

PERSONAL INFORMATION

Family name, First name: Cecere, Germano

ORCID: 0000-0001-5912-3417

Nationality: Italian

URL for web site: <https://www.cecerelab.com>

EDUCATION

- 2019 **Habilitation à Diriger des Recherches (HDR)**, Université de Versailles, France.
- 2008 **Ph.D. in Human Biology and Genetics**, University of Rome "La Sapienza", Department of Cellular Biotechnology and Hematology (BCE), Italy.
Research Project: Molecular dissection of post-transcriptional gene silencing pathways in Neurospora crassa. Supervisor: Prof. Carlo Cogoni
- 2004 **MSc in Biotechnology**, University Federico II of Naples, Italy
Research Project: Molecular mechanisms of interaction between plant and antagonistic fungi. Supervisor: Prof. Matteo Lorito

CURRENT POSITION

Since 2015 **Group Leader**, Mechanisms of Epigenetic Inheritance (MHE) Laboratory, Department of Development and Stem Cell Biology, Institut Pasteur, Paris, FRANCE

PREVIOUS POSITIONS

- 2011 – 2015 **Associate Research Scientist**, Columbia University Medical Center, Department of Biochemistry and Molecular Biophysics, USA. Laboratory of Dr. Alla Grishok.
- 2008 – 2011 **Postdoctoral Research Scientist**, Columbia University Medical Center, Department of Biochemistry and Molecular Biophysics, USA. Laboratory of Dr. Alla Grishok.

EDUCATIONAL ACTIVITIES

Supervision:

2 Ph.D. students, 2 Postdocs, 2 Technicians, 2 Bioinformaticians, 10 master students.

Thesis committee:

Member of the jury of 8 Ph.D. thesis defenses and 1 HDR thesis defense.

Courses:

Since 2019 Lecturer (1.5 hours), "InteRNAt" summer school on small regulatory RNAs, CNRS.

Since 2018 Lecturer (3 hours), M2 course "non-coding RNAs and epigenetics. Université Paris-Saclay.

- Since 2017 Lecturer (3 hours), M1 course “Epigenetics, from phenomena to molecular mechanisms” at École Normale Supérieure.
- Since 2015 Lecturer (3 hours), M2 Epigenetics Module. University Paris-Diderot.
- 2016 – 2018 Lecturer (1.5 hours), Module in épigénétique et la signalisation cellulaire. Ecole doctorale, Muséum National d'Histoire Naturelle, Paris.
- 2021 Lecturer (3 hours), 10th international course on Non-Coding Genome, Institut Curie.
- 2018 Lecturer (3 hours), Epigenetic module in the annual Molecular Biology of the Cell course at Pasteur.

Online courses:

2019 – 2021 Director of the MOOC on Epigenetics, Institut Pasteur. 20 speakers, 26 lectures, 134 questions, 7 weeks.

ORGANIZATIONAL ACTIVITIES

Editorial activities

Since 2018 Associate editor for *Frontiers in molecular biosciences*

Conference organizer

2019 Abcam conference “RNA in epigenetic and chromatin regulation”. Institut Pasteur.

Journal Peer Review Activities

Since 2014 Nature Communications, Nature Review Genetics, Communication biology, eLIFE,
Nucleic Acid Research, Cell System, Cell Reports, EMBO Journal, iScience.

Other Review Activities

2019 Member of the jury auditions blanches Aviesan ERC CoG
Since 2014 Associate Grant evaluation for ERC, Wellcome Trust, HFSP, KAUST.

