

Dr. Alexander Giovannitti

Email: ag19@stanford.edu, Homepage: www.gio-research.com

I am a material chemist with strong expertise in synthesizing high-performing polymeric organic semiconductors for electrochemical devices. My research mission is to design novel polymers to pave the way for sustainable electrocatalysts for energy/chemical conversion technologies. I thrive in collaborative, diverse, and open-minded research atmospheres, working along with colleagues in interdisciplinary settings to tackle global challenges.

Education

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| 10/2014-09/2017 | Ph.D. in Polymer Chemistry – Centre for Doctoral Training in Plastic Electronics, Department of Physics, Imperial College London, United Kingdom <i>McCulloch group</i> , ‘The development of organic semiconductors for p- and n-type accumulation mode organic electrochemical transistors (OECTs)’ - Design and synthesis of polymeric organic semiconductors for electrochemical devices (Date of Award: 01.01.2018) |
| 09/2013-10/2014 | MRes in Plastic Electronics , Imperial College London, United Kingdom <i>McCulloch group</i> , ‘Conducting polymers and their applications in organic electrochemical transistors (OECT)’ |
| 10/2007-11/2012 | Graduate in Chemistry (diploma) , Karlsruhe Institute of Technology, Germany <i>Bräse group</i> , ‘Optimized Synthesis of (Bis(benzo)methano)-fullerene compounds and their application towards Hexakis-substituted products’ |

Research Experience

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| Since 03/2019 | Postdoc (Postdoctoral Scholar)– Department of Material Science and Engineering, Stanford University, United States of America <i>Salleo group</i> , Development of recyclable energy storage and energy conversion devices based on solution processible redox-active polymeric organic semiconductors. |
| 10/2017-01/2019 | Postdoc (Research Assistant and Research Associate)– Department of Physics, <i>Imperial College London, United Kingdom</i> <i>Nelson group</i> , Design and evaluation of energy storage devices for environmentally friendly and safe (aqueous) electrolytes. |

Selected publications and dissemination (Web of Science, January 2022 [[link](#)])

- Published **33 peer-reviewed articles** (h-index: 20, > 1,600 citations)
 - Filled **three patent applications** based on developed materials and ideas.
 - Delivered > **10 presentations** at international conferences.
1. Siew Ting Melissa Tan, Tyler J. Quill, Maximilian Moser, Xingxing Chen, Alberto Salleo and **Alexander Giovannitti***, *Redox-active polymers designed for the circular economy of energy storage devices*, 2021, ACS Energy Lett. 2021, 6, 3450–3457. [[10.1021/acseenergylett.1c01625](https://doi.org/10.1021/acseenergylett.1c01625)]
 2. Anna A. Szumska, Iuliana P. Maria, Lucas Q. Flagg, Achilleas Savva, Jokubas Surgailis, Bryan D. Paulsen, Davide Moia, Xingxing Chen, Sophie Griggs, J. Tyler Mefford, Reem B. Rashid, Adam Marks, Sahika Inal, David S. Ginger, **Alexander Giovannitti*** and Jenny Nelson*, *Reversible electrochemical charging of n-type conjugated polymer electrodes in aqueous electrolytes*, J. Am. Chem. Soc., 2021, [[10.1021/jacs.1c06713](https://doi.org/10.1021/jacs.1c06713)]
 3. **Alexander Giovannitti***, Reem B. Rashid, Quentin Thiburce, Bryan Paulsen, Camila Cendra, Karl Thorley, Davide Moia, J. Tyler Mefford, David Hanifi, Du Weiyuan, Max Moser, Alberto Salleo, Jenny Nelson, Iain McCulloch, and Jonathan Rivnay, *Energetic control of redox-active polymers towards safe organic bioelectronic materials*, Adv. Mater. 2020, 32, 1908047. [[10.1002/adma.201908047](https://doi.org/10.1002/adma.201908047)]
 4. **Alexander Giovannitti**, Dan-Tiberiu Sbircea, Sahika Inal, Christian B. Nielsen, Enrico Bandiello, David A. Hanifi, Michele Sessolo, George G. Malliaras, Iain McCulloch and Jonathan Rivnay*. *Controlling the mode of operation of organic transistors through side chain engineering*, Proc. Nat. Acad. Sci., 2016, 113, 12017-12022 [[10.1073/pnas.1608780113](https://doi.org/10.1073/pnas.1608780113)]
 5. **Alexander Giovannitti***, Christian B. Nielsen, Dan-Tiberiu Sbircea, Sahika Inal, Mary Donahue, Muhammad R. Niazi, David A. Hanifi, Aram Amassian, George G. Malliaras, Jonathan Rivnay and Iain McCulloch. *N-type organic electrochemical transistors with stability in water*, Nat. Commun. 2016, 7, 13066-13075. [[10.1038/ncomms13066](https://doi.org/10.1038/ncomms13066)]

