Two fully funded PhD Scholarships

We invite highly motivated candidates to apply for two fully funded PhD scholarships to join Professor Oliver Y. Chén's team (www.oliverychen.com). We have positions around: (a) building new machine learning and statistical methods for studying the brain, behaviour, and brain disease; (b) brain-genomics interface; (c) digital health (see details below). The students will have joint affiliations with the Lausanne University Hospital (CHUV) and the University of Lausanne.

I. Contexte: What does our group do?

We develop new machine-learning and statistical methods and study data related to the brain, genes, and behaviour, in health and disease. Our data are recorded from diverse sources, from MRI machines to digital devices such as smartphones.

Our focus is threefold. (a) Building new, methodologically exciting models to address real-world problems. (b) Using these methods to: study the interplays between the brain, genes, and behaviour, and when/how they cause diseases; identify markers to diagnose and prognose patients; predict disease severity cross-sectionally and longitudinally. (c) Translating our algorithms into affordable medical devices and free health apps.

II. Mission

- The PhD students will primarily work on one of the following projects.

    1. Building new machine-learning methods and statistical models. Linking large-scale brain data with multivariate disease or behavioural outcomes.
    2. Brain-genomics interface. Studying the association between genomics and the brain; how they underpin behaviour; how their association relates to illnesses.
    3. Digital health. Empowering digital devices (*e.g.*, smartphones) to monitor health and disease.

- The students will, if interested, collaborate with colleagues in other projects within and across teams.
- The students have the freedom to propose and develop independent studies within the broader aims of the Team and collaborate with or visit other teams.
- The students will work in an interdisciplinary, multicultural environment.
- The positions, once filled, may start immediately.

III. Profil: What are we looking for?

Minimum qualifications:

- A master's degree and an undergraduate degree in disciplines relevant to applied mathematics, computer science, engineering, machine learning, or statistics.
- An interest in developing new methods and applications and employing them to address real-world problems.
- An interest in data visualization.
- A team player.
- The working language of the group is English.

Desired qualifications:

- Strong programming skills in MATLAB, R, and/or Python.
- Experience in machine learning, statistical modelling, and version control.

IV. Nous offrons: What do we offer?

- Full scholarships that cover your tuition plus an annual salary (SNF salary scale).
- Joint affiliations with the Lausanne University Hospital (CHUV) and the University of Lausanne.
- An interdisciplinary environment, and a supportive team. We strive for equality, diversity, and inclusion. Our team is interdisciplinary and multicultural, and we encourage underrepresented students to apply.
- Possibility to collaborate with and visit external colleagues at Johns Hopkins University, KU Leuven, University of Bristol, University of Oxford, University of Pennsylvania, Vrije Universiteit Brussel, and Yale University.
- Access to courses from the CHUV and the University of Lausanne.

V. Contact et envoi de candidature: How to apply?

Please send Professor Oliver Y. Chén (olivery.chen@chuv.ch) the following.

1. A motivation letter (no more than one page).
2. A CV.
3. Copies of your undergraduate and master's theses.
4. Contact information for three references.