

# Michele Pernice

## Curriculum Vitae

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Birthdate: 11 August 1994  
Nationality: Italian

### Current Position

09/01/2023 onwards Post-doc at KTH, Royal Institute of Technology, Stockholm (Sweden)

### Areas of Interest

Deformation theory via DGLAs; Intersection theory of algebraic stacks; Geometry of moduli of curves; Derived Azumaya algebras; (Derived) good moduli spaces.

### Publications

Michele Pernice, *The (almost) integral Chow ring of  $\overline{\mathcal{M}}_3$* , accepted for publication on “Journal für die reine und angewandte Mathematik (Crelle’s Journal)”, preprint on arXiv, 2023;  
<https://arxiv.org/abs/2303.13614>

Michele Pernice, *The (almost) integral Chow ring of  $\widetilde{\mathcal{M}}_3^7$* , accepted for publication on “Selecta Mathematica”, preprint on arXiv, 2023;  
<https://arxiv.org/abs/2303.05493>

Michele Pernice, *Hyperelliptic  $A_r$ -stable curves (and their moduli stack)*, accepted for publication on “Transactions of the American Mathematical Society”, preprint on arXiv, 2023;  
<https://arxiv.org/abs/2302.11456>

Andrea Di Lorenzo, Michele Pernice, Angelo Vistoli, *Stable cuspidal curves and the integral Chow ring of  $\mathcal{M}_{2,1}$* , accepted for publication on “Geometry and Topology”, preprint on arXiv, 2021;  
<https://arxiv.org/abs/2108.03680>

Guglielmo Nocera, Michele Pernice, *The derived Brauer map via twisted sheaves*, Journal of Homotopy and Related Structures, Volume 18, Issue 2-3, September 2023, Pages 369-396,  
<https://link.springer.com/article/10.1007/s40062-023-00329-y>

Michele Pernice, *The Integral Chow Ring of the Stack of 1-Pointed Hyperelliptic Curves*, International Mathematics Research Notices, Volume 2022, Issue 15, July 2022, Pages 11539-11574,  
<https://doi.org/10.1093/imrn/rnab072>

### Preprints

Veronica Arena, Andrea Di Lorenzo, Giovanni Inchiostro, Siddharth Mathur, Stephen Obinna, Michele Pernice, *A criterion for smooth weighted blow-downs*, preprint on arXiv, 2023;  
<https://arxiv.org/abs/2310.15076>

Eric Ahlqvist, Jeroen Hekking, Michele Pernice, Michail Savvas, *Good moduli spaces in Derived Algebraic Geometry*, preprint on arXiv, 2023;  
<https://arxiv.org/abs/2309.16574>

Michele Pernice, *The moduli stack of  $A_r$ -stable curves*, preprint on arXiv, 2023;  
<https://arxiv.org/abs/2302.10877>

### Education

05/11/2018 ‘Perfezionamento’ (PhD) in Mathematics, Scuola Normale Superiore di Pisa, Pisa (Italy)  
15/12/2022 Thesis entitled: “ $A_r$ -stable curves and the Chow ring of  $\overline{\mathcal{M}}_3$ ”,  
arXiv: <https://arxiv.org/abs/2211.09793>  
Advisor: Prof. Angelo Vistoli

- 27/09/2016 **‘Laurea Magistrale’ (Master Degree) in Mathematics**, The University of Rome ‘Sapienza’,  
 23/07/2018 Rome (Italy)  
 Thesis entitled: “*Deformations of smooth Deligne-Mumford stacks via differential graded Lie algebras*”  
 Advisor: Prof. Marco Manetti  
 110/110 cum laude
- 02/10/2013 **‘Laurea Triennale’ (Bachelor Degree) in Mathematics**, The University of Rome ‘Sapienza’,  
 19/07/2016 Rome (Italy)  
 Thesis entitled: “*Deformations of Singularities*”  
 Advisor: Prof. Marco Manetti  
 110/110 cum laude
- 15/09/2008 **‘Diploma di Maturità’**, Liceo Scientifico ‘Vito Volterra’, Ciampino, Rome (Italy)  
 10/07/2013 100/100 cum laude

