



Arri Priimägi

Curriculum Vitae, 09.10.2020

PERSONAL INFORMATION

Full name: Arri Priimägi.
Date of Birth: 27.06.1980, (Tallinn, Estonia).
Nationality: Estonian.

EDUCATION

15.12.2014 **Adjunct Professor**, *Laboratory of Chemistry and Bioengineering, Tampere University of Technology*, on the topical area of Supramolecular Chemistry.

24.11.2009 **Doctor of Science and Technology**, *Helsinki University of Technology*, passed with distinction.

DISSERTATION: "*Polymer–azobenzene complexes: from supramolecular concepts to efficient photoresponsive polymers*"

SUPERVISORS: Profs. Matti Kaivola and Olli Ikkala

15.09.2004 **Master of Science and Technology**, *Tampere University of Technology*, passed with distinction.

DISSERTATION: "*Nonlinear optical properties of self-assembled polymer systems*"

SUPERVISOR: Prof. Martti Kauranen

OTHER TRAINING AND SKILLS

04.2016-12.2016 **TAHTO Leadership Training**, *Tampere University of Technology*.

09.2013-05.2014 **Pedagogical Training (10 CP)**, *Aalto University School of Science*.

Language Skills

FINNISH (Native); ESTONIAN (Native); ENGLISH (fluent in spoken and written); JAPANESE (moderate); SWEDISH (moderate); GERMAN (elementary); RUSSIAN (elementary)

PRESENT POSITION

01.2019– **Professor**, *Faculty of Engineering and Natural Sciences, Tampere University (TAU), Finland*.

PREVIOUS POSITIONS

- 05.2017–12.2018 **Associate Professor (Tenure Track)**, *Laboratory of Chemistry and Bioengineering, Tampere University of Technology (TUT)*, Finland.
- 09.2014–04.2017 **Assistant Professor (Tenure Track)**, *Laboratory of Chemistry and Bioengineering, Tampere University of Technology*, Finland.
- 12.2013–08.2014 **International Research Fellow**, *Department of Chemistry, Materials, and Chemical Engineering, Politecnico di Milano*, Italy.
- 08.2010–11.2013 **Aalto Post-Doctoral Fellow**, *Department of Applied Physics, Aalto University*, Finland.
- 12.2010–12.2012 **Post-Doctoral Fellow of the Japanese Society for the Promotion of Science**, *Chemical Resources Laboratory, Tokyo Institute of Technology*, Japan.
- 10.2009–07.2010 **Post-Doctoral Researcher**, *Department of Applied Physics, Aalto University*, Finland.
- 10.2004–09.2009 **Researcher**, *Laboratory of Optics & Molecular Materials, Helsinki University of Technology*, Finland.
- 08.2003–09.2004 **Research Assistant**, *Department of Physics, Nonlinear Optics Group, Tampere University of Technology*, Finland.
- 05.2001–12.2002 **Part-Time Research Assistant**, *Department of Physics, Applied Optics Group, Tampere University of Technology*, Finland.

SCIENTIFIC ACKNOWLEDGEMENTS AND AWARDS

- 2018 Academy of Finland Award for Scientific Courage
- 2018 ERC Proof of Concept Grant
- 2016 Outstanding Paper Award by the Japanese Liquid Crystal Society
- 2016 ERC Starting Grant
- 2014 Academy of Finland Research Fellowship
- 2013 Politecnico di Milano International Fellowship
- 2010 Post Doctoral Fellowship for the Japanese Society for the Promotion of Science
- 2010 Aalto Post Doctoral Fellowship
- 2009 Outstanding Doctoral Dissertation Award, granted by the Finnish Academy of Science and Letters

RESEARCH FUNDING (AS A PI, TOTAL CA. 5 M€)

- 02.2021–01.2025 Marie Curie Training Network "*Soft and tangible organic responsive materials progressing robotic functions*". Total funding for TAU **562 000 €**.
- 01.2020–12.2022 Tampere University-targeted multidisciplinary research project from Emil Aaltonen Foundation. Total funding **300 000 €**. Project title: *Light robots—towards autonomous platform driven by biological feedback*.
- 09.2019–08.2023 Research project "*Photo-controlled active plasmonics*", Academy of Finland consortium with Prof. Anton Kuzyk. My share of funding from AKA **383 000 €**.
- 09.2018–08.2021 Research project "*Energy autonomous wireless sensor systems powered by printed light energy harvesting and storage*", Academy of Finland consortium with Prof. Donald Lupo and Prof. Kari Halonen. My share of funding from AKA **303 000 €**.
- 09.2018–02.2020 ERC Proof of Concept Grant. Total funding **150 000 €**. Project title: *Optical sensing of relative humidity using photoswitchable molecules*.

- 01.2018–11.2018 Research opening "*TUT-KAIST Initiative on Organic and Hybrid Electronics*", TUT seed funding, **15 000 €**.
- 09.2017–08.2021 Research project *Supramolecular Electronics*, Academy of Finland. Total funding from AKA **475 000 €**.
- 05.2016–04.2021 ERC Starting Grant. Total funding **1 486 000 €**. *Project title: Tunable Photonic Structures via Photomechanical Actuation.*
- 09.2014–08.2019 Academy Research Fellowship. Total funding from AKA **735 000 €**. *Project title: Halogen-Bonded Photocontrollable Functional Materials.*
- 01.2014–12.2016 Research grant from Emil Aaltonen Foundation. Total funding **200 000 €**. *Project title: Halogen-Bonded Photoresponsive Suprastructures.*
- 12.2010–12.2012 Post Doctoral project "*Photomechanics and optical storage in photoresponsive liquid-crystal materials*", at Chemical Resources Laboratory, Tokyo Institute of Technology (host researcher Prof. Atsushi Shishido). Total funding (research & living allowance): **11 400 000 ¥**.
- 08.2010-07-2013 Aalto Post Doctoral Fellowship. Total funding **180 000 €**. *NOTE: As my personal salary was covered by the Japanese Society for the Promotion of Science Fellowship, this funding was used for hiring students and for advancing the photoresponsive materials research at Aalto University.*
- 01.2010–12.2013 Optically Controlled Photoresponsive Polymer Materials (PHORMAT Consortium, PI Prof. Matti Kaivola), Academy of Finland. Total funding **863 049 €**. *NOTE: The application was built upon my PhD work, and I took the main responsibility in planning and writing the project application.*
- 01.2006–12.2009 Doctoral research funding provided by the National Graduate School in Materials Physics.

SUPERVISION/GUIDANCE OF STUDENTS AND POSTDOCS

Postdoctoral Level

- ◇ **Hongshuang Guo**, TAU (10/2020–).
- ◇ **Rakesh Puttreddy**, TAU (09/2019–).
- ◇ **Chiara Fedele**, TAU (06/2017–).
- ◇ **Matti Virkki**, TAU (12/2016–).
- ◇ **Hao Zeng**, TAU (05/2016–).
- ◇ **Heikki Rekola**, TAU (02/2018–01/2020).
- ◇ **Nikita Durandin**, TAU (09/2017–08/2019).
- ◇ **Tero-Petri Ruoko**, TUT (07/2017–07/2018).
- ◇ **Zafar Ahmed**, TUT (01/2016–12/2018).
- ◇ **Jaana Vapaavuori**, TUT (09/2015–02/2017).
- ◇ **Marco Saccone**, TUT (06/2015–06/2017).
- ◇ **Jelle Stumpel**, Aalto & TUT (05/2015–08/2018).

PhD Level

- ◇ **Zixuan Deng**, TAU (ongoing).
- ◇ **Mari Isomäki**, TAU (ongoing).
- ◇ **Kim Kuntze**, TAU (ongoing).
- ◇ **Alex Berdin**, TAU (ongoing).
- ◇ **Markus Lahikainen**, TAU (ongoing).
- ◇ **Jagadish Salunke**, TAU (Thesis in pre-examination). *Thesis title: "Low-cost phenothiazine- and pyrene-based hole hole-transporting materials for halide perovskite solar cells".*

- ◇ **Owies Wani**, TAU (grad. May 2019). *Thesis title: "Bioinspired Light Robots from Liquid Crystal Networks"*.
- ◇ **Mikko Poutanen**, Aalto (grad. September 2018). *Thesis title: "Interplay of Light and Self-Assembly in Functional Soft Materials – From Photo-Controlled to Photonic Structures"*.
- ◇ **Matti Virkki**, TUT (grad. October 2017). *Thesis title: "Supramolecular Materials for Photocontrolled Optical Nonlinearity"*.
- ◇ **Jenni Koskela**, Aalto (grad. January 2015). *Thesis title: "Light-fuelled motions in azobenzene-containing materials: From supramolecular design to new applications"*.
- ◇ **Jaana Vapaavuori**, Aalto (grad. June 2013). *Thesis title: "Design of efficient photoresponsive azobenzene materials through supramolecular functionalization"*.

