

# Curriculum Vitae

01.04.2024

## LINKO, VEIKKO PENTTI

PH.D., ADJ. PROF. (DOCENT), ASSOC. PROF.

Date of birth: 21.10.1984

Place of birth: Hamina, Finland

Gender: Male

Nationality: Finland



## CONTACT INFORMATION

### WORK

Institute of Technology

University of Tartu

Nooruse 1, 50411 Tartu, Estonia

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[GOOGLE SCHOLAR PROFILE](#)

### HOME

Aleksandri 3-5

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Tel: +358456739997

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### HOMEPAGE

X: [@VEIKKOLINKO](#)

## EDUCATION / ACADEMIC DEGREES & TITLES

### TITLE OF DOCENT / ADJUNCT PROFESSOR

- Chemical Engineering, Aalto University School of Chemical Engineering, Espoo, Finland, 01.09.2018
- Field of the Docentship: Bionanotechnology

### TITLE OF DOCENT / ADJUNCT PROFESSOR

- Physics, University of Jyväskylä, Faculty of Mathematics and Science, Jyväskylä, Finland, 09.12.2015
- Field of the Docentship: Molecular Nanotechnology

### DOCTOR OF PHILOSOPHY

- Physics, University of Jyväskylä, Faculty of Mathematics and Science, Jyväskylä, Finland, 16.05.2011
- Doctoral thesis "*DNA-based applications in molecular electronics*" in the field of Applied Physics
- Scientific postgraduate studies in Physics and Chemistry, Grade: excellent

### MASTER OF SCIENCE

- Physics, University of Jyväskylä, Faculty of Mathematics and Science, Jyväskylä, Finland, 28.12.2007
- Master's thesis "*Dielectrophoresis of thiol-modified DNA origami*" in the field of Physics
- Scientific undergraduate studies in Physics (major, advanced studies), Grade: excellent; Chemistry (minor, subject studies), Grade: excellent; Mathematics (minor, basic studies), Grade: excellent

## LANGUAGE PROFICIENCY

FINNISH – MOTHER TONGUE; ENGLISH – FLUENT; SWEDISH – SATISFACTORY; GERMAN – BASICS

## CURRENT POSITIONS

### TITLES

- Associate Professor of Biomedicine Technologies at the University of Tartu, Institute of Technology, Tartu, Estonia (from October 2022)
- Visiting Scientist at the Aalto University School of Chemical Engineering, Espoo, Finland (from January 2023)

### RESEARCH GROUP(S)

- [Biomedical Engineering Team in Centre of Materials in Extreme Environments](#), University of Tartu
- [Biohybrid Materials Group](#) of Prof. Mauri Kostianen & [LIBER Center of Excellence](#), Aalto University

### DESCRIPTION OF THE RESEARCH

- Novel applications in nanotechnology using tailored nucleic acid nanostructures
- Developing new drug-delivery systems and dynamic DNA-based devices and sensors
- Studying stability of DNA objects and developing methods to improve their structural integrity
- Developing novel materials by combining e.g. DNA, proteins, polymers, lipids and nanoparticles
- State-of-the-art nanolithography by combining self-assembled materials with top-down methods

### CURRENT PI FUNDING

- ERA-NET JPIAMR-ACTION / Mobilitas 3.0 Programme, Estonian Research Council (2024–2025)
- Jane and Aatos Erkkö Foundation (2022–2024)

## WORK EXPERIENCE

### ASSOCIATE PROFESSOR (OCTOBER 2022 –)

- University of Tartu (Tartu, Estonia), Institute of Technology  
Biomedical Engineering Team, Centre of Materials in Extreme Environments
- Field of the professorship: Biomedicine Technologies

### VISITING SCIENTIST (JANUARY 2023 –)

- Aalto University (Espoo, Finland), Dept. of Bioproducts and Biosystems  
Biohybrid Materials Group of Professor Mauri Kostiainen

### PROJECT RESEARCHER (JANUARY 2020 – DECEMBER 2022)

- Aalto University (Espoo, Finland), Dept. of Bioproducts and Biosystems  
Joint affiliations with Biohybrid Materials Group of Professor Mauri Kostiainen and LIBER Center of Excellence

### RESEARCH FELLOW (SEPTEMBER 2018 – DECEMBER 2019)

- Aalto University (Espoo, Finland), Dept. of Bioproducts and Biosystems  
Biohybrid Materials Group of Professor Mauri Kostiainen  
Joint affiliation: Aalto University, Dept. of Applied Physics, HYBER Centre of Excellence

### ACADEMY OF FINLAND POSTDOCTORAL RESEARCHER (SEPTEMBER 2015 – AUGUST 2018)

- Aalto University (Espoo, Finland), Dept. of Bioproducts and Biosystems  
Biohybrid Materials Group of Professor Mauri Kostiainen

### VISITING SCIENTIST (NOVEMBER 2017 – DECEMBER 2017)

- Universität Paderborn (Paderborn, Germany), Technical and Macromolecular Chemistry  
Nanobiomaterials Group of Dr. Adrian Keller

### POSTDOCTORAL RESEARCHER (OCTOBER 2013 – AUGUST 2015)

- Aalto University (Espoo, Finland), Dept. of Bioproducts and Biosystems  
Biohybrid Materials Group of Professor Mauri Kostiainen  
Joint affiliation: Aalto University, Dept. of Applied Physics, Molecular Materials Group of Academy Professor Olli Ikkala)

### POSTDOCTORAL RESEARCHER (SEPTEMBER 2011 – SEPTEMBER 2013)

- Technische Universität München (Garching near Munich, Germany), Walter Schottky Institute, Physics Dept.  
Laboratory for Biomolecular Nanotechnology of Professor Hendrik Dietz

