Chemnitz University of Technology
Institute of Physics
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13/02/2026

Research focus: Functional materials for optoelectronics
My research connects the synthesis of novel semiconductors with their eventual application in optoelectronic devices. The core aim is to understand and to exploit the impact of nano-sized tailoring and chemical modification on the photophysical properties of materials processed from solution.

EDUCATION & DEGREES

Double Doctorate in Materials Physics/Materials Science, with distinction (1.0)[1] 2018
University of Groningen, The Netherlands
Friedrich-Alexander University Erlangen-Nuremberg, Germany
Advisors: Prof. Dr. Maria A. Loi, Prof. Dr. Christoph J. Brabec

Master of Science in Nanotechnology, with distinction (1.1) 2013
Friedrich-Alexander University Erlangen-Nuremberg, Germany

Bachelor of Engineering in Microtechnology, very good (1.5) 2011
University of Applied Sciences Zwickau, Germany

PROFESSIONAL EXPERIENCE

Tenure Track Juniorprofessor in Experimental Semiconductor Physics since 2023
Chemnitz Institute of Physics, University of Technology, Germany

Early Career Fellow, Junior PI 2022-2023
Department of Chemical Engineering and Biotechnology (CEB), University of Cambridge, United Kingdom

Research Fellow, Senior Postdoc 2021-2022
Cavendish Laboratory & CEB, University of Cambridge, United Kingdom

DFG Research Fellow, Senior Postdoc 2019-2020
Zernike Institute for Advanced Materials, Groningen, The Netherlands

Research Associate, Postdoc 2018
Zernike Institute for Advanced Materials, Groningen, The Netherlands

Research Assistant, PhD student 2014-2017
Institute of Materials for Electronics and Energy Technology, Erlangen, Germany
Zernike Institute for Advanced Materials, Groningen, The Netherlands

HONOURS & FUNDING

Research grant *Singlet and triplet energy transfer In two-dimensional hybrid perovskites (INTENSITY)*, DFG-Weave, €287432 2025
Consortium with Prof. David Beljonne (UMons) & Dr. Wouter van Gompel (UHasselt)

Emerging Investigators in Materials Science ACS Materials Letters 2025

Research grant *Modern light-emitting diodes and organic solar cells: new pathways towards a more sustainable production and use of energy (Nachleuchten)*, European Regional Development Fund, €1726709 2024
Consortium with Prof. Robert Kretschmer & Prof. Carsten Deibel (Chemnitz)

Research grant *Femtosecond laser spectro-microscopy set-up*, German Research Foundation, €350000 2024

Emerging Investigator Journal of Materials Chemistry C 2023

[1] German grading system: 1.0 is the best grade, below 4.0 counts as failed.

Early Career Fellowship *Hybrid nanostructures for chiral optoelectronics – polarising communication*, Leverhulme Trust, United Kingdom; £118000 2022

Matching funding for Leverhulme ECF Isaac Newton Trust, Cambridge, United Kingdom; £50000 2022

College Research Associate Sidney Sussex College, Cambridge 2021

Postdoctoral Fellowship *Spatio-temporal spectroscopy for characterising perovskite solar cells incorporating low-dimensional structures*, German Academic Exchange Service, short-term programme (6 months); €18704 2021

Postdoctoral Fellowship *Hot charge carriers in tin-based perovskite solar cells to exceed the Shockley-Queisser limit*, German Research Foundation; €66951 2019

Research Grant, *Hot-carrier extraction in tin-based perovskite solar cells to exceed the Shockley-Queisser limit* funded by the Dutch Research Council 2018
Grant design and participation in submission in the name of Prof. M. A. Loi
Funding volume €325095

Poster Award, Next Generation OPV II conference, Groningen, The Netherlands 2015

Doctoral Scholarship, Ubbo Emmius Foundation, University of Groningen, The Netherlands 2014-2015

Thesis Award for best bachelor's thesis 2011, Mentor e. V., Zwickau, Germany 2013

ACADEMIC VISITS & INTERNATIONAL EXPERIENCE

Visiting researcher in the group Prof. Sam Stranks University of Cambridge since 2023

Visiting researcher in the group of Prof. Andrea Mura, University of Cagliari, Italy 2019

