

UNIVERSITY OF MILAN

Public selection for recruiting No._1_ tenure track researcher(s) (RTT) for competition sector _05/BIOS-11 - Pharmacology__, (scientific-disciplinary sector BIOS-11/A - Pharmacology) at the Department of Medical Biotechnology and Translational Medicine, (announcement published in Official Gazette No. 92 of_19/11/2024__) - Competition code 5646

Nicolò Caporale

CURRICULUM VITAE

PERSONAL DATA

SURNAME	CAPORALE
NAME	NICOLÒ
DATE OF BIRTH	██████████
ORCHID	0000-0001-8097-4320

QUALIFICATIONS**DEGREE**

Medical Degree. 09/2008 - 07/2014
Alma Mater Studiorum University of Bologna, Italy

DOCTORAL DEGREE

PhD in Systems Medicine. 10/2015 - 01/2020
University of Milan, European School of Molecular Medicine

RESEARCH CONTRACTS, RESEARCH FELLOWSHIP CONTRACTS, POSTDOCTORAL SCHOLARSHIPS OR SIMILAR CONTRACTS

- 2023 – present Postdoctoral research fellowship type B
 Department of Oncology and Hemato – Oncology. Univesrity of Milan, Italy.
 Project: RE-MEND. Building resilience against mental illness during endocrine-sensitive life stages
 Project: Joint Call Fondazione Cariplo and Fondazione Telethon. SP5 as novel mediator of CAH multi-organ pathogenesis: from functional elucidation to therapeutic repurposing
- 2020 – present Scientific Advisor for the Neurogenomics Research Center at Human Technopole
- 2021 – 2023 Postdoctoral research fellowship type B
 Department of Oncology and Hemato – Oncology. Univesrity of Milan, Italy.
 Project: CRC: Human Organoid Models Integrative Center

- 2020 – 2021 Postdoctoral research fellowship type B
Department of Oncology and Hemato – Oncology. Univesrity of Milan, Italy.
Project: ENDpoiNTs. Novel Testing Strategies for Endocrine Disruptors in the Context of Developmental NeuroToxicity
- 2015 – 2020 PhD student fellowship, School of European Molecular Medicine (SEMM)
Thesis title: A unifying framework to study the genetic and environmental factors shaping human brain development
Main Project: EDCMixRisk. <http://edcmixrisk.ki.se/>
Supervisor: Prof. Giuseppe Testa, University of Milan.
Co-supervisor: Francesco Nicassio, Center of Genomic Science, IIT.
Co-supervisor: Nikolaus Rajewsky, Max-Delbrück-Center Molecular Medicine
- 2008 – 2015 Medical school student, Emergency Department residency.
Supervisor: Prof. Vincenzo Stanghellini. Department of Medical and Surgical Sciences, University of Bologna, Italy
Thesis title: Acute abdominal pain in the emergency department of a university hospital in Italy

TEACHING ACTIVITIES AT ITALIAN OR FOREIGN UNIVERSITIES

2024

Adjunct Professor. University of Milan. Course: “Neurogenomics and Brain Disease Modelling”. SSD BIO/11. 8 hours.

Percorso di Alta formazione PHARMATECH ACADEMY: “Bioinformatic analysis of single cell omics data: integration of clinical and molecular data”. UNIVERSITA’ DEGLI STUDI DI NAPOLI FEDERICO II. National Center for Gene Therapy and Drugs based on RNA Technology
Attività didattica laboratoriale. 10 hours.

Instructor. BrainOmics 2.0 “Computational approaches to single-cell multi-omics in neuroscience”. <https://brainomics2024.humantechnopole.it/>
Hands-on sessions. 8 hours

2023

Studio dell'impatto genetico e ambientale sui tratti del neurosviluppo attraverso organoidi cerebrali
Guest teacher at “IX Corso di formazione permanente in Neuroscienze cognitive dello sviluppo” 1 hour module. Fondazione Mariani, Milan

2022

Instructor. BrainOmics. Computational approaches to single-cell multi-omics in neuroscience. Human Technopole. 8 hours
<https://humantechnopole.it/en/trainings/brainomics/>

2020/21 - 2021/22 - 2022/23 - 2023/24

University of Milan. Assistant in the courses of Prof. Giuseppe Testa:

Pathogenetic bases of neurological and psychiatric disorders.

