Post Doctoral Position Available in 2D Self-Assembly and Surface Polymerization

We seek a postdoctoral researcher to join the multidisciplinary team led by Prof. Federico Rosei (INRS) to work on surface reactions leading to 2D conjugated polymers. Such systems, sometimes referred to as "Organic Analogues of Graphene",[1] are to be used as active layers in future optoelectronic devices.[2]

Required skills:
The successful candidate for this position will have the opportunity to work on new exciting directions in this arena, for example towards the realization of large area 2D polymers and their transfer onto insulating substrates, as well as develop new approaches to obtain polyacenes using a recently discovered surface reaction.
This position requires a motivated postdoctoral fellow with a strong background in surface science and supramolecular chemistry. A Ph.D. in Chemistry, Physics, Materials science or a related field is required. The ability to work, collaborate, and communicate in a team is essential. Preference will be given to candidates who have competitive CVs and publications list and who are eligible for personal fellowships (such as Humboldt, Marie Curie, China Scholarship Council, NSERC, FRQNT etc.) for the purpose of optimizing resources and opportunities.

It is important that the candidate has expertise in 2D graphene-like materials as well as experience with their fabrication techniques (which may include, for instance: thermal and/or e-beam evaporation, self-assembly on surfaces, chemical vapor deposition, etc.). Knowledge of surface interactions and reactivity, as well as experience with on-surface reactions (Ullmann, C-H coupling, Schiff base, etc.) is an important asset. The candidate should have at least some experience with UHV equipment and standard surface science characterization equipment, such as XPS, SPMs and LEED.
Excellent written and spoken English communication is required. The candidate will collaborate with PhD and MSc students, advance existing projects and develop new ones. The ideal candidate will also have the ability to write grant proposals and communicate with funding agencies.
The position is available for a duration of one year, renewable for another year upon mutual satisfaction.

Additional desirable skills:

- Previous experience with Synchrotron radiation facilities and techniques such as NEXAFS, ARPES.
- Knowledge of LabView, Mathematica and Igor Pro software are a desired skill.
- Ability to apply Density Functional Theory to molecular systems is highly regarded.

Contact:
Led by Professor Federico Rosei, the NanoFemto Laboratory is located at the Varennes campus of the INRS Centre Énergie Matériaux et Télécommunications. The research focus of the NFL is on advanced materials, from both applications-driven and fundamental perspectives.
Please e-mail your application to **rosei@emt.inrs.ca** including CV, cover letter describing the interest in the position and the vision for research and professional development, copies of two recent publications, and contact information for two references.

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[1] M. Ebrahimi and F. Rosei, Materials science: Organic analogues of graphene, *Nature*, 2017, 542, 423; D. Perepichka and F. Rosei, Extending Polymer Conjugation into the Second Dimension, *Science*, 2009, 323 (5911) 216

[2] M. Di Giovannatonio et al. Insight into Organometallic Intermediate and Its Evolution to Covalent Bonding in Surface-Confined Ullmann Polymerization. *ACS Nano*, 2013, 7 (9), 8190; L. Dinca et al. Unprecedented Transformation of Tetrathienoanthracene into Pentacene on Ni(111). *ACS Nano*, 2013, 7 (2), 1652; M. Di Giovannantonio et al. Mechanistic Picture and Kinetic Analysis of Surface-Confined Ullmann Polymerization. *Journal of the American Chemical Society*, 2016, 138 (51), 16696