Visiting researcher in the group of Prof. Andrea Mura, University of Cagliari, Italy 2017

Undergraduate studies at the University of Linköping, Sweden 2012

TEACHING EXPERIENCE

Independent coursework

Semiconductor Physics & Nanostructures, master level, Chemnitz since 2024

Halide Perovskites in Optoelectronics, master level, Chemnitz since 2023

Contributions to courses

Advanced lab course in Physics, master level, Chemnitz 2025

Oberseminar in Advanced Functional Materials, master level, Chemnitz 2024

DOCTORAL PROJECTS

(Co-)Supervisor:

Khadija Khaled, *Operando microscopy of solution-processed solar cells*, Chemnitz since 2025

Arina Narudin, *Synthesis of novel perovskite compounds for optoelectronics*, Chemnitz since 2023

Mengru Sun, *Spectroscopy and microsocpy of novel semiconductors*, Chemnitz since 2023

Shenyu Nie, *Nanomaterials for optical communication*, Cambridge since 2023

Daily advisor:

Barnaby Lewis, *Transient absorption spectroscopy on perovskite solar cells*, Cambridge since 2021

Alan Baldwin, *Statistical analysis of charge carrier recombination*, Cambridge 2021-2023

Eelco K Tekelenburg, *Photophysics of novel perovskite materials*, Groningen 2019-2021

STUDENT THESES

Supervisor: since 2023

1 master's thesis, 2 research project/academic visits since

Daily advisor: 2014-2023

3 master's theses, 3 bachelor's theses, 2 internships/visits

CONFERENCES & SEMINARS

ORGANISATION

Next Generation Solar Energy PhD/Postdoc Series since 2022
Co-organiser of a bi-weekly seminar series for emerging researchers in the field of materials science and renewable energy
https://www.ngse.info/phd-postdoc-series

2D Perovskites: Synthesis, Properties, and Applications 2023
Symposium co-organisation at the MATSUS23 Spring Meeting, Valencia, Spain

Two-Dimensional Perovskites - Fundamentals, Applications, and Perspectives 2021
Symposium co-organisation at the NanoGe Spring Meeting, online

CONTRIBUTIONS (last five years)

Broad emission bands in halide perovskite-inspired materials – current understanding and open questions 2024
Perovskite Workshop – Multi-Timescale Dynamic Processes in Metal Halide Perovskites: From Fundamentals to Applications, Lund, Sweden (**invited**)

Unravelling the Photophysics of Halide Perovskites with PL Spectro-Microscopy 2024
International Conference on Science and Technology of Synthetic Electronic Materials, Dresden, Germany (**invited**)

Photophysics of Halide Perovskites – Making Sense of Some Puzzling Observations 2024
Semiconductor Physics Group, University of Leipzig, Germany (**invited**)

The power of optical spectro-microscopy in the realm of energy materials 2024
Sino-German Workshop on Printable Photovotlaics, Erlangen, Germany (**invited**)

Luminescence in 2D perovskites – on trapping and self-trapping 2023
European Materials Research Society, Warsaw, Poland (**invited**)

Luminescence in 2D perovskites – on trapping and self-trapping 2023
ACS Fall2023, San Francisco, USA (**invited**)

Luminescence in 2D perovskites – on trapping and self-trapping 2022
Emerging Light Emitting Materials 22, Limassol, Cyprus (oral)

Beware of the local effects – 2D perovskites under the microscope 2022
NanoGe Strain and 2D Perovskites (S2DP) seminar, online (**invited**)

Luminescence in 2D perovskites – on trapping and self-trapping 2022
Centre for Processable Electronics Annual Symposium *Imperial College, London, United Kingdom*, (**invited**)

Taking a closer look: the power of optical microscopy to unravel the complex world of two-dimensional perovskites 2022
Seminar talk in *Next Generation Solar Energy, PhD-postdoc series*, online (**invited**)

Hot, Bright, and Trapped States: Luminescence of Two-Dimensional Perovskites and Lessons Learnt from Photoluminescence Microsocpy 2021
Seminar talk in *Optoelectronics of Halide Perovskites* series, University of Bayreuth, Germany (**invited**)