SSD BIO/11 MED/13 MED/25 MED/26

Genomics and epigenomics.

SSD BIO/11 MED/13 MED/25 MED/26

Neurogenomics and brain disease modelling.

SSD BIO/11

STUDENT TUTORING

PhD students

- | | |
|----------------|--|
| 2023 – present | Co-supervisor. Manuel Lessi.
PhD student in the European School of Molecular Medicine (SEMM)
Thesis project: Building resilience against mental illness during endocrine-sensitive life stages |
| 2023 – present | Co-supervisor. Gaja Matassa.
PhD student in the European School of Molecular Medicine (SEMM)
Thesis project: Building resilience against mental illness during endocrine-sensitive life stages |
| 2022 – present | Co-supervisor. Alessia Valenti.
PhD student in the European School of Molecular Medicine (SEMM)
Thesis project: The pandemic within: tackling brain vulnerability in COVID-19 at high resolution |
| 2022 – present | Co-supervisor. Mazen Khaddour.
PhD student in the European School of Molecular Medicine (SEMM)
Thesis project: High throughput brain organoid longitudinal profiling from the Italian cohort of neurodevelopmental disorders |
| 2021 – present | Co-supervisor. Sarah Stucchi.
PhD student in the European School of Molecular Medicine (SEMM)
Thesis project: Neurodevelopmental and intergenerational impact of endocrine-disrupting chemicals |
| 2019 – 2024 | Co-supervisor. Marco Tullio Rigoli.
PhD student in the European School of Molecular Medicine (SEMM)
Thesis project: Novel screening platform to investigate neurodevelopment impact of endocrine disruptors |

Fellowships

- | | |
|----------------|--|
| 2024 – present | Co-supervisor. Narges Yahyazadeh
“Borsa promettente laureato”, for the PNRR project titled “Formazione e ricerca sulle malattie infettive emergenti” |
| January 2025 | Supervisor. Ongoing recruitment
“Borsa promettente laureato”, for the Joint Call Fondazione Cariplo and Fondazione Telethon. “SP5 as novel mediator of CAH multi-organ pathogenesis: from functional elucidation to therapeutic repurposing.” |

Master students

- 2023 – 2024 Co-supervisor. Michal Kubacki
Master degree thesis in Bioinformatic for Computational Genomics,
University of Milan.
Thesis project: Computational scoring of hormonal dysregulation in
neurodevelopmental disorders
Graduation grade: 108/110
- 2022 – 2024 Co-supervisor. Benedetta Muda.
Master degree thesis in Medical Biotechnology and Molecular Medicine,
University of Milan.
Thesis project: Human organoids modelling of neurodevelopmental and
intergenerational impact of endocrine-disrupting chemicals
Graduation grade: 110/110 cum laude
- 2022 – 2024 Co-supervisor. Davide Bulgheresi.
Master degree thesis in Medical Biotechnology and Molecular Medicine,
University of Milan.
Thesis project: Charting the molecular and cellular footprints of endocrine
disruptors on human neurodevelopment through 3D cortical brain organoids
Graduation grade: 110/110 cum laude
- 2021 – 2022 Co-supervisor. Alessia Valenti
Master degree thesis in Bioinformatic for Computational Genomics,
University of Milan.
Thesis project: Single cell and spatial transcriptomics of human brain
organoids: experimental data analysis and computational modelling
Graduation grade: 110/110 cum laude
- 2020 – 2021 Co-supervisor. Martina Ciprietti.
Master degree thesis in Biotechnologies of human reproduction, University
of Siena.
Thesis title: The impact of endocrine-disrupting chemicals on germ cells and
neurodevelopment
Graduation grade: 110/110 cum laude
- 2018 – 2019 Co-supervisor. Marco Tullio Rigoli.
Master degree thesis in Pharmaceutical Biotechnology, University of Milan.
Thesis title: Multiplexing brain organoids to study the neurodevelopmental
impact of EDCs across genetic backgrounds
Graduation grade: 110/110 cum laude