Public Outreach

2020 Short Science Documentary film “Germano” by Nona Griffin.

2019 Scientific Day for high school students, Paris.

2018 Children book on Epigenetic: “L’incroyable aventure de la génétique” – Nathan

2017 Interview published on Cartaditalia magazine, N.3

RECOGNITION

Awards, Honours

2022 Pasteur Vallery-Radot Prize

2020 ERC Consolidator Grant Award

2015 ERC Starting Grant Award

2013 Keystone Symposia Scholarship Award. Keystone Symposia: RNA Silencing. Whistler, British Columbia Canada.

2007 Best Ph.D. thesis, Centre of Excellence for Biology and Molecular Medicine (BEMM).

2004 Doctoral Fellowship, Graduate School of “La Sapienza” University of Rome

Invited seminars and lectures

2021 Introduction to Prof. Edith Heard, PhD ceremony. Institut Pasteur, France.
2021 Internat21: Petits ARN Régulateurs. CNRS Course. Sète, France.
2021 Non-coding Genome - 10th edition, Institute Curie Course, France.
2020 University of Rome Sapienza, BUGM seminar series, Italy.
2020 Federal University of Rio de Janeiro, H. Mangold Seminar Series, Brasil.
2019 Département Hospitalo-Universitaire Hépatinov, Departmental seminar series, France.
2019 Institut Pasteur, Conferences of Scientific Council, France.
2019 Institute History and Philosophy Science and Technical (IHPST), Sorbonne University. Paris, France.
2019 “InterNAt” Summer school on small RNAs. Sète, France.
2019 EMBL, Departmental seminar. Monterotondo, Italy.
2014 Institut de Biologie de l’Ecole Normale Supérieure (IBENS), Departmental seminar.
2014 Max Plank Institute for Molecular Genetics (MPIMG). Departmental seminar. Berlin, Germany.
2012 Columbia University. Departmental seminar. New York, USA.
2007 Centre of Excellence for Biology and Molecular Medicine (BEMM). Rome, Italy.

Talks at conferences

2022 European Worm Meeting (EWM). Vienna. *Invited*
2022 EMBO Workshop on PIWI protein and piRNAs. Virtual. *Invited*
2021 Sorbonne University Conference “RNA back in real life”. France. *Invited*
2021 Covid Task Force Meeting, Institut Pasteur, France. *Invited*
2021 Club Noyau Meeting, Session 2021, Institut Jaques Monod, France. *Invited*
2021 FASEB conference “The Epigenome in Human Health and Diseases”. Lorraine University, France. *Invited*
2020 Pasteur/Crick Symposium, France/UK. *Invited*
2020 Annual Symposium on Infection Diseases, UCSF, USA. *Invited*
2020 Covid Task Force Meeting – Diagnosis, Institut Pasteur, France. *Invited*
2019 CONICET – INSTITUT PASTEUR Bilateral Meeting, Argentina.
2018 One day meeting – Fundamentals in Heredity, IBPS, Paris. *Invited*
2018 Keynote speaker at Young Embryologist Network Conference. The Francis Crick Institute, London, UK. *Invited*
2018 EMBO workshop on piRNAs and PIWI proteins. Montpellier, France. *Selected*
2017 VerMidi XX meeting. ENS Lyon. *Selected*
2017 C. elegans - CRISPR, RNAi and genetics courses. CRG, Barcellona, ES. *Invited*
2017 9th Bordeaux RNA club Symposium. Bordeaux, France. *Invited*
2016 AVIESAN meeting “RNA as an adaptor guiding molecular processes”. Paris, France. *Invited*
2015 Transgenerational Epigenetic Inheritance Workshop. West Sussex, UK. *Selected*
2015 20th International C. elegans Meeting, UCLA, Los Angeles, USA. *Selected*
2015 20th Annual Meeting of the RNA Society, Madison, Wisconsin. *Selected*

- 2014 Cold Spring Harbor Laboratory Meeting: Regulatory & Non-Coding RNAs, NY, USA. *Selected*
- 2013 New York Area Worm Meeting (NYAWM), City University of New York, New York, USA. *Invited*
- 2013 19th International *C. elegans* Meeting, UCLA, Los Angeles, USA. *Selected*
- 2013 Columbia Stem Cell Initiative. Columbia University. New York, USA. *Invited*
- 2012 Cold Spring Harbor Laboratory Meeting: Regulatory & Non-Coding RNAs. NY, USA. *Selected*
- 2011 Keystone Symposia: Mechanism and Biology of Silencing. Monterey, USA. *Selected*
- 2009 New York Academy of Science (NYAS). RNAi discussion group. New York, USA. *Invited*
- 2007 Italian Federation of Life Science (FISV) congress. Riva del Garda, Italy. *Selected*

PUBLICATIONS

Research Articles, with the five main publications highlighted in blue

(*Co-first Authors, †Co-corresponding Authors, MHE Team members underlined)

