

FRANCESCA DONNALOJA

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Francesca Donnalaja is **Post-doc researcher** in Bioengineering at Politecnico di Milano (Italy). She graduated cum laude in Biomedical engineering in 2016 at Politecnico di Milano. She attended a PhD program in bioengineering focused on the ERC-funded project NICHOID at the Politecnico di Milano. She has been awarded a "R. Rocca" fellowship for a one-year stay at the biology department at Massachusetts Institute of Technology in Cambridge, MA, USA. In 2021 she got her Ph.D degree cum laude. She is now engaged in ERC-CoG-2016 project "MINERVA" at the TechnoBiology Laboratories at the Politecnico di Milano where she deals with the technological and engineering development of the innovative technological tools and biohybrid constructs for central nervous system applications.

EDUCATION

- 05/20201 Ph.D. degree cum laude
- 02/2018 State Professional Examination in Industrial Engineering
- 12/2016 MA Degree in Biomedical Engineering (110 /110 cum laude)
Politecnico of Milan, Milan (collaboration with Baxter company)
- 07/2014 BA Degree in Biomedical Engineering (102/110)
Politecnico of Milan, Milan (collaboration with San Raffaele hospital, Milan, Italy)
- 2006-2011 Secondary School Diploma in humanistic field

EXPERIENCE

- 02/2021-on going Post-doc researcher at the TechnoBiology Laboratories at the Politecnico di Milano, ITA
- 01/2019-01/2020 PhD Visting student at Biology department, Schwartz Lab, MIT, Cambridge, USA
- 11/2018-11/ 2018 PhD Visting student at Mario Negri institute, Milano
- 02/2017-11/2017 EY, Life Science analyst

HONOURS AND AWARDS

- 2018 Rocca Fellowship (€15,000), MIT-Italy program.
- 2019 MISTI Global Seed Funds Award (€15,000) granted to Prof. Schwartz and Prof. Soncini

TEACHING ACTIVITIES

- Supplementary teaching assistant within the Master of Science course in Biomedical Engineering at Politecnico di Milano (2018-2021)
- “*Modeling the physiological behaviour of the nuclear pore complex*” in Technologies for Regenerative Medicine course (2018)
- “*Design of bioartificial constructs*” in Technologies for Regenerative Medicine course (2020)
- Supervisor of master student projects: “Mechanical characterization of cc1b lamin domain: from physiological to pathological behaviour” (2020-2021); “computational study of the binding between sun1 and nup153: from the primary sequence to the quaternary structure of unsolved proteins (2019-2020); “Development of an experimental protocol for properties evaluation of a 3d-printed microfluidic high-throughput bioreactor” (2019-2020); “Engineered microenvironments to promote chondrogenesis” (2018-2019); “Development of a bioreactor for osteoblast and osteoclast co-culture” (2017-2018)

CONFERENCE ABSTRACT

- 2018. Donnalaja, F.; Jacchetti, E.; Soncini, M.; Raimondi, M. T. Structure and mechanosensing response of the nuclear pore complex. pp.1-4. In VI Convegno Gruppo Nazionale di Bioingegneria Abstract e-book - ISBN:978-88-555342-1-9
- 2019. Donnalaja, F.; Jacchetti, E.; Rigoldi, F.; Raimondi, M. T.; Soncini, M. Mechanotransduction at the nuclear pore complex investigated at the molecular level: The role of SUN1. pp.672-672. In eCM Periodical 2019, Collection 3, 2019 TERMIS-EU Abstract
- 2020. Donnalaja, F.; Schuller, A.; Jacchetti, E.; Soncini, M.; Schwartz, T.; Raimondi, M.T. The interaction between SUN1 and Nup153 may result in the transmission of external forces to the nuclear pore complex” has been accepted for Oral presentation. [TERMIS EU 2020] cancelled.

PEER REVIEW OF ISI JOURNALS

- International Journal of Artificial Organs
- Frontiers in Bioengineering and Biotechnology, section Nanobiotechnology

PUBLICATION

- Donnalaja F, Jacchetti E, Soncini M and Raimondi MT (2019). Mechanosensing at the Nuclear Envelope by Nuclear Pore Complex Stretch Activation and Its Effect in Physiology and Pathology. *Front. Physiol.* 10:896. doi 10.3389/fphys.2019.00896
- Donnalaja, F.; Jacchetti, E.; Soncini, M.; Raimondi, M.T. Natural and Synthetic Polymers for Bone Scaffolds Optimization. *Polymers* 2020, 12, 905.
- Donnalaja F, Carnevali F, Jacchetti E, Raimondi MT. Lamin A/C Mechanotransduction in Laminopathies. *Cells.* 2020;9(5):1306. Published 2020 May 24. doi:10.3390/cells9051306
- Raimondi MT, Donnalaja F, Barzaghini B, et al. Bioengineering tools to speed up the discovery and preclinical testing of vaccines for SARS-CoV-2 and therapeutic agents for COVID-19. *Theranostics.* 2020;10(16):7034-7052. Published 2020 May 27. doi:10.7150/thno.47406