NEBRASKA CENTER FOR MATERIALS AND NANOSCIENCE
2016 SEMINAR SERIES PRESENTS

Professor Erik Henriksen

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Transport in adatom-decorated graphene

The fact that graphene's 2D electron system is unprotected from the environment is often detrimental: while the electron mobility is high compared to most semiconductors, it is generally far lower than it could be due to scattering from extrinsic disorder. However, perhaps the interactions between graphene's quasi-relativistic electrons and the various surface contaminants can be turned to advantage. For instance, can the electronic structure of graphene be controllably altered? We are starting to explore the possibility of adatom-induced spin-orbit couplings in graphene in order to realize the original topological insulator predicted by Kane and Mele in 2005. Initial experiments on dilute coatings of indium atoms on graphene will be presented, as well as our current efforts with osmium.

Erik Henriksen is an assistant professor in the physics department at Washington University in St. Louis, and pursues research into the physics of graphene and other 2D systems via electronic transport, thermodynamic, and infrared optical experiments. Previously he studied with Jim Eisenstein at Caltech and Horst Stormer at Columbia University.

Prof. Erik Henriksen

Wednesday, October 12, 4:30 pm

136 Jorgensen Hall

Refreshments at 4:15 in Jorgensen Atrium

Host:
Professor Xia Hong

Department of Physics and Astronomy

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