2022

[Singh M*](#), [Chazal M*](#), [Quarato P](#), [Bourdon L](#), Malabat C, Vallet T, Vignuzzi M, van der Werf S, Behillil S, Donati F, Sauvonnnet N, Nigro G, Bourguine M, Jouvenet N[†], [Cecere G](#)[†]. A virus-derived microRNA targets immune response genes during SARS-CoV-2 infection. *EMBO Reports*. 2022 Feb 3;23(2):e54341. doi: 10.15252/embr.202154341. Epub 2021 Dec 16. PMID: 34914162

[Cornes E](#), [Bourdon L](#), [Singh M](#), Mueller F, [Quarato P](#), Wernersson E, Bienko M, [Li B](#), [Cecere G](#). piRNAs initiate transcriptional silencing of spermatogenic genes during *C. elegans* germline development. *Developmental Cell*. 2022 Jan 24;57(2):180-196.e7.

doi: 10.1016/j.devcel.2021.11.025. Epub 2021 Dec 17. PMID: 34921763.

(Highlighted in Previews on *Developmental Cell*)

2021

[Quarato P](#)[†], [Cecere G](#)[†]. Global Run-On sequencing to measure nascent transcription in *C. elegans*. *STAR Protocols*. 2021 Dec 4;2(4):100991. doi:10.1016/j.xpro.2021.100991. PMID: 34927098

Ibarra-Morales D, Rauer M, [Quarato P](#), Rabbani L, Zenk F, Schulte-Sasse M, Cardamone F, Gomez-Auli A, [Cecere G](#), Iovino N. Histone variant H2A.Z regulates zygotic genome activation. *Nature Communications*. 2021 Dec 1;12(1):7002. doi: 10.1038/s41467-021-27125-7.

PMID: 34853314

Rhoades N, Nguyen TS, Witz G, [Cecere G](#), Hammond T, Mazur AK, Gladyshev E. Recombination-independent recognition of DNA homology for meiotic silencing in *Neurospora crassa*. *Proc Natl Acad Sci U S A*. 2021 Aug 17;118(33):e2108664118. doi: 10.1073/pnas.2108664118.

PMID: 34385329

[Singh M](#), [Cornes E](#), [Li B](#), [Quarato P](#), [Bourdon L](#), Dingli F, Loew D, [Proccacia S](#), [Cecere G](#). Translation and codon usage regulate Argonaute slicer activity to trigger small RNA biogenesis. *Nature Communications*. 2021 Jun 9;12(1):3492. doi: 10.1038/s41467-021-23615-w.

PMID: 34108460

(Featured in the Editor's highlight collection)

Sinha A, Baumgarten S, Distiller A, McHugh E, Chen P, [Singh M](#), Bryant JM, Liang J, [Cecere G](#), Dedon PC, Preiser PR, Ralph SA, Scherf A. Functional Characterization of the m6A-Dependent Translational Modulator PfYTH.2 in the Human Malaria Parasite. *mBio*. 2021 Apr 27;12(2):e00661-21. doi: 10.1128/mBio.00661-21. PMID: 33906926; PMCID: PMC8092261. IDHAL: hal-03249953

[Quarato P](#), [Singh M](#), [Cornes E](#), [Li B](#), [Bourdon L](#), Mueller F, [Didier C](#), [Cecere G](#). Germline inherited small RNAs facilitate the clearance of untranslated maternal mRNAs in *C. elegans* embryos.

Nature Communications. 2021 Mar 4;12(1):1441. doi: 10.1038/s41467-021-21691-6.

PMID: 33664268

(Featured in the Editor's highlight collection)

2020

[Barucci G*](#), [Cornes E*](#), [Singh M*](#), [Li B](#), [Ugolini M](#), [Samolygo A](#), [Didier C](#), Dingli F, Loew D, [Quarato P](#), [Cecere G](#). Small-RNA-mediated transgenerational silencing of histone genes impairs fertility in piRNA mutants. *Nature Cell Biology*. 2020 Feb;22(2):235-245. doi: 10.1038/s41556-020-0462-7. Epub 2020 Feb 3. PMID: 32015436 *(Featured as the issue cover)*

2019

Serrat X, Kukhtar D, [Cornes E](#), Esteve-Codina A, Benlloch H, [Cecere G](#), Cerón J. CRISPR editing of sftb-1/SF3B1 in *Caenorhabditis elegans* allows the identification of synthetic interactions with cancer-related mutations and the chemical inhibition of splicing. *PLoS Genetics*. 2019 Oct 21;15(10):e1008464. doi: 10.1371/journal.pgen.1008464. PMID: 31634348