MSc & BSc Level

- ◇ **Jani Viljakka**, TAU (MSc, ongoing).
- ◇ **Matias Paatelainen**, TAU (MSc, ongoing).
- ◇ **Md Aman Khan**, TAU (2019, MSc).
- ◇ **Seidi Helanterä**, TAU (2019, BSc).
- ◇ **Matias Paatelainen**, TAU (2019, BSc).
- ◇ **Kim Kuntze**, TAU (2019, MSc).
- ◇ **Essi Tervola**, TAU (2019, MSc).
- ◇ **Hamzah Mukhtar**, TUT (2018, MSc).
- ◇ **Jani Viljakka**, TUT (2018, BSc).
- ◇ **Emma Rajala**, TUT (2018, MSc).
- ◇ **Jani Patrakka**, TUT (2017, BSc).
- ◇ **Kim Kuntze**, TUT (2017, BSc).
- ◇ **Markus Lahikainen**, TUT (2016, MSc).
- ◇ **Ossi Lehtonen**, Aalto (2015, BSc).
- ◇ **Joel Kauppo**, Aalto (2014, BSc).
- ◇ **Matti Virkki**, TUT (2011, MSc).
- ◇ **Mikael Leben**, Aalto (2011, MSc).
- ◇ **Jaana Vapaavuori**, Aalto (2008, MSc).
- ◇ **Juuso Korhonen**, Aalto (2007, MSc).

SCIENTIFIC ACTIVITIES

PUBLICATION SUMMARY

Publications in refereed scientific journals: 107 published/accepted

Publications metrics: H-index 34, total number of citations 5982 (Google Scholar 14.10.2020)

International conference presentations: > 30 invited, > 130 contributions in total

PRE-EXAMINATION/OPPONENCE OF PHD THESES

- 2020 **Joachim Jelken**, University of Potsdam, Institute of Physics and Astronomy. Role: Pre-examiner.
- 2019 **Stijn Kragt**, Technical University of Eindhoven, Department of Chemical Engineering and Chemistry. Role: Opponent committee member.
- 2019 **Sara Pourjamal**, Aalto University, Department of Applied Physics. Role: Pre-examiner.
- 2018 **Selene De Martino**, University of Napoli, The Center for Advanced Biomaterials for Healthcare @ IIT. Role: Pre-examiner.

- 2018 **David Feldmann**, University of Potsdam, Institute of Physics and Astronomy. Role: Pre-examiner.
- 2017 **Dmitry Nuzhdin**, University of Firenze, European Laboratory for Non Linear Spectroscopy (LENS). Role: Pre-examiner.
- 2017 **Chiara Fedele**, University of Napoli, The Center for Advanced Biomaterials for Healthcare @ IIT. Role: Pre-examiner.
- 2016 **Francisco Fernandez-Palacio**, Politecnico di Milano, Department of Chemistry, Materials and Chemical Engineering "Giulio Natta". Role: Opponent committee member.
- 2015 **Abdellah Malti**, Linköping University, Department of Science and Technology. Role: Opponent committee member.
- 2014 **Luca Colombo, JingXiang Lin, Marco Saccone**, Politecnico di Milano, Department of Chemistry, Materials and Chemical Engineering "Giulio Natta". Role: Opponent committee member.

PHD THESIS FOLLOW-UP GROUP MEMBERSHIPS

- ◇ **Heidi Peussa**, TAU (ongoing).
- ◇ **Essi Tervola**, University of Jyväskylä (ongoing).
- ◇ **Maija Kauppila**, TAU (ongoing).
- ◇ **Anastasia Koivikko**, TAU (ongoing).

CONFERENCE ORGANIZATION & PROGRAM COMMITTEE MEMBERSHIPS

- 06.2019 XIV International Symposium on Macrocyclic and Supramolecular Chemistry, Lecce, Italy. Role: *Organizing committee member*.
- 06.2018 3rd International Conference on Photoalignment and Photopatterning in Soft Materials, Tampere, Finland, ca. 120 participants from > 20 countries. Role: **Conference chair**.
- 04.2018 TUT-KAIST Seminar on Organic and Hybrid Electronics, Tampere, Finland. One-day seminar with speakers from Korea, Finland, and Germany, ca. 60 participants. Role: **Seminar chair**.
- 07.2017 Seminar on Soft-Matter Robotics and Photonics, Tampere, Finland. One-day seminar with speakers from Finland, Italy, Poland, Taiwan, ca. 30 participants. Role: **Seminar chair**.
- 11.2016 2nd International Conference on Photoalignment and Photopatterning in Soft Materials, Nagoya, Japan. Role: *Program committee member*.
- 12.2014 1st International Conference on Photoalignment and Photopatterning in Soft Materials, Hong Kong. Role: *Program committee member*.
- 05.2014 Optics and Photonics Days 2014, Turku, Finland. Role: *Program committee member*.
- 05.2013 96th Canadian Chemistry Conference, Symposium on Stimuli-Responsive Materials, Quebec, Canada. Role: *Program committee member*.

EVALUATION OF RESEARCH PROPOSALS

- 2020 External Reviewer, Netherlands Organisation for Scientific Research (NWO).

- 2019 External Reviewer, The Fund for Scientific Research of Belgium (FNRS).
- 2019 External Reviewer, ERC Starting Grant Projects.
- 2018 External Reviewer, ERC Starting Grant Projects.
- 2017 External Reviewer, New York University Abu Dhabi Research Grants (NYU).
- 2016 External Reviewer, Netherlands Organisation for Scientific Research (NWO).
- 2015 External Reviewer, Natural Sciences and Engineering Council (NSERC), Canada.

MEMBERSHIP OF TENURE-TRACK COMMITTEES

- 2019 Tenure Track in Chemistry (2 positions), Faculty of Engineering and Natural Sciences, Tampere University.
- 2018 Tenure Track in Photonics (2 positions), Faculty of Natural Sciences, Tampere University of Technology.
- 2016 Tenure Track in Experimental Optics and Photonics (2 positions), Faculty of Natural Sciences, Tampere University of Technology.
- 2016 Tenure Track in Biotechnology and Circular Economy (2 positions), Department of Chemistry and Bioengineering, Tampere University of Technology.

ADMINISTRATIVE DUTIES

- 06.2018– Steering group member, International MSc program on Photonics Technologies
- 04.2017– Management board member, Tampere Microscopy Center
- 09.2015–12.2016 Management board member, Department of Chemistry and Bioengineering, TUT

POSITIONS OF TRUST

- 03.2019– Vice Chair of the Professors' Council of Tampere University.
- 08.2015–05.2016 Board Member in "Photonics Finland".

EDITORIAL ACTIVITIES

- 2019 Guest Editor in *Advanced Materials*, for a special issue "*From responsive Molecules to Interactive Materials*", with Prof. Stefan Hecht.
- 2016 Guest Editor in *Molecules*, for a special issue on "*Photoresponsive Polymers*", with Prof. Haifeng Yu and Prof. Xiaogong Wang.

