Lorraine F Francis

List of Publications by Year
in descending order

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95 papers	3,683 citations	147566 31 h-index	133063 59 g-index
95 all docs	95 docs citations	95 times ranked	4960 citing authors

#	Article	IF	Citations
1	Gravure Printing of Graphene for Largeâ€area Flexible Electronics. Advanced Materials, 2014, 26, 4533-4538.	11.1	298
2	Optimization of Aerosol Jet Printing for High-Resolution, High-Aspect Ratio Silver Lines. ACS Applied Materials & Interfaces, 2013, 5, 4856-4864.	4.0	296
3	PROCESSING AND CHARACTERIZATION OF PIEZOELECTRIC MATERIALS AND INTEGRATION INTO MICROELECTROMECHANICAL SYSTEMS. Annual Review of Materials Research, 1998, 28, 563-597.	5.5	273
4	Oriented MFI Membranes by Gelâ€Less Secondary Growth of Subâ€100 nm MFIâ€Nanosheet Seed Layers. Advanced Materials, 2015, 27, 3243-3249.	11.1	182
5	Scalable, Selfâ€Aligned Printing of Flexible Graphene Microâ€Supercapacitors. Advanced Energy Materials, 2017, 7, 1700285.	10.2	167
6	Allâ€Printed, Foldable Organic Thinâ€Film Transistors on Glassine Paper. Advanced Materials, 2015, 27, 7058-7064.	11.1	133
7	Lowering the percolation threshold of conductive composites using particulate polymer microstructure. Journal of Applied Polymer Science, 2001, 80, 692-705.	1.3	118
8	High-Resolution Transfer Printing of Graphene Lines for Fully Printed, Flexible Electronics. ACS Nano, 2017, 11, 7431-7439.	7.3	116
9	Screen Printing of Highly Loaded Silver Inks on Plastic Substrates Using Silicon Stencils. ACS Applied Materials & Interfaces, 2015, 7, 12619-12624.	4.0	114
10	Rheological Property and Stress Development during Drying of Tape-Cast Ceramic Layers. Journal of the American Ceramic Society, 1996, 79, 3225-3234.	1.9	94
11	Sustainable near UV-curable acrylates based on natural phenolics for stereolithography 3D printing. Polymer Chemistry, 2019, 10, 1067-1077.	1.9	94
12	Solutionâ€processable exfoliated zeolite nanosheets purified by density gradient centrifugation. AICHE Journal, 2013, 59, 3458-3467.	1.8	80
13	Silica nanoparticle dispersions in homopolymer versus block copolymer. Journal of Polymer Science, Part B: Polymer Physics, 2007, 45, 2284-2299.	2.4	78
14	Electrical and mechanical behavior of carbon black-filled poly(vinyl acetate) latex-based composites. Polymer Engineering and Science, 2001, 41, 1947-1962.	1.5	72
15	A Raman spectroscopic method to find binder distribution in electrodes during drying. Journal of Coatings Technology Research, 2014, 11, 11-17.	1.2	71
16	Microstructure Evolution and Crystal Growth in Cu₂ZnSnS₄ Thin Films Formed By Annealing Colloidal Nanocrystal Coatings. Chemistry of Materials, 2014, 26, 3191-3201.	3.2	66
17	Synergistic Toughening of Epoxy Modified by Graphene and Block Copolymer Micelles. Macromolecules, 2016, 49, 9507-9520.	2.2	63
18	Electrical and optical properties of ceramic-polymer nanocomposite coatings. Journal of Polymer Science, Part B: Polymer Physics, 2003, 41, 1744-1761.	2.4	58

