

Annual  
*Dictyostelium*  
Conference  
2018

Dicty-at-sea

August 12 – 16

Hotel Zuiderduin,  
Zeeweg 52, 1931VL Egmond aan Zee,  
the Netherlands

contact hotel  
+31 (0)72-7502000  
[info@zuiderdui.nl](mailto:info@zuiderdui.nl)

contact organizers  
[dicty-at-sea@rug.nl](mailto:dicty-at-sea@rug.nl)





## Conference program *Dicty-at-sea*

Time slots (approximate)	Sunday	Monday	Tuesday	Wednesday
7:30 – 9:00 breakfast		breakfast	breakfast	breakfast
9:00 – 10:40		Keynote lecture Geert Kops	Keynote lecture Sahar El Aidy	Keynote lecture Jan-Willem Borst
9:40 – 10:30		<b>Cell division</b>	<b>Host microbe interactions</b>	<b>Microscopy and techniques</b>
10:30 – 11:00 break		break	break	break
11:00 -12:30		<b>Development and Evolution</b>	<b>Host microbe interactions</b>	<b>Chemotaxis, signal transduction</b>
12:30 – 13:30 Lunch		Lunch	Lunch	Lunch
13:40 – 15:30		<b>Cell Biology</b>	Excursion	<b>Chemotaxis, signal transduction</b>
15:30 – 16:00 break	15:00 Registration	break		break
16:00 – 17:30		<b>Disease</b>		<b>Chemotaxis, signal transduction</b>
18:00 – 19:30 Dinner	Keynote lecture Kees Weijer	Dinner	Dinner	Conference Dinner
20:00 – 22:00	19:30 Welcome reception with dinner buffet In Pub bar	Poster session	Poster session Workshops	
22:00 - end				Party in Bowling

***Sunday, August 12***

12:00 – 18:00 Arrival and Check-in

Chairperson: Peter van Haastert

18:00 – 18:05 Welcome and foreword: Peter van Haastert and Arjan Kortholt

18:05 – 18:45 Keynote Lecture: Kees Weijer (*University of Dundee, UK*)  
**Dictyostelium a model system to study emergent behaviours of multicellular development.**

19:00 Reception and buffet (Pub bar)

## ***Monday, August 13***

7:30 – 9:00 Breakfast

### **Cell division**

Chairperson: Arjan Kortholt

9:00 – 9:40 Keynote Lecture: Geert Kops (*Hubrecht Institute, the Netherlands*)  
**How chromosomes capture microtubules for correct segregation in mitosis**

9:40 – 10:10 Ralph Gräf (*University of Potsdam, Germany*)  
**Permeabilization of the *Dictyostelium* nuclear envelope in semi-closed mitosis**

10:10 – 10:30 Christina Oettmeier (*University of Bremen, Germany*)  
**Back in the spotlight: *Physarum polycephalum*, the other slime mold**

10:30 – 11:00 Coffee Break

Chairperson: Joseph Brzostowski

### **Development and Evolution**

11:00 – 11:20 Pauline Schaap (*University of Dundee, UK*)  
**Why the *Dictyostelium* stalk is always formed at the tip**

11:20 – 11:40 Jonathan R.Chubb (*University College London, UK*)  
**Signatures of cell decision-making in development and dedifferentiation**

11:40 – 12:00 Taihei Fujimori (*University of Tokyo, Japan*)  
**How do prestalk and prespore cells segregate?**

12:00– 12:15 Balint Stewart (*University College London, UK*)  
**Strategic investment as an Evolutionary Stable Strategy explains patterns of cooperation and cheating in *D. discoideum***

12:15 – 12:30 Rosa Herbst (*Hans-Knöll-Institute, Germany*)  
**Polyketide synthases expressed during late developmental stages of *Dictyostelium discoideum***