REVIEWER FOR SCIENTIFIC JOURNALS (75 JOURNALS IN TOTAL)

*ACS Applied Materials & Interfaces, ACS Maro Letters, ACS Applied Polymer Materials, Advanced Device Materials, ACS Nano, **Advanced Materials**, Advanced Materials Interfaces, Advanced Optical Materials, Advanced Science, **Angewandte Chemie International Edition**, Applied Physics Letters, Applied Physics Reviews, Arabian Journal of Chemistry, **Chem**, Chemical Communications, Chemical Record, **Chemical Reviews**, **Chemical Science**, Chemistry: An European Journal, **Chemistry of Materials**, ChemistrySelect, ChemPhotoChem, ChemPhysChem, Chemical Physics, Chemical Record, Communications Chemistry, Crystal Growth & Design, CrystEngComm, Current Opinion in Colloid & Interface Science, Dyes and Pigments, Extreme Mechanics Letters, Frontiers in Chemistry, Frontiers in Robotics and AI, International Journal of Polymer Science, Journal of Applied Physics, Journal of Materials Chemistry C, Journal of Nanoparticle Research, Journal*

of Physical Chemistry, Journal of Physical Chemistry Letters, Journal of Polymer Science, Part A: Polymer Chemistry, Journal of Polymer Science, Part B: Polymer Physics, **Journal of the American Chemical Society**, Journal of the Society for Information Display, Langmuir, Macromolecular Chemistry & Physics, Materials Advances, Materials Horizons, Materials Chemistry and Physics, Materials Chemistry Frontiers, Molecular Crystals & Liquid Crystals, Macromolecular Rapid Communications, **Nano Letters**, Nanophotonics, Nanoscale, **Nature Communications**, **Nature Materials**, **Nature Nanotechnology**, **Nature Photonics**, New Journal of Chemistry, Optical Materials, Optical Materials Express, Optics Express, Optics Letters, **Physical Review Letters**, Physica Status Solidi B, Polymer, Polymers, Polymer Chemistry, Proceedings of the Estonian Academy of Sciences, RSC Advances, Science of Advanced Materials, **Science Robotics**, Scientific Reports, Small, Soft Matter

TEACHING ACTIVITIES

- ◇ **Engineering Chemistry (suom. Insinöörikemia, 3CP)**, lectured twice per year at TUT, basic chemistry course given to 1st year students, with attendance of > 600 students annually. I am the responsible teacher giving the lectures (13*2h), coordinating the exercise sessions, and doing the grading and overall management.
- ◇ **Organic Solar Cells (3CP)**, spring 2016, TUT. This special course was launched by Dr. Riikka Lahtinen and myself, with the aim of studying the applicability of massive online open courses as part of our teaching agenda. The target groups were PhD and advanced MSc levels, with attendance of ca. 15 students.
- ◇ **Laboratory assignment on optical tweezers**, 2007–2009, Aalto University. Role: planning and building the experiment together with Dr. Klas Lindfors, instructing students in the laboratory (2nd year BSc level), correcting and grading the reports.
- ◇ **Laser Technology and Optics**, years 2005–2007, Aalto University. Role: Teaching assistant (responsible teacher Prof. Matti Kaivola).
- ◇ **Engineering physics 2. Electromagnetism and Modern Physics**, 2003, TUT. Role: Teaching assistant (responsible teacher Dr. Martti Vulli).



Arri Priimägi

List of Publications, 20.10.2020

PUBLICATION SUMMARY

Researcher identifiers: ORCID: 0000-0002-5945-9671; ResearcherID: E-7319-2012

Number of publications: 107 published, including *Nature Photonics* x1, *Nature Communications* x4; *Advanced Materials* x10; *Advanced Functional Materials* x2; *PNAS* x1; *JACS* x1; *ACIE* x1

Number of citations: 6011 (Google Scholar 20.10.2020)

H-index: 34

HIGHLIGHTS

1. H. Shahsavan, A. Aghakhani, H. Zeng, Y. Guo, Z.S. Davidson, **A. Priimägi**, M. Sitti, "*Bioinspired underwater locomotion of light-driven liquid crystal gels*", *Proceedings of the National Academy of Sciences* **2020**, *117*, 5125 (16 citations).
2. H. Zeng, M. Lahikainen, L. Liu, Z. Ahmed, O. Wani, M. Wang, H. Yang, **A. Priimägi**, "*Light-fuelled freestyle self-oscillators*", *Nature Communications* **2019**, *10*, 5057 (11 citations).
3. H. Zhang, H. Zeng, **A. Priimägi**, O. Ikkala, "*Programmable responsive hydrogels inspired by classical conditioning algorithm*", *Nature Communications* **2019**, *10*, 3267 (14 citations).
4. O.M. Wani, R. Verpaalen, H. Zeng, **A. Priimägi**, A.P.H.J. Schenning, "*An artificial nocturnal flower via humidity-gated photoactuation in liquid crystal networks*", *Advanced Materials* **2019**, *31*, 1805985 (45 citations).
5. M. Lahikainen, H. Zeng, **A. Priimägi**, "*Reconfigurable photoactuator through synergistic use of photochemical and photothermal effects*", *Nature Communications* **2018**, *9*, 4148 (72 citations).
6. H. Zeng, P. Wasylczyk, D.S. Wiersma, **A. Priimägi**, "*Light robots: bridging the gap between microrobotics and photomechanics in soft materials*", *Advanced Materials* **2018**, *30*, 1703554 (122 citations).
7. H. Zeng, O. M. Wani, P. Wasylczyk, R. Kaczmarek, **A. Priimägi**, "*Self-regulating iris based on light-actuated liquid crystal elastomer*", *Advanced Materials* **2017**, *29*, 1701814 (138 citations).
8. H. Zeng, O. M. Wani, **A. Priimägi**, "*A light-driven artificial flytrap*", *Nature Communications* **2017**, *8*, 15546 (226 citations).
9. G. Cavallo, P. Metrangolo, R. Milani, T. Pilati, **A. Priimägi**, G. Resnati, G. Terraneo, "*The halogen bond*", *Chemical Reviews* **2016**, *116*, 2478–2601 (1630 citations).
10. **A. Priimägi**, A. Shevchenko, "*Azopolymer-Based Micro- and Nanopatterning for Photonic Applications*", *Journal of Polymer Science B: Polymer Physics* **2014**, *52*, 163–182 (200 citations).

107. C. Fedele, E. Mäntylä, B. Belardi, T. Hamkins-Indik, S. Cavalli, P.A. Netti, D.A. Fletcher, S. Nymark, **A. Priimagi**, T.O. Ihalainen, "Azobenzene-based sinusoidal surface topography drives focal adhesion confinement and guides collective migration of epithelial cells", *Scientific Reports* **2020**, *10*, 15329.
106. J.M. Taskinen, A.J. Moilanen, H. Rekola, K. Kuntze, **A. Priimagi**, P. Törmä, T.K. Hakala, "All-Optical Emission Control and Lasing in Plasmonic Lattices", *ACS Photonics* **2020**, DOI: acsphotronics.0c01099.
105. M. Lahikainen, K. Kuntze, H. Zeng, S. Helanterä, S. Hecht, **A. Priimagi**, R.C. Hayward, "Tunable Photomechanics in Diarylethene-Driven Liquid Crystal Network Actuators", *ACS Applied Materials & Interfaces* **2020**, DOI: acsami.0c12735.
104. A.S. Kuenstler, M. Lahikainen, H. Zhou, X. Wu, **A. Priimagi**, R.C. Hayward, "Reconfiguring Gaussian Curvature of Hydrogel Sheets with Photoswitchable Host–Guest Interactions", *ACS Macro Letters* **2020**, *9*, 1172–1177.
103. B.O. Asamoah, S. Mohamed, S. Datta, P. Karvinen, H. Rekola, **A. Priimagi**, T.K. Hakala, "Optically induced crossover from weak to strong coupling regime between surface plasmon polaritons and photochromic molecules", *Optics Express* **2020**, *28*, 26509–26518.
102. A. Eklund, H. Zhang, H. Zeng, **A. Priimagi**, O. Ikkala, "Fast Switching of Bright Whiteness in Channeled Hydrogel Networks", *Advanced Functional Materials* **2020**, *30*, 2000754.
101. **A. Priimagi**, S. Hecht, "From Responsive Molecules to Interactive Materials", *Advanced Materials* **2020**, *32*, 2000215.
100. H. Zhang, H. Zeng, **A. Priimagi**, O. Ikkala, "Pavlovian Materials—Functional Biomimetics Inspired by Classical Conditioning", *Advanced Materials* **2020**, *32*, 1906619.
99. H. Shahsavan, A. Aghakhani, H. Zeng, Y. Guo, Z.S. Davidson, **A. Priimagi**, M. Sitti, "Bioinspired underwater locomotion of light-driven liquid crystal gels", *Proceedings of the National Academy of Sciences* **2020**, *117*, 5125–5133.
98. J. Vapaavuori, J.E. Koskela, X. Wang, R.H.A. Ras, **A. Priimagi**, C.G. Bazuin, C. Pellerin, "Effect of hydrogen-bond strength on photoresponsive properties of polymer-azobenzene complexes", *Canadian Journal of Chemistry* **2020**, DOI: 10.1139/cjc-2020-0048.
97. E. Tervola, K.N. Truong, J.S. Ward, **A. Priimagi**, K. Rissanen "Fluorescence enhancement of quinolines by protonation", *RSC Advances* **2020**, *10*, 29385–29393.
96. O.M. Wani, A.P.H.J. Schenning, **A. Priimagi**, "A bifacial colour-tunable system via combination of a cholesteric liquid crystal network and hydrogel", *Journal of Materials Chemistry C* **2020**, *8*, 10191–10196.
95. M. Lahikainen, H. Zeng, **A. Priimagi**, "Design principles for non-reciprocal photomechanical actuation", *Soft Matter* **2020**, *16*, 5951–5958.
94. J. Salunke, X. Guo, M. Liu, Z. Lin, N.R. Candeias, **A. Priimagi**, J. Chang, P. Vivo, "N-Substituted Phenothiazines as Environmentally Friendly Hole-Transporting Materials for Low-Cost and Highly Stable Halide Perovskite Solar Cells", *ACS Omega* **2020**, *5*, 23334–23342.
93. J. Salunke, A. Singh, D. He, H. Pham, Y. Bai, L. Wang, S. Dahlström, M. Nyman, S. Manzhos, K. Feron, R. Österbacka, **A. Priimagi**, P. Vivo, P. Sonar, "Pyrene Functionalized Organic Semiconductors

for Light-emitting Diodes and Mixed Halide Perovskite Solar Cells", *Organic Electronics* **2020**, 77, 105524.

