



**CONTENT** RESEARCHER – fixed-term contract



<p><b>Position</b></p>	<p><b>Post-doctoral position</b>  <b>Carrier localization in GaN-based and novel semiconductors</b></p>
<p><b>General information</b></p>	<p>We are seeking to find a Postdoctoral Research Associate to work on the modeling of charge carrier wavefunction localization in III-nitride semiconductors and metal halide perovskite materials. The position will be based in the laboratory “Physique de la Matière Condensée”, located at Ecole Polytechnique (Palaiseau, France).</p>
<p><b>General description</b></p>	<p>The successful candidate will join an international project supported by the Simons Foundation on ‘Localization of Waves’. It builds on a recent theoretical breakthrough called the ‘localization landscape’. This interdisciplinary collaboration brings together mathematical tools from harmonic analysis, partial differential equations and probability, with high performance computational simulations and state-of-the-art experimental investigations of ultra-cold atoms and semiconductors. The goal of the project is a unified understanding of wave localization, enabling the solution of some of the most compelling puzzles in modern condensed matter physics and gaining control over the behavior of waves in disordered media.</p> <p>The activity will develop understanding of the localization and transport properties of electronic states in the semiconductor systems studied theoretically, numerically, and experimentally in the team. We are looking for researcher who will be able to develop models of electronic structure that can be analyzed within the ‘localization landscape’ formalism, and who will be able to work closely with experimental research in UCSB (Santa Barbara, USA) and in Cambridge (UK), as well as with the theory and modelling activities across the Simons Foundation ‘Localization of Waves’ project. This researcher will have many opportunities to work within the consortium, including mathematicians at the University of Minnesota and MIT.</p> <p>Further information can be found on the Simons collaboration website: <a href="http://wave.umn.edu">http://wave.umn.edu</a></p>
<p><b>Skills</b></p>	<p>Candidates will have a Ph.D. in Physics, Applied Mathematics, Engineering, or a related area, will demonstrate high levels of motivation and enthusiasm, and will have an excellent publication record. The ability to work both as part of a team, and independently, coupled with excellent communication, organizational and problem-solving skills is also required. Direct experience of the modeling and numerical simulations of semiconductor materials is required. Programming skills are expected.</p>
<p><b>Supplementary information</b></p>	<p>The position is available from October 1<sup>st</sup>, 2019.</p> <p>Informal inquires can be addressed via email to Prof. Marcel Filoche (<a href="mailto:marcel.filoche@polytechnique.edu">marcel.filoche@polytechnique.edu</a>). Please include a <i>curriculum vitae</i> while doing so.</p> <p>Applicants should provide a CV, including contact details of two referees, a list of publications and a covering letter describing their suitability for the position.</p> <p>Closing date: until position filled</p>