ATTESTED TRAINING OR RESEARCH ACTIVITIES AT QUALIFIED ITALIAN OR FOREIGN INSTITUTIONS

FENS CAJAL Advanced Techniques for Synapse Biology. October 2019, Bordeaux Neurocampus, France;

Analysis of single cell RNA-seq data. February 2018, Physalia Course. Freie University, Berlin, Germany;

Chromatin and environment. August 2016, EMBO Summer School. Spetses, Greece;

The first systems biology and systems medicine summer school. September 2014 SysBio. Como, Italy;

School of European Molecular Medicine. Doctoral courses: Molecular oncology; Bioinformatics + Statistics; Biochemistry; Genomics and Proteomics; Imaging and Imaging Advanced; History of biomedicine; Logic and Network biology; Scientific writing; Cancer genetics.

2020 – present Postdoctoral research activity

Laboratory of High Definition Disease Modelling. Stem Cell and Organoids Epigenetics. Prof. Giuseppe Testa. Milan, Italy

Main projects: Human neurodevelopmental models to study the molecular effects and gene-vs-environment interactions of hormones and endocrine disruptions; SP5 as novel mediator of CAH multi-organ pathogenesis: from functional elucidation to therapeutic repurposing.

Scientific Advisor for the Neurogenomics Research Center at Human Technopole. Co-supervision of laboratory set up and workflows implementation. Steering board member of the Automated Stem Cells and Organoids Facility and the Flow cytometry Applications Resource (FLARE) Scientific Support Unit.

2015 – 2020 PhD student research activity

Laboratory of High Definition Disease Modelling. Stem Cell and Organoids Epigenetics. Prof. Giuseppe Testa. Milan, Italy

Main Project: EDCMixRisk. Investigating the effects of mixtures of endocrine disruptive chemicals on children by developing methods for risk assessment

2008 – 2015 Medical school research activity

Laboratory of Prof. Vincenzo Stanghellini. Department of Medical and Surgical Sciences, University of Bologna, Italy

Main project: Acute abdominal pain in the emergency department of a university hospital in Italy

IMPLEMENTATION OF PROJECTS

Project awarded as Principal Investigator:

2024-2026: Joint Call for Applications Fondazione Cariplo e Fondazione Telethon 2023. "SP5 as novel mediator of CAH multi-organ pathogenesis: from functional elucidation to therapeutic repurposing"

Funding awarded: 250 000 euro.

In the lab of Prof. Giuseppe Testa I have contributed to the writing of the proposals and/or experimental, computational work, co-supervision of the following research projects:

2014-2019: European Research Council Consolidator Grant "Modeling Disease through Cell Reprogramming: a Translational Approach to the Pathogenesis of Syndromes Caused by Symmetrical Gene Dosage Imbalances (DISEASEAVATARS)"

2015-2020: Horizon 2020 Project: Integrating Epidemiology and Experimental Biology to Improve Risk Assessment of Exposure to Mixtures of Endocrine Disruptive Compounds (EDC-MixRisk).

2019-2022: Fondazione Telethon: "Functional dissection of the molecular underpinnings of 7q11.23 syndromes: bridging pathogenic insight to drug discovery at single cell resolution"

2019-2020: Horizon 2020 FET Flagship Initiative LifeTime. Coordinate Support Action: "Revolutionizing Healthcare by Tracking and Understanding Human Cells during Disease (LifeTime)"

2019-2024: Horizon European Project: Novel Testing Strategies for Endocrine Disruptors in the Context of Developmental NeuroToxicity (ENDpoints). <https://endpoints.eu/>

2021-present: HEBE (Healthy aging versus inflamm-aging: the role of physical Exercise in modulating the Biomarkers of age-associated and Environmentally determined chronic diseases). Unimi project within Grandi Sfide di Ateneo, Progetti Speciali, Piano Nazionale di Ripresa e Resilienza (PNRR)

