

# Lorraine F Francis

## List of Publications by Year in descending order

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95  
papers

3,683  
citations

147801  
31  
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133252  
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95  
docs citations

95  
times ranked

4960  
citing authors

#	ARTICLE	IF	CITATIONS
1	Gravure Printing of Graphene for Large-area Flexible Electronics. <i>Advanced Materials</i> , 2014, 26, 4533-4538.	21.0	298
2	Optimization of Aerosol Jet Printing for High-Resolution, High-Aspect Ratio Silver Lines. <i>ACS Applied Materials &amp; Interfaces</i> , 2013, 5, 4856-4864.	8.0	296
3	PROCESSING AND CHARACTERIZATION OF PIEZOELECTRIC MATERIALS AND INTEGRATION INTO MICROELECTROMECHANICAL SYSTEMS. <i>Annual Review of Materials Research</i> , 1998, 28, 563-597.	5.5	273
4	Oriented MFI Membranes by Gel-less Secondary Growth of Sub-100 nm MFI-Nanosheet Seed Layers. <i>Advanced Materials</i> , 2015, 27, 3243-3249.	21.0	182
5	Scalable, Self-Aligned Printing of Flexible Graphene Micro-Supercapacitors. <i>Advanced Energy Materials</i> , 2017, 7, 1700285.	19.5	167
6	All-Printed, Foldable Organic Thin-Film Transistors on Glassine Paper. <i>Advanced Materials</i> , 2015, 27, 7058-7064.	21.0	133
7	Lowering the percolation threshold of conductive composites using particulate polymer microstructure. <i>Journal of Applied Polymer Science</i> , 2001, 80, 692-705.	2.6	118
8	High-Resolution Transfer Printing of Graphene Lines for Fully Printed, Flexible Electronics. <i>ACS Nano</i> , 2017, 11, 7431-7439.	14.6	116
9	Screen Printing of Highly Loaded Silver Inks on Plastic Substrates Using Silicon Stencils. <i>ACS Applied Materials &amp; Interfaces</i> , 2015, 7, 12619-12624.	8.0	114
10	Rheological Property and Stress Development during Drying of Tape-Cast Ceramic Layers. <i>Journal of the American Ceramic Society</i> , 1996, 79, 3225-3234.	3.8	94
11	Sustainable near UV-curable acrylates based on natural phenolics for stereolithography 3D printing. <i>Polymer Chemistry</i> , 2019, 10, 1067-1077.	3.9	94
12	Solution-processable exfoliated zeolite nanosheets purified by density gradient centrifugation. <i>AIChE Journal</i> , 2013, 59, 3458-3467.	3.6	80
13	Silica nanoparticle dispersions in homopolymer versus block copolymer. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2007, 45, 2284-2299.	2.1	78
14	Electrical and mechanical behavior of carbon black-filled poly(vinyl acetate) latex-based composites. <i>Polymer Engineering and Science</i> , 2001, 41, 1947-1962.	3.1	72
15	A Raman spectroscopic method to find binder distribution in electrodes during drying. <i>Journal of Coatings Technology Research</i> , 2014, 11, 11-17.	2.5	71
16	Microstructure Evolution and Crystal Growth in Cu <sub>2</sub> ZnSnS <sub>4</sub> Thin Films Formed By Annealing Colloidal Nanocrystal Coatings. <i>Chemistry of Materials</i> , 2014, 26, 3191-3201.	6.7	66
17	Synergistic Toughening of Epoxy Modified by Graphene and Block Copolymer Micelles. <i>Macromolecules</i> , 2016, 49, 9507-9520.	4.8	63
18	Electrical and optical properties of ceramic-polymer nanocomposite coatings. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2003, 41, 1744-1761.	2.1	58

