

Workshop **Topological States of Matter**

PALACIO DE MIRAMAR · SEPTEMBER 5-9, 2016

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PROGRAM

Monday, September 5

8:30–10:00	Registration	
10:00–10:10	Welcome	Welcome & brief talk about the Donostia International Physics Center (DIPC)
10:10–10:45	Amir Yacoby	Controlled Finite Momentum Pairing and Induced Triplet Pairing in Superconductor - Spin Orbit - Superconductor Junctions
10:45–11:20	Jonas Wiedenmann	Signatures of Gapless Andreev Bound States in HgTe Based Topological Insulators
11:20–11:50	COFFEE BREAK	
11:50–12:25	Siego Tarucha	Superconductor junctions to nanowires and 2DEGs with strong spin-orbit interactions and topological insulators
12:25–13:00	Erez Berg	Beyond parafermions: non-Abelian statistics of defects in Ising anyon systems
13:00–15:00	LUNCH	
15:00–15:35	Daniel Loss	Majorana and Para-Fermions in Nanowires and Helical Edge States
15:35–16:10	Ady Stern	Wire construction of familiar and novel non-abelian quantum Hall states
16:10–16:45	Jay Sau	Parafermions in the 2/3 Fractional quantum Hall state without superconducting back-scattering

Tuesday, September 6

9:00–9:35	Alexander Altland	Majorana surface code: Basics
9:35–10:10	Reinhold Egger	Majorana surface code: Operations
10:10–10:50	COFFEE BREAK	
10:50–11:25	Manuel Houzet	Andreev-Weyl singularities in multiterminal Josephson junctions
11:25–12:00	Francesco Giazotto	Phase-engineering of artificial Josephson topological materials
12:00–12:35	Yuli Nazarov	Topological protection-unprotection transition in hybrid superconducting heterostructures
12:35–15:00	LUNCH	
15:00–15:35	Carlo Beenakker	Chiral magnetic effect in a topological Weyl semimetal
15:35–16:10	Andrei Bernevig	Two Types of Nonsymmorphic Topological Insulators
16:10–16:45	Jennifer Cano	Creating Chiral Anomalies
16:45–19:15	Poster session A	Best-poster prizes sponsored by Nature Reviews Materials

Wednesday, September 7

9:00–9:35	Liang Fu	Majorana takes charge: from teleportation to quantum computation
9:35–10:10	Charles Marcus	Majorana Zero Modes in Epitaxial Semiconductor-Superconductor Nanowire Devices
10:10–10:50	COFFEE BREAK	
10:50–11:25	Nadya Mason	Mesoscopic Transport in Topological Nanowires
11:25–12:00	Leo Kouwenhoven	Majoranas in semiconductor nanowires
12:00–12:35	Silvano De Franceschi	Josephson supercurrent in a spin-split quasi-ballistic channel
12:35–12:45	committee	Award of prizes for best posters of Poster session A
12:45–15:00	LUNCH	
15:00–15:35	Kam Tuen Law	Ising Superconductivity, Majorana fermions and nodal topological superconducting phases in transition metal dichalcogenides
15:35–16:10	Ivo Souza	Chern-Simons magnetoelectric coupling and the surface Chern number
16:10–16:45	Chetan Nayak	Time Crystals
16:45–17:15	COFFEE BREAK	
17:15–17:50	Ali Yazdani	Majorana Fermions in Atomic Chains: Spin and Charge Signatures
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20:00–22:00	Conference dinner	Gastronomiazko Euskal Anaiartera — Cofradía Vasca de Gastronomía Address: Andereño Elvira Zipitria, 2, 20003 Donostia http://www.gastronomica.com , Tel: +34 943 428806 For instructions on how to get there, see link to a PDF file in the online Program.

Thursday, September 8

9:00–9:35	Gleb Finkelstein	Supercurrent in the quantum Hall regime
9:35–10:10	Ramón Aguado	Majorana Zero Modes in Graphene
10:10–10:50	COFFEE BREAK	
10:50–11:25	Piet Brouwer	The weak side of strong topological insulators
11:25–12:00	Björn Trauzettel	Odd-frequency superconductivity at the helical edge
12:00–12:35	Dganit Meidan	Transport signatures of interacting fermions in quasi-one-dimensional topological superconductors
12:35–15:00	LUNCH	
15:00–15:35	Yuval Oreg	Time Reversal Invariant Topological Superconductor
15:35–16:10	Evgueni Chulkov	Magnetism and quantum Hall effects in topological insulators: model and ab-initio calculations
16:10–16:45	Susanne Mueller	Edge conduction in the 2D topological insulator candidate InAs/GaSb
16:45–19:15	Poster session B	Best-poster prizes sponsored by Nature Reviews Materials

Friday, September 9

9:00–9:35	Sergey Frolov	Experiments on Majorana fermions in nanowires and quantum dot chains
9:35–10:10	Michael Wimmer	Identifying a helical gap in the quantum point contact conductance
10:10–10:50	COFFEE BREAK	
10:50–11:25	Parsa Bonderson	Modular transformations of fermionic topological phases
11:25–12:00	Jelena Klinovaja	Topological States in Coupled Wire and Floquet Systems
12:00–12:35	Gil Refael	Lighting up topological insulators: large surface photocurrents from magnetic superlattices
12:35–12:45	committee	Award of prizes for best posters of Poster session B
12:45–15:00	LUNCH	
15:00–15:35	Falko Pientka	Signatures of topological Josephson junctions
15:35–16:10	Fabrizio Nichele	InAs/Al Superconductive Two Dimensional Heterostructures
16:10–16:45	Patrik Recher	Detecting the Exchange Phase of Majorana Bound States in a Corbino Geometry Topological Josephson Junction
16:45–16:55	Closing remarks	

Some useful Information

Coffee breaks	Sala de Música , follow black line on the floor starting at the entrance
Lunches	Hotel Costa Vasca , Pío Baroja Pasealekua, 15
Dinner	Cofradía Vasca de Gastronomía , Andereño Elvira Zipitria, 2, on Wednesday at 8pm