

ARTMOMA FINAL CONFERENCE
22-24 JANUARY 2024,
BERNOULLIBORG, ROOM 5161.0105
GRONINGEN, NL

<https://artmoma4.sciencesconf.org/>



ArtMoMa

Artificial Molecular Machines

Monday, January 22, 2024

13:50 - 14:00

Opening - Ben Feringa

Session 1 : Chair Roza Weber - ESR from Feringa group

14:00 - 15:00

Light Driven Molecular Motors - Ben Feringa, University of Groningen, NL

15:00 - 16:00

Supramolecular pumps powered by light - Alberto Credi, University of Bologna, IT

16:00 - 16:30 *Coffee break*

16:30 - 17:30

Mechanochemistry of artificial molecular machines - Nathalie Katsonis, University of Groningen, NL

17:30 - 18:30

Flash presentations by ArtMoMa ESRs

18:30 - 20:00

Poster session (see list of the last pages) and social event



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Tuesday, January 23, 2024



Session 2 : Chair Maximilian Fellert - ESR from Feringa group

09:00 - 10:00

Dynamic Materials Based on Supramolecular Polymerization - Takuzo Aida, Emergent Soft Matter Function Research Group, Tokyo, JP

10:00 - 10:30 Coffee break

10:30 - 11:30

Organic Assembling-induced Emissive Materials - He Tian, East China University of Science and Technology, CN

11:30 - 12:30

Human interactive materials for soft robotics and haptics - Danqing Liu, Eindhoven University of Technology, NL

12:30 - 14:00 Lunch

Session 3 : Chair Maria Jesus Aguilera, ESR from Lehn Group

14:00 - 15:00

Constitutional Dynamic and Adaptive Systems - Jean-Marie Lehn, University of Strasbourg, FR

15:00 - 16:00

Online talk: Understanding the directionality of molecular motors: Kinetic asymmetry vs. Power Stroke - Dean Astumian, University of Maine, US

16:00 - 16:30 Coffee break

16:30 - 17:30

Tailoring photon converters: from switches to molecular heaters - Wybren Jan Buma, University of Amsterdam, NL

Wednesday, January 24, 2024

Session 4: Chair Brian Sachini, ESR from Credi Group

09:00 - 10:00

Biomolecular Machines - Andrew Turberfield, University of Oxford, UK

10:00 - 10:30 *Coffee break*

10:30 - 11:30

Biomolecular machines - Stefan Diez, TU Dresden, DE

11:30 - 12:30

Synthetic Biology from the Bottom-up: Controlling Cells & Tissues with Light - Seraphine Wegner, University of Münster, DE

12:30 - 14:00 *Lunch*

Session 5: Chair Philippe Schiel, ESR from Lehn Group

14:00 - 15:00

Indigoid chromophores - a platform for light responsive nanosystems and molecular machines - Henry Dube, Friedrich Alexander University, DE

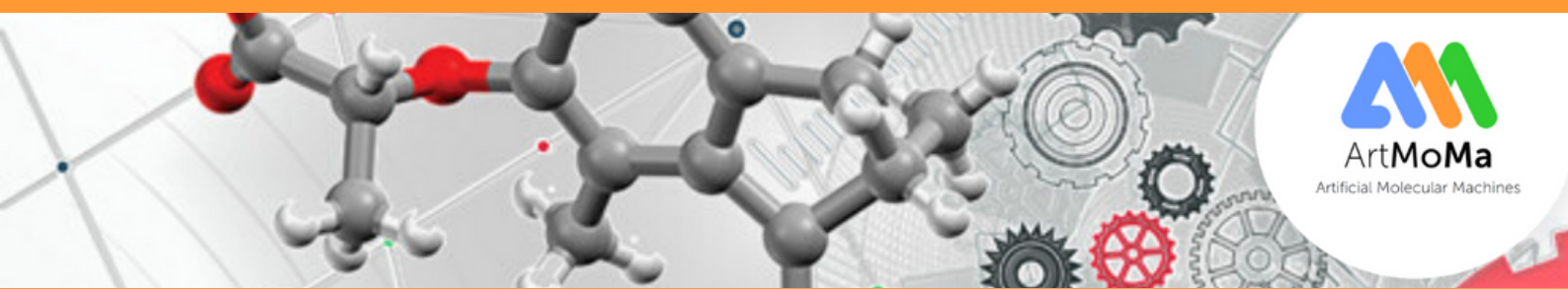
15:00 - 16:00

Using artificial molecular machines to drive complex chemical systems out-of-equilibrium - Nicolas Giuseppone, Institut Charles Sadron - Strasbourg, FR