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19	Role of Localized Network Damage in Block Copolymer Toughened Epoxies. ACS Macro Letters, 2012, 1, 338-342.	4.8	57
20	In situ stress measurement apparatus for liquid applied coatings. Review of Scientific Instruments, 1997, 68, 4564-4568.	1.3	54
21	Predicting drying in coatings that react and gel: Drying regime maps. AIChE Journal, 1996, 42, 55-67.	3.6	52
22	Effect of block copolymer concentration and core composition on toughening epoxies. Polymer, 2014, 55, 4172-4181.	3.8	48
23	Engineering superior toughness in commercially viable block copolymer modified epoxy resin. Journal of Polymer Science, Part B: Polymer Physics, 2016, 54, 189-204.	2.1	46
24	A Self-Aligned Strategy for Printed Electronics: Exploiting Capillary Flow on Microstructured Plastic Surfaces. Advanced Electronic Materials, 2015, 1, 1500137.	5.1	43
25	Deformation Processes in Block Copolymer Toughened Epoxies. Macromolecules, 2015, 48, 3672-3684.	4.8	43
26	The effects of processing variables on stress development in ultraviolet-cured coatings. Journal of Applied Polymer Science, 1997, 66, 1267-1277.	2.6	41
27	High-Resolution, High-Aspect Ratio Conductive Wires Embedded in Plastic Substrates. ACS Applied Materials & Interfaces, 2015, 7, 1841-1847.	8.0	39
28	Poly(methyl methacrylate) Films with High Concentrations of Silicon Quantum Dots for Visibly Transparent Luminescent Solar Concentrators. ACS Applied Materials & Interfaces, 2020, 12, 4572-4578.	8.0	36
29	A study of stress development in aqueous gelatin coatings. Journal of Applied Polymer Science, 1999, 73, 553-561.	2.6	34
30	Dynamics of Capillary-Driven Flow in 3D Printed Open Microchannels. Langmuir, 2017, 33, 2949-2964.	3.5	34
31	Printed, Self-Aligned Side-Gate Organic Transistors with a Sub-5 Å Gate-Channel Distance on Imprinted Plastic Substrates. Advanced Electronic Materials, 2016, 2, 1600293.	5.1	33
32	Capillary Flow with Evaporation in Open Rectangular Microchannels. Langmuir, 2019, 35, 8131-8143.	3.5	33
33	The colloidal nature of complex fluids enhances bacterial motility. Nature, 2022, 603, 819-823.	27.8	33
34	Drying and cracking of soft latex coatings. Journal of Coatings Technology Research, 2013, 10, 441-451.	2.5	31
35	Effect of Nanocrystal Size and Carbon on Grain Growth during Annealing of Copper Zinc Tin Sulfide Nanocrystal Coatings. Chemistry of Materials, 2017, 29, 1676-1683.	6.7	31
36	Microstructure and performance of block copolymer modified epoxy coatings. Progress in Organic Coatings, 2014, 77, 1145-1154.	3.9	30

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37	Effect of lamp cycling on conversion and stress development in ultraviolet-cured acrylate coatings. Journal of Applied Polymer Science, 2002, 84, 2784-2793.	2.6	28
38	Formation of Copper Zinc Tin Sulfide Thin Films from Colloidal Nanocrystal Dispersions via Aerosol-Jet Printing and Compaction. ACS Applied Materials & Interfaces, 2015, 7, 11526-11535.	8.0	27
39	Wettability Contrast Gravure Printing. Advanced Materials, 2015, 27, 7420-7425.	21.0	26
40	Capillary Coatings: Flow and Drying Dynamics in Open Microchannels. Langmuir, 2018, 34, 7624-7639.	3.5	26
41	Adhesion Strength of Block Copolymer Toughened Epoxy on Aluminum. ACS Applied Polymer Materials, 2020, 2, 464-474.	4.4	26
42	Macroporous ceramics from ceramic-polymer dispersion methods. AIChE Journal, 1997, 43, 2878-2888.	3.6	22
43	Electrical and mechanical property transitions in carbon-filled poly(vinylpyrrolidone). Journal of Materials Research, 1999, 14, 4132-4135.	2.6	21
44	Facile Method for Fabricating Flexible Substrates with Embedded, Printed Silver Lines. ACS Applied Materials & Interfaces, 2014, 6, 1306-1312.	8.0	21
45	Stress development and film formation in multiphase composite latexes. Journal of Coatings Technology Research, 2014, 11, 827-839.	2.5	18
46	Water-based coatings for 3D printed parts. Journal of Coatings Technology Research, 2015, 12, 889-897.	2.5	18
47	Self-aligned inkjet printing of resistors and low-pass resistorâ€‘capacitor filters on roll-to-roll imprinted plastics with resistances ranging from 10 to 10 <sup>6</sup> Î©. Flexible and Printed Electronics, 2018, 3, 045003.	2.7	18
48	High-Resolution, High-Aspect-Ratio Printed and Plated Metal Conductors Utilizing Roll-to-Roll Microscale UV Imprinting with Prototype Imprinting Stamps. Industrial & Engineering Chemistry Research, 2018, 57, 16335-16346.	3.7	17
49	Effect of viscosity on liquid curtain stability. AIChE Journal, 2018, 64, 1448-1457.	3.6	16
50	Capillary-flow dynamics in open rectangular microchannels. Journal of Fluid Mechanics, 2021, 911, .	3.4	16
51	Inkjet-printed, self-aligned organic Schottky diodes on imprinted plastic substrates. Flexible and Printed Electronics, 2020, 5, 015006.	2.7	15
52	Mechanical properties of polymer-ceramic nanocomposite coatings by depth-sensing indentation. Polymer Engineering and Science, 2005, 45, 207-216.	3.1	14
53	Modulus- and Surface-Energy-Tunable Thiolâ€‘ene for UV Micromolding of Coatings. ACS Applied Materials & Interfaces, 2017, 9, 24976-24986.	8.0	14
54	Indentation measurements using a dynamic mechanical analyzer. Polymer Engineering and Science, 1998, 38, 1529-1535.	3.1	13