2021-present: IDEA (Sistema integrato di Ateneo per il monitoraggio e per il controllo delle infezioni, delle emergenze epidemiche e dell'antibioticoresistenza). Unimi project within Grandi Sfide di Ateneo, Progetti Speciali, Piano Nazionale di Ripresa e Resilienza (PNRR)

2022-present: Horizon European Project: The Pandemic within: tackling brain vulnerability in COVID19 at high resolution (NEUROCOV). <https://neurocov.eu/>

2022-present: Horizon European Project: Risk and Resilience in Developmental Diversity and Mental Health (R2D2-MH). <https://www.r2d2-mh.eu/>

2023-present: Horizon European Project: Building resilience against mental illness during endocrine-sensitive life stages (Re-MEND) <https://www.helsinki.fi/en/projects/re-mend>

SPEAKING AT NATIONAL AND INTERNATIONAL CONFERENCES AND CONVENTIONS

CONFERENCE PRESENTATIONS

“Acute abdominal pain in the Emergency Department of a university hospital in Italy”

Oral presentation, SIMEU Congress, Turin, Italy, 2014

Poster, GREAT Network Congress, Rome, Italy, 2014

“Human neurodevelopmental systems to study the molecular effects of endocrine disruptions”

Poster, ABCD Annual PhD meeting, Salerno, Italy, 2016

Poster, Chromatin and environment Summer School, Spetses, Greece, 2016

“From Cohorts to Molecules: Adverse Impacts of Endocrine Disrupting Mixtures”

Oral presentation, ENABLE 1st European PhD and Postdoc Symposium, Barcelona, Spain, 2017

Poster, EMBO conf. Gene regulatory mechanisms in neural fate decisions, Alicante, Spain, 2017

Flash talk, EMBO Symposium Organoids: Modelling Organ Development and Disease in 3D, Heidelberg, 2018

Poster, 10th International Meeting STEROIDS and NERVOUS SYSTEM, Turin, Italy, 2019

Oral presentation, 17th meeting of the International Neurotoxicology Association. Dusseldorf, Germany, 2019

“Frontiers within. Avataring human lineages for transgenerational epigenomics”

Selected invitation for the Spineto Epigenetics Meeting 22nd-25th March 2018

“Multiplexing induced pluripotent stem cells into chimeric brain organoids to study neurodevelopment”

Oral presentation, Stem cell methods and cell phenotyping approaches for study of neurodevelopmental disorders, MINDDS COST Action Meeting Malta, 2019

Poster, LifeTime Launch Event. Berlin, Germany, 2019

“The transforming impact of human brain organoids for regulatory toxicology: a systematic analysis across mixtures, genetic backgrounds and exposures”

Oral presentation, EDC-MixRisk Conference at European Commission, Brussels, March 2019

Oral presentation, Endpoints Annual Meeting. Paris, February 2020

“De Humani Corporis Fabrica: organoid-based deconvolution of neuropsychiatric disorders at single cell resolution”

Oral presentation as **invited speaker**, 1st Stem Cells and Brain Organoids Training Course and Symposium, University of Lausanne, Switzerland, 2019

Oral presentation, 19a Giornata di Studio sulle Cellule Staminali: in vivo single cell analysis dalla tecnologia alla biologia e medicina, Milan, 2019

“Capturing susceptible windows of transcriptional dysregulation during human cortical development”

Poster, Single Cell Genomics Conference in Djurönäset, Stockholm, Sweden, 2019

“Brain organoids modelling of genetic and environmental impact on neurodevelopmental traits”

Oral Presentation as **invited speaker**, Sex, Gender and Epigenetics: From Molecule to Bedside, Italy, Florence, 2022

Oral Presentation, EpiSyStem: Stem Cell Epigenetics International Conference, Italy, Milan, 2022

Oral Presentation as **invited speaker**, European Congress of Endocrinology, Istanbul, Turkey, 2023