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## Talks and Seminars

- 25/06/2024 “The derived Brauer map via twisted sheaves”, *Algebraic K-theory and Brauer Groups*, Casa Matematica, Oaxaca (Mexico)
- 18/06/2024 “Good moduli spaces of  $A_r$ -stable curves”, *Moduli stack and Enumerative Geometry*, Newton Institute, Cambridge (UK)
- 23/01/2024 “A stacky Castelnuovo contraction theorem”, Università degli studi di Tor Vergata, Roma (Italy)
- 09/01/2024 “A stacky Castelnuovo contraction theorem”, Humboldt University, Berlin (Germany)
- 02/06/2023 “ $A_r$ -stable curves and the (almost) integral Chow ring of  $\overline{\mathcal{M}}_3$ ”, *Moduli and Algebraic Cycles*, Mittag-Leffler Institute, Djursholm (Sweden),  
<https://www.mittag-leffler.se/activities/moduli-and-algebraic-cycles-2/>
- 27/05/2022 “Results about the Chow ring of moduli of stable curves of genus three”, *100 years of UMI - 800 years of UniPD*, Università di Padova,  
<https://www.100umi800unipd.it>
- 09/05/2022 “Results about the Chow ring of moduli of stable curves of genus three”, Essener Seminar,  
<https://www.esaga.uni-due.de/jochen.heinloth/ss22/seminar/pernice/>
- 01/04/2022 “Results about the Chow ring of moduli of stable curves of genus three”, KTH Royal Institute of Technology,  
<https://www.kth.se/math/kalender?date=2022-04-01&length=30>
- 25/03/2022 “Results about the Chow ring of moduli of stable curves of genus three”, Humboldt Universität zu Berlin
- 18/03/2022 “Results about the Chow ring of moduli of stable curves of genus three”, University of Utrecht

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## Lectures

- 12/2023 Lecturer for the reading course “*Algebraic Geometry Preprint Seminar*” jointly at KTH and Stockholm University.  
<https://www.emiljacobsen.se/preprint-seminar>
- 12/2020-01/2021 Lecturer for the reading course “*Corso di lettura di Derived Algebraic Geometry X: Formal moduli problems*” at University of Pisa (Italy).
- 28/02/2019 Lecturer for the reading course “*Corso di lettura di Fourier-Mukai transforms in Algebraic Geometry*” at University of Pisa (Italy).
- 15/12/2015 Lecturer for the reading course “Cotangent Complex and Deformation Theory” at University of Rome ‘Sapienza’ (Italy). Title : “*Derivations and Differentials*”.  
<http://www1.mat.uniroma1.it/people/manetti/AGA/aga14.html>
- 20/04/2017 Lecturer for the reading course “Corso di lettura di Lie Methods in Deformation Theory” at University of Rome ‘Sapienza’ (Italy). Title : “*Functors of Artin Rings and Deformations of Locally Free Sheaves*”.  
<http://www1.mat.uniroma1.it/people/manetti/AGA/aga17.html>

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## Participation to conferences and workshop

- 26/01/2024 “Panorama of moduli spaces”, Goethe University, Frankfurt Am Main (Germany).
- 01/02/2024 <https://sites.google.com/view/panoramaofmodulispace/home>

