



Project “CONTRA – Computational Oncology Training Alliance” for Marie Skłodowska-Curie
European Training Network - invites 15 PhD students to cooperation

CONTRA

15 PHD/RESEARCH POSITIONS ON CANCER GENOMIC EVOLUTION

<https://itn-contr.org>

Application deadline: 23:59 CET on the 15 February 2018

Cancer is a major cause of death and suffering. It constitutes a group of diseases characterized by abnormal cell growth, stage-wise progression, heterogeneity, and potential to develop resistance to therapies. All these aspects are consequences of the evolutionary nature of cancer. Fortunately, genomics has recently begun to provide opportunities for unprecedentedly detailed insights into tumour evolution. New techniques are presently emerging for assaying the spatial distribution of tumour heterogeneity, and future yet unforeseen experimental breakthroughs are inevitable.

CONTRA (<https://itn-contr.org>) is a H2020 Marie-Sklodowska-Curie Innovative Training Network aimed at providing a structured training programme to 15 Early Stage Researchers (ESRs) to study tumor evolution using computational techniques upon novel experimental data including, but not limited to, single-cell genomic data. See the list of projects at the end of this message.

The training structure of CONTRA will include local and network-wide activities and secondments to other labs in the network. Most positions are for 3 years and some for 4 years, contracts starting approximately July 1, 2018, but all of them lead to a PhD degree. Specific conditions may apply to individual positions depending on local regulations. Top-level graduates (master degree or equivalent) in bioinformatics, statistics, mathematics, computer science or evolutionary biology are encouraged to apply. No discrimination will be made on the basis of nationality, gender, race, religion or disability.

H2020 EU funding imposes strict eligibility criteria. At the time of recruitment the researcher must not have resided or carried out his/her main activity (work, studies, etc...) in the country of the host institute for more than 12 months in the three years immediately prior to his/her recruitment. The researcher should also be in the first four years of their research careers at the time of recruitment by the host organisation and have not been awarded a doctoral degree. The successful candidate will receive a very generous financial package. The exact conditions varies across the universities, but the gross amounts of EU funding for an ESR is in the range 3710€-4210€. The net salary will result from deducting all compulsory (employer/employee) social security contributions as well as direct taxes from the gross amounts, according to the law applicable to the agreement concluded with the ESR. Some universities will also supplement the EU funding. EU Guide for applicants: <https://goo.gl/d6LtsE>

Candidates may apply for the positions through the KTH application system <https://goo.gl/yTThgg>

The application should include the following documents:

1. Curriculum vitae with at most 3 pages
2. Transcripts from University / University College
3. Contact details for three references
4. Brief description of why the applicant wishes to become a PhD student within this network
5. Ranking of 3 ESR projects based on the applicant's preference

Each project supervisor will revise the candidates' documentation and, on the basis of the completeness and adequacy of the requested material and eligibility, will score candidates based on: (1) academic

profile; (2) personal motivation; (3) scientific skills and relevant experience; and (4) English proficiency. Shortlisted candidates will be invited to teleconference interviews with the relevant project supervisor(s).

Application deadline: 23:59 CET on 15 February 2018. Candidates are invited to contact the supervisors for more details. For individual descriptions of the 15 projects, please use the following link: <https://itn-contra.org/esr-projects/>. List of projects, including supervisor and host institution:

- **ESR1:** Comparing tumour phylogenies from single cell data versus bulk sequencing data. Florian Markowetz, University of Cambridge, Cambridge, UK.
- **ESR2:** The mechanisms of coding and non-coding oncogenic alterations. Nuria Lopez-Bigas, IRB, Barcelona, Spain.
- **ESR3:** Identification of drivers of relapse and metastasis. Nuria Lopez-Bigas, IRB, Barcelona, Spain.
- **ESR4:** Estimating tumour phylogenies from single-cell SNV and CNA data. Niko Beerenwinkel, ETH Zurich, Basel, Switzerland.
- **ESR5:** Evolutionary history of circulating tumour cells and distant metastases. Ewa Szczurek, University of Warsaw, Warsaw, Poland.
- **ESR6:** Identification and impact of clonal and subclonal driver alterations on cancer progression. Francesca Ciccarelli, KCL/Crick Institute, London, UK.
- **ESR7:** Inferring tumour evolution and migration. Niko Beerenwinkel, ETH Zurich, Basel, Switzerland.
- **ESR8:** Models and inference for Single-cell sequencing and tumour evolution. Jens Lagergren, KTH, Stockholm, Sweden.
- **ESR9:** Evolution of drug resistance on genetic and phenotypic levels. Ewa Szczurek, University of Warsaw, Warsaw, Poland.
- **ESR10:** Driver events, evolutionary dynamics and interplay with the external environment across cancer types. Francesca Ciccarelli, KCL/Crick Institute, London, UK.
- **ESR11:** Estimation of tumour growth rates from NGS data. David Posada, University of Vigo, Vigo, Spain.
- **ESR12:** Mutational patterns and models within tumours. David Posada, University of Vigo, Vigo, Spain.
- **ESR13:** Integrated image and genomics. Yinyin Yuan, ICR, London, UK.
- **ESR14:** Spatial genetics and transcriptomics of pancreatic and ovarian cancer. Florian Markowetz, University of Cambridge, Cambridge, UK.
- **ESR15:** Reconciling tumour trees and multiple tumour progression models. Jens Lagergren, KTH, Stockholm, Sweden.



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