92. Y.C. Cheng, H.C. Lu, X. Lee, H. Zeng, **A. Priimagi**, "Kirigami-based light-induced shape-morphing and locomotion", *Advanced Materials* **2020**, 32, 1906233.
91. H. Zeng, H. Zhang, O. Ikkala, **A. Priimagi**, "Associative learning by classical conditioning in liquid crystal network actuators", *Matter* **2020**, 2, 194–206.

2019

90. H. Zeng, M. Lahikainen, L. Liu, Z. Ahmed, O. Wani, M. Wang, H. Yang, **A. Priimagi**, "Light-fuelled freestyle self-oscillators", *Nature Communications* **2019**, 10, 5057.
89. M. Saccone, M. Blanke, C. Daniliuc, H. Rekola, J. Stelzer, **A. Priimagi**, J. Voskuhl, M. Giese, "Mesogens with Aggregation induced Emission formed by Hydrogen-bonding", *ACS Materials Letters* **2019**, 1, 589–593.
88. A. Berdin, H. Rekola, O. Sakhno, M. Wegener, **A. Priimagi**, "Continuously tunable polymer membrane laser", *Optics Express* **2019**, 27, 25634–25646.
87. H. Zhang, H. Zeng, **A. Priimagi**, O. Ikkala, "Programmable responsive hydrogels inspired by classical conditioning algorithm", *Nature Communications* **2019**, 10, 3267.
86. H. Zhang, M. Liu, W. Yang, L. Judin, T.I. Hukka, **A. Priimagi**, Z. Deng, P. Vivo, "Thionation Enhances the Performance of Polymeric Dopant-Free Hole-Transporting Materials for Perovskite Solar Cells", *Advanced Materials Interfaces* **2019**, 6, 1901036.
85. J. Vapaavuori, J. Grosrenaud, A. Siiskonen, **A. Priimagi**, C. Pellerin, C.G. Bazuin, "Photocontrol of Supramolecular Azo-Containing Block Copolymer Thin Films During Dip-Coating: Toward Nanoscale Patterned Coatings", *ACS Applied Nano Materials* **2019**, 2, 3526–3537.
84. V. Chang, C. Fedele, **A. Priimagi**, A. Shishido, C.J. Barrett, "Photo-Reversible Soft Azo Dye Materials: Towards Optical Control of Bio-Interfaces", *Advanced Optical Materials* **2019**, 7, 1900091.
83. M. Liu, H. Zhang, D. Gedamu, P. Fourmont, H. Rekola, A. Hiltunen, S.G. Cloutier, R. Nechache, **A. Priimagi**, P. Vivo, "Halide perovskite nanocrystals for next-generation optoelectronics", *Small* **2019**, 15, 1900801.
82. J. Salunke, X. Guo, L. Zhenhua, J. Vale, N.R. Candeias, M. Nyman, S. Ahlström, R. Österbacka, **A. Priimagi**, J. Chang, P. Vivo, "Phenothiazine-based hole transporting materials towards eco-friendly perovskite solar cells", *ACS Applied Energy Materials* **2019**, 2, 3021–3027.
81. M. Shin, J. Kim, Y.K. Jung, T.P. Ruoko, **A. Priimagi**, A. Walsh, B. Shin, "Low-dimensional formamidinium lead perovskite architectures via controllable solvent intercalation", *Journal of Materials Chemistry C* **2019**, 7, 3945–3951.
80. O.M. Wani, R. Verpaalen, H. Zeng, **A. Priimagi**, A.P.H.J. Schenning, "An artificial nocturnal flower via humidity-gated photoactuation in liquid crystal networks", *Advanced Materials* **2019**, 31, 1805985.
79. H. Zeng, M. Lahikainen, O.M. Wani, A. Berdin, **A. Priimagi**, "Liquid Crystal Polymer Networks and Elastomers for Light-Fueled Robotics", in *Photoactive Functional Soft Materials: Preparation, Properties, and Applications* (Ed. Quan Li), Wiley-VCH **2019**, pp. 197–226.
78. M. Saccone, M. Spengler, M. Pfletscher, K. Kuntze, M. Virkki, C. Wölper, G. Jansen, R. Gehrke, P. Metrangolo, **A. Priimagi**, M. Giese, "Photoresponsive halogen-bonded liquid crystals: the role of aromatic fluorine substitution", *Chemistry of Materials* **2019**, 31, 462–470.

77. M. Lahikainen, H. Zeng, **A. Priimagi**, "Reconfigurable photoactuator through synergistic use of photochemical and photothermal effects", *Nature Communications* **2018**, 9, 4148.
76. J.K. Salunke, N.A. Durandin, T.P. Ruoko, N.R. Candeias, P. Vivo, E. Vuorimaa-Laukkanen, T. Laakonen, **A. Priimagi**, "Halogen-Bond-Assisted Photoluminescence Modulation in Carbazole-Based Emitter", *Scientific Reports* **2018**, 8, 14431.
75. M. Virkki, A. Maurice, A. Forni, M. Sironi, P.F. Brevet, P. Metrangolo, M. Kauranen, **A. Priimagi**, "On molecular optical nonlinearity of halogen-bond-forming azobenzenes", *Physical Chemistry Chemical Physics* **2018**, 20, 28810–28817.
74. M. Saccone, K. Kuntze, Z. Ahmed, A. Siiskonen, M. Giese, **A. Priimagi**, "Ortho-fluorination of azophenols increases the mesophase stability of photoresponsive hydrogen-bonded liquid crystals", *Journal of Materials Chemistry C* **2018**, 6, 9958–9963.
73. M. Poutanen, Z. Ahmed, L. Rautkari, O. Ikkala, **A. Priimagi**, "Thermal Isomerization of Hydroxyazobenzenes as a Platform for Vapor Sensing", *ACS Macro Letters* **2018**, 7, 381–386.
72. P.M.J. Szell, A. Siiskonen, L. Catalano, G. Cavallo, G. Terraneo, **A. Priimagi**, D.L. Bryce, P. Metrangolo, "Halogen-bond driven self-assembly of triangular macrocycles", *New Journal of Chemistry* **2018**, 42, 10467–10471.
71. J. Vapaavuori, C. G. Bazuin, **A. Priimagi**, "Supramolecular design principles for efficient photoreponsive polymer–azobenzene complexes", *Journal of Materials Chemistry C* **2018**, 6, 2168–2188.
70. O.M. Wani, H. Zeng, P. Wasylczyk, **A. Priimagi**, "Programming photoresponse in liquid crystal polymer actuators with laser projector", *Advanced Optical Materials* **2018**, 6, 1700949.
69. H. Zeng, O.M. Wani, P. Wasylczyk, **A. Priimagi**, "Light-driven, caterpillar-inspired miniature inching robot", *Macromolecular Rapid Communications* **2018**, 39, 1700224.
68. H. Zeng, P. Wasylczyk, D.S. Wiersma, **A. Priimagi**, "Light robots: bridging the gap between microrobotics and photomechanics in soft materials", *Advanced Materials* **2018**, 30, 1703554.

