NICCOLÒ ARECCO

Postdoctoral researcher

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EXPERIENCE

Postdoc, Juan Valcárcel lab   CRG, Genome Biology Unit

📅 Oct 2023 – ongoing   ♦ Barcelona, Spain

- Development of Splicing Assays for Screening of Small Molecules.
- Genome Engineering of the Core Components of the Splicing Machinery.
- Co-supervision of one PhD student and Coordination of an ERC Synergy Grant with three Other Groups.
- Benchmarking Alternative Splicing Bioinformatic Tools

Postdoc, Manuel Irimia lab   CRG, Systems Biology Unit

📅 May 2019 – Oct 2023   ♦ Barcelona, Spain

- EMBO long-term fellow and Juan de la Cierva fellow.
- Discovered a Novel Regulatory Mechanism of the Epigenetic Silencer PRC2.
- Single Cell, Allele-specific, and Nascent RNA-seq Analysis.
- Established Proteomics Protocol & Analysis for Histones PTMs.
- Development of a CRISPR Screening Platform.
- Projects Design & Grant Writing; Supervision of Master Students.

PhD, Kyung-Min Noh lab   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 disorders.
- 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 programs.

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.

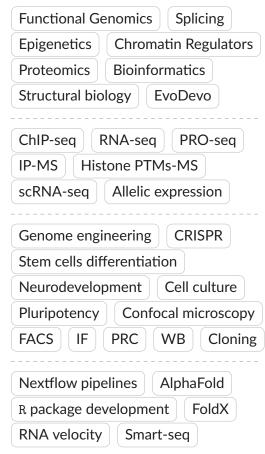### Summer intern   University of Liverpool, Dept. Biochemistry

📅 Jun 2013 – Sep 2013   ♦ Liverpool, United Kingdom

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

MAJOR PUBLICATIONS

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

EXPERTISE

Functional Genomics   Splicing
Epigenetics   Chromatin Regulators
Proteomics   Bioinformatics
Structural biology   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   AlphaFold
R package development   FoldX
RNA velocity   Smart-seq

SOFTWARES

R:	Near-daily use since 9+ years
Bash/Unix:	Regular use since 9+ years
Python:	Intermediate level
GitHub:	Regular use since 4+ years
ImageJ:	Good knowledge
Adobe Illustrator:	Advanced use
Typst:	Good knowledge

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)

ACADEMIC ACTIVITIES

- *Ad hoc* referee for Nature, NSMB, EMBO Journal, Development, NAR Genomics and Bioinformatics, and International Journal of Cancer.
- ERC Starting Grant LS3 2024 Remote Referee.
- CRG PhD selection interviewing panel member (Autumn 2022, Spring 2023, Spring 2025).
- EMBL main PhD students representative 2016-2018.

COURSES & TRAINING

- EMBO "Laboratory Leadership for Postdocs" - June 2022
- PRBB "Sharpen your Reasoning Skills" - October 2022
- PRBB "Improve your Science Talk" - March 2023
- Yellow Research "Writing a Competitive ERC Grant" - July 2023
- PRBB "Project Management for Scientists" - February 2025

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 - May 2025   📍 online
- Euraxess mentor of 3 PhD students interested in pursuing an academic career in the EU. Job and funding application advice.

PUBLICATIONS

Listed chronologically, * denotes co-first.

1. Bhuiyan T., **Arecco N.** *et al.* "TAF2 condensation in nuclear speckles links basal transcription factor TFIID to RNA splicing factors". Cell Rep. (2025)

2. Rogalska M., ..., **Arecco N.** *et al.* "Transcriptome-wide splicing network reveals specialized regulatory functions of the core spliceosome". Science (2024)

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". bioRχiv (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)

PATENT

- **Muscle regeneration** (as contributor). PCT Num: WO2017194975A1 Filing date: 15 May 2017