ISTITUTO ITALIANO DI TECNOLOGIA
ISI GENOMICS CENTER OF GENOMIC SCIENCE

Italian Institute of Technology Outstation on Genomic Science at the European School of Molecular Medicine (IIT@SEMM), IFOM-IEO Campus, Milan, Italy

The Italian Institute of Technology (IIT, http://www.iit.it) has recently created an IIT-Network comprising nine outstations at Italian research institutions. The **IIT@SEMM** outstation is affiliated with the European School of Molecular Medicine (SEMM; http://www.semm.it) at the **IFOM-IEO Campus** in Milan (http://www.ifom-ieo-campus.it), a vibrant research center dedicated to basic and translational cancer biology, home to state-of-the-art technological services. The focus of IIT@SEMM is on Genomic Science, and in particular Cancer Genomics (http://genomics.iit.it). The program includes a Genomic Unit, a high-throughput phenotype Screening Unit and a Computational Research Unit. The setup of IIT@SEMM is coordinated by Pier Giuseppe Pelicci and Bruno Amati, who may be contacted for informal enquiries (firstname.lastname@ifom-ieo-campus.it). Applications are invited for the following positions within the IIT@SEMM program.

1. Group Leader, Computational Biology

The candidate will lead an independent research group, with full access to all the technological facilities of both IIT@SEMM and the IFOM-IEO Campus. Priority will be given to scientists developing and using computation tools in Genomics, with or without wet-lab activity. Areas of interest include genome-wide mutational analysis, functional genomics, epigenome analysis, gene regulation (coding, non-coding or small RNAs; regulatory networks), or any other activity pertinent to Cancer Genomics. Applications will be considered at the Junior and Senior levels.

2. Coordinator, Screening Unit

This is a unique career opportunity for an ambitious candidate interested in the setup, implementation and operation of a state-of-the-art robotic screening platform. The Screening Unit will aim at the identification of relevant gene products through microscopy-based high-throughput phenotypic screens in cells exposed to nucleic acid (cDNA or siRNA) or chemical compound libraries. Barcode-based genetic dropout screens will also be considered. Critical technological challenges in the setup of the unit will include automation and integration of the experimental and analytical processes, robotic transfer and handling of samples, multi-channel automated microscopes, etc… Candidates with the appropriate expertise will be strongly advantaged. Substantial funding is available for the purchase of suitable machinery, the acquisition of computational resources, and the hiring of collaborators. The Coordinator of the Screening unit will interact with other scientists of the IFOM-IEO Campus to identify suitable projects and collaborations, and will actively contribute to the interpretation of the results. The pursuit of independent research and fundraising will also be encouraged.

3. Technician, Genomic Unit

The Genomic Unit is a team deploying solutions to Academic Researchers based on high-throughput technologies, and in particular on Next Generation DNA Sequencing. Tasks will include RNA/DNA quality controls, library preparation using standard molecular biology techniques, as well as processing of experiments using dedicated instruments and software. The applicant must have a solid experience in molecular biology, be highly organized, focused, ready to dedicate full time to sequencing projects, willing to work in a team and in direct contact with scientists in the Campus. The capacity to test and adopt new technological evolutions will be an essential asset. Previous experience on Next Generation Sequencing technologies will be a plus, but is not mandatory.

4. Junior Developer/Programmer, Computational Research Unit

This Unit is the core computing facility of IIT@SEMM, guaranteeing informatic development, implementation, training and support in Genomic research activities. The candidate will be involved in developing and maintaining a website-based interface between all research groups in the Campus and the elaborated raw data provided by the Unit. Candidates should have excellent Java/J2EE software engineering skills, experience with JDBC, Spring, Struts, Hibernate, XML, SQL and Junit, as well as familiarity with either Netbeans, Eclipse, or IntelliJIDE.

5. High-throughput sequencing Data Analyst, Computational Research Unit

Candidates must have previous experience with the analysis of high-throughput DNA sequencing data (e.g. ChIP-seq, RNA-seq), a strong background in statistics and familiarity with statistics packages such as R. The ideal candidate will have Programming skills, as well as a solid understanding in Molecular Biology, enabling him/her to productively interact with wet-lab biologists. Tasks will include providing support to scientists in annotating sequencing tracks with known genomic features; aiding the discovery of novel genomic features (e.g. exons, splice sites); transforming sequence tag counts into expression values; performing DNA motif searches, cluster analyses, meta-analyses, etc…

According to IIT policy, position 1 above will be subject to a Senior Researcher contract, position 2 to a Team Leader or Senior Researcher contract depending on seniority, and positions 4 and 5 to Post-doctoral or Team Leader contracts depending on seniority. Internationally competitive salaries will be provided.

Applications including the CV, the names and e-mail addresses of three referees, and a personal statement should be sent as a single Pdf file to genomics@iit.it. For positions 1 and 2 above, the statement should focus on future research and/or development plans, as applicable (max. 3 pages). For positions 3-5 it should focus on technological skills and interests (max. 2 pages). Please refer to the position number in the application. Application deadline: October 15, 2010.