### POSTDOCTORAL RESEARCHER (JUNE 2011 – AUGUST 2011)

- University of Jyväskylä (Jyväskylä, Finland), Nanoscience Center, Dept. of Physics  
Molecular Electronics and Plasmonics Group of Adjunct Professor Jussi Toppari

### RESEARCHER (JANUARY 2008 – MAY 2011)

- University of Jyväskylä (Jyväskylä, Finland), Nanoscience Center, Dept. of Physics  
Molecular Electronics and Plasmonics Group of Adjunct Professor Jussi Toppari

### RESEARCH ASSISTANT (JULY 2006 – DECEMBER 2007) (PART-TIME)

- University of Jyväskylä (Jyväskylä, Finland), Nanoscience Center, Dept. of Physics  
Nanoelectronics Group of Professor Päivi Törmä

## PERSONAL RESEARCH FUNDING / GRANTS / SCHOLARSHIPS

### ERA-NET JPIAMR-ACTION

- PI Research Grant (2023) "Origami Sense" for two years (2024–2025), 807,300 € (with Prof. Damion Corrigan & Prof. Robert Johnson; V.L.'s share 149,500 € from Mobilitas 3.0 Programme, Estonian Research Council)

### JANE AND AATOS ERKKO FOUNDATION

- PI Proof-of-Concept Research Grant (2021) "Hybrid nanopore devices for unraveling single-molecule interactions" for two years (2022–2024), 200,000 €
- PI Research Grant (2016) "Modular photoswitchable nanotweezers for controlling biochemical reactions" for three years (2017–2019), 376,000 € (with Prof. Janne Ihalainen; V.L.'s share 204,000 €)

### SIGRID JUSÉLIUS FOUNDATION

- PI Research Grant (2021) "DNA nanomachines for biomedicine" for two years (2021–2023), 80,000 €
- PI Research Grant (2018) "Hybrid protein-DNA nanostructures for nanobiomedicine" for three years (2018–2021), 120,000 €

### EMIL AALTONEN FOUNDATION

- PI Project Grant (2019) "Programmable DNA-protein nanomachines" for three years (2020–2023), 200,000 €
- PI Grant from Foundations' Post Doc Pool call (2011) for two-year postdoctoral research abroad (2012–2013), 66,000 €

### VILHO, YRJÖ AND KALLE VÄISÄLÄ FOUNDATION OF THE FINNISH ACADEMY OF SCIENCE AND LETTERS

- PI Travel Grant (2019) "Plasmonic switchable DNA origami lattices for pathogen detection" for a research visit abroad (2020–2023), 3,000 €
- Scholarship (2007) for one year of Ph.D. studies (2008), 15,000 €

### ACADEMY OF FINLAND

- PI Funding (2015), Academy of Finland Postdoctoral Researcher position in the project "Rationally designed molecular devices through nucleic acid nanotechnology" for three years (2015–2018), 287,800 €

### BIOCENTRUM HELSINKI

- PI Research Grant (2014), 5,000 € (with Dr. Ari Ora)

**FINNISH FOUNDATION FOR TECHNOLOGY PROMOTION (TES)**

- Grant (2011) for finalizing Ph.D. thesis, 5,000 €

**NATIONAL DOCTORAL PROGRAMME IN NANOSCIENCE (NGS-NANO)**

- Graduate School position (2009) for 17 months (2010–2011)

**FINNISH CULTURAL FOUNDATION**

- Scholarship from Central Finland Regional Fund (2008) for one year of Ph.D. studies (2009), 21,000 €

**LEADERSHIP & SUPERVISION EXPERIENCE****LEADER/CO-LEADER OF A RESEARCH LINE**

- Biomedical Engineering (2022–) in Materials of Extreme Environments at University of Tartu
- DNA nanotechnology (2016–) in Prof. Mauri Kostiaainen's group at Aalto University

**NUMBER OF SUPERVISED/CO-SUPERVISED RESEARCHERS**

- Postdoctoral researchers: 4 supervised, 1 currently under supervision
- Doctoral students: 5 graduated, 5 currently under supervision
- M.Sc. students: 11 graduated
- B.Sc. students: 5 graduated, 1 currently under supervision

**SUPERVISED/CO-SUPERVISED POSTDOCTORAL RESEARCHERS**

- Ph.D. Olavi Reinsalu (2023–), University of Tartu, Institute of Technology
- D.Sc. Sofia Julin (2024), Aalto University School of Chemical Engineering
- D.Sc. Petteri Piskunen (2023), Aalto University School of Chemical Engineering
- Ph.D. Heini Ijäs (2021), Aalto University School of Chemical Engineering
- Ph.D. Boxuan Shen (2018–2021), Aalto University School of Chemical Engineering

**INSTRUCTED/CO-INSTRUCTED DOCTORAL THESES**

- M.Sc. Agnes Zerolová: *TBA. (TBA)*, Aalto University School of Chemical Engineering (work in progress)
- M.Sc. Mart Ernits: *TBA. (TBA)*, University of Tartu, Institute of Technology (work in progress)
- M.Sc. Anna Klöse: *TBA. (TBA)*, University of Helsinki, Faculty of Pharmacy (work in progress)
- M.Sc. Daniel Langerreiter: *TBA. (TBA)*, Aalto University School of Chemical Engineering (work in progress)
- M.Sc. Iris Seitz: *TBA. (2024)*, Aalto University School of Chemical Engineering (work in progress)
- M.Sc. Sofia Julin: *DNA Origami as a Tool for Assembling Functional Biohybrid Nanomaterials. (2023)*, Aalto University School of Chemical Engineering
- M.Sc. Petteri Piskunen: *DNA Origami as a Tool in Biosensing and Nanofabrication. (2023)*, Aalto University School of Chemical Engineering
- M.Sc. Heini Ijäs: *Functional DNA Nanostructures for Molecular Transportation and Biosensing. (2021)*, University of Jyväskylä, Department of Biological and Environmental Science
- M.Sc. Salla Välimäki: *Structure–Activity Relationships in Heparin Binding and Supramolecular Materials. (2019)*, Aalto University School of Chemical Engineering
- M.Sc. Boxuan Shen: *Applications of DNA self-assembled structures in nanoelectronics and plasmonics. (2018)*, University of Jyväskylä, Department of Physics