Teaching & Supervision

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| 2019 – 2020 | Postdoc Teaching Certificate, Stanford University Completed after 100 h of teaching training and in-person teaching, participated in courses at Stanford ‘Topics in Human-Computer Interaction at the Department of Computer Science and Inclusive and Effective Teaching. |
| 2020 – 2021 | Organic Semiconductors for Electronics and Photonics at Stanford University. Instructor (online course) for 20 graduate students (Spring term 2020 and 2021), course design (10 lectures), developing of course materials (problem sets/worksheets/exams), and grading of problem sets and exams. |
| 2019 – present | Supervision of graduate students (5 graduate students), Stanford University Subgroup leader, project planning, co-supervision, and training in the laboratory, publishing results in peer-reviewed journals. |
| 2014 – 2019 | Supervision of students (2 PhD, 1 MSc, and 2 BSc students), Imperial College London Subgroup leader, project planning, co-supervision, and training in the laboratory, publishing results in peer-reviewed journals. |
| 2016 | Tutor in Organic Chemistry, Imperial College London, United Kingdom Problem workshop in organic chemistry (first-year students) |
| 2010 – 2011 | Tutor in Organic Chemistry, Karlsruhe Institute of Technology, Germany Problem workshop in organic chemistry (second and third-year students) |

Funding & Research grants

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| 2021 – 2023 | Precourt Energy Stanford University, Strategic Energy Research Consortium grant (\$900.000) |
| 2020 | StorageX Initiative Seed-Funding: Recyclable polymer batteries, <i>Stanford University</i> (\$40.000) |
| 2019 – 2021 | TomKat Postdoctoral Fellowship in Sustainable Energy, <i>Stanford University</i> (24 months) |
| 2017 – 2018 | EPSRC Doctoral Prize Fellowship, <i>Imperial College</i> (12 months) |

Academic Awards

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| 2018 | Winner of the Outstanding PhD award 2017/2018, Department of Chemistry, <i>Imperial College</i> |
| 2017 | Finalist REAXYS Chemistry PhD Prize Award, one of the 10 finalists shortlisted from >450 candidates to give a talk at the REAXYS symposium 2017, <i>Shanghai</i> |
| 2017 | Graduate Student Award EMRS, <i>Strasbourg</i> – Best presented paper (Organic Bioelectronics symposium) |
| 2014 | Prize for the best M.Res. Project in Plastic Electronics, <i>Imperial College</i> |

Invited talks

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| 2021 | NanoGe Conference, ‘Unpaired electron materials’, Virtual Conference. |
| 2020 | Invited talk ‘Processable Energy Storage Materials – From Batteries to Sustainable Fuels’, <i>Imperial College London, UK</i> |
| 2019 | Stanford Polymer Collective seminar, <i>Stanford University, USA</i> |
| 2019 | Invited talk and seminar, <i>Max-Planck Institute for Polymer Research, Germany</i> |
| 2017 | Invited talk at the REAXYS PhD Prize Symposium, <i>Shanghai, China</i> . |

Professional services and outreach

Reviewer for Wiley, ACS, RSC (total of 17 reviews [\[link\]](#))

Organizer of the OMIEC symposium at NanoGe Conference, Spring 2022.

Outreach projects at the Science Festival, Imperial College London, 2014 to 2018.

