

Ameland Summer School

Smart Materials

28 May – 2 June 2017



Organised by:

4TU.Research Centre High-Tech Materials (4TU.HTM)

MESA+ Institute for Nanotechnology, University of Twente

Zernike Institute for Advanced Materials, University of Groningen

Institute for Molecules and Materials, Radboud University Nijmegen



UNIVERSITY OF TWENTE.



4TU.

**Institute for
Molecules and Materials
Radboud University**



**university of
 groningen**

**faculty of science
 and engineering**

**zernike institute for
 advanced materials**

Ameland Summer School Smart Materials

Hotel-Resort Amelander Kaap, Hollum, Ameland

May 29 (arrival May 28) - June 2, 2017

NEW: Program Ameland Summer School Smart Materials (Pdf file).

4TU.High-Tech Materials

The Dutch 4TU.Research Centre High-Tech Materials (4TU.HTM) in collaboration with the three Dutch materials research schools

*Zernike Institute for Advanced Materials, Groningen;
Institute for Molecules and Materials, Nijmegen, and
MESA+ Institute for Nanotechnology, Enschede,*

is organizing a Smart Materials Summer School for PhD students. The workshop will be held on the island of Ameland between May 29th (arrival May 28th) and June 2nd, 2017.

Scope

Smart materials is a term usually employed to describe materials that can respond to various external stimuli, such as temperature, light or electric field in a predictable and reversible fashion. The purpose of this summer school is to provide an overview on different classes of stimuli-responsive materials, ranging from temperature-sensitive polymers, hydrogels to ceramics, laser-switchable magnets and biological matter.

The workshop will consist of lectures and additional discussions. Active participation by the PhD students is expected, including the obligatory presentation of a poster about their own research. The lecturers are explicitly asked to give tutorial presentations with emphasis on a basic understanding of their subjects, which culminate with their views on the present day state-of-the-art and challenges of their specific topics.

Confirmed speakers

Sissi de Beer (University of Twente)
Markus Biesalski (TU Darmstad, Germany)
Dick Broer (TU Eindhoven)
Andre ten Elshof (University of Twente)
Pim Groen (TU Delft)
Andrei Kirilyuk (Radboud University)
Katja Loos (University of Groningen)
Katarina Novakovic (Newcastle University, UK)
Karin Schroën (Wageningen University)
Thomas Speck (University of Freiburg, Germany)
Marek Urban (Clemson University, US)
Sybrand van der Zwaag (TU Delft)

Advisory Board:

Remko Akkerman (UT)
Alexander Brinkman (UT, MESA+)
Marc Geers (TU/e)
Andrei Kirilyuk (RU, IMM)
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Jilt Sietsma (TU Delft)
Rint Sijbesma (TU/e)
Joris Sprakel (WUR)
Julius Vancso (UT)
Sybrand van der Zwaag (TU Delft)

Organizing Committee

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Julius Vancso, UT (g.j.vancso@utwente.nl)

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Preliminary Program

Sunday 28.05	Monday 29.05	Tuesday 30.05	Wednesday 31.05	Thursday 1.06	Friday 2.06
18.00 Arrival	8.30 Opening 9.00 Karin Schroën <i>“Food micro- and nanotechnology”</i>	9.00 Marek Urban <i>“What Physico-Chemical Processes May Trigger Self-Healing in Polymeric Materials?”</i>	9.00 Andrei Kirilyuk <i>“Laser manipulation of magnetism”</i>		9.00 Thomas Speck <i>“Biomechanics of plant structures and movements as concept generators for bioinspired technology and architecture”</i>
	12.00 Lunch	12.00 Lunch	12.00 Lunch	12.00 Lunch	12.00 Closing remarks
	13.30 Katja Loos <i>“Functional Block Copolymers: Perspectives for Advanced Materials”</i>	13.30 Sybrand van der Zwaag <i>“Self-healing materials: the concept and the realisation in a number of material classes”</i>	13.30 Andre ten Elshof <i>“Two-dimensional metal oxides as building blocks for the design of functional materials”</i>	13.30 Pim Groen <i>“Piezoelectric Materials”</i>	12.30 Lunch & departure
	16.30 Markus Biesalski <i>„Are high-tech materials possible with low-cost paper-based materials?“</i>	16.30 Katarina Novakovic <i>“Intelligent rhythmic hydrogels and their applications in healthcare”</i>	16.30 Sissi de Beer <i>“Stimulus responsive polymer brushes and their application in controlling friction and adhesion”</i>	16.30 Dick Broer <i>“Liquid crystal networks: one principle, infinite application”</i>	
20.00 Dinner	19.00 Dinner	19.00 Dinner	19.00 Dinner	19.00 Dinner	
		20.30-22.30 Posters & drinks	20.30-22.30 Posters & drinks		

Information: <https://www.4tu.nl/htm/en/events/ameland-summer-school-smart-materials/>



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