

Alessandro Dulja

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Education

17/06/2019 – 10/06/2024 (Ph.D. award date: 10/06/2024)

Ph.D. | Gene expression and genome topology regulation during embryogenesis

European Molecular Biology Laboratory (EMBL) and University of Heidelberg (Germany)

Thesis title: *Exploring the role of transcription in genome topology during early Drosophila embryogenesis.*

Supervisor: Prof. Eileen Furlong

01/10/2016 – 25/09/2018 (M.Sc. award date: 25/09/2018)

M.Sc. | Molecular and Cellular Biotechnologies

Vita-Salute San Raffaele University, Milan (Italy)

Thesis title: *Dissecting the role of FKBP12 in the regulation of BMP-SMAD pathway and iron metabolism.*

Supervisors: Prof. Clara Camaschella and Dr. Laura Silvestri

Grade: 110/110 *Summa cum laude* and special mention

01/10/2013 – 07/11/2016 (B.Sc. award date: 07/11/2016)

B.Sc. | Medical and Pharmaceutical Biotechnologies

Vita-Salute San Raffaele University, Milan (Italy)

Thesis title: *Sequence analysis for the study of physiologic transcripts of the human genome regulated by nonsense-mediated mRNA decay (NMD).*

Supervisors: Prof. Giorgio Casari and Dr. Linda Pattini

Grade: 110/110 *Summa cum laude*

Professional experience

01/04/2025 – present

Postdoc | Duboule Lab – CIRB, Collège de France, Paris (France)

- Dynamics of enhancer-promoter communication and transcription in early mammalian embryogenesis
- Supervisor: Prof. Denis Duboule

01/07/2024 – 31/12/2024

Bridging postdoc | Furlong Lab – European Molecular Biology Laboratory (EMBL), Heidelberg (Germany)

- Completion of the Ph.D. project and manuscript preparation
- Supervisor: Prof. Eileen Furlong

17/06/2019 – 30/06/2024

Ph.D. | Furlong Lab – European Molecular Biology Laboratory (EMBL), Heidelberg (Germany)

- Role of Pol II pausing in gene expression regulation during *Drosophila* embryogenesis, using rapid depletion of nuclear factors *in vivo* and genomics
- Supervisor: Prof. Eileen Furlong

01/10/2018 – 15/06/2019

Postgraduate internship | Camaschella Lab – Vita-Salute San Raffaele University, Milan (Italy)

- Completion of the Master's thesis project and manuscript preparation
- Supervisors: Dr. Laura Silvestri and Prof. Clara Camaschella

01/09/2017 – 25/09/2018

Master's thesis | Camaschella Lab – Vita-Salute San Raffaele University, Milan (Italy)

- Characterisation of the molecular mechanism whereby the cytosolic protein FKBP12 regulates the hepatic BMP-SMAD pathway and systemic iron metabolism, using cell lines, primary murine hepatocytes, and genetic mouse models
- Supervisors: Dr. Laura Silvestri and Prof. Clara Camaschella

01/04/2016 – 07/11/2016

Bachelor's thesis | Vita-Salute San Raffaele University, Milan (Italy)

- Bioinformatic analysis of human genes regulated by nonsense-mediated RNA decay.
- Supervisors: Dr. Linda Pattini and Prof. Giorgio Casari

Scientific publications

From Ph.D.:

- **Dulja A**, Mayer M, Engel N, Golov AK, Forneris M, Kherdjemil Y, Feng S, Viales RR, Furlong EEM. 2025. SPT5 regulates Pol II pausing and elongation in different ways at early versus late embryonic stages. *bioRxiv*. Doi: <https://doi.org/10.1101/2025.09.06.674612>.
- Calderon D*, Blecher-Gonen R*, Huang X*, Secchia S*, Kentro J, Daza R. M., Martin B, **Dulja A**, Schaub C, Trapnell C, Larschan E, O'Connor-Giles KM, Furlong EEM, and Shendure J. 2022. The Continuum of Drosophila Embryonic Development at Single-Cell Resolution. *Science* 377(6606). Doi: [10.1126/science.abn5800](https://doi.org/10.1126/science.abn5800). *co-first authors

From M.Sc.:

- Pettinato M*, **Dulja A***, Colucci S, Furiosi V, Fette F, Steinbicker A. U., Muckenthaler MU, Nai A, Pagani A, and Silvestri L. 2023. FKBP12 Inhibits Heparin Expression by Modulating BMP Receptors Interaction and Ligand Responsiveness in Hepatocytes. *American Journal of Hematology* 98(8):1223–35. Doi: [10.1002/ajh.26961](https://doi.org/10.1002/ajh.26961). *co-first authors
- Pagani A*, Pettinato M*, Colucci S*, **Dulja A**, Rauner M, Nai A, Camaschella C, Altamura S, Muckenthaler MU, and Silvestri L. 2020. Hemochromatosis Proteins Are Dispensable for the Acute Heparin Response to BMP2. *Haematologica* 105(10):e493. Doi: [10.3324/haematol.2019.241984](https://doi.org/10.3324/haematol.2019.241984). *co-first authors
- Silvestri L, Nai A, **Dulja A**, and Pagani A. 2019. Heparin and the BMP-SMAD Pathway: An Unexpected Liaison. Pp. 71–99 in *Iron Metabolism: Heparin*. Elsevier. Book chapter. Doi: [10.1016/bs.vh.2019.01.004](https://doi.org/10.1016/bs.vh.2019.01.004)

Languages and nationality

Italian (native), English (advanced), German (intermediate), French (beginner) | Nationality: Italian

Paris, 30/09/2025