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55	Depthwise Viscosity Gradients in UV-Cured Epoxy Coatings. <i>Macromolecular Materials and Engineering</i> , 2013, 298, 145-152.	3.6	13
56	Stress Development in Hard Particle Coatings in the Absence of Lateral Drying. <i>Journal of the American Ceramic Society</i> , 2015, 98, 2214-2222.	3.8	13
57	Self-aligned capillarity-assisted printing of top-gate thin-film transistors on plastic. <i>Flexible and Printed Electronics</i> , 2018, 3, 035004.	2.7	13
58	Block Copolymer and Nanosilica-Modified Epoxy Nanocomposites. <i>ACS Applied Polymer Materials</i> , 2021, 3, 4156-4167.	4.4	13
59	Influence of the drying conditions on the particle distribution in particle-filled polymer films: Predictive simulation of the particle distribution during drying. <i>Journal of Composite Materials</i> , 2017, 51, 3391-3403.	2.4	12
60	Copper-Zinc-Tin-Sulfide Thin Films via Annealing of Ultrasonic Spray Deposited Nanocrystal Coatings. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 18865-18871.	8.0	12
61	Apatite Converted from 3-D Ordered Macroporous Sol-Gel Bioactive Glass (3DOM-BG) Particles. <i>Journal of the American Ceramic Society</i> , 2005, 88, 587-592.	3.8	11
62	Calcium Carbonate Formation on Cross-Linked Polyethylene (PEX) and Polypropylene Random Copolymer (PP-r). <i>Journal of Solar Energy Engineering, Transactions of the ASME</i> , 2006, 128, 251-254.	1.8	11
63	Sag in drying coatings: Prediction and real time measurement with particle tracking. <i>Progress in Organic Coatings</i> , 2015, 86, 49-58.	3.9	10
64	Contact line dynamics in curtain coating of non-Newtonian liquids. <i>Physics of Fluids</i> , 2021, 33, .	4.0	10
65	Dynamic self-assembly of charged colloidal strings and walls in simple fluid flows. <i>Soft Matter</i> , 2017, 13, 1681-1692.	2.7	9
66	Capillary flow of evaporating liquid solutions in open rectangular microchannels. <i>Journal of Fluid Mechanics</i> , 2022, 938, .	3.4	9
67	Radical-cured block copolymer-modified thermosets. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2011, 49, 540-550.	2.1	8
68	Evaluating sag resistance with a multinotched applicator: correlation with surface flow measurements and practical recommendations. <i>Journal of Coatings Technology Research</i> , 2015, 12, 809-817.	2.5	8
69	Effect of particle size distribution on stress development and microstructure of particulate coatings. <i>Journal of Coatings Technology Research</i> , 2017, 14, 455-465.	2.5	8
70	Self-Aligned Capillarity-Assisted Printing of High Aspect Ratio Flexible Metal Conductors: Optimizing Ink Flow, Plating, and Mechanical Adhesion. <i>Industrial &amp; Engineering Chemistry Research</i> , 2020, 59, 22107-22122.	3.7	8
71	Stress development in drying fibers and spheres. <i>Journal of Applied Polymer Science</i> , 2003, 90, 3934-3944.	2.6	7
72	Band Gap Tuning of Films of Undoped ZnO Nanocrystals by Removal of Surface Groups. <i>Nanomaterials</i> , 2022, 12, 565.	4.1	7