**INSTRUCTED/CO-INSTRUCTED MASTER'S THESES**

- B.Sc. Emilia Tomm: *Effect of Enzyme Interactions on the Stability of DNA Origami Nanostructures. (2023)*, Universität Paderborn, Department of Chemistry, Technical and Macromolecular Chemistry
- B.Sc. Iiris Hakaste: *Förster resonance energy transfer analysis of a dynamic DNA origami nanocapsule. (2019)*, Aalto University School of Chemical Engineering
- B.Sc. Sofia Julin: *Electrostatic self-assembly of DNA origami and gold nanoparticles. (2018)*, Aalto University School of Chemical Engineering
- B.Sc. Ilona Leppänen: *Stimuli-responsive DNA-based enzyme cascade. (2017)*, Aalto University School of Chemical Engineering
- B.Sc. Alisa Kopilow: *Immune response of surface modified DNA nanostructures. (2017)*, Aalto University School of Chemical Engineering
- B.Sc. Henni Auvinen: *Electrostatic complexation of DNA nanostructures and biomacromolecules. (2017)*, Aalto University School of Chemical Technology
- B.Sc. Juhana Kommeri: *Computer-aided design software for custom nucleic acid nanostructures. (2016)*, Aalto University School of Science
- B.Sc. Erika Järvihaavisto: *DNA origami-based in vitro delivery vehicles. (2016)*, Aalto University School of Electrical Engineering
- B.Sc. Marika Eerikäinen: *DNA origami-based enzyme nanoreactor. (2014)*, Aalto University School of Electrical Engineering
- B.Sc. Boxuan Shen: *Utilizing DNA self-assembled structures in nanoelectronics and photonics: programmable DNA wiring and metamaterial by metallized origamis. (2012)*, University of Jyväskylä, Department of Physics
- B.Sc. Seppo-Tapio Paasonen: *Conductivity measurements of DNA TX tile and origami structures. (2011)*, University of Jyväskylä, Department of Physics

**INSTRUCTED/CO-INSTRUCTED BACHELOR'S THESES**

- Maria Savastver: *TBA. (2024)*, University of Tartu, Institute of Technology (work in progress)
- Martina Huusela: *Capped Janus-nanoparticles as nanoswimmers. (2021)*, Aalto University School of Chemical Engineering
- Sofia Ojasalo: *Hybrid Nanoassemblies from Viruses and DNA Nanostructures. (2020)*, Aalto University School of Electrical Engineering

- Rebecca Suomi: *Techniques to Enhance Cellular Delivery of DNA Nanostructures and Applications in Healthcare*. (2016), Aalto University School of Electrical Engineering
- Laura Aarnos: *DNA-based enzyme reactors and systems*. (2016), Aalto University School of Electrical Engineering
- Seppo-Tapio Paasonen: *DNA:n hybridisaation tutkiminen sähkökemiallisella impedanssispektroskopiolla*. (2009), University of Jyväskylä, Department of Physics

## TEACHING EXPERIENCE & EVALUATION

### DEMONSTRATION LECTURES / TEACHING DEMONSTRATIONS

- “*Electronic band structure in solids*” (Physics: Advanced / major subject studies), Grade: Pass, University of Jyväskylä, Department of Physics, Jyväskylä, Finland, 12.01.2018
- “*Sähkövirran syntyminen johtimeen*” (Physics: Basic studies), Grade: 4/5 (Very good), University of Jyväskylä, Department of Physics, Jyväskylä, Finland, 03.12.2015

### VISITING LECTURER

- Optical Metrology and Fabrication (2022), University of Eastern Finland, Department of Physics and Mathematics
- DNA Nanotechnology (2018, 2019, 2020, 2021), Aalto University, Department of Neuroscience and Biomedical Engineering
- Nanomedicines for Biomedical Applications (2018, 2019, 2021), University of Helsinki, Faculty of Pharmacy
- Medicinal Chemistry for high school students (2016, 2017), LUMA Centre Aalto, Aalto University
- Biopolymers (2014, 2015), Aalto University, Department of Biotechnology and Chemical Technology
- Experimental Physics I (2012), Technische Universität München, Munich School of Engineering

### LECTURER

- Applied Functional Materials Based on DNA Nanotechnology (2024), Jyväskylä Summer School, University of Jyväskylä
- Self-Organisation and Nanolithography: Blended Intensive Programme course (2023), Universität Paderborn, Department of Chemistry, Technical and Macromolecular Chemistry
- Electronics 1A (2010), University of Jyväskylä, Department of Physics

### LECTURER FOR PUBLIC AUDIENCES

- The Science Forum (Tieteen päivät) (2019), University of Helsinki
- School visits, for elementary and high school students (2016, 2017, 2018) in Helsinki, Espoo & Vantaa