67. Z. Ahmed, A. Siiskonen, M. Virkki, **A. Priimagi**, "Controlling azobenzene photoswitching through combined ortho-fluorination and -amination", *Chemical Communications* **2017**, 53, 12520–12523.
66. P. Vivo, J. Salunke, **A. Priimagi**, "Hole-Transporting Materials for Printable Perovskite Solar Cells", *Materials* **2017**, 10, 1087.
65. J. Vapaavuori, A. Siiskonen, V. Dichiarante, A. Forni, M. Saccone, T. Pilati, C. Pellerin, A. Shishido, P. Metrangolo, **A. Priimagi**, "Supramolecular control of liquid crystals by doping with halogen-bonding dyes", *RSC Advances* **2017**, 7, 40237–40242.
64. H. Zeng, O. M. Wani, P. Wasylczyk, R. Kaczmarek, **A. Priimagi**, "Self-regulating iris based on light-actuated liquid crystal elastomer", *Advanced Materials* **2017**, 29, 1701814.
63. H. Zeng, O. M. Wani, **A. Priimagi**, "A light-driven artificial flytrap", *Nature Communications* **2017**, 8, 15546.
62. N. Karimi, M. Virkki, A. Alberucci, O. Buchnev, M. Kauranen, **A. Priimagi**, G. Assanto, "Molding optical waveguides with nematicons", *Advanced Optical Materials* **2017**, 5, 1700199.

61. D. Shinde, J. Salunke, N. R. Candeias, F. Tinti, M. Gazzano, P. Wadgaonkar, **A. Priimagi**, N. Camaioni, P. Vivo, "*Crystallization-enhanced bulk hole mobility in phenothiazine-based organic semiconductors*", Scientific Reports **2017**, 7, 46268.
60. R. Milani, N. Houbenov, F. Fernandez-Palacio, G. Cavallo, A. Luzio, J. Haataja, M. Saccone, **A. Priimagi**, O. Ikkala, P. Metrangolo, "*Hierarchical self-assembly of halogen-bonded block copolymer complexes into upright cylindrical domains*", Chem **2017**, 2, 417–426.
59. J. Stumpel, M. Saccone, V. Dichiarante, O. Lehtonen, M. Virkki, P. Metrangolo, **A. Priimagi**, "*Surface Patterning of Halogen-Bonded Polymer-Azobenzene Complexes: A Concentration-Dependence Study*", Molecules **2017**, 22, 1844.
58. M. Saccone, F. Fernandez-Palacio, G. Cavallo, V. Dichiarante, M. Virkki, G. Terraneo, **A. Priimagi**, P. Metrangolo "*Photoresponsive ionic liquid crystals assembled via halogen bond: en route towards light-controllable ion transporters*", Faraday Discussions **2017**, 203, 407–422.
57. M. Saccone, A. Siiskonen, F. Fernandez-Palacio, G. Terraneo, **A. Priimagi**, P. Metrangolo "*Halogen bonding stabilizes a cis-azobenzene derivative in the solid state: A crystallographic study*", Acta Crystallographica Section B **2017**, 73, 227–233.
56. A. Siiskonen, **A. Priimagi**, "*Benchmarking DFT Methods with Small Basis Sets for the Calculation of Halogen-Bond Strengths*", Journal of Molecular Modelling **2017**, 23, 50.
55. J. Noga, A. Sobolewska, S. Bartkiewicz, M. Virkki, **A. Priimagi**, "*Periodic surface structures induced by a single laser beam irradiation*", Macromolecular Materials and Engineering **2017**, 302, 1600329.
54. J. Wang, Y. Aihara, M. Kinoshita, J. Mamiya, A. Priimagi, A. Shishido, "*Orientational optical nonlinearities in polymer-stabilized dye-doped liquid crystals*", Journal of the Japanese Liquid Crystal Society **2017**, 21, 57–67.

2016

53. F. Fernandez-Palacio, M. Poutanen, M. Saccone, A. Siiskonen, G. Terraneo, G. Resnati, O. Ikkala, P. Metrangolo, **A. Priimagi**, "*Photoinduced phase transitions in halogen-bonded liquid crystals*", Chemistry of Materials **2016**, 28, 8314–8321.
52. G. Cavallo, G. Terraneo, A. Monfredini, M. Saccone, **A. Priimagi**, G. Resnati, P. Metrangolo, D. W. Bruce, "*Superfluorinated ionic liquid crystals through mesomorphic, halogen-bonded anions*", Angewandte Chemie International Edition **2016**, 55, 6300–6304.
51. P. Hiekkataipale, T.I. Löbbling, M. Poutanen, **A. Priimagi**, V. Abetz, O. Ikkala, A.H. Gröschel, "*Controlling the shape of Janus nanostructures through supramolecular modification of ABC terpolymer bulk morphologies*", Polymer **2016**, 107, 456–465.
50. M. Poutanen, O. Ikkala, **A. Priimagi**, "*Structurally controlled dynamics in azobenzene-based supramolecular self-assemblies*", Macromolecules **2016**, 49, 4095–4101.
49. I. Neto, J. Andrade, A.S. Fernandes, C.P. Reis, J. K. Salunke, **A. Priimagi**, N.R. Candeias, P. Rijo, "*Multicomponent Petasis-borono Mannich Preparation of Alkylaminophenols and Antimicrobial Activity Studies*", ChemMedChem **2016**, 11, 2015–2023.
48. N. Akamatsu, M. Aizawa, R. Tatsumi, K. Hisano, **A. Priimagi**, A. Shishido, "*Photoresponsive liquid-crystalline polymer films bilayered with an inverse opal structure*", Journal of Photopolymer Science and Technology **2016**, 29, 145–148.

47. N. Karimi, A. Alberrucci, M. Virkki, **A. Priimagi**, M. Kauranen, G. Assanto, "*Quenching nematicon fluctuations via photo-stabilization*", *Photonics Letters of Poland* **2016**, 8, 2–4.
46. F. Fernandez-Palacio, M. Saccone, **A. Priimagi**, G. Terraneo, T. Pilati, P. Metrangolo, G. Resnati, "*Coordination networks incorporating halogen-bond donor sites and azo groups*", *CrystEngComm* **2016**, 18, 2251–2257.
45. M. Virkki, O. Tuominen, M. Kauranen, **A. Priimagi**, "*Photoinduced nonlinear optical response in azobenzene-functionalized mexylaminotriazine molecular glass*", *Optics Express* **2016**, 24, 4964–4671.
44. G. Cavallo, P. Metrangolo, R. Milani, T. Pilati, **A. Priimagi**, G. Resnati, G. Terraneo, "*The halogen bond*", *Chemical Reviews* **2016**, 116, 2478–2601.

2015

43. J. Vapaavuori, I. Heikkinen, V. Dichiarante, G. Resnati, P. Metrangolo, G. Sabat, C.G. Bazuin, **A. Priimagi**, C. Pellerin, "*Photomechanical energy transfer to photopassive polymers through hydrogen and halogen bonds*", *Macromolecules* **2015**, 48, 7535–7542.
42. J. Vapaavuori, R.H.A. Ras, M. Kaivola, C.G. Bazuin, **A. Priimagi**, "*From partial to complete optical erasure of azobenzene-polymer gratings: effect of molecular weight*", *Journal of Materials Chemistry C* **2015**, 3, 11011–11016.
41. M. Saccone, G. Cavallo, G. Resnati, P. Metrangolo, **A. Priimagi**, "*Halogen-bonded photoresponsive materials*", *Topics in Current Chemistry* **2015**, 359, 147–166.
40. M. Virkki, O. Tuominen, A. Forni, M. Saccone, P. Metrangolo, G. Resnati, M. Kauranen, **A. Priimagi**, "*Halogen bonding enhances nonlinear optical response in poled supramolecular polymers*", *Journal of Materials Chemistry C* **2015**, 3, 3003–3006.
39. M. Saccone, V. Dichiarante, A. Forni, A. Goulet-Hanssens, G. Cavallo, J. Vapaavuori, G. Terraneo, C.J. Barrett, G. Resnati, P. Metrangolo, **A. Priimagi**, "*Supramolecular hierarchy among halogen and hydrogen bond donors in light-induced surface patterning*", *Journal of Materials Chemistry C* **2015**, 3, 759–768.
38. J. Wang, Y. Aihara, M. Kinoshita, J. Mamiya, **A. Priimagi**, A. Shishido, "*Laser-pointer-induced self-focusing effect in hybrid-aligned liquid-crystals*", *Scientific Reports* **2015**, 5, 9890–9896.