Publication list

Peer-reviewed Publications (the corresponding author marked with *)

1. Imke Krauhausen, Dimitrios A. Koutsouras, Armantas Melianas, Scott T. Keene, Katharina Lieberth, Hadrien Ledanseau, Rajendar Sheelamantula, **Alexander Giovannitti**, Fabrizio Torricelli, Iain McCulloch, Paul W. M. Blom, Alberto Salleo*, Yoeri van de Burgt*, Paschalis Gkoupidenis* *Science Advances*, 2021, [[10.1126/sciadv.abl5068](https://doi.org/10.1126/sciadv.abl5068)].
2. Bryan D Paulsen, **Alexander Giovannitti**, Ruiheng Wu, Joseph Strzalka, Qingteng Zhang, Jonathan Rivnay*, Christopher J Takacs*, *Electrochemistry of Thin Films with In-Situ/Operando Grazing Incidence X-Ray Scattering: Bypassing Electrolyte Scattering for High Fidelity Time Resolved Studies*, 2021, *Small*, 17, 2103213 [[10.1002/sml.202103213](https://doi.org/10.1002/sml.202103213)]
3. Siew Ting Melissa Tan, Scott Tom Keene, **Alexander Giovannitti**, Armantas Melianas, Maximilian Moser, Iain McCulloch, Alberto Salleo*, *Operation Mechanism of Organic Electrochemical Transistors as Redox Chemical Transducers*, *J. Mater. Chem. C*, 2021, [[10.1039/d1tc02224e](https://doi.org/10.1039/d1tc02224e)]
4. Siew Ting Melissa Tan, Tyler J. Quill, Maximilian Moser, Xingxing Chen, Alberto Salleo and **Alexander Giovannitti***, *Redox-active polymers designed for the circular economy of energy storage devices*, 2021, *ACS Energy Lett.* 2021, 6, 3450–3457. [[10.1021/acsenergylett.1c01625](https://doi.org/10.1021/acsenergylett.1c01625)]
5. Anna A. Szumska, Iuliana P. Maria, Lucas Q. Flagg, Achilleas Savva, Jokubas Surgailis, Bryan D. Paulsen, Davide Moia, Xingxing Chen, Sophie Griggs, J. Tyler Mefford, Reem B. Rashid, Adam Marks, Sahika Inal, David S. Ginger, **Alexander Giovannitti*** and Jenny Nelson*, *Reversible electrochemical charging of n-type conjugated polymer electrodes in aqueous electrolytes*, *J. Am. Chem. Soc.*, 2021, 143, 36, 14795–14805 [[10.1021/jacs.1c06713](https://doi.org/10.1021/jacs.1c06713)].
6. Iuliana P. Maria*, Bryan Paulsen, Achilleas Savva, David Ohayon, Ruiheng Wu, Rawad Hallani, Aniruddha Basu, Weiyuan Du, Thomas Anthopoulos, Sahika Inal, Jonathan Rivnay, Iain McCulloch and **Alexander Giovannitti***, *The effect of alkyl spacers on the mixed ionic-electronic conduction properties of n-type polymers*, *Adv. Funct. Mater.* 2021, 2008718 [[10.1002/adfm.202008718](https://doi.org/10.1002/adfm.202008718)].
7. Maximilian Moser, Achilleas Savva, Karl Thorley, Bryan D Paulsen, Tania Cecilia Hidalgo, David Ohayon, Hu Chen, **Alexander Giovannitti**, Adam Marks, Nicola Gasparini, Andrew Wadsworth, Jonathan Rivnay, Sahika Inal, Iain McCulloch*, *Polaron Delocalization in Donor-Acceptor Polymers and its Impact on Organic Electrochemical Transistor Performance*, *Angew. Chem. Int. Ed.*, 2020 [[10.1002/anie.202014078](https://doi.org/10.1002/anie.202014078)]
8. Maximilian Moser, Tania Cecilia Hidalgo, Jokubas Surgailis, Johannes Gladisch, Sarbani Ghos, Rajendar Sheelamantula, Quentin Thiburce, **Alexander Giovannitti**, Alberto Salleo, Nicola Gasparini, Andrew Wadsworth, Igor Zozoulenko, Magnus Berggren, Eleni Stavrinidou, Sahika Inal, and Iain McCulloch*, *Side Chain Redistribution as a Strategy to Boost Organic Electrochemical Transistor Performance and Stability*, *Adv. Mater.* 2020, 32, 2002748 [[10.1002/adma.202002748](https://doi.org/10.1002/adma.202002748)]
9. Armantas Melianas*, Tyler J. Quill, Garrett. LeCroy, Yaakov. Tuchman, Hilbert v. Loo, Scott. T. Keene, **Alexander Giovannitti**, Hye R. Lee, Iuliana. P. Maria, Iain. McCulloch, Alberto Salleo*, *Temperature-resilient solid-state organic artificial synapses for neuromorphic computing*, *Science Advances*, 2020, 6, 27 [[10.1126/sciadv.abb2958](https://doi.org/10.1126/sciadv.abb2958)]
10. Siew Ting Melissa Tan, **Alexander Giovannitti***, Armantas Melianas, Maximilian Moser, Benjamin L. Cotts, Devan Singh, Iain McCulloch, Alberto Salleo *Chemical to Electrical Transduction using Floating-Gate Organic Electrochemical Transistors*, *Adv. Funct. Mater.* 2021, *Adv. Funct. Mater.* 2021, 2010868 [[10.1002/adfm.202010868](https://doi.org/10.1002/adfm.202010868)]
11. ***Alexander Giovannitti***, Reem B. Rashid, Quentin Thiburce, Bryan Paulsen, Camila Cendra, Karl Thorley, Davide Moia, J. Tyler Mefford, David Hanifi, Du Weiyuan, Max Moser, Alberto Salleo, Jenny Nelson, Iain McCulloch, and Jonathan Rivnay, *Energetic control of redox-active polymers towards safe organic bioelectronic materials*, *Adv. Mater.* 2020, 32, 1908047. [[10.1002/adma.201908047](https://doi.org/10.1002/adma.201908047)]
12. Achilleas Savva, Rawad Hallani, Camila Cendra, Jokubas Surgailis, Tania C Hidalgo, Shofarul Wustoni, Rajendar Sheelamantula, Xingxing Chen, Mindaugas Kirkus, **Alexander Giovannitti**, Alberto Salleo, Iain McCulloch, Sahika Inal, *Balancing Ionic and Electronic Conduction for High-Performance Organic Electrochemical Transistors*, *Adv. Funct. Mater.* 2020, 30, 1907657 [[10.1002/adfm.201907657](https://doi.org/10.1002/adfm.201907657)]
13. Johannes Gladisch, Eleni Stavrinidou,* Sarbani Ghosh, **Alexander Giovannitti**, Maximilian Moser, Igor Zozoulenko, Iain McCulloch, and Magnus Berggren, *Reversible Electronic Solid–Gel Switching of a Conjugated Polymer*, *Adv. Sci.* 2019, 1901144 [[10.1002/advs.201901144](https://doi.org/10.1002/advs.201901144)]
14. Maximilian Moser, James F. Ponder Jr., Andrew Wadsworth, **Alexander Giovannitti**, Iain McCulloch, *Materials in Organic Electrochemical Transistors for Bioelectronic Applications: Past, Present, and Future*, *Adv. Funct. Mater.* 2019, 29, 180703. [[10.1002/adfm.201807033](https://doi.org/10.1002/adfm.201807033)]
15. Maximilian Moser, Karl J Thorley, Floriana Moruzzi, James F Ponder, Iuliana P Maria, **Alexander Giovannitti**, Sahika Inal, Iain McCulloch, *Highly selective chromoionophores for ratiometric Na⁺ sensing based on an oligoethyleneglycol bridged bithiophene detection unit*, *J. Mater. Chem. C*, 2019, 7, 5359–5365. [[10.1039/c8tc06000b](https://doi.org/10.1039/c8tc06000b)]

