications to deformations of sheaves*" Seminario di Algebra e Geometria, Università degli Sudi di Bologna, Bologna.

2. 18 May 2022: "*Spazi Proiettivi, Grassmanniane e Spazi di Moduli*", Seminario Mathlab, Università di Torino, Torino.

3. 14 September 2021: "*Deformations of Calabi-Yau manifolds in Fano toric varieties*", Workshop "Moduli spaces and hyper-Kahler varieties in Rome", Università degli Studi di Roma La Sapienza, Roma.

4. 24 September 2019: "*Deformations of varieties and vector bundles*", Friends in Algebraic Geometry, 23-25 September 2019, Università degli Studi di Torino, Torino.

5. 1 February 2019: "*DG-Lie Algebras and deformations of pairs*", Belgian-Dutch Algebraic Geometry Seminar, Utrecht University, Utrecht, Olanda.

6. 21 January 2019: "*DG-Lie Algebras and deformations of pairs*", Higher Structures Structures Supérieures, CIRM Luminy, 21-25 January 2019, Marsiglia, Francia.

7. 20 December 2018: "*Deformation Theory and Moduli Spaces*", Aeneas Conference: Migrating Algebraic Geometry, Università degli Studi di Roma 3, 20-21 December 2018, Roma.

8. 13 September 2018: "*DG-Lie Algebroid and deformations of log varieties*", INdAM Workshop "Poisson Geometry and Higher Structures", 10-14 September 2018, INdAM, Roma.

9. 7 October 2017: "*Matematica e computer Graphics*", laboratorio in collaborazione con S. Milella, XXXVI Convegno UMI-CIIM, Università degli Studi di Bari, 6-8 October 2018, Bari.

10. 1 August 2017: "*Deformations of pairs via DG-Lie algebras*", invited speaker, GAP XV-State College, The Pennsylvania State University, 31 July-4 August 2017, State College, USA.

11. 5 July 2017: "*Deformation functor associated with a DG-Lie algebra and applications*", "School on Deformation Theory", Università di Torino, 5-8 July 2017, Torino.

12. 17 May 2017: "*Deformazioni di coppie*", Università di Torino, Torino.

13. 15 March 2017: "*Unobstructed deformations of pairs*", Sissa, Trieste.

14. 15 February 2017: "*Deformazioni di coppie*", Università degli Studi di Pavia, Pavia.

15. 13 September 2016: *"Unobstructed deformation problems"*, invited speaker, <u>Women in Homotopy Theory and Algebraic Geometry</u>, 13-15 September 2016, Berlino, Germania.

16. 30 August 2016: *"Unobstructed deformation problems"*, special session: <u>Classification of Projective Varieties and Related Topics, 1st Join Meeting Brazil-Italy in Mathematics</u>, 29 August-2 September 2016, Rio de Janeiro, Brasile.

17. 3 September 2015: *"Deformations of pairs (X,D)"*, <u>Non commutative Geometry and higher structures</u>, Università degli Studi di Roma "La Sapienza", 31 August 2015 - 4 September 2015, Roma.

18. 11 July 2012: *"Obstructions of complete intersections"*, Seminar Geometrie-Topologie, University of Bielefeld, Germania.

19. 8 March 2012: *"Ostruzioni di intersezioni complete"*, al convegno: <u>Giornate di Geometria 3</u>, 8-9 March 2012, Dipartimento di Matematica, Università degli Studi di Pavia, Pavia.

20. 27 February 2012: *"Obstructions of complete intersections"*, Magic Seminar, Imperial College Londra, Inghilterra.

21. 4 October 2010: *"Modern Deformation theory"*, a "<u>Young Researchers in Arithmetic and Algebraic Geometry</u>", 4-7 October 2010, Institut für Mathematik, Johannes Gutenberg-Universität, Mainz, Germania.

22. 17 November 2009: *"Teoria delle deformazioni con DGLA e algebre L-infinito"*, Università degli Studi di Pavia, Pavia.

23. 16 November 2009: *"Teorema di Bogomolov-Tian-Todorov: una dimostrazione algebrica"*, Università degli Studi di Milano, Milano.

24. 25 September 2009: *"A new look at the BTT-theorem"*, <u>MJdR, A conference in honour of Marialuisa J. de Resmini</u>, Università degli Studi di Roma "La Sapienza", Roma.

25. 4 June 2009: *"Deformation theory via DGLA"*, <u>i-MATH School on Derived Algebraic Geometry</u>, Universidad de Salmanca, Spagna.

26. 18 April 2009: *"Introduction to Grassmannian and Quadrics"*, <u>Kleine AG,</u> University of Bonn, Germania.

27. 18 February 2009: *"Deformation theory via DGLA"*, <u>Workshop on Deformation Theory in Algebraic Geometry</u>, Institut für Mathematik, Johannes Gutenberg-Universität, Mainz, Germania.

28. 20 May 2008: *"Differential Graded Lie Algebras and Deformations of Manifolds"* <u>Giornate di Geometria Algebrica e Differenziale</u>, Università degli Studi di Milano.

29. 14 September 2007: *"Differential Graded Lie Algebras and Deformations of Manifolds"*, <u>School (and Workshop) on The Geometry of Special Varieties</u>, Povo, Trento.

30. 20 February 2007: *"Differential Graded Lie Algebras and Deformations of Holomorphic maps"*, Istituto Mittag-Leffler, Stoccolma, Svezia.

31. 23 October 2006: *"Algebre di Lie differenziali graduate e deformazioni di mappe olomorfe"*, <u>Progressi Recenti in Geometria Reale e Complessa</u>, Levico Terme, Trento.

32. 27 May 2006: *"Algebre di Lie differenziali graduate e deformazioni di mappe olomorfe",* <u>Giornate di Geometria Algebrica ed argomenti correlati VIII</u>, Università di Trieste e la SISSA, Trieste.

Poster

"Math is..", with S. Milella, at "Notte Europea dei Ricercatori", Università degli Studi di Bari, 27 September 2019.

"Ultimo Teorema di Fermat", with S. Milella, at "Notte Europea dei Ricercatori", Università degli Studi di Bari, 28 September 2018.

"Shapes from Math", with S. Milella, at "Notte Europea dei Ricercatori", Università degli Studi di Bari, 29 September 2017.

"Diffeomorphism classes of Calabi-Yau varieties", with G. Bini, at "<u>Geometric Structures on Riemannian Manifolds</u>", 25-26 June 2015, Università degli Studi di Bari.