Broad Emission Bands in Two-Dimensional Perovskites and the Role of Exciton Self-Trapping 2021
NanoGe Fall Meeting, online (oral)

OUTREACH & PROFESSIONAL SERVICES

Outreach presentation *Printed solar cells and the future of photovoltaics* as part of 'Schülerlabor", a week-long introduction to research at the Institute of Physics, Chemnitz, Germany 2024

Outreach presentation *Organische Solarzellen* as part of 'Lüscher Lectures 2023' for Physics teachers at secondary schools, Dillingen, Germany 2023

Outreach presentation *Lead sulphide colloidal quantum dots* for "Francken" student association, Groningen, The Netherlands 2018

Outreach presentation *Electrical power from the sun* as a part of university lecture series *Studium Generale*, Zwickau, Germany 2011

Guest Editor *Exploiting Dimensionality in Hybrid Metal Halides – Design, Properties, Applications*, *Small Structures* special issue 2025

Member of programme commission & exam commission Advanced Functional Materials (MSc), Chemnitz University of Technology since 2024

Liaison lecturer Friedrich-Ebert Foundation, Bonn, Germany since 2024

Grant reviewer National Science Centre Poland since 2024

Reviewer for Feodor-Lynen scholarships Alexander von Humboldt Foundation since 2021

Member of German Physical Society (DPG) since 2022

Peer-reviewer including for *ACS Nano*, *Adv. Funct. Mater.*, *Adv. Mater.*, *Joule*, *J. Am. Chem. Soc.*, *J. Phys. Chem. Lett.*, *Sci. Adv.*, *Appl. Phys. Lett.*

PUBLICATIONS

Currently, 53 published reports in international peer-reviewed journals, 17 of which as first author and four as (co-)corresponding author, accumulate a total of 3095 citations with a Hirsch index of 29 and an i10 index of 44 (Google scholar). * Denotes corresponding authorship.

1. D. Guo, T. A. Selby, S. Kahmann, S. Gorgon, L. Dai, M. Dubajic, T. C.-J. Yang, S. M. Fairclough, T. Marsh, I. E. Jacobs, B. Wu, R. Guo, S. Nagane, T. A. Doherty, K. Ji, C. Liu, Y. Lu, T. Kang, C. Mamak, J. Mao, P. Müller-Buschbaum, H. Sirringhaus, P. A. Midgley, S. Stranks, Picosecond quantum transients in halide perovskite nanodomain superlattices, *Nature Nanotechn.* just accepted (2025)
2. Z. Y. Ooi, S. Nie, G. Vega, M. C. Lai, A. Jiménez-Solano, C.-S. Huang, H. Wang, T. Liu, K. Gałkowski, M. P. Nowak, P. Nyga, Q. Cheng, C. Ducati, S. Carretero-Palacios, S. Kahmann, S. D. Stranks, M. Anaya, Resonant Cavity Effect for Spectrally Tunable and Efficient Narrowband Perovskite Photodetectors, *ACS Photonics* 12, 4119 (2025)
3. Z. Wei, M. Dubajic, C. Chosy, S. Kahmann, S. D. Stranks, Photoluminescence microscopy of optoelectronic materials, *Nat Rev Methods Primers* 5, 37 (2025)
4. M. Dubajic, J. R. Neilson, J. Klarbring, X. Liang, S. A. Bird, K. C. Rule, J. E. Auckett, T. A. Selby, G. Tumen-Ulzii, Y. Lu, Y.-K. Jung, C. Chosy, Z. Wei, Y. Boeije, M. v. Zimmermann, A. Pusch, L. Gu, X. Jia, Q. Wu, J. C. Trowbridge, E. M. Mozur, A. Minelli, N. Roth, K. W. P. Orr, A. Mahboubi Soufiani, S. Kahmann, I. Kabakova, J. Ding, T. Wu, G. J. Conibeer, S. P. Bremner, M. P. Nielsen, A. Walsh, S. D. Stranks, Dynamic nanodomains dictate macroscopic properties in lead halide perovskites, *Nature Nanotechnology* 20, 755–763 (2025)
5. *S. Kahmann, Pathways, probes, and puzzles of broadband luminescence in "perovskite-inspired" materials, *Adv. Mater. Lett.* 7, 1732 (2025)
6. Z. Y. Ooi, A. Jiménez-Solano, K. Gałkowski, Y. Sun, J. Ferrer Orri, K. Frohna, H. Salway, S. Kahmann, S. Nie, G. Vega, S. Kar, M. P. Nowak, S. Maćkowski, P. Nyga, C. Ducati, N. C. Greenham, B. V. Lotsch, M. Anaya, S. D. Stranks, Strong angular and spectral narrowing of electroluminescence in an integrated Tamm-plasmon-driven halide perovskite LED, *Nature Communications* 15, 5802 (2024), publisher: Nature Publishing Group
7. X. Luo, W. Xu, G. Zheng, S. Tammireddy, Q. Wei, M. Karlsson, Z. Zhang, K. Ji, S. Kahmann, C. Yin, Y. Zou, Z. Zhang, H. Chen, L. Marcal, H. Zhao, D. Ma, D. Zhang, Y. Lu, M. Li, C. Deibel, S. D. Stranks, L. Duan, J. Wallentin, W. Huang, F. Gao, Effects of local compositional heterogeneity in mixed halide perovskites on blue electroluminescence, *Matter* 7, 1054 (2024)