16. *Davide Moia*(1), **Alexander Giovannitti***(1), Anna A. Szumska, Martin Schnurr, Elham Rezasoltani, Iuliana P. Maria, Piers R.F. Barnes, Iain McCulloch and Jenny Nelson*, *A salt water battery with high stability and charging rates made from solution processed conjugated polymers with polar side chains*, *Energy Environ. Sci.*, 2019, 12, 1349-1357 [[10.1039/C8EE03518K](https://doi.org/10.1039/C8EE03518K)].
17. Camila Cendra, **Alexander Giovannitti**, Achilleas Savva, Vishak Venkatraman, Iain McCulloch, Alberto Salleo, Sahika Inal, Jonathan Rivnay, *Role of the Anion on the Transport and Structure of Organic Mixed Conductors*, *Adv. Funct. Mater.* 2019, 29, 1807034. [[10.1002/adfm.201807034](https://doi.org/10.1002/adfm.201807034)]
18. Achilleas Savva, Camila Cendra, Andrea Giugni, Bruno Torre, Jokubas Surgailis, David Ohayon, **Alexander Giovannitti**, Iain McCulloch, Enzo Di Fabrizio, Alberto Salleo, Jonathan Rivnay, and Sahika Inal, *Influence of Water on the Performance of Organic Electrochemical Transistors*, *Chem. Mater.* 2019, 31, 927–937. [[10.1021/acs.chemmater.8b04335](https://doi.org/10.1021/acs.chemmater.8b04335)]
19. Quentin Thiburce, **Alexander Giovannitti**, Iain McCulloch, and Alasdair J. Campbell, *Absence of short-channel effects in sub-100 nm ion-doped polymer transistors*, *Nano Lett.*, 2019 [[10.1021/acs.nanolett.8b04717](https://doi.org/10.1021/acs.nanolett.8b04717)]
20. Vishak Venkatraman, Jacob T. Friedlein, **Alexander Giovannitti**, Iuliana P. Maria, Iain McCulloch, Robert R. McLeod, and Jonathan Rivnay, *Subthreshold operation of organic electrochemical transistors for bio-amplification*, *Adv. Sci.*, 2018, 1800453 [[10.1002/advs.201800453](https://doi.org/10.1002/advs.201800453)]
21. David Kiefer, Renee Kroon, Anna I. Hofmann, Hengda Sun, Xianjie Liu, **Alexander Giovannitti**, Dominik Stegerer, Alexander Cano, Jonna Hynynen, Liyang Yu, Yadong Zhang, Michael Sommer, Seth R. Marder, Adam J. Moulé, Iain McCulloch, Mats Fahlman, Simone Fabiano and Christian Müller, *Double Doping of Conjugated Polymers with Monomer Molecular Dopants*, *Nat. Mater.*, 2018, *Nat. Mater.* 2019, 18, 149 [[10.1038/s41563-018-0263-6](https://doi.org/10.1038/s41563-018-0263-6)]
22. Yi Zhang, Shofarul Wustoni, **Alexander Giovannitti**, Iain McCulloch and Sahika Inal*, *Lipid Bilayer Formation on Organic Electronic Materials*, *J. Mater. Chem. C*, 2018 [[10.1039/C8TC00370J](https://doi.org/10.1039/C8TC00370J)]
23. Yi Zhang, Achilleas Savva, Shofarul Wustoni, Adel Hama, Iuliana P. Maria, **Alexander Giovannitti**, Iain McCulloch, Sahika Inal, *Visualizing the solid–liquid interface of conjugated copolymer films using fluorescent liposomes*, *ACS Appl. Bio Mater.* 2018, 1 (5), 1348–1354. [[10.1021/acsabm.8b00323](https://doi.org/10.1021/acsabm.8b00323)]
