

# Sandrine Lyonnard

## List of Publications by Year in descending order

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44  
papers

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394421

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#	ARTICLE	IF	CITATIONS
1	Decoupling polymer, water and ion transport dynamics in ion-selective membranes for fuel cell applications. <i>Journal of Non-Crystalline Solids: X</i> , 2022, 13, 100073.	1.2	3
2	A Roadmap for Transforming Research to Invent the Batteries of the Future Designed within the European Large Scale Research Initiative BATTERY 2030+. <i>Advanced Energy Materials</i> , 2022, 12, .	19.5	70
3	Accelerating Battery Characterization Using Neutron and Synchrotron Techniques: Toward a Multi-Modal and Multi-Scale Standardized Experimental Workflow. <i>Advanced Energy Materials</i> , 2022, 12, .	19.5	17
4	Disentangling water, ion and polymer dynamics in an anion exchange membrane. <i>Nature Materials</i> , 2022, 21, 555-563.	27.5	32
5	(De)Lithiation and Strain Mechanism in Crystalline Ge Nanoparticles. <i>ACS Nano</i> , 2022, 16, 9819-9829.	14.6	8
6	Influence of Polymer Backbone Fluorination on the Electrochemical Behavior of Single-Ion Conducting Multiblock Copolymer Electrolytes. <i>ACS Macro Letters</i> , 2022, 11, 982-990.	4.8	5
7	Organic Liquid Crystals as Single-Ion Li <sup>+</sup> Conductors. <i>ChemSusChem</i> , 2021, 14, 655-661.	6.8	8
8	Combining <i>operando</i> X-ray experiments and modelling to understand the heterogeneous lithiation of graphite electrodes. <i>Journal of Materials Chemistry A</i> , 2021, 9, 4281-4290.	10.3	9
9	Progress in neutron techniques: towards improved polymer electrolyte membranes for energy devices. <i>Journal of Physics Condensed Matter</i> , 2021, 33, 264005.	1.8	3
10	Impact of ionomer structuration on the performance of bio-inspired noble-metal-free fuel cell anodes. <i>Chem Catalysis</i> , 2021, 1, 88-105.	6.1	14
11	Neutron imaging of <i>operando</i> proton exchange membrane fuel cell with novel membrane. <i>Journal of Power Sources</i> , 2021, 496, 229836.	7.8	7
12	Humidity-Induced Mechanical Behavior and Proton Transport Mechanism in Aromatic Multiblock Ionomer Membranes. <i>ACS Applied Energy Materials</i> , 2021, 4, 5809-5820.	5.1	2
13	Imaging Heterogeneous Electrocatalyst Stability and Decoupling Degradation Mechanisms in Operating Hydrogen Fuel Cells. <i>ACS Energy Letters</i> , 2021, 6, 2742-2749.	17.4	26
14	Data Management Plans: the Importance of Data Management in the BIG-MAP Project**. <i>Batteries and Supercaps</i> , 2021, 4, 1803-1812.	4.7	19
15	How do H <sub>2</sub> oxidation molecular catalysts assemble onto carbon nanotube electrodes? A crosstalk between electrochemical and multi-physical characterization techniques. <i>Chemical Science</i> , 2021, 12, 15916-15927.	7.4	5
16	Perfluorosulfonyl Imide versus Perfluorosulfonic Acid Ionomers in Proton-Exchange Membrane Fuel Cells at Low Relative Humidity. <i>ChemSusChem</i> , 2020, 13, 590-600.	6.8	8
17	Multi-scale quantification and modeling of aged nanostructured silicon-based composite anodes. <i>Communications Chemistry</i> , 2020, 3, .	4.5	30
18	In Situ Measurement of Ionomer Water Content and Liquid Water Saturation in Fuel Cell Catalyst Layers by High-Resolution Small-Angle Neutron Scattering. <i>ACS Applied Energy Materials</i> , 2020, 3, 8393-8401.	5.1	11