“Infiammazione inquinamento e psicopatologie”

Oral Presentation as **invited speaker**, IV Congresso Internazionale Il Neo-Funzionalismo XX Convegno Nazionale, Scuola Europea di formazione in Psicoterapia Funzionale. Naples, Italy, 2023

“Multiplexing cortical brain organoids for the longitudinal dissection of developmental traits at single cell resolution”

Oral Presentation as **invited speaker**, Developmental Diversity in a Dish Seminar Series. March 2024. Link to recordings: <https://www.youtube.com/playlist?list=PLbeFhDgIkXxd-3CLdfuWvGguZZOveIso4>

“High Definition Disease Modelling: Stem Cell and Organoid Epigenetics”

Oral Presentation as **invited speaker**, Annual Meeting of the Hellenic Society of Gene Therapy and Regenerative Medicine. Thessaloniki, Greece, 2024

“From brain organoids modelling to in vitro epidemiology to study endocrine impact on human neurodevelopment”

Oral Presentation as **invited speaker**, Leibniz-Research Network “Stem Cells and Organoids”. Düsseldorf, Germany, 2024

“Multiplexing cortical brain organoids for the longitudinal dissection of developmental traits at single cell resolution”

Oral Presentation at Human Cell Atlas 'Cells in Context' Symposium. Milan, Italy, 2024
Selected Lightning Talk for ISSCR webinar Pop Stem: Technologies at the Intersection of Stem Cell Biology and Population Genetics. Online seminar, 2024

“R2D2-MH: Risk and resilience in developmental diversities”

Speaker for the panel discussion on integrated care for mental health EU4Health and Horizon Europe. “Synergies for integrated care”. European Health and Digital Executive Agency (HaDEA). Rome, Italy, 2024

“Neurodiversity in a dish: advances and challenges towards cohort modelling of human neurodevelopment”

Oral Presentation as **invited speaker**, Charité 3R Symposium: Innovative approaches in experimental research. Berlin, Germany, 2024

“Engineering Toxoplasma gondii for intracellular delivery of large therapeutic proteins to human brain organoids”

Oral Presentation as **invited speaker** for AIRETT scientific meeting: RETT SYNDROME:BEYOND GENE THERAPY. Ongoing clinical trials and the development of new therapies. Scuola Normale Superiore di Pisa, Italy, 2024

ORGANISATION OF SCIENTIFIC MEETINGS

Chief coordinator of the local organising committee for the Enable Scientific Symposium: “EXPLORING LIFE DYNAMICS: In and out of equilibrium” Milan, 2021, Italy.

Youtube video: https://www.youtube.com/watch?v=BArPe_Is5Kc

Co-organiser of the Workshop: “Emerging strategies for the treatment of infectious diseases”

Progetto Grandi Sfide di Ateneo GSA-IDEA, University of Milan. 29 January 2025

Co-organiser of the the Cajal course on "Brain Organoids", by the Cajal Advanced Neuroscience Training Programme, Bordeaux School of Neuroscience, for Spring 2026

OUTREACH ACTIVITY

Divulgative video for illustrating patient-derived experimental disease models. 2020

Youtube video: https://www.youtube.com/watch?v=xEChL_xt1aU

Divulgative video for illustrating the main messages of the Science paper: More chemicals, fewer words. 2022

Youtube video: <https://www.youtube.com/watch?v=bJh9c-pyeYo>

Podcast on brain organoids for Darwin Radio

<https://www.radio24.ilsole24ore.com/podcast-originali/darwin/podcast/organoidi-cerebrali--microsatelliti-italiani-160528-2419319459719171>

Video on the research we carry out in the Neurogenomics Research Centre, Human Technophole:

<https://www.raiply.it/video/2022/06/Via-delle-Storie-3d410b5e-13e5-474b-b959-0aec57b1957e.html>

NATIONAL AND INTERNATIONAL AWARDS AND ACCOLADES FOR RESEARCH ACTIVITY

October 2017: travel grant and short talk award for the 1st European PhD and Postdoc Symposium, ENABLE, Barcelona, Spain.