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73	Alumina/Epoxy Interpenetrating Phase Composite Coatings: I, Processing and Microstructural Development. Journal of the American Ceramic Society, 1998, 81, 3109-3116.	3.8	6
74	Open-channel microfluidic diodes based on two-tier junctions. Applied Physics Letters, 2018, 113, .	3.3	6
75	Visualization and simulation of the transfer process of index-matched silica microparticle inks for gravure printing. AIChE Journal, 2017, 63, 1419-1429.	3.6	5
76	Near-IR sintering of conductive silver nanoparticle ink with in situ resistance measurement. Journal of Coatings Technology Research, 2019, 16, 1699-1705.	2.5	5
77	Cavity filling with shear-thinning liquids. Physical Review Fluids, 2020, 5, .	2.5	5
78	Measurement of Porosity in Ceramic Coatings by Thermogravimetric Volatilization of Liquids. Journal of the American Ceramic Society, 1996, 79, 3317-3320.	3.8	4
79	Effects of freezing and thawing on the microstructure of latex paints. Journal of Colloid and Interface Science, 2013, 392, 183-193.	9.4	3
80	Solution-based, additive fabrication of flush metal conductors in plastic substrates by printing and plating in two-level capillary channels. Flexible and Printed Electronics, 2021, 6, 045005.	2.7	3
81	Effect of Solution Processing on PZT Thin Films Prepared by a Hybrid MOD Solution Deposition Route. , 1999, 3, 261-268.		2
82	Modulus Determination of Polymer Matrix Composites: Comparison of Nanoindentation and Dynamic Mechanical Analysis. Materials Research Society Symposia Proceedings, 2000, 649, 351.	0.1	2
83	Modeling the Depthwise Gradient in Curing and Skin Formation in Wrinkling Coatings. Industrial & Engineering Chemistry Research, 2007, 46, 3358-3365.	3.7	2
84	Roll-to-roll micromolding of UV curable coatings. Journal of Coatings Technology Research, 2021, 18, 627-639.	2.5	2
85	Lowering the percolation threshold of conductive composites using particulate polymer microstructure. Journal of Applied Polymer Science, 2001, 80, 692-705.	2.6	2
86	Engaging First-Year Students with a Hands-On Course using Student-Driven Projects. , 0, , .		2
87	The Evolution of Sol-Gel Films in the Environmental Scanning Electron Microscope.. Materials Research Society Symposia Proceedings, 1993, 321, 561.	0.1	1
88	Apatite Growth on Bioactive Glass in Artificial Saliva. Materials Research Society Symposia Proceedings, 2000, 662, 1.	0.1	1
89	Modeling Stress and Failure in Shrinking Coatings. Materials Research Society Symposia Proceedings, 2000, 653, 1.	0.1	1
90	Porous Composites for Adhering Artificial Cartilage to Bone. Materials Research Society Symposia Proceedings, 2001, 711, 1.	0.1	1

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91	Lowering the percolation threshold of conductive composites using particulate polymer microstructure. , 2001, 80, 692.		1
92	Figures of Merit for Electrically Conductive Polymer Composites. Materials Research Society Symposia Proceedings, 2000, 661, KK5.2.1.	0.1	0
93	Bioactive Glass Paste in Molars of Mini-Pigs: An In Vivo Study. Materials Research Society Symposia Proceedings, 2000, 662, 1.	0.1	0
94	Zeolite Membranes: Oriented MFI Membranes by Gel-Less Secondary Growth of Sub-100 nm MFI-Nanosheet Seed Layers (Adv. Mater. 21/2015). Advanced Materials, 2015, 27, 3339-3339.	21.0	0
95	Integrating 3-D Printing and CAD into a Materials Science and Engineering Curriculum. , 0, , .		0