12:30 – 13:30 Lunch Break

Chairperson: Rob Kay

## Cell Biology

- 13:40 – 14:00 Alan R. Kimmel (*National Institutes of Health, USA*)  
**Nutrient-Starvation Sensing for Reciprocal mTORC1/AMPK Responses Defines Networks at the Junction between Growth and Development**
- 14:00 – 14:20 Yann Desfougères (*University College London, UK*)  
**Polyphosphate secretion in *Dictyostelium discoideum* occurs through a vesicular intermediate and requires the autophagy machinery**
- 14:20 – 14:40 Markus Maniak (*Kassel University, Germany*)  
**The skinny supermodel AX2 gains fat**
- 14:40 – 15:00 Jinqiang Yu (*Tsinghua University, China*)  
***Dictyostelium* tune cell-substratum adhesion by shedding migrasome**
- 15:00 – 15:15 Nadine Kamprad (*MPI for Dynamic and Self-Organization, Germany*)  
**Adhesion of *Dictyostelium discoideum* under the influence of Van der Waals forces**
- 15:15 – 15:30 Mona Saad (*Univ. Bordeaux France & Lebanese University, Lebanon*)  
**G-quadruplexes in the Social Amoeba *Dictyostelium discoideum***
- 15:30 – 16:00 Coffee Break

Chairperson: Arjan Kortholt

- 16:00 – 16:20 Thomas Winckler (*Friedrich Schiller University Jena, Germany*)  
**Glorin-based intercellular communication is common among social amoebae**

## Disease

- 16:20 – 16:40 Robin SB Williams (*Royal Holloway University of London, UK*)  
**Cannabidiol (CBD) targets the glycine cleavage system to regulate the one carbon cycle as a therapeutic mechanism for epilepsy treatment**
- 16:40 – 17:00 Robert J. Huber (*Trent University, Canada*)  
***Dictyostelium* as a model system for studying Batten disease**
- 17:00 – 17:20 Bernd Gilsbach (*German Center for Neurodegenerative Diseases, Germany*)  
**Parkinson's disease: From *D. discoideum* Roco4 to human LRRK2**
- 17:20 – 17:40 Petra Fey (*Dictybase, USA*)  
**First glimpses into the new dictyBase**
- 18:00 – 19:30 Dinner
- 20:00 – 22:00 Poster session

## ***Tuesday, August 14***

7:30 – 9:00 Breakfast

### **Host microbe interactions**

Chairperson: Arjan Kortholt

9:00 – 9:40 Keynote Lecture: Sahar El Aidy (*University of Groningen, The Netherlands*)  
**Uncovering bacterial metabolites of neuromodulators**

9:40 – 10:10 Gad Shaulsky (*Baylor College of Medicine, USA*)  
**Cooperative predation in the social amoebae *Dictyostelium discoideum***

10:10 – 10:30 Adam Kuspa (*Baylor College of Medicine, USA*)  
***Dictyostelium* CadA functions as a lectin to optimize bacterial predation during growth and bacterial killing during development**

10:30 – 11:00 Coffee Break

Chairperson: Peter Devreotes

11:00 – 11:20 Thierry Soldati (*University of Geneva, Switzerland*)  
**Full metal jacket: Chemical warfare at the amoeba-bacteria interface**

11:20 – 11:40 Pierre Stallforth (*Hans Knöll Institute, Germany*)  
**Synergy, Biosynthesis, and Ecological Relevance of Microbial Natural Products from Amoeba–Bacteria Interactions**

11:40 – 12:00 Miao Pan (*National Institutes of Health, USA*)  
**A G-protein-coupled chemoattractant receptor recognizes lipopolysaccharide for bacterial phagocytosis**

12:00 – 12:20 Jason King (*University of Sheffield, UK*)  
**TBA**

12:30 – 13:30 Lunch Break

14:30 – 18:00 Excursion; start beach activity at 14:45, start city tour at 15:00

18:00 – 19:30 Dinner

20:00 – 22:00 Poster session

## ***Wednesday, August 15***

7:30 – 9:00 Breakfast

### **Microscopy, techniques**

Chairperson: Peter van Haastert

9:00 – 9:40 Keynote Lecture: Jan-Willem Borst (*Wageningen University, the Netherlands*)  
**Microspectroscopy; functional imaging of biological systems**

9:40 – 10:00 Laura Nederveen-Schippers (*University of Groningen, The Netherlands*)  
**The use of fluorescence correlation spectroscopy to study homo-dimerization of proteins *in vivo***

10:00 – 10:20 Tetsuya Muramoto (*Toho University, Japan*)  
**CRISPR/Cas9 mediated targeting of multiple genes**

10:20 – 10:50 Coffee Break

### **Chemotaxis, signal transduction**

Chairperson: Jason King

10:50 – 11:10 Chris Thompson (*University College London, UK*)  
**Single cell transcriptome analysis of gene expression changes during cell differentiation**

11:10 – 11:30 Robert Insall (*Beatson Institute for Cancer Research, UK*)  
**Understanding chemotaxis by combining *Dictyostelium*, mammalian cells and mathematical modelling**