### ASSISTANT / EXERCISE TEACHER

- Experimental Physics I (2011–2012), Technische Universität München, Munich School of Engineering
- Microfabrication (2008, 2009), University of Jyväskylä, Department of Physics
- Electronics 1B (2008, 2009), University of Jyväskylä, Department of Physics
- Electronics 1A (2008, 2009), University of Jyväskylä, Department of Physics
- Laboratory Course I in Nanoscience (2008), University of Jyväskylä, Nanoscience Center

### ACADEMIC ADVISOR / TEACHING TUTOR

- Master’s programme in Life Science Technologies (Biosystems and Biomaterials Engineering) (2017–2019), Aalto University School of Chemical Engineering
- Bachelor’s programme in Bioinformation Technology (2015–2017), Aalto University School of Electrical Engineering

## EXPERIENCE OF ORGANIZING INTERNATIONAL SCIENTIFIC MEETINGS

### MEMBER OF THE CONFERENCE ORGANIZATION AND PROGRAM COMMITTEE

- Nucleic Acid Nanotechnology: from algorithmic design to biochemical applications (NANTECH 2019) workshop, Aalto University, Espoo, Finland, 27.–29.05.2019

### MEMBER OF THE CONFERENCE PROGRAM COMMITTEE

- 7th Euro BioMAT 2023 symposium, Weimar, Germany (hybrid conference), 03.–04.05.2023
- 6th Euro BioMAT 2021 symposium (web conference), 05.–06.05.2021
- 5th Euro BioMAT 2019 symposium, Weimar, Germany, 08.–09.05.2019

### MEMBER OF THE EDUCATIONAL PROGRAM ORGANIZATION

- Applied Functional Materials Based on DNA Nanotechnology, Jyväskylä Summer School, University of Jyväskylä, Jyväskylä, Finland, 05.–09.08.2024
- Self-Organisation and Nanolithography: Blended Intensive Programme, Universität Paderborn, Paderborn, Germany, 27.–31.03.2023

## AWARDS & MERITS

### RESEARCH AWARDS

- “Research action of the year 2020” (2020) of Aalto University School of Chemical Engineering
- “Best publication of the year 2018” (2018) of the Department of Bioproducts and Biosystems, Aalto University
- “High productivity award of the year 2018” (2018) of HYBER Centre of Excellence, Aalto University

### PRESENTATION AWARDS

- “Best oral presentation” (2018) of the LII Annual Conference of the Finnish Physical Society

### REVIEWING AWARDS

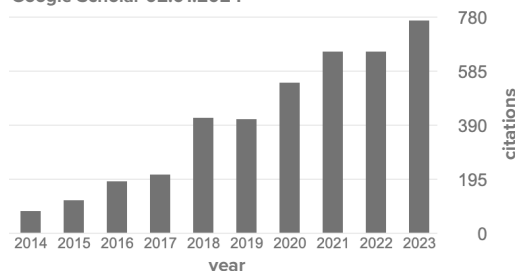
- “Among the top 10% of reviewers for *Angewandte Chemie* in 2022” (2023) by Wiley-VCH
- “Among the top 10% of reviewers for *Angewandte Chemie* in 2021” (2022) by Wiley-VCH

## FULL LIST OF PUBLICATIONS (\* = CORRESPONDING AUTHOR)

### STATISTICS

- Articles: 75
- Book chapters: 5
- Publications for general public: 1
- Theses: 1
- Patents and innovation disclosures: 1
- Main/co-main author publications: 26
- Corresponding author/co-corresponding author publications: 54
- Total number of citations: >4340 (Google Scholar)
- h-index: 33 (Google Scholar)
- i10-index: 57 (Google Scholar)

Google Scholar 02.01.2024



### ARTICLES

- (75) A. Klose\*, Z. Gounani, H. Ijäs, T. Lajunen, **V. Linko\***, T. Laaksonen\*: *Intravitreal stability, uptake and toxicity of doxorubicin-loaded DNA origami for ocular drug delivery.* (2024), in preparation
- (74) E. S. Lisitsyna\*\*, A. Klose†, E. Vuorimaa-Laukkanen, H. Ijäs, T. Lajunen, K. Suhling, **V. Linko\***, T. Laaksonen\*: *Fluorescence Anisotropy Analysis of the Interaction between Doxorubicin and DNA Origami Nanostructures.* (2024), under review  
† Equal contribution authors
- (73) O. Reinsalu\*, M. Ernits, **V. Linko\***: *Hybrid drug delivery systems through integration of nanoparticles and -structures with liposomal formulations.* (2024), under review
- (72) M. Ernits, O. Reinsalu, N. Yandrapalli, S. Kopanchuk, E. Moradpur-Tari, I. Sanka, O. Scheler, A. Rincken, R. Kurg, A. Kyriatsakis\*, **V. Linko\***, V. Zadin\*: *Microfluidic production, stability and loading of synthetic giant unilamellar vesicles.* **Scientific Reports** (2024), revised manuscript under review
- (71) S. Julin, N. Best, E. Anaya-Plaza, E. Enlund, **V. Linko**, M. A. Kostiaainen\*: *Assembly and optically triggered disassembly of lipid–DNA origami fibers.* **Chemical Communications**, 59 (2023), 14701–14704
- (70) I. Seitz, S. Saarinen, E.-P. Kumpula, D. McNeale, E. Anaya-Plaza, V. Lampinen, V. P. Hytönen, F. Sainsbury, J. J. L. M. Cornelissen, **V. Linko**, J. T. Huiskonen\*, M. A. Kostiaainen\*: *DNA-origami-directed virus capsid polymorphism.* **Nature Nanotechnology**, 18 (2023), 1205–1212
- (69) S. Julin, **V. Linko\***, M. A. Kostiaainen\*: *Reconfigurable pH-Responsive DNA Origami Lattices.* **ACS Nano**, 17 (2023), 11014–11022
- (68) **V. Linko\***, A. Keller\*\*\*: *Stability of DNA Origami Nanostructures in Physiological Media: The Role of Molecular Interactions.* **Small**, 19 (2023), #2301935  
† Equal contribution authors
- (67) K. M. Kabusure†, P. Piskunen†, J. Yang, **V. Linko\***, T. K. Hakala\*: *Raman enhancement in bowtie-shaped aperture-particle hybrid nanostructures fabricated with DNA-assisted lithography.* **Nanoscale**, 15 (2023), 8589–8596  
† Equal contribution authors
- (66) P. Williamson, P. Piskunen, H. Ijäs, A. Butterworth, **V. Linko\***, D. K. Corrigan\*: *Signal Amplification in Electrochemical DNA Biosensors Using Target-Capturing DNA Origami Tiles.*† **ACS Sensors**, 8 (2023), 1471–1480  
† Selected as a supplementary cover article of the journal
- (65) S. Julin, A. Keller\*, **V. Linko\***: *Dynamics of DNA Origami Lattices.* **Bioconjugate Chemistry**, 34 (2023), 18–29
- (64) H. Ijäs, T. Liedl, **V. Linko\***, G. Posnjak\*: *A label-free light-scattering method to resolve assembly and disassembly of DNA nanostructures.* **Biophysical Journal**, 121 (2022), 4800–4809
- (63) V.-V. Auvinen\*, P. Laurén, B. Shen, J. Isokuortti, N. Durandin, T. Lajunen, **V. Linko**, T. Laaksonen: *Nanoparticle release from anionic nanocellulose hydrogel matrix.* **Cellulose**, 29 (2022), 9707–9717
- (62) I. Seitz, H. Ijäs, **V. Linko\***, M. A. Kostiaainen\*: *Optically Responsive Protein Coating of DNA Origami for Triggered Antigen Targeting.*† **ACS Applied Materials & Interfaces**, 14 (2022), 38515–38524  
† Highlighted in [Nature Nanotechnology](#)

