

This 2-day workshop all day on October 29-30 brings the leading Majorana experimentalists and theorists together to discuss the current status and future directions of the field of Majorana modes in semiconductor nanowires. Participation is by invitation only, and the workshop is sponsored by JQI and CMTC at the University of Maryland. Confirmed invited attendees include: **Ramon Aguado (CSIC, Madrid), Anton Akhmerov (Delft), Jason Alicea (CalTech), Parsa Bonderson (Microsoft Research), Reinhold Egger (Heinrich-Heine-Universität Düsseldorf), Karsten Flensberg (Copenhagen), Joshua Folk (UBC), Michael Freedman (Microsoft Research), Sergey Frolov (Pittsburgh), Fabian Hassler (RWTH Aachen University), Torsten Karzig (Microsoft Research), Leo Kouwenhoven (Delft), KT Law (HKUST), Roman Lutchyn (Microsoft Research), Charles Marcus (Copenhagen), Chetan Nayak (Microsoft Research), Yuval Oreg (Rehovot), Tudor Stanescu (WVU), Adiel Stern (Rehovot), Bernard van Heck (Yale), Michael Wimmer (Delft).**

A description of the workshop is provided below.

## Majorana Zero Modes in Nanowires: Present and Future

Condensed Matter Theory Center and Joint Quantum Institute Department of Physics,

University of Maryland, College Park

OCT 28-31, 2016

With mounting evidence of the presence of Majorana zero modes in semiconductor nanowires with proximity induced superconductivity, there is excitement and pressure to move the field forward toward realization of non-Abelian statistics in these systems. As conference organizers, we expect braiding experiments to occur within the next few years, though it is not clear to us that a consensus has been reached on the observation of Majorana modes. It seems, therefore, to be an opportune time to gather chief contributors in Majorana physics, experimental and theoretical, to take a critical look at the current state of the Majorana zero mode physics. First day discussion will focus on the results of several recent experiments to answer the questions: (A) How good is current evidence of Majorana zero modes relative to alternate theoretical explanations for the observed phenomena? (B) If the evidence is not sufficient, what further experimental or theoretical developments are necessary to make it so? Second day discussion will look toward the implementation of braiding experiments, asking: (A) What experimental signatures may be present in topological or non-topological systems? (B) How may the field further prepare for the advent of braiding experiments?

Conference organizers: J. D. Sau, D. J. Clarke, and S. Das Sarma  
(University of Maryland, College Park)

Featured speakers: L. P. Kouwenhoven (TU Delft)  
C. M. Marcus (University of Copenhagen)

# UMD Majorana Workshop (2205 Toll building)

## Day 1: Current Status of Majorana Nanowires

Speaker		Time
Sankar	Das Sarma	8:30 (30)
Leo	Kouwenhoven	9:00(45+15)
Charlie	Marcus	10:00(45+15)
Sergey	Frolov	11:00(20+10)
Chetan	Nayak	11:30(45+15)
Lunch		12:30(90)
Roman	Lutchyn	14:00(20+10)
Ching kai	Chiu	14:30(20+10)
Tudor	Stanescu	15:00(20+10)
Jay	Sau	15:30(20+10)
Will	Cole	16:00(20+10)
Yuval	Oreg	16:30(20+10)
Ady	Stern	17:00(20+10)
End		17:30

## Day 2: Future TQC in Majorana Nanowires

Speaker		Time
Jason	Alicea	8:30(30+15)
David	Clarke	9:15(30+15)
Karsten	Flensburg	10:00(20+10)
Reinhold	Egger	10:30(20+10)
Mike	Freedman	11:00(30+15)
Charlie	Marcus	11:45(30+15)
Lunch		12:30(90)
Leo	Kouwenhoven	14:00(30+15)
Discussion		14:45(165)
End		17:30