

# Michele Pernice

## Curriculum Vitae

✉ [mpernice@kth.se](mailto:mpernice@kth.se)

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 and 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 (almost) integral Chow ring of  $\overline{\mathcal{M}}_3$* , preprint on arXiv, 2023;

<https://arxiv.org/abs/2303.13614>

Michele Pernice, *The (almost) integral Chow ring of  $\widetilde{\mathcal{M}}_3^1$* , preprint on arXiv, 2023;

<https://arxiv.org/abs/2303.05493>

Michele Pernice, *Hyperelliptic  $A_r$ -stable curves (and their moduli stack)*, preprint on arXiv, 2023;

<https://arxiv.org/abs/2302.11456>

Michele Pernice, *The moduli stack of  $A_r$ -stable curves*, preprint on arXiv, 2023;

<https://arxiv.org/abs/2302.10877>

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>

Andrea Di Lorenzo, Michele Pernice, Angelo Vistoli, *Stable cuspidal curves and the integral Chow ring of  $\overline{\mathcal{M}}_{2,1}$* , accepted for publication on "Geometry and Topology", preprint on arXiv, 2021;

<https://arxiv.org/abs/2108.03680>

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>

### 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

- 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 lecture di Derived Algebraic Geometry X: Formal moduli problems*" at University of Pisa (Italy).
- 28/02/2019 Lecturer for the reading course "*Corso di lecture 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 lecture di Lie Methods in Deformation Theory" ad 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

- 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>

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## 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>

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## Languages

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

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## Grants, fellowships and Awards

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