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19	Tailoring the Proton Conductivity and Microstructure of Block Copolymers by Counter-cation-Selective Membrane Fabrication. <i>Journal of Physical Chemistry C</i> , 2020, 124, 13071-13081.	3.1	5
20	Nano-architected Composite Anode Enabling Long-Term Cycling Stability for High-Capacity Lithium-Ion Batteries. <i>Small</i> , 2020, 16, e1906812.	10.0	37
21	Prelithiation of silicon/graphite composite anodes: Benefits and mechanisms for long-lasting Li-Ion batteries. <i>Energy Storage Materials</i> , 2020, 29, 190-197.	18.0	63
22	Combined Operando High Resolution SANS and Neutron Imaging Reveals in-Situ Local Water Distribution in an Operating Fuel Cell. <i>ACS Applied Energy Materials</i> , 2019, 2, 8425-8433.	5.1	16
23	Best Performing SiGe/Si Core-Shell Nanoparticles Synthesized in One Step for High Capacity Anodes. <i>Batteries and Supercaps</i> , 2019, 2, 970-978.	4.7	8
24	Multiscale Multiphase Lithiation and Delithiation Mechanisms in a Composite Electrode Unraveled by Simultaneous <i>Operando</i> Small-Angle and Wide-Angle X-Ray Scattering. <i>ACS Nano</i> , 2019, 13, 11538-11551.	14.6	40
25	Decoupling segmental relaxation and ionic conductivity for lithium-ion polymer electrolytes. <i>Molecular Systems Design and Engineering</i> , 2019, 4, 779-792.	3.4	129
26	Heterogeneous Nanostructural Aging of Fuel Cell Ionomer Revealed by Operando SAXS. <i>ACS Applied Energy Materials</i> , 2019, 2, 3071-3080.	5.1	11
27	Multiscale Water Dynamics in a Fuel Cell by Operando Quasi Elastic Neutron Scattering. <i>Journal of Physical Chemistry C</i> , 2018, 122, 1103-1108.	3.1	19
28	Aromatic Copolymer/Nafion Blends Outperforming the Corresponding Pristine Ionomers. <i>ACS Applied Energy Materials</i> , 2018, 1, 355-367.	5.1	10
29	Nanostructured multi-block copolymer single-ion conductors for safer high-performance lithium batteries. <i>Energy and Environmental Science</i> , 2018, 11, 3298-3309.	30.8	167
30	Controlling Microstructure-Transport Interplay in Highly Phase-Separated Perfluorosulfonated Aromatic Multiblock Ionomers via Molecular Architecture Design. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 1671-1683.	8.0	21
31	Unveiling the Ion Conduction Mechanism in Imidazolium-Based Poly(ionic liquids): A Comprehensive Investigation of the Structure-to-Transport Interplay. <i>Macromolecules</i> , 2017, 50, 4309-4321.	4.8	41
32	Water sub-diffusion in membranes for fuel cells. <i>Scientific Reports</i> , 2017, 7, 8326.	3.3	54
33	<i>Operando</i> Raman Spectroscopy and Synchrotron X-ray Diffraction of Lithiation/Delithiation in Silicon Nanoparticle Anodes. <i>ACS Nano</i> , 2017, 11, 11306-11316.	14.6	62
34	Polyaromatic ionomers with a highly hydrophobic backbone and perfluorosulfonic acids for PEMFC. <i>Electrochimica Acta</i> , 2016, 214, 182-191.	5.2	22
35	Highly Phase Separated Aromatic Ionomers Bearing Perfluorosulfonic Acids by Bottom-up Synthesis: Effect of Cation on Membrane Morphology and Functional Properties. <i>Macromolecules</i> , 2016, 49, 4164-4177.	4.8	20
36	Sub-diffusion and population dynamics of water confined in soft environments. <i>Nanoscale</i> , 2016, 8, 3314-3325.	5.6	20

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37	Synthesis of partially fluorinated poly(arylene ether sulfone) multiblock copolymers bearing perfluorosulfonic functions. <i>Journal of Polymer Science Part A</i> , 2015, 53, 1941-1956.	2.3	39
38	Effects of Block Length and Membrane Processing Conditions on the Morphology and Properties of Perfluorosulfonated Poly(arylene ether sulfone) Multiblock Copolymer Membranes for PEMFC. <i>ACS Applied Materials &amp; Interfaces</i> , 2015, 7, 13808-13820.	8.0	46
39	Water confined in self-assembled ionic surfactant nano-structures. <i>Soft Matter</i> , 2015, 11, 2469-2478.	2.7	13
40	Nanostructure and Transport Properties of Proton Conducting Self-Assembled Perfluorinated Surfactants: A Bottom-Up Approach toward PFSA Fuel Cell Membranes. <i>Macromolecules</i> , 2015, 48, 6166-6176.	4.8	57
41	Mechanism of Ionization, Hydration, and Intermolecular H-Bonding in Proton Conducting Nanostructured Ionomers. <i>Journal of Physical Chemistry C</i> , 2014, 118, 25468-25479.	3.1	24
42	Submicrometer 3D Structural Evidence of Fuel Cell Membrane Heterogeneous Degradation. <i>ACS Macro Letters</i> , 2014, 3, 778-783.	4.8	10
43	Quasielastic Neutron Scattering Study of Water Dynamics in Hydrated Nafion Membranes. <i>Journal of Physical Chemistry C</i> , 2007, 111, 3393-3404.	3.1	181
44	Water Dynamics in Ionomer Membranes by Field-Cycling NMR Relaxometry. <i>Journal of Physical Chemistry B</i> , 2006, 110, 5439-5444.	2.6	60