

Programm der Sitzung

15.-17. Okt. 2025

**7th Functional DNA Nanotechnology
Workshop**

Oral contributions

Rome
Palazzetto Mattei

Mi., 15. Oktober

12:40

Oral contributions: 01-3

Sitzung | **Ort:** Rome, Palazzetto Mattei

12:40–12:55 Uhr **O1: Brownian DNA computing**

Sprecher

Tim Schröder

12:55–13:10 Uhr **O2: Molecular encryption for DNA data storage**

Sprecher

Robin Vermathen

13:10–13:25 Uhr

O3: Measuring homologous recognition using synthetic DNA scissors

Sprecher

Andrew Stannard

13:25

14:55

Oral contributions: 04-06

Sitzung | **Ort:** Rome, Palazzetto Mattei

14:55–15:10 Uhr

O4: Structure-switching biosensors: a bio-inspired strategy to accelerate sensor kinetics

Sprecher

Dominic Lauzon

15:10–15:25 Uhr **O5: DNA Origami Enables Sub-Picomolar Sensitivity of Rapid Tests**

Sprecher

Heini Ijäs

15:25–15:35 Uhr

O6: Development of a DNA origami nanosensing platform for diagnostic analysis of ADAMTS-13 proteolytic activity

Sprecher

Gereon Brüggenthies

15:40

16:55

Oral contributions: 07-011

Sitzung | **Ort:** Rome, Palazzetto Mattei

16:55–17:10 Uhr

O7: Towards sequence-defined polymers with DNA-based catalytic templating

Sprecher

Rakesh Mukherjee

17:10–17:25 Uhr

O8: DNA tendrils for programmable membrane fusion in artificial cell design

Sprecher

Miguel Paez

17:25-17:40 Uhr

O9: Do DNA Barcode networks benefit from promiscuity

Sprecher

David Fernandez Bonet

17:40-17:55 Uhr

O10: LASSO: versatile and selective biomolecule pulldown with combinatorial DNA-crosslinked polymers

Sprecher

Sarah Speed

17:55-18:10 Uhr

O11: Tackling new challenges in molecular interaction analysis: from small molecules to cells

Sprecher

Ralf Strasser

18:10

Do., 16. Oktober

09:30

Oral contributions: O12-O15

Sitzung | **Ort:** Rome, Palazzetto Mattei

09:30–09:45 Uhr

O12: Immune-induced DNA-Antibody Hybrid Condensates

Sprecher

Sara Scalia

09:45–10:00 Uhr

O13: Cation-controlled structure, activity, and organisation of biomimetic DNA receptors in synthetic cell membranes

Sprecher

Roger Rubio-Sánchez

10:00–10:15 Uhr

O14: mRNA-DNA Origami Nanostructures for Cancer Vaccines

Sprecher

Carmine D'Amico

10:15–10:30 Uhr

O15: UV-Triggered Assembly and Protein-Assisted Positioning of DNA-Based Cytoskeletal Filaments in Synthetic Cells

Sprecher

Svetozar Gavrilovic

10:30

12:10

Oral contributions: O16-O19

Sitzung | **Ort:** Rome, Palazzetto Mattei

12:10–12:25 Uhr

O16: From Lab to Product: A Case Study of Electrically Actuated Origami-Levers for Biosensing Applications

Sprecher

Ulrich Rant

12:25–12:40 Uhr

O17: Programmable Nanoscale Motion via Molecular Patterning on DNA Origami

Sprecher

Lars Paffen

12:40–12:55 Uhr

O18: Thousand-fold acceleration of single photon emission in DNA origamis with gold nanocube dimers

Sprecher

MARCO CAPUZZO

12:55–13:10 Uhr

O19: DNA Origami Clathrate Crystals Exhibit Structural Color in the Visible

Sprecher

Xin Yin

13:10

14:40

Oral contributions: O20-O22**Sitzung** | **Ort:** Rome, Palazzetto Mattei

14:40–14:55 Uhr

O20: Differentiable Programming of Indexed Chemical Reaction Networks and Reaction-Diffusion Systems**Sprecher**

Erik Winfree

14:55–15:10 Uhr

O21: Programmable DNA-based nanosystems for spatiotemporal signal processing and actuation**Sprecher**

Sayantan De

15:10–15:25 Uhr

O22: Inverse thermodynamics for programmable self-assembly thrives with DNA-based systems**Sprecher**

Camilla Beneduce

15:25

Fr., 17. Oktober

09:30

Oral contributions: O23-O26

Sitzung | **Ort:** Rome, Palazzetto Mattei

09:30–09:45 Uhr

O23: Binding code between DNA oligomers and long single-stranded chains: multiplicity of partial pairings vs accessibility due to secondary structures

Sprecher

Marco Buscaglia

09:45–10:00 Uhr

O24: Magnetic DNA origami nanorotors: programmable torques on the nanoscale

Sprecher

Aidin Lak

10:00–10:15 Uhr

O25: Optimizing Large-Scale DNA Origami Lattices on Silicon

Sprecher

Jussi Toppari

10:15–10:30 Uhr

O26: Structure-Based Prediction of Context-Dependent Ribozyme Activity for Functional RNA Design

Sprecher

Bas Bögels

10:30

11:30

Oral contributions: O27-O29

Sitzung | **Ort:** Rome, Palazzetto Mattei

11:30–11:45 Uhr

O27: Self-Multimerising Single-Layer 3D Curved DNA origami with ENSnano

Sprecher

Nicolas Schanabel

11:45–12:00 Uhr

O 28: Integrating Nucleic Acid Enzymes with DNA Origami for Advanced Digital Biosensing

Sprecher

Seppe Driesen

12:00–12:15 Uhr

O29: Self-assembled DNA nanostructure applied on immunomodulation of microglia in neuroinflammation

Sprecher

Manon Libotte

12:15