16:00 - 16:10

Closing remarks - Nicolas Giuseppone

20:00 - Closing get together in the city centre



Posters



1. **Beatrice Marincion, University of Groningen, NL**
Compartmentalization of an artificial cytoskeleton in motile water droplets
2. **Rachele Catalano, TU Dresden, DE**
Encoding information into microtubules by photobleaching
3. **Victor Bernhard Verduijn, University of Groningen, NL**
Towards Supramolecular Machines: Using Optical Tweezers for Mechanical Characterisation
4. **David Grantz, University of Groningen, NL**
Towards controlling biological membrane properties by trehalose-functionalized azobenzenes
5. **Henry Carey-Morgan, TU Dresden, DE**
Fibre optic molecular probe at point-of-care
6. **Ilayda Pedük, University of Groningen, NL**
Towards a motor-based DNA-binder with photocontrolled affinity to DNA minor groove
7. **Qian Zhang, University of Oxford, UK**
Development of a chemically fuelled RNA motor for synthetic molecular machinery
8. **Jacopo Martinelli, University of Groningen, NL**
Self-Assembly landscape of a photoresponsive cyclic peptide
9. **Yohan Gisbert, University of Groningen, NL**
Helicoidal molecular motors for coupled motion
10. **Sing Ming Chan, University of Oxford, UK**
Photo-induced artificial swimmer based on DNA origami and a rotary molecular motor
11. **Carlijn L. F. van Beek, University of Groningen, NL**
Coupled Rotary Motion in Molecular Motors
12. **Fan Xu, Eindhoven University of Technology, NL**
Light-controlled Liquid-liquid Phase Separation of Molecular Motor-based Supramolecular Assemblies
13. **Dania Daou, Institut Charles Sadron - Strasbourg, FR**
Out-of-equilibrium mechanical disruption of β -amyloid-like fibers using light-driven molecular motors

- 14. Adrien Combe, University of Groningen, NL**
Sweet Molecular Motors: From Self-Assembly to Lectin-Avidity
- 15. Yaroslava Lopatina, University of Groningen, NL**
Supramolecular polymerization motors: "viewed and felt" by atomic force microscopy
- 16. Philippe Schiel, Institut Charles Sadron - University of Strasbourg, FR**
Photoinduced Supramolecular Morphing In Molecularly Motorised Langmuir Monolayers
- 17. Cristina Nițu, University of Groningen, NL**
Self-assembly of overcrowded alkenes for surface chirality
- 18. Maxime Ledent, University of Liège, BE**
Molecular rotor-driven polymer braiding unveiled by single-molecule force spectroscopy
- 19. Alessandro Cavasso, Institut Charles Sadron - Strasbourg, FR**
Driving chemical selection uphill in a dynamic combinatorial library using motor-polymer systems
- 20. Nol Duindam, University of Leiden, NL**
Monodirectional Photocycle Drives Proton Translocation
- 21. Federico Fratello, La Sapienza University of Rome, IT**
Monitoring the dissipative translocation of Zn²⁺ ions by combining 1H NMR and X-ray absorption spectroscopies
- 22. Nina Bukhtiiarova, University of Bologna, IT**
Operation of molecular machines in a compartmentalized environment
- 23. Ainoa Guinart, University of Groningen, NL**
Molecular Motors in Lipid Membranes
- 24. Irene Piergentili, Eindhoven University of Technology, NL**
Light-switchable materials for eyesight regeneration
- 25. Lorenzo Marradi, SOPREMA - Strasbourg, FR**
Mechanical bond driven plasticization of PVC
- 26. Chen Qian, University of Groningen, NL**
Mechanochemistry of molecular motors in elastomers
- 27. Brian Sachini, University of Bologna, IT**
Exploiting orthogonal photochromism towards novel smart materials



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28. Gianni Pacella, University of Groningen, NL
Photoswitchable proton conductivity in soft materials
29. Bart van den Berselaar, Eindhoven University of Technology, NL
Switchable Conductivity in Nanostructured Viologen-Siloxane Materials by Post-Synthetic Modifications
30. Roza Weber, University of Groningen, NL
Redox actuation of polymers using bithioxanthylidene
31. Dan Doellerer, University of Groningen, NL
Highly Efficient Oxindole-Based Molecular Photoswitches
32. Baptiste Vial, University of Groningen, NL
Synthetic supramolecular catch bonds
33. Maria Jesus-Aguilera, University of Strasbourg, FR
Correlated motions: rotation and conjugation in DAMN! and its derivatives
34. Robert Hein, University of Groningen, NL
Ion-Dependent Conformational Switching of Bithioxanthylidenes
35. Daniele Del Giudice, Eindhoven University of Technology, NL
Functional Supramolecular Polymers as Artificial Enzyme Mimics
36. Maximilian Fellert, University of Groningen, NL
2,3-substituted 1-Benzothiochromenones as Building Blocks for Enantiopure Molecular Motors and Switches
37. Eric Sidler, University of Groningen, NL
Redox-Switchable Aromaticity in Thioxanthene Substituted Helical Dibenzoindeno[2,1-c]fluorene
38. Liu Enxu, Sorbonne University, FR
Molecular information ratchet based on cyclodextrin [2]rotaxane
39. Martin Power, University of Manchester, UK
Measuring the force generated by a molecular information ratchet
40. Giorgio Capocasa, La Sapienza University of Rome, IT
A straightforward method for generating voltage signals employing Activated Carboxylic Acids
41. Luis Claudio Pantaleone, University of Groningen, NL
Exerting pulling forces in fluids by directional disassembly of microcrystalline fibres
42. Maria Varela Lopez, University of Manchester, UK
Switched "On" Transient Fluorescence Output from a Pulsed-Fuel Molecular Ratchet