8. K. W. P. Orr, J. Diao, M. N. Lintangpradipto, D. J. Batey, A. N. Iqbal, S. Kahmann, K. Frohna, M. Dubajic, S. J. Zelewski, A. E. Dearle, T. A. Selby, P. Li, T. A. S. Doherty, S. Hofmann, O. M. Bakr, I. K. Robinson, S. D. Stranks, Imaging light-induced migration of dislocations in halide perovskites with 3d nanoscale strain mapping, *Adv. Mater.* 35, 2305549 (2023)
9. Y. Zou, X. Bai, S. Kahmann, L. Dai, S. Yuan, S. Yin, J. E. Heger, M. Schwartzkopf, S. V. Roth, C.-C. Chen, J. Zhang, S. D. Stranks, R. D. Friend, P. Müller-Buschbaum, A practical approach towards highly reproducible and high-quality perovskite films based on an aging treatment, *Adv. Mater.* 36, 2307024 (2024)
10. M. Rivera Medina, L. Di Mario, S. Kahmann, J. Xi, G. Portale, G. Bongiovanni, A. Mura, J. C. Alonso-Huítron, M. A. Loi, Tuning the energy transfer in ruddlesden-popper perovskites phases through isopropylammonium addition - towards efficient blue emitters, *Nanoscale* 15, 6673 (2023)
11. H.-H. Fang, E. K. Tekelenburg, H. Xue, , S. Kahmann, L. Chen, S. Adjokatse, G. Brocks, S. Tao, M. A. Loi, Unraveling the broadband emission in mixed tin-lead layered perovskites, *Adv. Opt. Mater.* 11, 2202038 (2023)
12. *S. Kahmann, H. Duim, A. Rommens, G. H. Ten Brink, G. Portale, S. D. Stranks, M. A. Loi, Taking a closer look – how the microstructure of dion-jacobson perovskites governs their photophysics, *J. Mater. Chem. C* 10, 17539 (2022)
13. *S. Kahmann, D. Meggiolaro, L. Gregori, E. K. Tekelenburg, M. Pitaro, S. D. Stranks, F. De Angelis, M. A. Loi, The origin of broad emission in <100> two-dimensional perovskites: Extrinsic vs. intrinsic processes, *ACS Energy Letters* 7, 4232 (2022)
14. O. D. I. Moseley, B. Roose, S. J. Zelewski, S. Kahmann, K. Dey, S. D. Stranks, Tunable multiband halide perovskite tandem photodetectors with switchable response, *ACS Photonics* 9, 3958 (2022)
15. C. Cho, S. Feldmann, K. M. Yeom, Y.-W. Jang, S. Kahmann, J.-Y. Huang, T. C.-J. Yang, M. N. T. Khayyat, Y.-R. Wu, M. Choi, J. H. Noh, S. D. Stranks, N. C. Greenham, Efficient vertical charge transport in polycrystalline halide perovskites revealed by four-dimensional tracking of charge carriers, *Nature Materials* 21, 1388 (2022)