2014

37. J.E. Koskela, J. Vapaavuori, R.H.A. Ras, **A. Priimagi**, "*Light-driven surface patterning of supramolecular polymers with extremely low concentration of photoactive molecules*", *ACS Macro Letters* **2014**, 3, 1196–1200.
36. A. Sobolewska, S. Bartkiewicz, **A. Priimagi**, "*High-modulation-depth surface-relief gratings using s-s polarization configuration in supramolecular polymer-azobenzene complexes*", *Journal of Physical Chemistry C* **2014**, 118, 23279–23284.
35. J. Vapaavuori, A. Goulet-Hanssens, I. Heikkinen, C.J. Barrett, **A. Priimagi**, "*Are two azo groups better than one? Investigating the photoresponse of polymer-bisazobenzene complexes*", *Chemistry of Materials* **2014**, 26, 5089–5096.
34. A. Goulet-Hanssens, T.C. Corkery, **A. Priimagi**, C.J. Barrett, "*Effect of head group size on the photoswitching applications of azobenzene Disperse Red 1 analogues*", *Journal of Materials Chemistry C* **2014**, 2, 7505–7512.

33. **A. Priimagi**, C.J. Barrett, A. Shishido, "*Recent twists in photoactuation and photoalignment control*", *Journal of Materials Chemistry C* **2014**, 2, 7155–7162.
32. J.E. Koskela, V. Liljeström, J. Lim, E.E. Simanek, R.H.A. Ras, **A. Priimagi**, M.A. Kostainen, "*Light-fuelled transport of large dendrimers and proteins*", *Journal of the American Chemical Society* **2014**, 136, 6850–6853.
31. N. Akamatsu, W. Tashiro, K. Saito, J. Mamiya, M. Kinoshita, T. Ikeda, J. Takeya, S. Fujikawa, **A. Priimagi**, A. Shishido, "*Facile strain analysis of largely bending films by a surface-labelled grating method*", *Scientific Reports* **2014**, 4, 5377/1-6.
30. **A. Priimagi**, A. Shevchenko, "*Azopolymer-Based Micro- and Nanopatterning for Photonic Applications*", *Journal of Polymer Science B: Polymer Physics* **2014**, 52, 163–182.
29. R.J. Moerland, J.E. Koskela, A. Kravchenko, S. van der Vegte, M. Simberg, M. Kaivola, **A. Priimagi**, R.H.A. Ras, "*Large-area arrays of three-dimensional plasmonic subwavelength-sized structures from azopolymer surface-relief gratings*", *Materials Horizons* **2014**, 1, 74–80.
28. M. Saccone, G. Terraneo, T. Pilati, G. Cavallo, **A. Priimagi**, P. Metrangolo, G. Resnati, "*Azobenzene-based difunctional halogen-bond donor: towards the engineering of photoresponsive cocrystals*", *Acta Crystallographica B* **2014**, B70, 149–156.

2010–2013

27. Y. Aihara, M. Kinoshita, J. Wang, J. Mamiya, **A. Priimagi**, A. Shishido, "*Polymer stabilization enhances the orientational optical nonlinearity of oligothiophene-doped nematic liquid crystals*", *Advanced Optical Materials* **2013**, 1, 787–791.
26. **A. Priimagi**, G. Cavallo, P. Metrangolo, G. Resnati, "*The halogen bond in the design of functional supramolecular materials: recent advances*", *Accounts of Chemical Research* **2013**, 46, 2686–2695.
25. J. Vapaavuori, **A. Priimagi**, A. J. Soininen, J. Ruokolainen, M. Kaivola, O. Ikkala, E. Kasëmi, N. Canilho, "*Photoinduced surface patterning of azobenzene-containing supramolecular dendrons, dendrimers and dendronized polymers*", *Optical Materials Express* **2013**, 3, 711–722.
24. J. Vapaavuori, Z. Mahimwalla, R. Chromik, M. Kaivola, **A. Priimagi**, C.J. Barrett, "*Nanoindentation study of light-induced softening of supramolecular and covalently functionalized azo polymers*", *Journal of Materials Chemistry C* **2013**, 1, 2806–2810.
23. **A. Priimagi**, K. Ogawa, M. Virkki, J. Mamiya, M. Kauranen, A. Shishido, "*High-contrast photoswitching of nonlinear optical response in crosslinked ferroelectric liquid-crystalline polymers*", *Advanced Materials* **2012**, 24, 6410–6415.
22. **A. Priimagi**, M. Saccone, G. Cavallo, A. Shishido, T. Pilati, P. Metrangolo, G. Resnati, "*Photoalignment and surface-relief grating formation are efficiently combined in low-molecular-weight halogen-bonded complexes*", *Advanced Materials* **2012**, 24, OP345–OP352.
21. **A. Priimagi**, G. Cavallo, A. Forni, M. Gorynsztejn-Leben, M. Kaivola, P. Metrangolo, R. Milani, A. Shishido, T. Pilati, G. Resnati, G. Terraneo, "*Halogen bonding versus hydrogen bonding in driving self-assembly and performance of light-responsive supramolecular polymers*", *Advanced Functional Materials* **2012**, 22, 2572–2579.
20. Z. Mahimwalla, K.G. Yager, J. Mamiya, A. Shishido, **A. Priimagi**, C.J. Barrett, "*Azobenzene photomechanics: prospects and potential application*", *Polymer Bulletin*, **2012**, 69, 967–1006, **invited review**.

19. R. Ahmed, **A. Priimagi**, C.F.J. Faul, I. Manners, "Redox-active, organometallic surface-relief gratings from azobenzene-containing polyferrocenylsilane block copolymers", *Advanced Materials* **2012**, 24, 926–931.
18. J.E. Koskela, J. Vapaavuori, J. Hautala, **A. Priimagi**, C.F.J. Faul, M. Kaivola, R.H.A. Ras "Surface-relief gratings and stable birefringence inscribed over a broad spectral range in supramolecular polymer-bisazobenzene complexes", *Journal of Physical Chemistry C* **2012**, 116, 2363–2370.
17. **A. Priimagi**, A. Shimamura, M. Kondo, T. Hiraoka, S. Kubo, J. Mamiya, M. Kinoshita, T. Ikeda, A. Shishido, "Location of the azobenzene moieties within the liquid-crystalline polymer network can dictate the direction of photoinduced bending", *ACS Macro Letters* **2012**, 1, 96–99.
16. A. Shimamura, **A. Priimagi**, J. Mamiya, T. Ikeda, Y. Yu, C. J. Barrett, A. Shishido, "Simultaneous analysis of optical and mechanical properties of cross-linked azobenzene-containing liquid-crystalline polymer films", *ACS Applied Materials & Interfaces* **2011**, 3, 4190–4196.
15. A. Shimamura, **A. Priimagi**, J. Mamiya, M. Kinoshita, T. Ikeda, A. Shishido, "Photoinduced bending upon pulsed irradiation in azobenzene-containing crosslinked liquid-crystalline polymers", *Journal of Nonlinear Optical Physics & Materials*, **2011**, 20, 405–413.
14. M. Virkki, M. Kauranen, **A. Priimagi**, "Different chromophore concentration dependence of photoinduced birefringence and second-order susceptibility during all-optical poling", *Applied Physics Letters* **2011**, 99, 183309–1–3.
13. J. Vapaavuori, V. Valtavirta, T. Alasaarela, J. Mamiya, **A. Priimagi**, A. Shishido, M. Kaivola, "Efficient Surface Structuring and Photoalignment of Supramolecular Polymer–Azobenzene Complexes through Rational Chromophore Design", *Journal of Materials Chemistry* **2011**, 21, 15437–15441.
12. A. Kravchenko, A. Shevchenko, V. Ovchinnikov, **A. Priimagi**, M. Kaivola, "Optical interference lithography using azobenzene-functionalized polymers for micro- and nanopatterning of silicon", *Advanced Materials* **2011**, 23, 4174–4177; **highlighted in Nature Photonics**.
11. T. Alasaarela, D. Zheng, L. Huang, **A. Priimagi**, B. Bai, A. Tervonen, S. Honkanen, M. Kuittinen, J. Turunen, "Single-layer one-dimensional nonpolarizing guided-mode resonance filters under normal incidence", *Optics Letters* **2011**, 36, 2411–2413.
10. **A. Priimagi**, A. Shevchenko, M. Kaivola, F.J. Rodríguez, M. Kauranen, P. Rochon, "Exceptionally high and stable photoinduced anisotropy in guest–host polymer mediated by chromophore aggregation", *Optics Letters* **2010**, 35, 1813–1815.
9. J. Vapaavuori, **A. Priimagi**, M. Kaivola, "Photoinduced surface-relief gratings in supramolecular bisazobenzene-polymer complexes", *Journal of Materials Chemistry* **2010**, 20, 5260–5264.
8. **A. Priimagi**, M. Kaivola, M. Virkki, F.J. Rodríguez, M. Kauranen, "Suppression of chromophore aggregation in amorphous polymeric materials: towards more efficient photoresponsive behavior", *Journal of Nonlinear Optical Physics & Materials* **2010**, 19, 57–73.

