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Postdoctoral research fellow position available in the Ion Channel Biophysics and PaceLab groups at the Department of Biosciences, University of Milano
(<https://moronilab.com/>; <https://pacelab.it/>)

We seek to hire a postdoctoral fellow to **investigate the cellular physiology of HCN4 channel expression in cardiomyocytes** in the team led by Professor Anna Moroni (Ion Channel Biophysics) in collaboration with the team of Professor Dario DiFrancesco, head of the PaceLab. The position is funded through a 5-year grant by the Fondazione Leducq-Transatlantic Networks of Excellence in Cardiovascular and Neurovascular Research. The project FANTASY (Fighting AgaiNsT sinus node dysfunction And aSsociated arrhYthmias) investigates mechanisms underlying the Sinus Node Disease (SND) syndrome, and involves basic studies of ion channels modulating cardiac pacemaker activity (HCN4, GIRK4, Cav1.3), in association with clinical studies of SND-patient cohorts.

The successful candidate should be a highly motivated person holding a PhD degree in basic/translational biology, capable of autonomous organizational and experimental activity and willing to work in a team and to share data and ideas.

Previous experience in the fields of cellular/molecular biology techniques including cell cultures, iPSC generation and management, single-cell patch clamp, advanced microscopy, recombinant DNA, CRISPR Cas9 gene-editing techniques, protein biochemistry will be appreciated. Experience in cardiac cell isolation and handling would also be appreciated.

The position, opened for two years (with the possibility of one-year renewal), is available from June 1st, 2021, with an exact starting date adjustable according to specific needs and conditions. The salary will be in accordance with University standards and will be adequate to the candidate experience.

Applications including a CV, list of publications and two presentation letters should be sent to Anna Moroni (anna.moroni@unimi.it) and Dario DiFrancesco (dario.difrancesco@unimi.it).

Publications related to the project:

-Yavari et al (2017) Mammalian $\gamma 2$ AMPK regulates intrinsic heart rate. **Nat Commun** 8(1):1258. doi: 10.1038/s41467-017-01342-5 .<https://pubmed.ncbi.nlm.nih.gov/29097735/>

-DiFrancesco D. (2019) Comparing pathways for long-term heart rate modulation by the funny current. **J Gen Physiol**. 151(9):1066-1069. doi: 10.1085/jgp.201912409. <https://pubmed.ncbi.nlm.nih.gov/31431492/>

-D'Souza et al. (2020) A circadian clock in the sinus node mediates day-night rhythms in Hcn4 and heart rate. **Heart Rhythm**. S1547-5271(20)31130-9. doi: 10.1016/j.hrthm.2020.11.026. <https://pubmed.ncbi.nlm.nih.gov/33278629/>

-Porro A et al. (2020) cyclic AMP Regulation and Its Command in the Pacemaker Channel HCN4. **Front Physiol**. 11:771. doi: 10.3389/fphys.2020.00771. <https://pubmed.ncbi.nlm.nih.gov/32733276/>

-Lolicato et al (2014) Cyclic dinucleotides bind the C-linker of HCN4 to control channel cAMP responsiveness. **Nat Chem Biol**. 10(6):457-62. doi: 10.1038/nchembio.1521. <https://pubmed.ncbi.nlm.nih.gov/24776929/>