Tentative Program IBP 3rd, August 2017, Rehovot, Israel

**Program outline:**

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<tbody>
<tr>
<td>7:30</td>
<td>Breakfast</td>
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<tr>
<td>9:00</td>
<td>Session I</td>
<td>Session III</td>
<td>Session IV</td>
<td>Life Award</td>
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<td>10:00</td>
<td>Lunch</td>
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<td>Workshop</td>
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<td>11:00</td>
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<td>Lunch</td>
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<tr>
<td>12:00</td>
<td>Poster I</td>
<td>Poster III</td>
<td>Session VI</td>
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<td>13:00</td>
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<td>14:00</td>
<td>Session II</td>
<td>Session V</td>
<td>Best poster awards</td>
<td>Discussion</td>
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<td>15:30</td>
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<td>Conclusion</td>
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<td>16:00</td>
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<td>Gala</td>
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<td>17:00</td>
<td>Light dinner + Poster II</td>
<td>Free evening</td>
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<td>18:00</td>
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<td>19:00</td>
<td>Reception</td>
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<td>21:00</td>
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- Note two type of talks,
  - 1) 25 min talk + 5 min questions
  - 2) 10 min talk + 5 min questions

**Detailed Program:**

**August 13, 2017, Sunday**

16:00 – 19:00  Registration at Reisfeld Residence

19:00 – 21:00  Reception at Reisfeld Residence
August 14, 2017, Monday

7:30 – 8:45 Breakfast at Reisfeld Residence

9:00 – 9:15 Opening remarks

Session I: Mechanism of action I
Chair: Frank Sonnichsen

9:15 – 9:45 Ido Braslavsky - "IBP interactions with ice crystals"
9:45 – 10:15 Yoshinori Furukawa - "Anisotropic functions of antifreeze glycoproteins"

10.15 – 10:45 Coffee Break
10.45 – 11:15 Maddalena Bayer-Giraldi - "Ice-binding proteins from sea-ice diatoms: a study of protein-ice interaction"
11:15 – 11:30 Marco Mangiagalli – “Relationship between function and structure of an ice binding protein from Antarctic bacteria”

12:00 – 13:30 Lunch

13:30 – 15:30 Poster Session I

Session II: Mechanism of action II, Ice nucleation and Recrystallization
Chair: Maddalena Bayer-Giraldi

15:30 - 16:00 Thomas Koop - "Ice nucleation and ice recrystallization inhibition of natural ice-binding macromolecules"

16:00 – 16:30 Tobias Weidner – "Control of water structure and energy transfer by ice nucleating bacteria and fungi"

16:30 – 16:45 Peter Wilson – "Cubic ice transitioning to hexagonal - not as esoteric as we thought"
16:45 – 17:15 Coffee Break

17:15 – 17:30 Iftach Nevo – “Laser-induced oriented ice nucleation”
17:30 – 17:45 David Ehre – “Induced Ice Nucleation by Polar Materials: The Role of Pyroelectric Charge and Water Alignment”
17:45 – 18:00 Patricio Carvajal-Rondanelli - “Relationship between polyproline helix type II secondary structure and inhibition of ice recrystallization of short homopeptides”

18:15 – 20:00 Poster Session II + Light Dinner
### August 15, 2017, Tuesday

7:30 – 8:45 Breakfast at Reisfeld Residence

**Session III: Biology of Psychrophiles**  
**Chair:** Ido Braslavsky

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<th>Time</th>
<th>Speaker(s)</th>
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<tr>
<td>9:00</td>
<td>Laurie Graham - &quot;The origins of antifreeze proteins - a cornucopia of evolutionary mechanisms&quot;</td>
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<td>9:30</td>
<td>Maya Bar-Dolev, Shuaiqi Guo, and Corey Stevens - “Ice Adhesion of Marinomonas primoryensis bacteria, and the structure of the multi-domain <em>MpIBP</em>”</td>
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<td>10:00</td>
<td>Tyler Vance – “New type of ice-binding adhesion? Structure and function of the multi-domain ice-binding proteins from the Antarctic bacterium, <em>Shewanella frigidimarina</em>”</td>
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10:15 – 10:45 Coffee Break

**Session IV: IBPs, water and ice simulations**  
**Chair:** Peter Wilson

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<th>Time</th>
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<tr>
<td>10:45</td>
<td>Valeria Molinero - &quot;Effect of size, aggregation, and hydrogen bonding on ice binding and ice nucleation by IBPs&quot;</td>
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<td>11:15</td>
<td>Michael Schauperl - &quot;Adding a missing piece to the puzzle of protein ice recognition&quot;</td>
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<td>12:00</td>
<td>Lunch</td>
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13:30 – 15:30 **Poster Session III**

**Session V: Novel and modified IBPs and bio-inspired material**  
**Chair:** Wang Jianjun

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<th>Time</th>
<th>Presentation</th>
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<tr>
<td>15:30</td>
<td>Matt Gibson “Biomaterials Ice inhibitors; Design and application”</td>
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<td>16:00</td>
<td>Ran Drori - &quot;Inhibition of Ice Growth by a Supramolecular Assembly&quot;</td>
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<td>16:30</td>
<td>Guoying Bai – “Oxidized quasi-carbon nitride quantum dots inhibit ice growth”</td>
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16:45 – 17:15 Coffee Break

17:15 – 17:45 Frank Sonnichsen - "Photo-activated IBPs; from basic mechanism to applications"

17:45 – 18:00 Elizabeth Delesky – “Synthetic Routes from Ice Binding Proteins to Biomimetic Antifreeze Polymers”

**Free Evening**
August 16, 2017, Wednesday

7:30 – 8:30 Breakfast at Reisfeld Residence
8:30 – 20:30 Excursion to Jerusalem (Including dinner)

August 17, 2017, Thursday

7:30 – 8:45 Breakfast at Reisfeld Residence
9:00 – 9:45 Life Award lecture - Peter Davies
9:45 – 10:00 Conference Picture

10:00 – 12:00 Workshop and demonstrations of IBP investigation techniques
        Ido Braslaysky and Peter Davies

12:00 – 13:30 Lunch

Session VI: IBP applications in biotechnology and cryobiology

Chair: Yizchak Mastai

14:00 –14:30 Wang, Jianjun - "Biomimetic antifreeze proteins for cryopreservation of horse sperm"

14:30 – 15:00 Peter Davies - "Engineering superior IBPs"

15:00 – 15:15 Elias Anastassopuolos –“Freezing in nature; what can we learn from biotechnological purposes?”

15:15 – 15:45 Coffee Break

15:45 – 16:00 Aleksei Kaleda – “Ice cream structure modification by ice-binding proteins”

16:00 - 16:15 Vera Sirotinskaya – “Investigation of ice binding proteins applications for cryopreservation of biological systems”

16:15 – 16:30 Best poster awards

16:30 – 17:00 Panel Discussion Peter Davies, Ido Braslaysky, Frank Sonnichsen, Matt Gibson, Wang Jianjun, "Future directions in IBP research and applications"

17:00 – 17:15 Closing remarks

19:00 - 21:00 GALA