- (61) P. Piskunen<sup>†</sup>, M. Huusela<sup>†</sup>, **V. Linko**<sup>\*\*</sup>:  
*Nanoswimmers Based on Capped Janus Nanospheres.*  
**Materials**, 15 (2022), #4442  
<sup>†</sup> Equal contribution authors
- (60) K. M. Kabusure<sup>†</sup>, P. Piskunen<sup>†</sup>, J. Yang, M. Kataja, M. Chacha, S. Ojasalo, B. Shen, T. K. Hakala<sup>\*</sup>, **V. Linko**<sup>\*</sup>:  
*Optical characterization of DNA origami-shaped silver nanoparticles created through biotemplated lithography.*<sup>‡</sup>  
**Nanoscale**, 14 (2022), 9648–9654  
<sup>†</sup> Equal contribution authors  
<sup>‡</sup> Selected as an inside front cover article of the journal
- (59) **V. Linko**, H. Zhang, Nonappa<sup>\*</sup>, M. A. Kostiaainen<sup>\*</sup>, O. Ikkala<sup>\*</sup>:  
*From Precision Colloidal Hybrid Materials to Advanced Functional Assemblies.*<sup>‡</sup>  
**Accounts of Chemical Research**, 55 (2022), 1785–1795  
<sup>‡</sup> Selected as a cover article of the journal
- (58) P. Piskunen, R. Latham, C. E. West, M. Castronovo<sup>\*</sup>, **V. Linko**<sup>\*</sup>:  
*Integrating CRISPR/Cas systems with programmable DNA nanostructures for delivery and beyond.*  
**iScience**, 25 (2022), #104389
- (57) Y. Xin, P. Piskunen, A. Suma, C. Li, H. Ijäs, S. Ojasalo, I. Seitz, M. A. Kostiaainen, G. Grundmeier, **V. Linko**<sup>\*</sup>, A. Keller<sup>\*</sup>:  
*Environment-Dependent Stability and Mechanical Properties of DNA Origami Six-Helix Bundles with Different Crossover Spacings.*  
**Small**, 18 (2022), #2107393
- (56) A. Heuer-Jungemann<sup>\*\*</sup>, **V. Linko**<sup>\*\*</sup>:  
*Engineering Inorganic Materials with DNA Nanostructures.*  
**ACS Central Science**, 7 (2021), 1969–1979  
<sup>†</sup> Equal contribution authors
- (55) I. Seitz<sup>†</sup>, A. Shaukat<sup>†</sup>, K. Nurmi<sup>†</sup>, H. Ijäs, J. Hirvonen, H. A. Santos, M. A. Kostiaainen<sup>\*</sup>, **V. Linko**<sup>\*</sup>:  
*Prospective Cancer Therapies Using Stimuli-Responsive DNA Nanostructures.*  
**Macromolecular Bioscience**, 21 (2021), #2100272  
<sup>†</sup> Equal contribution authors
- (54) P. Williamson<sup>†</sup>, H. Ijäs<sup>†</sup>, B. Shen, D. K. Corrigan<sup>\*</sup>, **V. Linko**<sup>\*</sup>:  
*Probing the Conformational States of a pH-Sensitive DNA Origami Zipper via Label-Free Electrochemical Methods.*  
**Langmuir**, 37 (2021), 7801–7809  
<sup>†</sup> Equal contribution authors
- (53) S. Ojasalo<sup>†</sup>, P. Piskunen<sup>†</sup>, B. Shen, M. A. Kostiaainen<sup>\*</sup>, **V. Linko**<sup>\*\*</sup>:  
*Hybrid Nanoassemblies from Viruses and DNA Nanostructures.*  
**Nanomaterials**, 11 (2021), #1413  
<sup>†</sup> Equal contribution authors
- (52) Y. Xin, B. Shen, M. A. Kostiaainen, G. Grundmeier, M. Castro, **V. Linko**<sup>\*</sup>, A. Keller<sup>\*</sup>:  
*Scaling Up DNA Origami Lattice Assembly.*<sup>‡</sup>  
**Chemistry – A European Journal**, 27 (2021), 8564–8571  
<sup>‡</sup> Selected as a frontispiece of the journal
- (51) H. Ijäs, B. Shen, A. Heuer-Jungemann, A. Keller, M. A. Kostiaainen, T. Liedl, J. A. Ihalainen, **V. Linko**<sup>\*</sup>:  
*Unraveling the interaction between doxorubicin and DNA origami nanostructures for customizable chemotherapeutic drug release.*  
**Nucleic Acids Research**, 49 (2021), 3048–3062
- (50) S. Välimäki<sup>†</sup>, Q. Liu<sup>†</sup>, L. Schoonen, D. F. M. Vervoort, Nonappa, **V. Linko**, R. J. M. Nolte, J. C. M. van Hest, M. A. Kostiaainen<sup>\*</sup>:  
*Engineered protein cages for selective heparin encapsulation.*<sup>‡</sup>  
**Journal of Materials Chemistry B**, 9 (2021), 1272–1276  
<sup>†</sup> Equal contribution authors  
<sup>‡</sup> Selected as a cover article of the journal
- (49) P. Piskunen<sup>†</sup>, B. Shen<sup>†</sup>, A. Keller, J. J. Toppari, M. A. Kostiaainen<sup>\*</sup>, **V. Linko**<sup>\*</sup>:  
*Biotemplated Lithography of Inorganic Nanostructures (BLIN) for Versatile Patterning of Functional Materials.*<sup>‡</sup>  