September 2018: short talk award for the EMBO|EMBL Symposium: Organoids: Modelling Organ Development and Disease in 3D Culture, Heidelberg, Germany.

October-November 2019: selected for the Cajal Advanced Techniques for Synapse Biology course 2019, CAJAL Advanced Neuroscience Training Programme, at the Bordeaux School of Neuroscience in Bordeaux, France.

2022 - international accolades related to Science paper “From cohort to molecule: Adverse impacts of endocrine disrupting mixtures”

- dedicated perspective article on Science: Liew, Z., & Guo, P. (2022). Human health effects of chemical mixtures. *Science*, 375(6582), 720–721.
- dedicated article about our manuscript on the “Science for Environment Policy” issue 579, 11th May, by European Commission DG. Environment News Alert Service, edited by SCU, The University of the West of England, Bristol.

2024 - international accolades related to Nature Methods paper “Multiplexing cortical brain organoids for the longitudinal dissection of developmental traits at single cell resolution”

- dedicated Research Briefing on Nature Methods co-written by the Editor and one of the Reviewer of the paper: “Multiplexing strategies to scale up brain organoid modelling”. Caporale, Villa, Testa, *Nature Methods*, in press.
- Selected Lightning Talk for the ISSCR webinar Pop Stem: Technologies at the Intersection of Stem Cell Biology and Population Genetics. Online seminar, 2024
- Invited speaker for Developmental Diversity in a Dish Seminar Series. Link to recordings: <https://www.youtube.com/playlist?list=PLbeFhDgIkXxd-3CLdfuWvGguZZOveIso4>

2024 - Acknowledged for the contribution provided during the elaboration and writing of the Nature Perspective paper providing guidance and advice on designing, conducting and reporting experiments to increase the reproducibility and utility of neural organoids and assembloids. Paşca, S. P. et al. A framework for neural organoids, assembloids and transplantation studies. *Nature* 1–3 (2024).

2025 - Plenary oral presentation at the XXII Scientific Convention of Fondazione Telethon for presenting the project awarded by the Joint Call Fondazione Cariplo and Fondazione Telethon. “SP5 as novel mediator of CAH multi-organ pathogenesis: from functional elucidation to therapeutic repurposing.” March 17th – 19th, 2025, Rimini

SCIENTIFIC PRODUCTION

h-index: 10; total citations: 894; (Google scholar – 17/12/2024)

SCIENTIFIC PUBLICATIONS

Research articles

1) **Caporale**, N., Leemans, M., Birgersson, L., Germain, P.-L., Cheroni, C., Borbély, G., Engdahl, E., Lindh, C., Bressan, R. B., Cavallo, F., Chorev, N. E., D'Agostino, G. A., Pollard, S. M., Rigoli, M. T., Tenderini, E., Tobon, A. L., Trattaro, S., Troglio, F., Zanella, M., ... Testa, G. (2022). From cohorts to molecules: Adverse impacts of endocrine disrupting mixtures. **Science**, 375(6582), eabe8244.

Co-first author

Impact Factor: 56.9

Associated Perspective:

- Liew, Z., & Guo, P. (2022). Human health effects of chemical mixtures. **Science**, 375(6582), 720–721.

2) **Caporale**, N., Castaldi, D., Rigoli, M. T., Cheroni, C., Valenti, A., Stucchi, S., Lessi, M., Bulgheresi, D., Trattaro, S., Pezzali, M., Vitriolo, A., Lopez-Tobon, A., Bonfanti, M., Ricca, D., Schmid, K. T., Heinig, M., Theis, F. J., Villa, C. E., & Testa, G. (2024). Multiplexing cortical brain organoids for the longitudinal dissection of developmental traits at single-cell resolution. **Nature Methods**, 1–13.