11:30 – 11:50 Satoshi Sawai (*University of Tokyo, Japan*)  
**Comparative analysis of amoeboid cell morphology based on phase-field simulations**

11:50 – 12:10 Annette Müller-Taubenberger (*LMU Munich, Germany*)  
**Ate1-mediated post-translational arginylation plays a role in *Dictyostelium* cell migration**

12:10 – 12:30 Marjon Kamp (*University of Groningen, the Netherlands*)  
**LrrA is a scaffold that coordinates heterotrimeric and monomeric G protein signaling**

12:30 – 13:30 Lunch Break

Chairperson: Douwe Veltman

13:40 – 14:00 Xiaoguang Li (*Johns Hopkins University, USA*)  
**Mutually Inhibitory Ras-PI(3,4)P2 Feedback Loops Mediate Cell Migration**

14:00 – 14:20 Yulia Artemenko (*Johns Hopkins University, USA*)  
**Investigation of the Interaction between Tumor Suppressor Hippo/MST1/2 Kinase and Rap1**

14:20 – 14:40 Richard H. Gomer (*Texas A&M University, USA*)  
**An endogenous chemorepellent uses Ras and a PTEN-like protein to direct cell movement without inducing new pseudopods**

14:40 – 15:00 Thomas D. Williams (*MRC-Laboratory of Molecular Biology, UK*)  
**PIP3 and PKB/Akt regulate *Dictyostelium* macropinosome size**

15:00 – 15:20 Peggy Paschke (*MRC-Laboratory of Molecular Biology, UK*)  
**How are micropinosomes formed?**

15:30 – 16:00 Coffee Break

Chairperson: Tian Jin

16:00 – 16:20 Zully Santiago (*Hunter College, USA*)  
**Paxillin regulates bleb-based motility in *Dictyostelium Discoideum***

16:20 – 16:40 Xuehua Xu (*National Institutes of Health, USA*)  
**The Function of G2GAP2 in Macropinocytosis, Phagocytosis, and Chemotaxis in *Dictyostelium discoideum***

16:40 – 17:00 Yoichiro Kamimura (*Osaka, Japan*)  
**Structural basis of Gip1-mediated G protein shuttling which regulates broad dynamic range chemotaxis**

17:00 – 17:20 Jan Faix (*Hannover Medical School Germany*)  
**Functional integrity of the contractile actin cortex is safeguarded by multiple RacE-regulated formins**

17:20 – 18:00 Break

18:00 – 19:30 Conference Dinner

22:00 – end Bowling Party

***Thursday, August 16***

7:30 – 9:00 Breakfast

9:00 Departure

## *Keynote speakers*

Sunday 18:05 – 18:45

**Dictyostelium a model system to study emergent behaviours of multicellular development**

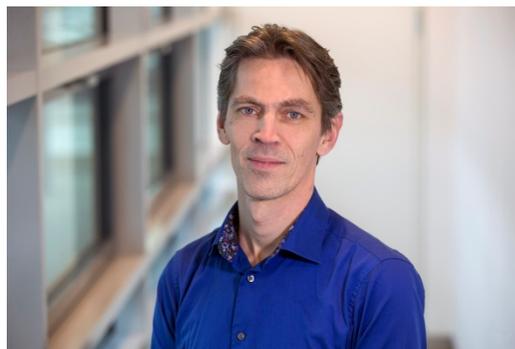


Kees Weijer  
*University of Dundee, UK*

<http://www.lifesci.dundee.ac.uk/people/kees-weijer>

Monday 9:00 – 9:40

**How chromosomes capture microtubules for correct segregation in mitosis**



Geert Kops  
*Hubrecht Institute, the Netherlands*

<http://hubrecht.eu/onderzoekers/kops-group/>

Tuesday 9:00 – 9:40

**Uncovering bacterial metabolites of neuromodulators**



Sahar El Aidy  
*University of Groningen, The Netherlands*

<http://www.rug.nl/research/microbial-physiology/>

Wednesday 9:00 – 9:40

**Microspectroscopy; functional imaging of biological systems**



Jan-Willem Borst  
*Wageningen University, the Netherlands*

<https://www.wur.nl/en/Research-Results/Chair-groups/Agrotechnology-and-Food-Sciences/Laboratory-of-Biochemistry/Research/Plant-Development/Team/Laboratory-of-Biochemistry-Biomolecular-Imaging.htm>

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