24. ***Alexander Giovannitti***, Iuliana P. Maria, David Hanifi, Mary J. Donahue, Daniel Bryant, Katrina J. Barth, Beatrice E. Makdah, Achilleas Savva, Davide Moia, Matyáš Zetek, Piers Barnes, Obadiah G. Reid, Sahika Inal, Garry Rumbles, George G. Malliaras, Jenny Nelson, Jonathan Rivnay,* and Iain McCulloch, *The role of the side chain on the performance of n-type conjugated polymers in aqueous electrolytes*, *Chem. Mater.*, 2018, 30, 9, 2945–2953 [[10.1021/acs.chemmater.8b00321](https://doi.org/10.1021/acs.chemmater.8b00321)]
25. Anna-Maria Pappa, David Ohayon, **Alexander Giovannitti**, Iuliana Petruta Maria, Achilleas Savva, Ilke Uguz, Jonathan Rivnay, Iain McCulloch, Rosin M. Owens and Sahika Inal, *Direct metabolite detection with an n-type accumulation mode organic electrochemical transistor* *Sci. Adv.* 4, 2018, [[10.1126/sciadv.aat0911](https://doi.org/10.1126/sciadv.aat0911)]
26. **Alexander Giovannitti***, Karl J. Thorley, Christian B. Nielsen, Jun Li, Mary J. Donahue, George G. Malliaras, Jonathan Rivnay and Iain McCulloch, *Redox-stability of alkoxy-BDT copolymers and their use for organic bioelectronic devices*, *Adv. Funct. Mater.* 2018, 1706325 [[10.1002/adfm.20170632](https://doi.org/10.1002/adfm.20170632)]
27. David Kiefer, **Alexander Giovannitti**, Hengda Sun, Till Biskup, Anna Hofmann, Marten Koopmans, Camila Cendra, Stefan Weber, L. Jan Anton Koster, Eva Olsson, Jonathan Rivnay, Simone Fabiano, Iain McCulloch, Christian Müller, *Enhanced n-Doping Efficiency of a Naphthalenediimide-Based Copolymer through Polar Side Chains for Organic Thermoelectrics*, *ACS Energy Lett.* 2018, 3, 278-285. [[10.1021/acseenergylett.7b01146](https://doi.org/10.1021/acseenergylett.7b01146)]
28. Yu Zhang, Jun Li, Rui Li, Dan-Tiberiu Sbircea, **Alexander Giovannitti**, Junling Xu, Huihua Xu, Guodong Zhou, Liming Bian, Iain McCulloch, Ni Zhao, *Liquid–Solid Dual-Gate Organic Transistors with Tunable Threshold Voltage for Cell Sensing*, *ACS Appl. Mater. Interfaces*, 2017, 9, 38687 [[10.1021/acsami.7b09384](https://doi.org/10.1021/acsami.7b09384)]
29. ***Alexander Giovannitti**, Dan-Tiberiu Sbircea, Sahika Inal, Christian B. Nielsen, Enrico Bandiello, David A. Hanifi, Michele Sessolo, George G. Malliaras, Iain McCulloch and Jonathan Rivnay*. *Controlling the mode of operation of organic transistors through side chain engineering*, *Proc. Nat. Acad. Sci.*, 2016, 113, 12017-12022 [[10.1073/pnas.1608780113](https://doi.org/10.1073/pnas.1608780113)]
30. ***Alexander Giovannitti***, Christian B. Nielsen, Dan-Tiberiu Sbircea, Sahika Inal, Mary Donahue, Muhammad R. Niazi, David A. Hanifi, Aram Amassian, George G. Malliaras, Jonathan Rivnay and Iain McCulloch. *N-type organic electrochemical transistors with stability in water*, *Nat. Commun.* 2016, 7, 13066-13075. [[10.1038/ncomms13066](https://doi.org/10.1038/ncomms13066)]
31. Christian B. Nielsen*, **Alexander Giovannitti**, Dan-Tiberiu Sbircea, Enrico Bandiello, Muhammad R. Niazi, David A. Hanifi, Michele Sessolo, Aram Amassian, George G. Malliaras, Jonathan Rivnay and Iain McCulloch. *Molecular Design of Semiconducting Polymers for High-Performance Organic Electrochemical Transistors* *J. Am. Chem. Soc.*, 2016, 138, 10252–10259 [[10.1021/jacs.6b05280](https://doi.org/10.1021/jacs.6b05280)]

