

# High Polymer Research Group

62<sup>nd</sup> Conference 2023
Shrigley Hall, Pott Shrigley, Cheshire

# **PROGRAMME**

# **Polymers and Water**

Sunday 23<sup>rd</sup> April – Thursday 27<sup>th</sup> April 2023

Programme organised by Professor Rachel O'Reilly and Dr Jerry Winter

The HPRG is pleased to acknowledge financial support from:







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# Monday, April 24th

08.45 Professor Dame Athene Donald (University of Cambridge)

"Welcome to the 62<sup>nd</sup> Meeting of the High Polymer Research Group"

#### Session 1: Water Treatment

Chair: Professor Rachel O'Reilly (University of Birmingham)

10.00 FIGIESSOI SUZAIIA NUITES (NAOS)	09.00	Professor Suzana Nunes (KAUST)
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"Membranes for sustainable separations in the water sector"

10.00 **Dr R Venkataraghavan** (Unilever plc)

"The critical role of polymers in water in our daily life: Learning from clarification, purification and detergency"

11:00 Coffee

## Session 2: Hydrogels

Chair: Dr Jerry Winter (Unilever plc)

11.30 **Professor Dave Adams** (University of Glasgow)

"Controlling supramolecular assemblies in water"

12.30 Lunch

15.15 – 17.00 Coffee and Tea

#### Session 3: Modelling

Chair: Dr Andrew Burgess (Independent)

17.00 **Professor Patrick Warren** (Hartree Centre, STFC Daresbury)

"Simulating water-soluble polymers: what can be learnt from coarsegrained models of surfactants?"

18.00 **Professor Arthi Jayaraman** (University of Delaware)

"Connecting machine learning, polymer modeling, and simulations with experiments to create design-structure-property relationship"

19.15 (HPRG Council Meeting, Brabazon Suite)

# Tuesday, April 25th

#### Session 4: Fate in the Environment

Chair: Professor Richard Jones (University of Manchester)

#### 09.00 **Professor Robert Mathers** (Pennsylvania State University)

"Understanding the behavior of polymers in water through the lens of hydrophobicity"

## 10.00 **Dr Andy Booth** (SINTEF)

"Degradation of plastic materials in the natural environment: mechanisms, importance and implications"

#### 11.00 Coffee

(during the coffee break speakers and programme organisers are asked to assemble on the main staircase with the Chairman for a photograph that will be placed on the website)

#### Session 5: Structuring and Rheology Control

Chair: Professor Cameron Alexander (University of Nottingham)

#### 11.30 **Dr Lyndsay Leal** (Dow Chemical Company)

"It's Just Natural: Designing Functional Polysaccharides for the Personal Care Market"

12.30 Lunch

15.15 – 17.00 Coffee and Tea

#### Session 6: New Materials

Chair: Dr Gareth Crapper (Independent)

## 17.00 **Professor Guosong Chen** (Fudan University)

"Polymeric glycomaterials in water: preparation, characterization and functionalization"

### 18.00 **Professor Mark Grinstaff** (Boston University)

"Poly-amido-saccharides: New Carbohydrate Polymers, Biomaterials, and Therapeutics Inspired by Nature"

# Wednesday, April 26th

### Session 7: Applications

Chair: Professor Lorna Dougan (University of Leeds)

09.00 **Dr Neal Williams** (retired ex AkzoNobel)

"Water-borne coatings"

10.00 **Professor Gleb Yakubov** (University of Nottingham)

"A Sweet Battle: The role of molecular conformation and hydration shell water in assembly of complex polysaccharides"

11:00 Coffee

#### Session 8: Bioinspired

Chair: Professor Matthew Gibson (University of Warwick)

11.30 **Professor Nico Bruns** (Technical University of Darmstadt)

"Biocatalytic Radical Polymerizations to Create Synthetic Biology Systems"

12.30 Lunch

15.15 – 17.15 Coffee and Tea

#### Session 9: New Materials

Chair: Professor Dame Athene Donald (University of Cambridge)

17.15 **Professor Steve Rannard** (University of Liverpool)

"Transfer-dominated Branching Radical Telomerisation - A new synthesis for novel materials"

- 19.15 Drinks Reception (Tilden Suite)
- **20.00** Conference Dinner (Tilden Suite)