2014

[Cecere G](#), Grishok A. RNA Chromatin Immunoprecipitation (RNA-ChIP) in *Caenorhabditis elegans*. *Bio Protocols*. 2014 Dec 20;4(24):e1358. doi: 10.21769/BioProtoc.1358. PMID: 29170745

[Cecere G](#), Hoersch S, O'Keeffe S, Sachidanandam R, Grishok A. Global effects of the CSR-1 RNA interference pathway on the transcriptional landscape. *Nature Structural Molecular Biology*. 2014 Apr;21(4):358-65. doi: 10.1038/nsmb.2801. Epub 2014 Mar 30. PMID: 24681887

(Comment in Gene expression: RNAi as a global transcriptional activator. Nat Rev Mol Cell Biol.)

2013

[Cecere G](#), Hoersch S, Jensen MB, Dixit S, Grishok A. The ZFP-1(AF10)/DOT-1 complex opposes H2B ubiquitination to reduce Pol II transcription. *Molecular Cell*. 2013 Jun 27;50(6):894-907. doi: 10.1016/j.molcel.2013.06.002. PMID: 23806335

Avgousti DC, **Cecere G**, Grishok A. The conserved PHD1-PHD2 domain of ZFP-1/AF10 is a discrete functional module essential for viability in *Caenorhabditis elegans*. **Molecular and Cellular Biology**. 2013 Mar;33(5):999-1015. doi: 10.1128/MCB.01462-12. Epub 2012 Dec 21. PMID: 23263989; PMCID: PMC3623080.

2012

Cecere G, Zheng GX, Mansidor AR, Klymko KE, Grishok A. Promoters recognized by forkhead proteins exist for individual 21U-RNAs. **Molecular Cell**. 2012 Sep 14;47(5):734-45. doi: 10.1016/j.molcel.2012.06.021. Epub 2012 Jul 19. PMID: 22819322
(F1000 Prime Recommendation)

2011

Mansidor AR*, **Cecere G***, Hoersch S, Jensen MB, Kawli T, Kennedy LM, Chavez V, Tan MW, Lieb JD, Grishok A. A conserved PHD finger protein and endogenous RNAi modulate insulin signaling in *Caenorhabditis elegans*. **PLoS Genetics**. 2011 Sep;7(9):e1002299. doi: 10.1371/journal.pgen.1002299. Epub 2011 Sep 29. PMID: 21980302

2009

Cecere G[‡], Cogoni C[‡]. Quelling targets the rDNA locus and functions in rDNA copy number control. **BMC Microbiology**. 2009 Feb 25;9:44. doi: 10.1186/1471-2180-9-44. PMID: 19243581

2008

Nolan T*, **Cecere G***, Mancone C, Alonzi T, Tripodi M, Catalanotto C, Cogoni C. The RNA-dependent RNA polymerase essential for post-transcriptional gene silencing in *Neurospora crassa* interacts with replication protein A. **Nucleic Acids Research**. 2008 Feb;36(2):532-8. doi: 10.1093/nar/gkm1071. Epub 2007 Nov 29. PMID: 18048414

Review Articles

2022

Quarato P, Singh M, Bourdon L, **Cecere G**. Inheritance and maintenance of small RNA-mediated epigenetic effects. **Bioessay**. 2022, 2100284.
<https://doi.org/10.1002/bies.202100284>

2021

Cecere G. Small RNAs in epigenetic inheritance: from mechanisms to trait transmission. **FEBS Letters**. 2021 Dec;595(24):2953-2977. doi: 10.1002/1873-3468.14210. Epub 2021 Oct 29.
PMID: 34671979.
(Featured as the issue cover)

2014

Cecere G, Grishok A. A nuclear perspective on RNAi pathways in metazoans. **Biochim Biophys Acta**. 2014 Mar;1839(3):223-33. doi: 10.1016/j.bbagr.2013.11.009. Epub 2013 Dec 17.
PMID: 24361586

Patents

2021

Cecere G. A virus-encoded micro RNA for use in the diagnosis, prognosis, and treatment of SARS-COV-2 infection and associated disease. Patent application EP 21305192.3.