16. S. Kahmann, Z. Chen, O. Hordiichuk, O. Nazarenko, S. Shao, M. V. Kovalenko, G. R. Blake, S. Tao, M. A. Loi, Compositional Variation in $FAPb_{1-x}Sn_xI_3$ and Its Impact on the Electronic Structure: A Combined Density Functional Theory and Experimental Study, *ACS Appl. Mater. Interfaces* 4, 34253 (2022)
17. D. Bederak, A. Shulga, S. Kahmann, W. Talsma, J. Pelanskis, D. N. Dirin, M. V. Kovalenko, M. A. Loi, Heterostructure from PbS Quantum Dot and Carbon Nanotube Inks for High-Efficiency Near-Infrared Light-Emitting Field-Effect Transistors, *Advanced Electronic Materials* 8, 2101126 (2022)
18. J. Warby, F. Zu, S. Zeiske, E. Gutierrez-Partida, L. Frohloff, S. Kahmann, K. Frohna, E. Mosconi, E. Radicchi, F. Lang, S. Shah, F. Peña-Camargo, H. Hempel, T. Unold, N. Koch, A. Armin, F. De Angelis, S. D. Stranks, D. Neher, M. Stolterfoht, Understanding Performance Limiting Interfacial Recombination in *pin* Perovskite Solar Cells, *Advanced Energy Materials* 12, 2103567 (2022)
19. *S. Kahmann, H. Duim, A. J. Rommens, E. K. Tekelenburg, S. Shao, M. A. Loi, Grain-Specific Transitions Determine the Band Edge Luminescence in Dion–Jacobson Type 2D Perovskites, *Advanced Optical Materials* 9, 2100892 (2021)
20. S. Kahmann, H. Duim, H.-H. Fang, M. Dyksik, S. Adjokatse, M. Rivera Medina, M. Pitaro, P. Plochocka, M. A. Loi, Photophysics of Two-Dimensional Perovskites—Learning from Metal Halide Substitution, *Advanced Functional Materials* 31, 2103778 (2021)
21. J. Liu, B. Van der Zee, D. R. Villava, G. Ye, S. Kahmann, M. Kamperman, J. Dong, L. Qiu, G. Portale, M. A. Loi, J. C. Hummelen, R. C. Chiechi, D. Baran, L. J. A. Koster, Molecular Doping Directed by a Neutral Radical, *ACS Appl. Mater. Interfaces* 13, 29858 (2021)
22. A. Filippetti, S. Kahmann, C. Caddeo, A. Mattoni, M. Saba, A. Bosin, M. A. Loi, Fundamentals of tin iodide perovskites: a promising route to highly efficient, lead-free solar cells, *J. Mater. Chem. A* 9, 11812 (2021)