2005–2009

7. **A. Priimagi**, K. Lindfors, M. Kaivola, P. Rochon, "Efficient surface-relief gratings in hydrogen-bonded polymer–azobenzene complexes", *ACS Applied Materials & Interfaces* **2009**, 1, 1183–1189.
6. M. Ivanov, **A. Priimagi**, P. Rochon, "Effect of saturation on the diffraction efficiency of holographically recorded gratings in azopolymer films", *Optics Express* **2009**, 17, 844–849.

5. **A. Priimagi**, J. Vapaavuori, F.J. Rodríguez, C.F.J. Faul, M.T. Heino, O. Ikkala, M. Kauranen, M. Kaivola, "*Hydrogen-bonded polymer–azobenzene complexes: enhanced photoinduced birefringence with high temporal stability through interplay of intermolecular interactions*", *Chemistry of Materials* **2008**, 20, 6358–6363.
4. K. Lindfors, **A. Priimagi**, T. Setälä, A. Shevchenko, A.T. Friberg, M. Kaivola, "*Local polarization of tightly focused unpolarized light*", *Nature Photonics* **2007**, 1, 228–231.
3. **A. Priimagi**, M. Kaivola, F.J. Rodríguez, M. Kauranen, "*Enhanced photoinduced birefringence in polymer–dye complexes: hydrogen bonding makes a difference*", *Applied Physics Letters* **2007**, 90, 121103-1–3.
2. **A. Priimagi**, S. Cattaneo, M. Kauranen, "*Real-time monitoring of all-optical poling by two-beam second-harmonic generation*", *Optics Letters* **2006**, 31, 2178–2180.
1. **A. Priimagi**, S. Cattaneo, R.H.A. Ras, S. Valkama, O. Ikkala, M. Kauranen, "*Polymer–dye complexes: a facile method for high doping level and aggregation control of dye molecules*", *Chemistry of Materials* **2005**, 17, 5798–5802.

PATENTS AND INVENTION DISCLOSURES

8. **A. Priimagi**, C. Fedele, T. Ihalainen, "*A system for cell culturing*", Provisional Patent number FI20207148 (Finland), filing date **September 15, 2020**.
7. O. Wani, **A. Priimagi**, "*HUMICELL - a humidity- and temperature-sensitive system*", Invention Disclosure TKS0452020 (Tampere University), filing date **June 18, 2020**.
6. **A. Priimagi**, C. Fedele, T. Ihalainen, "*Light-reconfigurable platform*", Invention Disclosure TKS0422019 (Tampere University), filing date **March 5, 2020**.
5. M. Poutanen, O. Ikkala, **A. Priimagi**, "*Optical sensing of relative humidity, hydrogen-bonding gases and temperature using isomerization kinetics of hydroxyazobenzene derivatives*", Provisional Patent number FI20175784 (Finland), filing date **August 31, 2017**.
4. M. Poutanen, O. Ikkala, **A. Priimagi**, "*Azobenzene based sensors*", Invention Disclosure TTY4310822016 (Aalto University / Tampere University), filing date **October 17, 2016**.
3. A. Shishido, R. Tatsumi, **A. Priimagi**, Y. Kuwata, M. Fujimoto, K. Tsuruta, "*Color tunable resin*", Patent number 2012-229321 (Japan), filing date **October 16, 2012**.
2. A. Shishido, **A. Priimagi**, K. Hisano, Y. Kumagai, G. Suzuki, S. Nishimura, "*Method for manufacturing oriented film*", Patent number 2012-194598 (Japan), filing date **September 4, 2012**.
1. A. Shishido, K. Ogawa, **A. Priimagi**, M. Virkki, J. Mamiya, M. Yamada, "*Actuator for endovascular treatment*", Patent number 2012-120097 (Japan), filing date **May 25, 2012**.

PERSONALLY GIVEN INVITED TALKS

INTERNATIONAL CONFERENCES AND SYMPOSIA

34. **A. Priimagi**, "*Light-Tunable Actuators: Towards Programmability and Autonomous Decision Making*", Nanoscience Days 2020 (Jyväskylä, Finland; held remotely due to COVID) **October 2020**, plenary lecture.

33. **A. Priimagi**, "*Azobenzene Revisited: from Optical Humidity Sensing to Light-Driven Robots*", Central European Conference on Photochemistry (Bad Hofgastein, Austria) **February 2020, plenary lecture**.
32. H. Zeng, H. Zhang, M. Lahikainen, O. Ikkala, **A. Priimagi**, "*Liquid Crystal Network Actuators that Learn*", International Liquid Crystal Elastomer Conference (ILCEC2019) (Eindhoven, The Netherlands) **October 2019, invited talk**.
31. **A. Priimagi**, "*Towards autonomous, adaptive, and (re)programmable photomechanical actuators*", European Congress and Exhibition on Advanced Materials and Processes (Euromat2019) (Stockholm, Sweden) **September 2019, invited talk**.
30. **A. Priimagi**, "*Towards autonomous, adaptive, and (re)programmable photomechanical actuators*", Kick-off symposium of the German Cluster of Excellence Living, Adaptive and Energy-Autonomous Materials Systems (livMatS) (Freiburg, Germany) **September 2019, invited lecture**.
29. **A. Priimagi**, "*Towards autonomous, adaptive, and (re)programmable photomechanical actuators*", The Photonics & Electromagnetics Research Symposium (PIERS), symposium "Photosensitive Materials and Devices for Opto-mechanical Applications" (Rome, Italy) **June 2019, keynote lecture**.
28. **A. Priimagi**, "*Optical Sensing of Relative Humidity via Azobenzene Photoisomerization*", The Photonics & Electromagnetics Research Symposium (PIERS), symposium "Soft Matter Photonics: Photo-responsive Materials and Devices" (Rome, Italy) **June 2019, keynote lecture**.
27. **A. Priimagi**, "*Towards Autonomous, Adaptive, and Programmable Photomechanical Actuators*", Central European Conference on Photochemistry (Guangzhou, China) **March 2019, keynote lecture**.
26. **A. Priimagi**, "*Liquid crystal elastomer photoactuators: towards autonomy, self-regulation and reconfigurability*", The 4th ERC Grantees Conference: From Supramolecular Towards Systems Chemistry (Rehovot, Israel) **November 2018, invited talk**.
25. **A. Priimagi**, "*Liquid crystal elastomer photoactuators: towards autonomy, self-regulation and reconfigurability*", Telluride Conference Series, "Making and Breaking Bonds with Light", (Telluride, Colorado, USA) **July 2018, invited talk**.
24. **A. Priimagi**, "*Photoswitch-based humidity sensing & autonomous photoactuation — Showcasing recent research from the SPM group*", 3rd International Conference on Photoalignment and Photopatterning in Soft Materials, (Tampere, Finland) **June 2018, invited talk**.
23. **A. Priimagi**, "*Autonomous self-regulating liquid-crystal elastomer photoactuators*", 45th German Liquid Crystal Conference, (Luxembourg) **March 2018, invited talk**.
22. **A. Priimagi**, "*Optical humidity sensing based on azobenzene photoswitching*", SPIE Photonics West, Symposium "Organic Photonic Materials and Devices XX" (San Francisco, United States) **January 2018, invited talk**.
21. **A. Priimagi**, "*Autonomous self-regulated liquid-crystal elastomer actuators*", SPIE Photonics West, Symposium "Emerging Liquid Crystal Technologies XIII" (San Francisco, United States) **January 2018, invited talk**.
20. **A. Priimagi**, "*Moving polymers with light*", Doctoral School Seminar "Nanomaterials for modern technology", (Otepää, Estonia) **November 2017, invited talk**.
19. **A. Priimagi**, Hao Zeng, Owies M. Wani, "*Autonomous, self-regulating liquid-crystal elastomer photoactuators*", International Liquid-Crystal Elastomer Conference 2017, (Houston, USA) **October 2017, invited talk**.

