

# BioSmartTrainee-ENBA COST Action Joint UK Networking Event

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18 - 20 March 2019  
Jesus College  
University of Cambridge

*With generous support from our sponsors:*



# PROGRAMME

## Monday 18 March 2019

- 08:00 Registration  
08:30 Alla Synytska, Janek von Byern  
*Introducing BioSmartTrainee and COST ENBA*
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### **Session 1: Biological and Bio-inspired Glues**

- 08:50 Peter Ladurner  
*Temporary adhesion of flatworms*
- 09:15 Patrick Flammang  
*How does the Cuvierian tubule glue of sea cucumbers compare to other biological adhesives?*
- 09:40 Victor Kang  
*Limpet transitory adhesion: insights from molecular biology and lectin staining*
- 10:05 Claire Hellio  
*Targeting enzymes involved in bioadhesion for the development of new antifouling solutions*
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- 10:30 Morning tea break**  
*Tea, coffee, and biscuits*
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### **Session 1 continued**

- 11:00 Stephan Schmidt  
*Spit, spin and capture: rapid formation of sticky fibres from responsive coacervates in the hunting slime of velvet worms*
- 11:25 Elise Hennebert  
*Adhesion in sea stars: from nature to biomimetics*
- 11:50 Marco Dompe  
*Thermoresponsive complex coacervate-based underwater adhesives*
- 12:15 Ebru Toksoy Öner  
*Levan as a strong bioadhesive in diverse applications: from healing wounds to resorbable electronics*
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- 12:45 Lunch**  
*Prioress's Room, Jesus College*
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### **Session 1 continued**

- 14:15 Mehdi Vahdati  
*Bio-inspired, soft model systems for wet adhesion*
- 14:40 Keynote address: Andrew Smith**  
*Double networks and gastropod glue: unlocking the potential of adhesive gels*

# PROGRAMME

**15:40 Afternoon tea break**  
*Tea, coffee, and biscuits*

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## **Session 2: Control of Adhesion**

16:10 David Labonte  
*Dynamic biological adhesives: the sticky feet of insects*

16:35 Dimitra Dodou  
*Adhesion on soft substrates*

17:00 Costantino Creton  
*Robust contact mechanics method to measure adhesion between gels underwater and effect of equilibration on adhesion*

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**19:00 Pre-dinner drinks**

**19:30 Conference dinner at West Court Dining Room, Jesus College**  
*Formal attire required*

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## **Tuesday 19 March 2019**

08:00 Coffee (optional)

## **Session 2 continued**

08:30 Stanislav Gorb  
*Structural, material, and functional gradients in biological attachment systems*

08:55 Birgit Lengerer  
*How to let go: proposed models for voluntary detachment in temporary adhering animals*

09:20 Ugo Sidoli  
*Smart bio-inspired surfaces for controllable underwater adhesion*

09:45 Nicola Pugno  
*The control of adhesion in 2D peeling*

10:10 René Hensel  
*Micropatterned adhesives: mechanistic insight and new designs*

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**10:40 Morning tea break**  
*Tea, coffee, and biscuits*

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## **Session 3: Surface wetting & Biofouling**

11:05 Nick Aldred  
*Bioadhesion research meets technology development for the control of marine biofouling*

# PROGRAMME

- 11:30 Aurélie Féat  
*Slippery paints: how tuning polymer and pigment size can make insects slip from walls*
- 11:55 Thomas Ederth  
*Antifouling properties of zwitterionic and other charge balanced polymers*
- 12:20 Filipe Mergulhao  
*Surface testing platforms to evaluate bacterial adhesion and biofilm formation under controlled hydrodynamics*

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**12:45 Lunch**  
*Prioress's Room, Jesus College*

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## **Session 3 continued**

- 14:15 Maciej Chudak  
*Adhesion to wet and icy surfaces*
- 14:40 Alla Synytska  
*Surfaces with controlled icing and (bio)-fouling properties based on polymer-based Janus colloids*

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**15:05 Afternoon tea break**  
*Tea, coffee, and biscuits*

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- 15:30 Andrew Smith workshop with BioSmartTrainee Fellows  
*In parallel: EBM for ENBA; networking time for others*
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- 17:10 Meet for punting at Porter's Lodge, Jesus College**
- 17:30 Punting tour of Cambridge (sign-up required)**

# PROGRAMME

## Wednesday 20 March 2019

08:30 Coffee (optional)

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09:00 Dimitris Mintis  
*Detailed molecular dynamics study of weak polyelectrolytes and of the formation of complex coacervates*

09:25 Vaishali Chopra  
*Integration of electric fields to tune the adhesion of micropatterned adhesives*

09:50 Costantino Creton (on behalf of Francisco Cedano)  
*Effect of opposite charges at the interface on reversible macroscopic adhesion of hydrogels*

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**10:15 Morning tea break**  
*Tea, coffee, and biscuits*

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10:45 Management meeting  
  
In parallel: ESR meeting

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**12:30 Lunch**  
*Prioress's Room, Jesus College*

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13:30 Steve Joy  
*Grant-writing workshops for ESRs*

In parallel: Discussions for PIs

**15:00 Activities:**  
***Tour of Museum of Zoology by Ed Turner***  
***Rare Books in Balfour & Newton Library by Jane Acred***  
***Insect Biomechanics Group demonstrations***

Note: There will be live insects during the demonstration. Please contact Walter if you have any allergies.

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17:30 End of JUKNE