23. S. Shao, W. Talsma, M. Pitaro, J. Dong, S. Kahmann, A. J. Rommens, G. Portale, M. A. Loi, Field-Effect Transistors Based on Formamidinium Tin Triiodide Perovskite, *Advanced Functional Materials* 31, 2008478 (2021)
24. E. K. Tekelenburg, S. Kahmann, M. E. Kamminga, G. R. Blake, M. A. Loi, Elucidating the Structure and Photophysics of Layered Perovskites through Cation Fluorination, *Advanced Optical Materials* 9, 2001647 (2021)
25. S. Shao, M. Nijenhuis, J. Dong, S. Kahmann, G. H. ten Brink, G. Portale, M. A. Loi, Influence of the stoichiometry of tin-based 2D/3D perovskite active layers on solar cell performance, *J. Mater. Chem. A* 9, 10095 (2021)
26. D. Bederak, N. Sukharevska, S. Kahmann, M. Abdu-Aguye, H. Duim, D. N. Dirin, M. V. Kovalenko, G. Portale, M. A. Loi, On the Colloidal Stability of PbS Quantum Dots Capped with Methylammonium Lead Iodide Ligands, *ACS Appl. Mater. Interfaces* 12, 52959 (2020)
27. S. Kahmann, M. A. Loi, Trap states in lead chalcogenide colloidal quantum dots—origin, impact, and remedies, *Applied Physics Reviews* 7, 041305 (2020)
28. B. G. H. M. Groeneveld, H. Duim, S. Kahmann, O. De Luca, E. K. Tekelenburg, M. E. Kamminga, L. Protesescu, G. Portale, G. R. Blake, P. Rudolf, M. A. Loi, Photochromism in Ruddlesden–Popper copper-based perovskites: a light-induced change of coordination number at the surface, *J. Mater. Chem. C* 8, 15377 (2020)
29. S. Kahmann, O. Nazarenko, S. Shao, O. Hordiichuk, M. Kepenekian, J. Even, M. V. Kovalenko, G. R. Blake, M. A. Loi, Negative Thermal Quenching in $FASnI_3$ Perovskite Single Crystals and Thin Films, *ACS Energy Lett.* 5, 2512 (2020)
30. S. Kahmann, E. K. Tekelenburg, H. Duim, M. E. Kamminga, M. A. Loi, Extrinsic nature of the broad photoluminescence in lead iodide-based Ruddlesden–Popper perovskites, *Nat Commun* 11, 2344 (2020)
31. J. Dong, S. Shao, S. Kahmann, A. J. Rommens, D. Hermida-Merino, G. H. ten Brink, M. A. Loi, G. Portale, Mechanism of Crystal Formation in Ruddlesden–Popper Sn-Based Perovskites, *Advanced Functional Materials* 30, 2001294 (2020)
32. I. van de Riet, H.-H. Fang, S. Adjokatse, S. Kahmann, M. A. Loi, Influence of morphology on photoluminescence properties of methylammonium lead tribromide films, *Journal of Luminescence* 220, 117033 (2020)
33. M. Abdu-Aguye, D. Bederak, S. Kahmann, N. Killilea, M. Sytnyk, W. Heiss, M. A. Loi, Photophysical and electronic properties of bismuth-perovskite shelled lead sulfide quantum dots, *J. Chem. Phys.* 151, 214702 (2019)
34. G. Demirel, R. L. M. Gieseking, R. Ozdemir, S. Kahmann, M. A. Loi, G. C. Schatz, A. Facchetti, H. Usta, Molecular engineering of organic semiconductors enables noble metal-comparable SERS enhancement and sensitivity, *Nat Commun* 10, 5502 (2019)
35. H. Duim, S. Adjokatse, S. Kahmann, G. H. ten Brink, M. A. Loi, The Impact of Stoichiometry on the Photophysical Properties of Ruddlesden–Popper Perovskites, *Adv. Funct. Mater.* 30, 1907505 (2020)
36. R. Sun, J. Guo, Q. Wu, Z. Zhang, W. Yang, J. Guo, M. Shi, Y. Zhang, S. Kahmann, L. Ye, X. Jiao, M. A. Loi, Q. Shen, H. Ade, W. Tang, C. J. Brabec, J. Min, A multi-objective optimization-based layer-by-layer blade-coating approach for organic solar cells: rational control of vertical stratification for high performance, *Energy Environ. Sci.* 12, 3118 (2019)
37. S. Kahmann, A. Shulga, M. A. Loi, Quantum Dot Light-Emitting Transistors—Powerful Research Tools and Their Future Applications, *Advanced Functional Materials* 30, 1904174 (2020)
38. S. Kahmann, S. Shao, M. A. Loi, Cooling, Scattering, and Recombination—The Role of the Material Quality for the Physics of Tin Halide Perovskites, *Adv. Funct. Mater.* 29, 1902963 (2019)
39. S. Adjokatse, S. Kahmann, H. Duim, M. A. Loi, Effects of strontium doping on the morphological, structural, and photophysical properties of $FASnI_3$ perovskite thin films, *APL Materials* 7, 031116 (2019)