32. **Alexander Giovannitti***, Christian B. Nielsen, Jonathan Rivnay, Mindaugas Kirkus, David J. Harkin, Andrew J.P. White, Henning Sirringhaus, George G. Malliaras and Iain McCulloch. *Sodium and Potassium Ion Selective Conjugated Polymers for Optical Ion Detection in Solution and Solid State*, Adv. Funct. Mater., 2016, 26, 514–523. [[10.1002/adfm.201503791](https://doi.org/10.1002/adfm.201503791)]
33. **Alexander Giovannitti**, Stefan M. Seifermann, Angela Bihlmeier, Thierry Muller, Filip Topic, Kari Rissanen, Martin Nieger, Wim Klopper, Stefan Bräse*. *Single and Multiple Additions of Dibenzoylethane onto Buckminsterfullerene*. Eur. J. Org. Chem., 2013, 7907–7913. [[10.1002/ejoc.201301146](https://doi.org/10.1002/ejoc.201301146)]

Patent applications

- 3) **Alexander Giovannitti**, Anna-Maria Pappa and Sahika Inal, An n-type polymer for enzymatic metabolite sensing, 2018 (U.S. provisional application (no. 62618794)).
- 2) **Alexander Giovannitti**, Davide Moia, Piers Barnes and Iain McCulloch, Jenny Nelson, *Water-based electrochemical device*, 2017 (no. P114737GB)
- 1) **Alexander Giovannitti**, Iuliana P. Maria, Iain McCulloch, *N-type conjugated polymers*, 2017 (no. P111470GB).