Co-first author; Senior author

Impact Factor: 48

Associated Research Briefing:

- Multiplexing strategies to scale up brain organoid modelling. (In press). **Nature Methods**

3) Bracha, S., Johnson, H. J., Prankevicius, N. A., Catto, F., Economides, A., Litvinov, S., Hassi, K., Rigoli, M. T., Cheroni, C., Bonfanti, M., Valenti, A., Stucchi, S., Attreya, S., Ross, P. D., Walsh, D., Malachi, N., Livne, H., Eshel, R., Krupalnik, V., ... **Caporale**, N., ... Rechavi, O. (2024). Engineering *Toxoplasma gondii* secretion systems for intracellular delivery of multiple large therapeutic proteins to neurons. **Nature Microbiology**, 9, 2051–2072.

Senior author

Impact Factor: 28.3

Associated Research Briefings and Highlights:

- Harnessing a brain parasite as a tool for delivery of therapeutics to the brain. (2024). **Nature Microbiology**, 9(8), 1914–1915.
- Marchal, I. (2024). Engineered parasite delivers therapeutic proteins to the mouse brain. **Nature Biotechnology**, 42(9), 1357.
- Engineered brain parasite ferries useful proteins into neurons. (2024). **Nature**, 632(8025), 479.

4) Bosone, C., Castaldi, D., Burkard, T. R., Guzman, S. J., Wyatt, T., Cheroni, C., **Caporale, N.**, Bajaj, S., Bagley, J. A., Li, C., Sorre, B., Villa, C. E., Testa, G., Krenn, V., & Knoblich, J. A. (2024). A polarized FGF8 source specifies frontotemporal signatures in spatially oriented cell populations of cortical assembloids. **Nature Methods**, 1–13.
Impact Factor: 48

5) He, Z., Dony, L., Fleck, J. S., Szałata, A., Li, K. X., Slišković, I., Lin, H.-C., Santel, M., Atamian, A., Quadrato, G., Sun, J., Paşca, S. P., Human Cell Atlas Organoid Biological Network, Camp, J. G., Theis, F. J., & Treutlein, B. (2024). An integrated transcriptomic cell atlas of human neural organoids. **Nature**, 635(8039), 690–698.
Impact factor: 64.8

6) Mihailovich, M., Germain, P.-L., Shyti, R., Pozzi, D., Noberini, R., Liu, Y., Aprile, D., Tenderini, E., Troglio, F., Trattaro, S., Fabris, S., Ciptasari, U., Rigoli, M. T., **Caporale, N.**, D'Agostino, G., Mirabella, F., ... Testa, G. (2024). Multiscale modeling uncovers 7q11.23 copy number variation–dependent changes in ribosomal biogenesis and neuronal maturation and excitability. **The Journal of Clinical Investigation**, 134. Doi: 10.1172/JCI168982
Impact Factor: 15.9

7) Angioni, R., Bonfanti, M., **Caporale, N.**, Sánchez-Rodríguez, R., Munari, F., Savino, A., Pasqualato, S., Buratto, ... Testa, G. (2023). RAGE engagement by SARS-CoV-2 enables monocyte infection and underlies COVID-19 severity. **Cell Reports. Medicine**, 4(11), 101266.
Co-first author
Impact Factor: 14.3

8) López-Tobón, A., Shyti, R., Villa, C. E., Cheroni, C., Fuentes-Bravo, P., Trattaro, S., **Caporale, N.**, Troglio, F., Tenderini, E., Mihailovich, M., Skaros, A., Gibson, W. T., Cuomo, A., Bonaldi, T., Mercurio, C., Varasi, M., Osborne, L., & Testa, G. (2023). GTF2I dosage regulates neuronal differentiation and social behavior in 7q11.23 neurodevelopmental disorders. **Science Advances**, 9(48), eadh2726.
Impact Factor: 13.6

9) Cheroni, C., Trattaro, S., **Caporale, N.**, López-Tobón, A., Tenderini, E., Sebastiani, S., Troglio, F., Gabriele, M., Bressan, R. B., Pollard, S. M., Gibson, W. T., & Testa, G. (2022). Benchmarking brain organoid recapitulation of fetal corticogenesis. **Translational Psychiatry**, 12(1), 520.
Impact Factor: 6.8

