


# NICCOLÒ ARECCO

Postdoctoral researcher

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 Google scholar

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## RESEARCH STATEMENT

My goal is to understand how chromatin regulators splice variants, that epigenetically control transcription, establish distinct cell identities and how their mis-regulation affects human physiology.

## EXPERIENCE

### Postdoc CRG, Genome Biology Unit

 Oct 2023 – ongoing

 Barcelona, Spain

- Splicing assay development.
- Genome engineering.
- Supervision of one PhD student.

### Postdoc CRG, Systems & Synthetic Biology Unit

 May 2019 – Oct 2023

 Barcelona, Spain

- EMBO Long-term fellow and Juan de la Cierva fellow.
- Very strong experience in alternative splicing field.
- Discovered a novel regulatory mechanism of PRC2.
- Single Cell, Allele-Specific, Nascent RNA-seq analysis.
- Establish proteomics protocol & analysis for histones PTMs.
- Development of a CRISPR-screening platform.
- Projects design & grant writing; supervision of master students.

### PhD Student EMBL, Genome Biology Unit

 Sep 2014 – Dec 2018

 Heidelberg, Germany

- Gained independence and developed a project from scratch.
- Shed light on the molecular mechanism of action of *SETD5* and its involvement in Autism Spectrum Disorder.
- Acquired knowledge in the fields of neuroscience, epigenetics, genomics, and computational biology.
- Engineered mammalian cell lines with CRISPR/Cas9 methods.
- Established protocols for ChIP-seq of chromatin associated factors, biochemical assays, and mass spectrometry.
- Trained 2 interns who subsequently entered competitive PhD programmes.

### Master student University of Turin, Molecular Biotechnology

 Nov 2012 – Jul 2014

 Torino, Italy

- Gained experience with mass spectrometry imaging and magnetic resonance imaging in mouse models.

### Summer intern University of Liverpool, Dept. Biochemistry

 Jun 2013 – Sep 2013

 Liverpool, United Kingdom

- Developed a mass spectrometry method for enriching extracellular matrix proteins from muscular dystrophy tissues.
- Contributed to a patent.

## MAJOR PUBLICATIONS

1. **Arecco N.**<sup>\*</sup>, Mocavini I.<sup>\*</sup> *et al.*  
“Alternative splicing decouples local from global PRC2 activity”. *Mol. Cell* (2024)
2. Deliu E.<sup>\*</sup>, **Arecco N.**<sup>\*</sup> *et al.*  
“Haploinsufficiency of the intellectual disability-gene SETD5 disturbs developmental gene expression and cognition.” *Nature Neuroscience* (2018)

## EXPERTISE

Functional Genomics

Epigenetics

Proteomics

Chromatin Regulators

Bioinformatics

Structural biology

Vertebrates

EvoDevo

ChIP-seq

RNA-seq

PRO-seq

IP-MS

Histone PTMs-MS

scRNA-seq

Allelic expression

Genome engineering

CRISPR

Stem cells differentiation

Neurodevelopment

Cell culture

Pluripotency

Confocal microscopy

FACS

IF

PRC

WB

Cloning

Nextflow pipelines

AlphaFold2

R package development

FoldX

RNA velocity

Smart-seq

## SOFTWARES

R:

Near-daily use since 8+ years

Bash/Unix:

Regular use since 8+ years

Python:

Intermediate level

GitHub:

Regular use since 3+ years

ImageJ:

Good knowledge

Adobe Illustrator:

Advanced use

## EDUCATION

PhD in Epigenetics and Neuroscience, Summa cum Laude

**EMBL & Ruprecht-Karls-Universität Heidelberg**

📅 Sep 2014 – Dec 2018

📍 Germany

M.Sc. in Molecular Imaging, Summa cum Laude

**Università degli Studi di Torino**

📅 Oct 2012 – Jul 2014

📍 Italy

B.Sc. in Molecular Biotechnology

**Università degli Studi di Torino**

📅 Oct 2009 – Sep 2012

📍 Italy

## AWARDED FUNDINGS & PRIZES

- Juan de la Cierva Postdoctoral Fellowship
- EMBO Long Term Postdoctoral Fellowship
- CRG Postdoc Grant 2021 (€10.000)
- CRG Postdoc Grant for Masters Students 2022 (€3.000)
- Best poster EMBL Chromatin & Epigenetics 2023 conference.

## ORAL PRESENTATIONS AT MEETINGS

- External seminar - Stony Brook University, USA, Oct 22
- Annual Proteomics Symposium CRG, Nov 22 (Invited)
- EMBL Chromatin & Epigenetics conference, May 23 (Selected)

## COURSES & TRAINING

- EMBO "Laboratory Leadership for Postdocs" - June 2022
- PRBB "Sharpen your Reasoning Skills" - October 2022
- PRBB "Improve you science talk" - March 2023
- Yellow Research "Writing a Competitive ERC Grant" - July 2023

## VOLUNTEER ACTIVITIES

📅 Mar 2020 – Jul 2020

📍 Barcelona, Spain

- Member of the *Orfeu programme*, a project led by the govt. of Catalonia to mass test citizens and stop SARS-CoV-2 pandemic.

📅 Jun 2021 – Jan 2023

📍 online

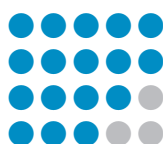
- Euraxess mentor of 2 PhD students interested in pursuing an academic career in EU. Career and funding applications advice.

## OTHER ACTIVITIES

- *Ad hoc* referee for Nature, NAR Genomics and Bioinformatics, International Journal of Cancer, and Development.
- ERC Starting Grant LS3 2024 Remote Referee.
- CRG PhD selection interviewing panel member (Autumn 2022, Spring 2023).

## LANGUAGES

English  
Italian  
Spanish  
German



## PUBLICATIONS

Listed chronologically, \* denotes co-first.

1. Rogalska M., ..., **Arecco N.** *et al.* "Transcriptome-wide splicing network reveals specialized regulatory functions of the core spliceosome". Science (2024)
2. Bhuiyan T., Mendoza P., **Arecco N.** *et al.* "TAF2 condensation in nuclear speckles links basal transcription factor TFIID to RNA splicing". bioRxiv (2024) (under review in Mol. Cell)
3. **Arecco N.**\*, Mocavini I.\* *et al.* "Alternative splicing decouples local from global PRC2 activity". Mol. Cell (2024)
4. Severino J.\* , Bauer M.\* , ..., **Arecco N.** *et al.* "Controlled X-chromosome dynamics defines meiotic potential of female mouse in vitro germ cells". The EMBO Journal (2022)
5. Käsper E-L.\* , Hwang I-Y.\* , ..., **Arecco, N.** *et al.* "The neurodevelopmental disorder-linked PHF14 complex that forms biomolecular condensates detects DNA damage and promotes repair". bioRxiv (2021)
6. Ghose R., Aranguren-Ibáñez Á. **Arecco N.** *et al.* "From research to rapid response: mass COVID-19 testing by volunteers at the Centre for Genomic Regulation". F1000Research (2020).
7. Deliu E.\* , **Arecco N.**\* *et al.* "Haploinsufficiency of the intellectual disability-gene SETD5 disturbs developmental gene expression and cognition." Nature Neuroscience (2018)
8. **Arecco N.**\* *et al.* "Elastase levels and activity are increased in dystrophic muscle and impair myoblast cell survival, proliferation and differentiation." Scientific Reports (2016)