Oral presentations

1. MRS Fall Meeting 12/2021, *Boston*, USA, ‘Redox-active polymers designed for the circular economy of energy storage devices’ (Talk #1) and ‘Reversible Charging of Redox-Active Conjugated polymers beyond the polaronic state in aqueous electrolytes’ (Talk #2)
2. Online Seminar Series, Energy topics, Department of Chemistry, *Imperial College London*, UK, 06/2021, ‘Redox-Active Polymers Designed for the Circular Economy of Energy Storage Devices’, (**Invited Talk**)
3. Polymer Electronics and Nanostructures seminar, Institute of Polymer Chemistry, *University of Stuttgart*, Germany 07/2021, ‘Redox-active Conjugated Polymers Designed for the Development of Recyclable Energy Storage Devices’ (**Invited Talk**)
4. Seminar UnisysCat and Institute of Chemistry, *TU Berlin*, Germany, 06/2021, ‘The development of redox-active conjugated polymers for energy storage and electrocatalysis’, (**Invited Talk**)
5. Materials for the Future Biomaterials Colloquium, *University College London*, UK, 03/2021, ‘Energetic control of redox-active polymers towards safe organic bioelectronic materials’ (**Invited Talk**)
6. GDCh Young Professor online seminar, 03/2021, ‘Synthesis and development of polymeric organic semiconductors and their application in energy electrochemical devices’ (Talk)
7. NanoGe Virtual Conference, 03/2021, ‘Energetic control of redox-active polymers towards safe organic bioelectronic materials’ (**Invited Talk**)
8. ACS Fall 2020 Virtual National Meeting, 08/2020 "Structure, Self-Assembly, & Transport in Ionic Systems", 'Organic Mixed Ionic/Electronic Conductors and their Application in Energy Storage devices' (Talk)
9. CPE online symposium, *Imperial College London*, UK, 06/2020, ‘Processable Energy Storage Materials – From Batteries to Sustainable Fuels, ‘Organic Mixed Ionic/Electronic Conductors and their use in Energy Storage Applications’ (**Invited Talk**)
10. MRS Fall Meeting 12/2019, *Boston*, USA, ‘Energetic control of redox active polymers towards safe organic bioelectronic materials’ (Talk #1) and ‘Development of zinc-polymer-air batteries for energy storage in safe and environmentally friendly electrolytes’ (Talk #2)
11. SPIE meeting, *San Diego*, USA, 08/2019 ‘The design of air-stable, redox active conjugated polymers and their applications in accumulation mode OECTs’ (Talk)
12. MRS Fall Meeting, *Boston*, USA, 12/2018 ‘A concept for fast charging of polymer electrodes in water based electrolytes’ and ‘The design of air-stable, redox active conjugated polymers and their applications in accumulation mode OECTs’
13. CPE Annual Symposium, *Imperial College*, UK, 06/2018 ‘Impact of polar side chains on the performance of n-type OECTs’ (**Invited talk**)
14. MRS Spring Meeting *Phoenix*, USA, 04/2018: Conjugated copolymers with polar side chains for energy storage in aqueous electrolytes’ (Talk)
15. BioEl 2018, *Kirchberg*, Austria, 03/2018, ‘Impact of polar side chains on the performance of n-type OECTs’ (Talk)
16. REAXYS PhD Prize Symposium, *Shanghai*, China, 10/1017 “Novel Materials for Organic Electrochemical Transistors (OECTs) and their Applications in Organic Bioelectronics” (**Invited talk**)
17. EMRS Spring, *Strasbourg*, France, 05/2017 “The influence of side chain engineering on the performance of n-type polymers in Organic Electrochemical Transistors (OECTs)” (Talk)
18. MRS Fall Meeting, *Boston*, USA, 11/2016: ‘N-type organic electrochemical transistors with stability in water’ (Talk)
19. CPE Annual Lecture & Symposium, *Imperial College*, UK, 09/2016, ‘N-type organic electrochemical transistors with stability in water’ (Talk)

20. CPE Annual Lecture & Symposium, *Imperial College*, UK, 09/2015, 'Ion selective conjugated Polymers for Bioelectronic Applications' (Talk)
21. London Polymer Group Symposium *Queen Mary University*, UK, 04/2015 'Sodium and potassium ion-selective conjugated polymers for optical ion detection' (Talk)
22. MRS Spring Meeting 2015, *San Francisco*, USA, 04/ 2015: "Ion Selective Polymers for Bioelectronic Applications" (Talk)