

Dear Colleagues,

I am looking for a postdoctoral fellow for a 2 year (extendable to a third year) position performing theoretical work on intermediate band materials for infrared photodetectors and photovoltaics in the University of Ottawa physics department. Applications will be accepted until the position is filled, and the ideal start date is in Fall 2016.

The research involves a combination of analytical and numerical modeling of intermediate band devices, in close collaboration with the experimental groups of Jeffrey Warrender at Benét Laboratories and Karin Hinzer at uOttawa.

Intermediate band materials (semiconductors with a large number of allowed levels deep inside their band gaps) have only recently been created, and many of their fundamental physical properties are not understood, presenting rewarding opportunities for theoretical research. Silicon-based intermediate band materials have strong IR absorption, and our goal is to understand what combination of material properties is most important to turn that absorption into extractable carriers, making effective IR photodetectors and high efficiency solar cells. We will be developing analytical and numerical models of intermediate band devices and will also help to design and interpret characterization experiments for these materials.

The successful candidate will have a PhD in physics, electrical engineering with a focus on semiconductor devices, materials science, or a related field. Prior experience with intermediate band materials, photodetectors, or solar cells is not required. Applications from those with an experimental background are welcome, but strong interest and proficiency in analytical and numerical modelling is required. Proficiency with programming (in any language) is desirable.

Interested applicants should send their cv, and arrange for two references to be sent to Jacob Krich, jkrich@uottawa.ca <<mailto:jkrich@uottawa.ca>>.

Please forward this information to anyone who may be interested and feel free to contact me with questions.

I am also seeking a graduate student at either MSc or PhD level to work on this and related projects.

Thank you and best regards,
Jacob