10) López-Tobón, A., Villa, C. E., Cheroni, C., Trattaro, S., **Caporale, N.**, Conforti, P., Iennaco, R., Lachgar, M., Rigoli, M. T., Marcó de la Cruz, B., Lo Riso, P., Tenderini, E., Troglio, F., De Simone, M., Liste-Noya, I., Macino, G., Pagani, M., Cattaneo, E., & Testa, G. (2019). Human Cortical Organoids Expose a Differential Function of GSK3 on Cortical Neurogenesis. **Stem Cell Reports**, 13(5), 847–861.
Impact Factor: 5.9

11) **Caporale, N.**, Morselli-Labate, A. M., Nardi, E., Cogliandro, R., Cavazza, M., & Stanghellini, V. (2016). Acute abdominal pain in the emergency department of a university hospital in Italy. **United European Gastroenterology Journal**, 4(2), 297–304.
First author
Impact factor: 6.04

Study protocol

12) Bianchi, F., Biganzoli, E. M., Bollati, V., Clerici, M., Lucini, D., Mandò, C., Rota, F., & HEBE Consortium. (2024). HEBE project: Healthy aging versus inflamm-aging: The role of physical exercise in modulating the biomarkers of age-associated and environmentally determined chronic diseases, study protocol. **PloS One**, 19(4), e0300011.

Impact factor: PLOS does not consider Impact Factor to be a reliable or useful metric

Review articles

13) Cheroni, C., **Caporale**, N., & Testa, G. (2020). Autism spectrum disorder at the crossroad between genes and environment: contributions, convergences, and interactions in ASD developmental pathophysiology. **Molecular Autism**, 11(1), 69.

Co-first author; Co-corresponding author

Impact factor: 6.2

14) Drakulic, D., Djurovic, S., Syed, Y. A., Trattaro, S., **Caporale**, N., Falk, A., Ofir, R., Heine, V. M., Chawner, S. J. R. A., Rodriguez-Moreno, A., van den Bree, M. B. M., Testa, G., Petrakis, S., & Harwood, A. J. (2020). Copy number variants (CNVs): a powerful tool for iPSC-based modelling of ASD. **Molecular Autism**, 11(1), 42.

Impact factor: 6.2

15) Marangon, D., **Caporale**, N., Boccazzi, M., Abbracchio, M. P., Testa, G., & Lecca, D. (2021). Novel in vitro Experimental Approaches to Study Myelination and Remyelination in the Central Nervous System. **Frontiers in Cellular Neuroscience**, 15, 748849.

Impact factor: 5.3

16) Vitriolo, A., Leonardi, O., **Caporale**, N., Villa C. E., Boeckx, C., Testa, G. (in press). Tile by tile: capturing the evolutionary mosaic of human conditions. **Current Opinion in Genetics & Development**

Impact factor: 3.7

News & Views:

17) **Caporale**, N., & Testa, G. (2020). COVID-19 lessons from the dish: Dissecting CNS manifestations through brain organoids. **The EMBO Journal**, e107213.

First author; Co-corresponding author

Impact factor: 11.4

Perspective article

18) Rajewsky, N., Almouzni, G., Gorski, S. A., Aerts, S., Amit, I., Bertero, M. G., Bock, C., Bredenoord, A. L., Cavalli, G., Chiocca, S., Clevers, H., De Strooper, B., Eggert, A., Ellenberg, J., Fernández, X. M., Figlerowicz, M., Gasser, S. M., Hubner, N., Kjems, J., ... LifeTime Community Working Groups. (2020). LifeTime and improving European healthcare through cell-based interceptive medicine. **Nature**, 587(7834), 377–386.

Impact factor: 64.8

Research briefing

19) **Caporale**, Villa, Testa. “Multiplexing strategies to scale up brain organoid modelling”. (**in press**) **Nature Methods**.
Impact Factor: 48

Cited in Acknowledgments

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PEER REVIEW ACTIVITIES

Reviewer for the following peer-reviewed journals and funding agency:

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Neuron, 2018.

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