40. N. Gasparini, S. Kahmann, M. Salvador, J. D. Perea, A. Sperlich, A. Baumann, N. Li, S. Rechberger, E. Spiecker, V. Dyakonov, G. Portale, M. A. Loi, C. J. Brabec, T. Ameri, Favorable Mixing Thermodynamics in Ternary Polymer Blends for Realizing High Efficiency Plastic Solar Cells, *Adv. Energy Mater.* 9, 1803394 (2019)
41. S. Kahmann, M. A. Loi, Hot carrier solar cells and the potential of perovskites for breaking the Shockley–Queisser limit, *J. Mater. Chem. C* 7, 2471 (2019)
42. A. Classen, L. Einsiedler, T. Heumueller, A. Graf, M. Brohmann, F. Berger, S. Kahmann, M. Richter, G. J. Matt, K. Forberich, J. Zaumseil, C. J. Brabec, Absence of Charge Transfer State Enables Very Low V_{OC} Losses in SWCNT:Fullerene Solar Cells, *Adv. Energy Mater.* 9, 1801913 (2019)
43. A. G. Shulga, S. Kahmann, D. N. Dirin, A. Graf, J. Zaumseil, M. V. Kovalenko, M. A. Loi, Electroluminescence Generation in PbS Quantum Dot Light-Emitting Field-Effect Transistors with Solid-State Gating, *ACS Nano* 12, 12805 (2018)
44. S. Kahmann, W. Gomulya, M. A. Loi, A. Mura, Donor–acceptor photoexcitation dynamics in organic blends investigated with a high sensitivity pump–probe system, *J. Mater. Chem. C* 6, 10822 (2018)
45. S. Kahmann, M. A. Loi, C. J. Brabec, Delocalisation softens polaron electronic transitions and vibrational modes in conjugated polymers, *J. Mater. Chem. C* 6, 6008 (2018)
46. S. Kahmann, M. Sytnyk, N. Schrenker, G. J. Matt, E. Spiecker, W. Heiss, C. J. Brabec, M. A. Loi, Revealing Trap States in Lead Sulphide Colloidal Quantum Dots by Photoinduced Absorption Spectroscopy, *Adv. Electron. Mater.* 4, 1700348 (2018)
47. S. Kahmann, J. M. Salazar Rios, M. Zink, S. Allard, U. Scherf, M. C. dos Santos, C. J. Brabec, M. A. Loi, Excited-State Interaction of Semiconducting Single-Walled Carbon Nanotubes with Their Wrapping Polymers, *J. Phys. Chem. Lett.* 8, 5666 (2017)
48. S. Kahmann, D. Fazzi, G. J. Matt, W. Thiel, M. A. Loi, C. J. Brabec, Polarons in Narrow Band Gap Polymers Probed over the Entire Infrared Range: A Joint Experimental and Theoretical Investigation, *J. Phys. Chem. Lett.* 7, 4438 (2016)
49. S. Chen, Y. Hou, H. Chen, M. Richter, F. Guo, S. Kahmann, X. Tang, T. Stubhan, H. Zhang, N. Li, N. Gasparini, C. O. R. Quiroz, L. S. Khanzada, G. J. Matt, A. Osvet, C. J. Brabec, Exploring the Limiting Open-Circuit Voltage and the Voltage Loss Mechanism in Planar CH3NH3PbBr3 Perovskite Solar Cells, *Advanced Energy Materials* 6, 1600132 (2016)
50. X. Tang, M. Brandl, B. May, I. Levchuk, Y. Hou, M. Richter, H. Chen, S. Chen, S. Kahmann, A. Osvet, F. Maier, H.-P. Steinrück, R. Hock, G. J. Matt, C. J. Brabec, Photoinduced degradation of methylammonium lead triiodide perovskite semiconductors, *J. Mater. Chem. A* 4, 15896 (2016)
51. H. Chen, Y. Hou, C. E. Halbig, S. Chen, H. Zhang, N. Li, F. Guo, X. Tang, N. Gasparini, I. Levchuk, S. Kahmann, C. O. Ramirez Quiroz, A. Osvet, S. Eigler, C. J. Brabec, Extending the environmental lifetime of unpackaged perovskite solar cells through interfacial design, *J. Mater. Chem. A* 4, 11604 (2016)
52. S. Kahmann, A. Mura, L. Protesescu, M. V. Kovalenko, C. J. Brabec, M. A. Loi, Opto-electronics of PbS quantum dot and narrow bandgap polymer blends, *J. Mater. Chem. C* 3, 5499 (2015)
53. B. Beyer, D. Griese, C. Schirrmann, R. Pfeifer, S. Kahmann, O. R. Hild, K. Leo, Small molecule bulk heterojunction organic solar cells with coumarin-6 as donor material, *Thin Solid Films* 536, 206 (2013)