18. **A. Priimagi**, *"Halogen-bonded photoresponsive materials: what and why"*, 2nd International Conference on Photoalignment and Photopatterning in Soft Materials (Nagoya, Japan) **November 2016, invited talk.**
17. **A. Priimagi**, *"Azobenzene-based surface patterns revisited: new insights with new materials?"*, SPIE Optics & Photonics, Symposium "Light manipulating Organic Materials and Devices III" (San Diego, United States) **August 2016, invited talk.**
16. **A. Priimagi**, *"Controlling order with light and light with order in liquid crystals: two case studies"*, SPIE Optics & Photonics, Symposium "Liquid Crystals XX" (San Diego, United States) **August 2016, invited talk.**
15. **A. Priimagi**, *"Towards halogen-bonded photoactuators: a glimpse into the future"*, 2nd International Symposium on Halogen Bonding (Göteborg, Sweden) **June 2016, invited talk.**
14. **A. Priimagi**, *"Azobenzene-based surface patterns revisited: new insights with new materials?"*, 1st Middle-Eastern Materials Science Conference (Abu Dhabi, UAE) **March 2016, invited talk.**
13. **A. Priimagi**, *"Photoinduced surface patterning with azo-polymers: how can supramolecular functionalization strategies serve us?"*, Annual Meeting of the German Physical Society (Regensburg, Germany) **March 2016, invited talk.**
12. **A. Priimagi**, *"Photonics and nanostructuring with azopolymers"*, 13th International Conference on Frontiers of Polymers and Advanced Materials (Marrakesh, Morocco) **March 2015, invited talk.**
11. **A. Priimagi**, *"Photoinduced surface patterning in azopolymers: how can noncovalent intermolecular interactions serve us?"*, 1st International Conference on Photoalignment and Photopatterning in Soft Materials (Hong Kong) **November 2014, invited talk.**
10. **A. Priimagi**, M. Saccone, G. Cavallo, G. Terraneo, G. Resnati, P. Metrangolo, *"Halogen-Bonded Light-Controllable Materials"*, 1st International Symposium on Halogen Bonding (Lecce, Italy) **June 2014, invited talk.**
9. **A. Priimagi**, R. J. Moerland, A. Kravchenko, J. E. Koskela, A. Shevchenko, R. H. A. Ras. M. Kaivola, *"Azobenzene-based nanostructuring"*, Novel Optical Materials and Applications 11 (Cetraro, Italy) **June 2013, invited talk.**
8. **A. Priimagi**, *"New targets and novel materials for azobenzene-based surface patterning"*, 96th Canadian Chemistry Conference, Symposium on Azobenzene Research (Quebec, Canada), **May 2013, invited talk.**
7. **A. Priimagi**, A. Shishido, *"Photoinduced motions and nonlinear optical properties of azobenzene-based materials"*, SPIE Optics & Photonics, Symposium "Liquid Crystals XVI" (San Diego, United States) **August 2012, invited talk.**
6. **A. Priimagi**, *"Halogen-Bonded Photoresponsive Materials"*, Supramolecular Chemistry: Where Nano meets Bio (Milan, Italy) **June 2012, invited talk.**
5. **A. Priimagi**, *"Photoinduced surface patterning in azo-polymers: supramolecular control and redox activity"*, 95th Canadian Chemistry Conference (Calgary, Canada) **May 2012, invited talk.**
4. **A. Priimagi**, G. Cavallo, R. Milani, G. Terraneo, G. Resnati, P. Metrangolo, A. Shimamura, J. Mamiya, A. Shishido, M. Kaivola, *"Insights into the photomechanical response of amorphous and liquid-crystalline azobenzene-containing polymer systems"*, Novel Optical Materials and Applications 10 (Cetraro, Italy) **June 2011, invited talk.**

3. **A. Priimagi**, F. J. Rodriguez, J. Vapaavuori, O. Ikkala, M. Kauranen, M. Kaivola, "*Photoinduced anisotropy and surface-relief gratings in hydrogen-bonded polymer–azobenzene complexes*", 8th Japan–Finland Joint Symposium on Optics in Engineering (Tokyo, Japan) **September 2009, invited talk**.
2. **A. Priimagi** F. J. Rodriguez, J. Vapaavuori, P. Rochon, O. Ikkala, M. Kauranen, M. Kaivola, "*Photoinduced anisotropy and surface-relief gratings in hydrogen-bonded polymer–azobenzene complexes*", Novel Optical Materials and Applications 10 (Cetraro, Italy) **June 2009, invited talk**.
1. **A. Priimagi**, S. Cattaneo, R. H. A. Ras, S. Valkama, O. Ikkala, M. Kauranen, "*Supramolecular guest–host systems: combining high dye doping level with low aggregation tendency*", SPIE Optics & Photonics, Symposium "Linear and Nonlinear Optical Properties of Organic Materials"; Proc. SPIE Vol. 6331, 63310L/1–9 (San Diego, United States) **August 2006, invited talk**.

SCHOOLS, SEMINARS, AND FOREIGN UNIVERSITIES

19. **A. Priimagi**, "*Photomechanical Actuators: From Autonomy to "Learning"*", Laboratory of Stimuli-Responsive Functional Materials & Devices, (host Prof. Albert Schenning), Technical University of Eindhoven, The Netherlands **December 2019, invited talk**.
18. **A. Priimagi**, "*Towards autonomous, adaptive, and (re)programmable photomechanical actuators*", Istituto Italiano Di Tecnologia, Center for Advanced Biomaterials for Healthcare CRIB, Napoli, Italy (host Prof. Paolo Netti), **September 2019**.
17. **A. Priimagi**, "*Light-driven soft robots: Towards programmability and autonomous decision making*", Annual Research Seminar of HYBER Centre of Excellence (host Prof. Olli Ikkala), Aalto University, Finland, **November 2018**.
16. **A. Priimagi**, "*Moving polymers with light*", Institute of Physics (host Prof. Jaak Kikas), Tartu University, Estonia, **November 2017**.
15. **A. Priimagi**, "*Autonomous, self-regulated photoactuators*", Department of Chemistry (host Prof. Stefan Hecht), Humboldt University, Germany, October **2017**.
14. **A. Priimagi**, "*Moving polymers with light*", in "9th International Summer School New Frontiers in Optical Technologies", Tampere University of Technology, Finland, August **2017**.
13. **A. Priimagi**, "*Autonomous, self-regulated photoactuators*", Physics Brown Bag Seminar (host Prof. Peter Liljeroth), Aalto University, Finland, April **2017**.
12. **A. Priimagi**, "*The Many Faces of Azobenzene-Based Materials: Selected Examples on Photoactuation and Photoswitching*", Max Planck Institute for Polymer Research (host Dr. Si Wu), Germany, January **2017**.
11. **A. Priimagi**, "*Azobenzene Photomechanics*", Department of Chemistry (host Prof. K. Lindfors), University of Cologne, Germany, January **2017**.
10. **A. Priimagi**, "*The many faces of azobenzene photomechanics: a glimpse into the future*", Seminar "Supramolecular Soft Materials" (host Prof. P. Metrangolo), Politecnico di Milano, Italy, January **2016**.
9. **A. Priimagi**, "*Halogen-Bonded Functional Materials*", Laboratory of Organic Electronics (host Prof. M. Berggren), Linköping University, Sweden, November **2015**.

8. **A. Priimagi**, *"New targets and novel materials for azopolymer surface patterns"*, Functional Organic Materials and Devices Laboratory (host Prof. A. Schenning), Technical University of Eindhoven, Netherlands, August **2015**.
7. **A. Priimagi**, *"New targets and novel materials for azopolymer surface patterns"*, International Symposium of the Finnish Centre of Excellence HYBER (host Prof. Olli Ikkala), Aalto University, Finland, May **2015**.
6. **A. Priimagi**, *"New targets and novel materials for azobenzene-based surface patterning"*, Laboratory of Advanced Materials (host Prof. Xiaogong Wang), Tsinghua University, China, October **2014**.
5. **A. Priimagi**, *"Halogen-bonded light-controllable materials"*, Department of Materials Science and Engineering (host Prof. Haifeng Yu), Peking University, China, October **2014**.
4. **A. Priimagi**, *"Halogen-bonded photoresponsive supramolecular complexes"*, Department of Applied Chemistry and Biotechnology (host Prof. Shiki Yagai), Chiba University, Japan, November **2012**.
3. **A. Priimagi**, *"Halogen-bonded photoresponsive supramolecular complexes"*, Department of Applied Chemistry and Biotechnology (host Prof. Shiki Yagai), Chiba University, Japan, November **2012**.
2. **A. Priimagi**, *"Insights into the photoinduced motions in amorphous and liquid-crystalline azobenzene-containing polymer systems"*, Department of Molecular Design & Engineering (host Prof. Takahiro Seki), Nagoya University, Japan, August **2011**.
1. **A. Priimagi**, *"Insights into the photoinduced motions in amorphous and liquid-crystalline azobenzene-containing polymer systems"*, Center for Optical Research and Education (host Prof. Toyohiko Yatagai), Utsunomiya University, Japan, August **2011**.