**ACS Applied Nano Materials**, 4 (2021), 529–538  
<sup>†</sup> Equal contribution authors  
<sup>‡</sup> Selected as a supplementary cover article of the journal
- (48) S. Julin, Nonappa, B. Shen, **V. Linko**<sup>\*</sup>, M. A. Kostiaainen<sup>\*</sup>:  
*DNA-Origami-Templated Growth of Multilamellar Lipid Assemblies.*  
**Angewandte Chemie International Edition**, 60 (2021), 827–833
- (47) B. Shen<sup>†</sup>, P. Piskunen<sup>†</sup>, S. Nummelin, Q. Liu, M. A. Kostiaainen, **V. Linko**<sup>\*</sup>:  
*Advanced DNA Nanopore Technologies.*  
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 Institute of Technology (University of Tartu) Conference, Rakvere, Estonia, 04.–05.04.2024
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 Seminar, Faculty of Chemistry and Pharmacy, Ludwig-Maximilians-Universität München, Munich, Germany, 13.10.2023
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*DNA origami for biomedical engineering.*  
 LMU Munich — Cambridge University Workshop "RNA : DNA : Protein Nanotechnology", Freising, Germany, 17.–19.07.2023
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 Seminar, Fraunhofer Institute for Microengineering and Microsystems IMM, Mainz, Germany, 26.05.2023
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 Bioorganic Chemistry seminar, University of Tartu, Institute of Chemistry, Tartu, Estonia, 10.03.2023
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 KBFI science seminar, National Institute of Chemical Physics and Biophysics, Tallinn, Estonia, 15.11.2022
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 Seminar, The University of Edinburgh, Edinburgh, UK, 10.11.2022
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<sup>‡</sup> Selected as the best oral presentation of the conference
- (10) **V. Linko:**  
*Coating of DNA Origami Nanostructures for Cellular Delivery.*  
International Workshop on Future Trends in DNA-based Nanotechnology (DNATEC17), Max-Planck-Institut für Physik komplexer Systeme, Dresden, Germany, 29.05.–02.06.2017
- (9) **V. Linko, M. A. Kostiaainen:**  
*Delivery Vehicles Based on DNA Origami.*  
2<sup>nd</sup> Functional DNA Nanotechnology Workshop (FDN2016), Rome, Italy, 22.–24.06.2016
- (8) **V. Linko, M. A. Kostiaainen:**  
*DNA Origami as the Assembly Toolkit in Nanotechnology: Cellular Delivery Vehicles, Nanoreactors and Metallic Nanostructures.*  
12<sup>th</sup> Annual Conference on Foundations of Nanoscience: Self-Assembled Architectures and Devices (FNANO15), Snowbird, Utah, USA, 13.–16.04.2015
- (7) **V. Linko:**  
*Virus-Encapsulated DNA Origami Nanostructures for Cellular Delivery.*  
International Workshop on DNA-Based Nanotechnology: Digital Chemistry, Max-Planck-Institut für Physik komplexer Systeme, Dresden, Germany, 05.–09.05.2014
- (6) **V. Linko:**  
*DNA Origami Nanoplates on Solid-State Nanopores.*  
Molecular and Cellular Biophysics, TUM Winterschool, Antholz, Italy, 12.–16.03.2012
- (5) **V. Linko, J. Leppiniemi, S.-T. Paasonen, A. Kuzyk, B. Yurke, B. Shen, E. Niskanen, V. P. Hytönen, P. Törmä, J. J. Toppari:**  
*Dielectrophoretic Trapping and Conductance Properties of Self-Assembled DNA Structures.*  
XLV Annual Conference of the Finnish Physical Society, Helsinki, Finland, 29.–31.03.2011
- (4) **V. Linko, A. Kuzyk, B. Yurke, S.-T. Paasonen, P. Törmä, J. J. Toppari:**  
*Characterization of the Conductance Mechanisms of DNA Origami by AC Impedance Spectroscopy.*  
XLIV Annual Conference of the Finnish Physical Society, Jyväskylä, Finland, 11.–13.03.2010
- (3) **V. Linko, A. Kuzyk, B. Yurke, S.-T. Paasonen, P. Törmä, J. J. Toppari:**  
*Dielectrophoretic Trapping and Electrical Conductivity of DNA Origami.*  
Self-Assembly of Guanosine Derivatives: From Biological Systems to Nanotechnological Applications, Universitätszentrum Obergurgl (Innsbruck), Austria, 20.–25.06.2009

