

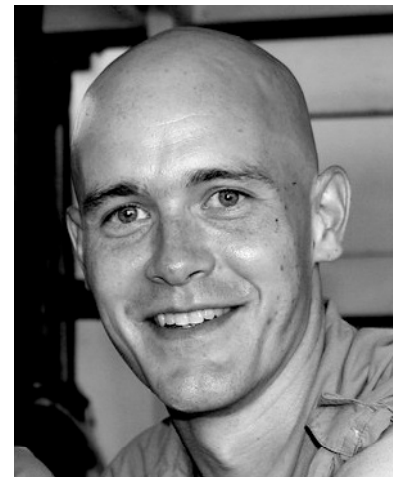
# CSC/SETI Institute Colloquium Series

## Máté Ádámkovics

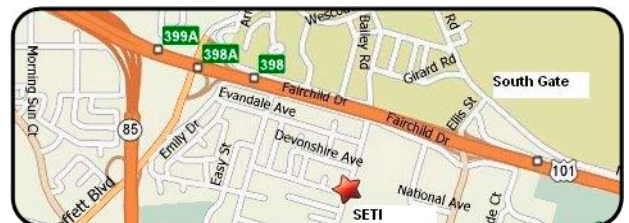
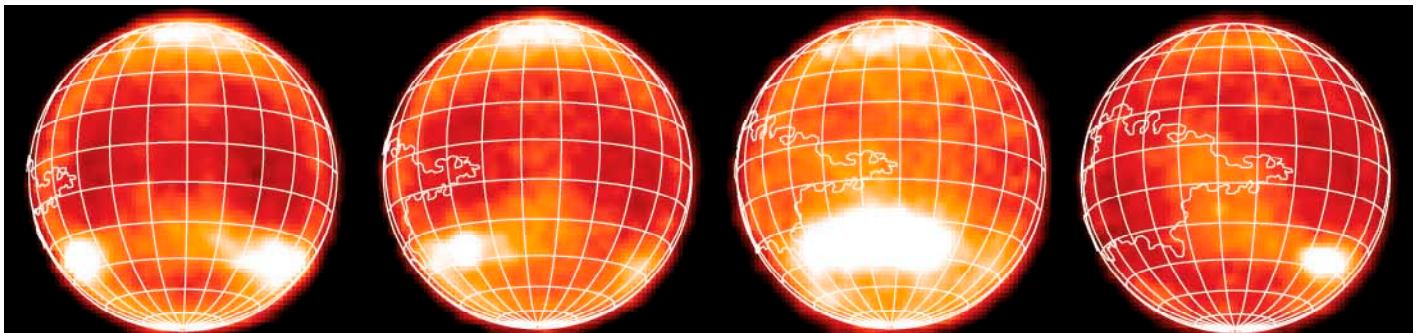
CIPS Postdoctoral Researcher, UC Berkeley

Wednesday, March 5, 12:00pm (noon)  
The SETI Institute, Europa room

## Condensed-phase methane and tropospheric meteorology on Titan



Methane is near its triple point at Titan's surface. On the icy-cold moon of Saturn this hydrocarbon is a fluid analog of water on Earth. Transitions among the phases of methane give rise to various meteorological phenomena that can intimately link the atmosphere and surface. Despite the evidence for solid and liquid methane in Titan's atmosphere, spectroscopic retrievals of aerosol haze opacities, cloud properties, and surface reflectivities have not included opacity due to condensed-phase methane. I will describe how a significant discrepancy between observations and radiative transfer models of near-IR spectra can be resolved by a rudimentary treatment of large methane droplets or solid methane particles. I will present observations from VLT/SINFONI, Keck/OSIRIS, and Cassini/VIMS, while explaining a technique for enhancing contrast in haze-obscured and surface-contaminated images of the lower atmosphere. Ongoing work regarding the interaction of clouds and precipitation will be cautiously presented with a handful of speculations regarding Titan's weather patterns.



If you would like to receive regular e-mails about the CSC/SETI Institute colloquium series, please sign up at: <http://mailman.seti.org/listinfo/colloquium>