23/06/2024 "Algebraic K-theory and Brauer Groups", Casa Matematica, Oaxaca (Mexico).  
 28/06/2024 <https://www.birs.ca/events/2024/5-day-workshops/24w5309/schedule>  
 17/06/2024 "Moduli stacks and enumerative geometry", Newton Institute, Cambridge (UK).  
 21/06/2024 <https://www.newton.ac.uk/event/emgw05/>  
 12/09/2023 "Giornate di Geometria Algebrica e Argomenti Correlati XVI", Hotel San Michele, Cetraro (Italy).  
 15/09/2023 <https://sites.google.com/view/ggaacxvi-2023/home>  
 11/07/2023 "AGNES Summer School on Intersection Theory on Moduli Spaces", Brown University, Providence, RI (USA).  
 14/07/2023 <https://sites.google.com/site/agneshomepage/brown-2023-agnes-summer-school>  
 29/05/2023 "Moduli and Algebraic Cycles", Mittag-Leffler Institute, Djursholm (Sweden).  
 02/06/2023 <https://www.mittag-leffler.se/activities/moduli-and-algebraic-cycles-2/>  
 19/09/2022 "Recent Perspectives on Hodge Theory", Centro De' Giorgi, Pisa (Italy).  
 23/09/2022 <https://www.sns.it/en/node/93048>  
 18/07/2022 "Geometry and Arithmetic of Moduli Spaces", Università degli studi di Pisa, Pisa (Italy).  
 22/07/2022 <http://mittag-leffler.se/konferens/moduli-curves-stockholm>  
 02/06/2022 "Moduli of curves in Stockholm", Institut Mittag-Leffler, Djursholm (Sweden).  
 03/06/2022 <http://mittag-leffler.se/konferens/moduli-curves-stockholm>  
 16/05/2022 "Invariants in Algebraic Geometry", Institut de Mathématiques de Bourgogne, Dijon (France).  
 20/05/2022 <https://school-iag2020.math.cnrs.fr/>  
 21/02/2022 "Motives from 1 to 62", Università degli studi di Milano, Milano (Italy).  
 23/02/2022 <https://sites.google.com/view/motives-1-62/home>  
 20/12/2021 "Christmas in Rome 2021", Argiletum, Rome (Italy).  
 21/12/2021 <http://amosturchet.github.io/alggeo21.html>  
 18/10/2021 "Motives and Hodge theory", Mittag-Leffler Institute, Djursholm (Sweden).  
 22/10/2021 <https://sites.google.com/view/motives-hodge-theory/home>  
 06/05/2019 "School on Motives and Stacks", University of Essen, Essen (Germany).  
 10/05/2019 <https://motives-stacks-2019.esaga.net/>  
 03/06/2019 "Motives Today", CIRM, Trento (Italy).  
 07/06/2019 <https://cirm.fbk.eu/events/motives-today>  
 06/05/2019 "Recent progress in Moduli Theory", MSRI, Berkeley (California, USA).  
 10/05/2019 <https://www.msri.org/workshops/869>  
 08/04/2019 "Recent progress in Langlands program", MSRI, Berkeley (California, USA).  
 12/04/2019 <https://www.msri.org/workshops/855>  
 25/03/2019 "Derived Algebraic Geometry and its application", MSRI, Berkeley (California, USA).  
 29/03/2019 <https://www.msri.org/workshops/873>  
 20/12/2018 "Aeneas Conference: migrating algebraic geometry", University of Roma Tre, Rome (Italy).  
 21/12/2018 <http://ricerca.matfis.uniroma3.it/AeneasConference2018/December2018/>  
 04/06/2018 "A tale of Algebra and Geometry", University of Pisa, Pisa (Italy).  
 07/06/2018 <https://events.unibo.it/vistoliconference>  
 19/02/2018 "Workshop in Deformation Theory III", University Aldo Moro of Bari, Bari (Italy).  
 23/02/2018 <http://www.dm.uniba.it/~iacono/WDT/indexWDT.html>  
 19/12/2017 "Introduction to Algebraic Stacks", University of Angers, Angers (France).  
 21/12/2017 <https://www.lebesgue.fr/content/seminars-masterclass17>  
 21/12/2015 "Algebraic Geometry and Representation Theory", Sapienza, Rome (Italy).  
 23/12/2015 <http://www1.mat.uniroma1.it/people/meazzini/conference/AGRT.html>

## Teaching Experience

Summer 2023 Tutor for afternoon research sessions at "AGNES Summer School on Intersection Theory on Moduli Spaces" at Brown University, Providence, RI (USA).  
<https://sites.google.com/site/agneshomepage/brown-2023-agnes-summer-school>

Spring 2023 Teaching assistant for the course "Theory of Schemes" at KTH, Royal Institute of Technology.  
<https://canvas.kth.se/courses/37859>

- Spring 2021 Teaching assistant for the course "Istituzioni di Algebra" at the mathematics department of "Università di Pisa"
- Spring 2020 Teaching assistant for the course "Istituzioni di Algebra" at the mathematics department of "Università di Pisa"
- 2014-2018 Former member of G.a.u.s.S.: "Giovani allenatori universitari studenti della Sapienza".  
<https://www.mat.uniroma1.it/olimpiadi/gauss>

## Languages

- Italian Native
- English Cambridge Certificate of Advanced English (CAE), C1 level

## Grants, fellowships and Awards

- 2024 Winner of a scholarship from "Anna-Greta and Holger Crafoord's Fund – Mathematics and Astronomy 2024"  
<https://www.kva.se/en/scholarship/anna-greta-and-holger-crafoords-fund/>
- 2021 Winner of "Kovalevskaya grant for ICM2022"  
<https://umi.dm.unibo.it/2021/11/26/risultati-kovalevskaya-grant-per-icm2022/>
- 2017-2018 'Percorso d'eccellenza' for the 'Laurea Magistrale' in Mathematics.
- 31/07/2016 Eligible of the "Bando di concorso a n. 8 Borse di studio per l'avviamento alla ricerca riservate a iscritti ai corsi di Laurea magistrale in matematica a.a. 2016-2017" released by INDAM  
<https://www.altamatematica.it/sites/default/files/magistrale2016-17.pdf>
- 2015 - 2016 'Percorso d'eccellenza' for the 'Laurea Triennale' in Mathematics.
- 09/05/2013 Participant in the finals of the 'Olimpiadi della Matematica' in Cesenatico and winner of a silver medal
- 25/04/2013 Participant in the finals of the 'Olimpiadi di Fisica' in Senigallia and winner of a bronze medal
- 19/04/2012 Participant in the finals of the 'Olimpiadi di Fisica' in Senigallia
- 03/05/2012 Participant in the finals of the 'Olimpiadi della Matematica' in Cesenatico