- (2) **V. Linko**, A. Kuzyk, B. Yurke, S.-T. Paasonen, P. Törmä, J. J. Toppari:  
*Dielectrophoretic Trapping and Electrical Conductivity of DNA Origami*.  
International Workshop on DNA-based Nanotechnology: Construction, Mechanics, and Electronics, Max-Planck-Institut für Physik komplexer Systeme, Dresden, Germany, 10.–15.05.2009
- (1) **V. Linko**, A. Kuzyk, B. Yurke, S.-T. Paasonen, P. Törmä, J. J. Toppari:  
*Dielectrophoretic Trapping and Electrical Conductivity of DNA Origami*.  
XLIII Annual Conference of the Finnish Physical Society, Espoo, Finland, 12.–14.03.2009

## POSITIONS OF TRUST, MEMBERSHIPS, OTHER SCIENTIFIC & ACADEMIC MERITS

### ASSOCIATE EDITOR

- Frontiers in Bioengineering and Biotechnology (2022–)
- Frontiers in Molecular Biosciences (2022–)

### EDITORIAL BOARD MEMBER

- Frontiers in Chemistry (2022–)
- Molecules (2020–)
- Scientific Reports (2017–)
- The Art of Molecular Programming (textbook) (2021–2023)
- Journal of Nanotheranostics (2020–2023)
- Frontiers in Molecular Biosciences (2018–2022)
- Frontiers in Bioengineering and Biotechnology (2018–2022)

### FACULTY ADVISORY BOARD MEMBER

- The Art of Molecular Programming (textbook) (2021–2023)

### INVITED GUEST EDITOR

- Molecules (2021–2023) with Dr. A. Keller, Special Issue: *DNA Nanostructures at Surfaces*
- Materials (2021–2022) with Prof. Nonappa & Dr. E. Anaya-Plaza, Special Issue: *Biohybrid and Composite Materials*
- Molecules (2019–2020), Special Issue: *Emerging Trend in DNA Nanotechnology*

### INVITED PEER REVIEWER

- Angewandte Chemie International Edition (2020, 5×2021, 4×2022, 3×2023, 2×2024)
- ACS Applied Nano Materials (2021, 4×2023, 2024)
- Small (2015, 2017, 2019, 3×2021, 3×2022, 2023, 2024)
- Nature Communications (2×2018, 2021, 2022, 2023, 2024)
- iScience (2022, 2024)
- Nucleic Acids Research (2019, 2020, 2021, 2024)
- Nano Letters (2018, 2024)
- Biotechnology Advances (2024)
- ACS Applied Bio Materials (2024)
- ACS Applied Optical Materials (2024)
- Cell Reports Physical Science (2024)
- Nanoscale (2018, 2×2019, 2021, 6×2022, 2×2023)
- The Journal of Physical Chemistry (2022, 2×2023)
- International Journal of Biological Macromolecules (2×2023)
- ChemBioChem (2016, 2021, 3×2022, 2023)
- Proceedings of the National Academy of Sciences, U.S.A. (2022, 2023)
- Journal of the American Chemical Society (2021, 2023)
- Small Structures (2×2020, 2023)
- Chem (2019, 2020, 2023)
- Journal of Visualized Experiments (2015, 2023)
- Nature Materials (2023)
- Advanced Materials Interfaces (2023)
- Advances in Colloid and Interface Science (2023)
- Biomaterials (2023)
- Materials Today Bio (2023)
- Materials Today Chemistry (2023)
- Computational and Structural Biotechnology Journal (2023)
- Interdisciplinary Medicine (2023)
- Beilstein Journal of Nanotechnology (2023)
- MedComm (2023)
- ACS Applied Materials & Interfaces (3×2018, 2019, 2×2021, 3×2022)
- Advanced Materials (2020, 2021, 2022)
- Acta Biomaterialia (2021, 2022)
- ACS Nano (2×2020, 2022)
- Nature Reviews Materials (2022)
- Science Advances (2022)
- Science Robotics (2022)
- Advanced Materials Technologies (2022)
- Bioactive Materials (2022)
- MRS Bulletin (2022)
- MRS Communications (2022)
- Bioconjugate Chemistry (2022)
- Biotechnology Advances (2022)
- Pharmaceutics (2022)
- Journal of Self-Assembly and Molecular Electronics (SAME) (2022)
- RSC Advances (2022)
- Chemical Science (2016, 3×2021)
- Chemical Society Reviews (2×2021)
- ACS Omega (2×2021)
- Nature Protocols (2020, 2021)
- Chemical Communications (2019, 2021)
- Coordination Chemistry Reviews (2021)
- Seminars in Cancer Biology (2021)
- Cancer Communications (2021)
- Advanced Optical Materials (2021)
- ChemPlusChem (2021)
- Sensors and Actuators B: Chemical (2021)
- IEEE Transactions on NanoBioscience (2021)
- Methods and Protocols (2021)
- Materials (2015, 2019, 2×2020)
- Molecules (2019, 2×2020)
- Frontiers in Molecular Biosciences (2×2020)
- Chemistry – A European Journal (2020)
- Physics Today (2020)
- APL Materials (2020)
- Biomedical Physics & Engineering Express (2020)
- ChemistrySelect (2020)
- Molecular Therapy - Nucleic Acids (2020)
- Organic & Biomolecular Chemistry (2020)
- Applied Surface Science (2020)
- Frontiers in Nanotechnology (2020)

