

שבוע מחקר ופיזיקה

11 - 15 / 09 / 2022

שבוע חשיפה לתואר שני לסטודנטים מצטיינים בתואר הראשון

All the activities take place in **Lidow Complex Room 620**, other than those noted differently.

Sunday, September 11, 2022

9:00 - 9:30	Registration	
9:30 - 9:45	Adi Nusser	Opening Remarks
9:45 - 10:30	Efrat Sabach	Research @ Technion Physics Department (Technion Physics Research booklet)
10:30 - 11:30	Kinneret Keren	The Physics of Morphogenesis <i>How does the shape of a living animal develop?</i> <i>How are mechanics and biological signals integrated?</i>
11:30 - 12:00		Lab visit
12:00 - 12:10	Break	
12:15 - 13:45	Technion Visitors Center	(David and Janet Polak Visitors Center building)
13:45 - 14:30	Lunch (620)	
14:30 - 16:00	Projects	
16:00 - 16:30	Coffee Break @ hBar cafe	
16:30 - 18:30	Projects	
18:30 - 19:00	Regrouping at 620	
19:00 - 21:00	Dinner	

Monday, September 12, 2022

8:30 - 9:00	Breakfast	
9:00 - 10:00	Eric Akkermans	A promenade in condensed matter physics <i>What is the defining property of a fractal ? Give an example of a condensed matter system with a fractal Bragg spectrum... What is the sign of the Casimir force between two metallic plates? Is there a relation between geckos and fluctuations of the quantum vacuum?</i>
10:00 - 10:15	Break	
10:15 - 11:15	Vincent Desjacques	Dynamical friction of circular-orbit perturbers <i>keywords: gravity, astrophysical systems, orbital decay</i>
11:15 - 11:30	Break	
11:45 - 12:30	Yoav Sagi (*)	Quantum computation with ultra cold atoms <i>Key words: optical tweezers</i>
12:30 - 13:15		Lab Visit
13:30 - 14:30	Lunch	
14:30 - 16:00	Projects	
16:00 - 16:30	Coffee Break @ hBar cafe	
16:30 - 18:00	Projects	

18:00 - 18:45	Noam Soker	Astronomical introduction + Dinner
18:45 - 20:30	Astronomical Observation (**)	

(*) Lecture will take place at the Solid State Institute Auditorium

(**) The Astronomical Observation will take place at Carmel Mountain on road 672.

Transportation will depart from the entrance of Lidow building at 18:45.

Tuesday, September 13, 2022

8:30 - 9:00	Breakfast	
9:00 - 10:00	Anna Frishman	The onset of chaos in pipe flow as a phase transition <i>How does water flowing in a pipe become turbulent and what can it teach us about the transition to chaos in other systems?</i>
10:00 - 10:15	Break	
10:15 - 11:15	Jeff Steinhauer	Observation of stationary spontaneous Hawking radiation and the time evolution of an analogue black hole <i>Keywords: Hawking radiation, Bose-Einstein condensate</i>
11:15 - 11:30	Break	
11:30 - 12:30	Yakov Krasik	Research of plasma at extreme conditions and high-power microwaves non-linear interaction with plasma <i>Key words: Thermonuclear fusion, Extreme state of matter and High Power Microwaves</i>
12:30 - 13:00		<i>Lab Visit</i>
13:00 - 13:30	Information - Technion Graduate School	
13:30 - 14:30	Lunch	
14:30 - 16:00	Projects	
16:00 - 16:30	Coffee Break @ hBar cafe	
16:30 - 18:30	Projects	
18:30 - 20:00	Research Week Dinner @ hBar cafe	

Wednesday, September 14, 2022

8:30 - 9:00	Breakfast	
9:00 - 10:00	Yotam Soreq	The quest for physics beyond the standard model <i>What do we know about fundamental particles and interaction of Nature? What are the evidence for physics beyond the standard model? 3. How can we search for new physics at different energy and length scales?</i>
10:00 - 10:15	Break	
10:15 - 11:15	Guy Bunin	Random interactions and ecosystem phase transitions
11:15 - 11:30	Break	
11:30 - 12:30	Ehud Behar	Cosmic Explosions and Gravitational Waves <i>What can produce gravitational and electromagnetic radiation?</i> <i>How are the heaviest elements formed?</i> <i>How do we find and locate these events?</i>

12:30 - 13:00	Lab visit
13:00 - 13:30	Group photo
13:30 - 14:30	Lunch
14:30 - 16:00	Projects
16:00 - 16:30	Coffee Break @ 620
16:30 - 17:00	Projects
17:00 - 18:00	Projects Independent work on presentations
18:00 - 19:30	Workshop
19:00 - 21:00	Dinner

Thursday, September 15, 2022

7:45 - 8:15	Dorms
8:30 - 9:00	Breakfast
9:00 - 10:00	Theoretical aspects of black holes <i>Do black holes have thermodynamic properties and what can they teach us about quantum gravity?</i>
	<u>Amos Yarom</u>
10:00 - 10:15	Break
10:15 - 11:15	Superconducting stiffness and its measurement <i>Key words: superconductivity, stiffness, coherence length.</i>
	<u>Amit Keren</u>
11:15 - 11:45	Lab Visit
12:00 - 14:30	Lunch + Projects Independent work on presentations + Lunch
14:30 - 16:30	Projects Presentations
16:30 - 16:50	<u>Daniel Podolsky</u>
16:50 - 17:00	Closing Remarks