- Multidiscipline Modeling in Materials and Structures (2020)
- Advanced Healthcare Materials (2018, 2019)
- Nanomaterials (2018, 2019)
- Trends in Biotechnology (2019)
- Nature Catalysis (2019)
- Polymers (2019)
- Applied Sciences (2019)
- Small Methods (2019)
- Frontiers in Bioengineering and Biotechnology (2019)
- BioMed Research International (2019)
- International Journal of Molecular Sciences (3×2018)
- Biomacromolecules (2018)
- Royal Society Open Science (2016, 2017)
- Nanotechnology Reviews (2016)

**CONTRIBUTED PEER REVIEWER**

- Nature (2016, 2017, 2022)
- Nature Materials (2018)
- Nano Letters (2018)
- Nanoscale (2015, 2016)
- Nature Communications (2016)
- Theranostics (2015)

**EXTERNAL EXAMINER AT DOCTORAL DEFENSE**

- M.Sc. Alexander J. Speakman, School of Engineering, Institute of Bioengineering, University of Edinburgh, Edinburgh, UK, 11.11.2022

**MEMBER OF THE REVIEWER/EXAMINER COMMITTEE AT DOCTORAL DEFENSE**

- M.Sc. Marcel Hanke, Universität Paderborn, Department of Chemistry, Technical and Macromolecular Chemistry, Paderborn, Germany, 12.12.2023
- M.Sc. Saminathan Ramakrishnan, Universität Paderborn, Department of Chemistry, Technical and Macromolecular Chemistry, Paderborn, Germany, 12.07.2018

**DOCTORAL THESIS PRE-EXAMINER**

- M.Sc. Marcel Hanke: *Biophysical investigations of different DNA origami nanostructures in various molecular and ionic environments.* (2023), Universität Paderborn, Department of Chemistry, Technical and Macromolecular Chemistry, Germany
- M.Sc. Samrat Basak: *Computer-controlled Fast and Processive Bipedal DNA Motor that Travels Long Distances.* (2023), Ben-Gurion University of the Negev, Israel
- M.Sc. Alexander J. Speakman: *Electrically Directed Gene Expression (EDGE): Using switchable DNA triplexes and electrolysis to modulate transcription in a cell-free medium.* (2022), School of Engineering, Institute of Bioengineering, University of Edinburgh, UK
- M.Sc. Benjamin O. Asamoah: *Light and matter interactions on plasmonic platforms.* (2021), University of Eastern Finland, Faculty of Science and Forestry, Department of Physics and Mathematics
- M.Sc. Saminathan Ramakrishnan: *Atomic force microscopy studies of DNA origami nanostructures: from structural stability to molecular patterning.* (2018), Universität Paderborn, Department of Chemistry, Technical and Macromolecular Chemistry, Germany

**MEMBER OF THE DOCTORAL THESIS COMMITTEE (FOLLOW-UP GROUP)**

- M.Sc. Yao Huang, University of Helsinki, Doctoral Programme in Drug Research (2021–)

**MASTER'S THESIS EXAMINER**

- B.Sc. Heini Takkinen: *Fluorescence labeling of the photosensory unit of Deinococcus radiodurans bacteriophytochrome for Förster resonance energy transfer studies.* (2016), University of Jyväskylä, Department of Biological and Environmental Science

**INVITED FUNDING APPLICATION REVIEWER**

- European Research Council, ERC Advanced Grant (2023)
- Swiss National Science Foundation (SNSF) (2023)
- Central Europe Leuven Strategic Alliance (CELSA) (2023)
- European Research Council, ERC Starting Grant (2022, 2023)
- Agence Nationale de la Recherche (French National Research Agency, ANR) (2022, 2023)
- U.S. Army Research Office (ARO) (2022)
- Deutsche Forschungsgemeinschaft (German Research Foundation, DFG) (2021)
- Deutsche Forschungsgemeinschaft, NSFC-DFG joint call (2021)
- European Research Council, ERC Consolidator Grant (2020)
- Wellcome Trust/DBT India Alliance (2020)

**INVITED CONFERENCE SESSION CHAIR**

- LIV Annual Conference of the Finnish Physical Society, Jyväskylä, Finland (web conference), 24.–26.03.2021
- 5<sup>th</sup> Euro BioMAT 2019 symposium, Weimar, Germany, 08.–09.05.2019
- XXVI International Materials Research Congress (IMRC 2017), Cancún, Mexico, 20.–25.08.2017

**INVITED CONFERENCE EVALUATION COMMITTEE MEMBER**

- Artificial Biology 2022 (ArtBio2022): Molecular Design & Cell Mimicry, iNano, Aarhus University, Aarhus, Denmark 15.–17.08.2022

**PROJECT MANAGEMENT**

- Project management board member of ERA Chair MATTER, University of Tartu (2022–)

**ACADEMIC ADVISER**

- Research Integrity Adviser at Aalto University (2021–2022)

**OTHER MEMBERSHIPS**

- BIO<sup>2</sup> research group communications, Aalto University School of Chemical Engineering (2019–2022)
- Scientists in Schools program (Aalto University Junior), Aalto University (2016–2018)