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19	Role of Localized Network Damage in Block Copolymer Toughened Epoxies. ACS Macro Letters, 2012, 1, 338-342.	2.3	57
20	In situstress measurement apparatus for liquid applied coatings. Review of Scientific Instruments, 1997, 68, 4564-4568.	0.6	54
21	Predicting drying in coatings that react and gel: Drying regime maps. AICHE Journal, 1996, 42, 55-67.	1.8	52
22	Effect of block copolymer concentration and core composition on toughening epoxies. Polymer, 2014, 55, 4172-4181.	1.8	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.	2.4	46
24	A Selfâ€Aligned Strategy for Printed Electronics: Exploiting Capillary Flow on Microstructured Plastic Surfaces. Advanced Electronic Materials, 2015, 1, 1500137.	2.6	43
25	Deformation Processes in Block Copolymer Toughened Epoxies. Macromolecules, 2015, 48, 3672-3684.	2.2	43
26	The effects of processing variables on stress development in ultraviolet-cured coatings. Journal of Applied Polymer Science, 1997, 66, 1267-1277.	1.3	41
27	High-Resolution, High-Aspect Ratio Conductive Wires Embedded in Plastic Substrates. ACS Applied Materials & Interfaces, 2015, 7, 1841-1847.	4.0	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.	4.0	36
29	A study of stress development in aqueous gelatin coatings. Journal of Applied Polymer Science, 1999, 73, 553-561.	1.3	34
30	Dynamics of Capillary-Driven Flow in 3D Printed Open Microchannels. Langmuir, 2017, 33, 2949-2964.	1.6	34
31	Printed, Selfâ€Aligned Sideâ€Gate Organic Transistors with a Subâ€5 Âµm Gateâ€“Channel Distance on Imprinted Plastic Substrates. Advanced Electronic Materials, 2016, 2, 1600293.	2.6	33
32	Capillary Flow with Evaporation in Open Rectangular Microchannels. Langmuir, 2019, 35, 8131-8143.	1.6	33
33	The colloidal nature of complex fluids enhances bacterial motility. Nature, 2022, 603, 819-823.	13.7	33
34	Drying and cracking of soft latex coatings. Journal of Coatings Technology Research, 2013, 10, 441-451.	1.2	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.	3.2	31
36	Microstructure and performance of block copolymer modified epoxy coatings. Progress in Organic Coatings, 2014, 77, 1145-1154.	1.9	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.	1.3	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.	4.0	27
39	Wettability Contrast Gravure Printing. Advanced Materials, 2015, 27, 7420-7425.	11.1	26
40	Capillary Coatings: Flow and Drying Dynamics in Open Microchannels. Langmuir, 2018, 34, 7624-7639.	1.6	26
41	Adhesion Strength of Block Copolymer Toughened Epoxy on Aluminum. ACS Applied Polymer Materials, 2020, 2, 464-474.	2.0	26
42	Macroporous ceramics from ceramic-polymer dispersion methods. AICHE Journal, 1997, 43, 2878-2888.	1.8	22
43	Electrical and mechanical property transitions in carbon-filled poly(vinylpyrrolidone). Journal of Materials Research, 1999, 14, 4132-4135.	1.2	21
44	Facile Method for Fabricating Flexible Substrates with Embedded, Printed Silver Lines. ACS Applied Materials & Interfaces, 2014, 6, 1306-1312.	4.0	21
45	Stress development and film formation in multiphase composite latexes. Journal of Coatings Technology Research, 2014, 11, 827-839.	1.2	18
46	Water-based coatings for 3D printed parts. Journal of Coatings Technology Research, 2015, 12, 889-897.	1.2	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 ⁶ Î©. Flexible and Printed Electronics, 2018, 3, 045003.	1.5	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.	1.8	17
49	Effect of viscosity on liquid curtain stability. AICHE Journal, 2018, 64, 1448-1457.	1.8	16
50	Capillary-flow dynamics in open rectangular microchannels. Journal of Fluid Mechanics, 2021, 911, .	1.4	16
51	Inkjet-printed, self-aligned organic Schottky diodes on imprinted plastic substrates. Flexible and Printed Electronics, 2020, 5, 015006.	1.5	15
52	Mechanical properties of polymer-ceramic nanocomposite coatings by depth-sensing indentation. Polymer Engineering and Science, 2005, 45, 207-216.	1.5	14
53	Modulus- and Surface-Energy-Tunable Thiolâ€“ene for UV Micromolding of Coatings. ACS Applied Materials & Interfaces, 2017, 9, 24976-24986.	4.0	14
54	Indentation measurements using a dynamic mechanical analyzer. Polymer Engineering and Science, 1998, 38, 1529-1535.	1.5	13

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55	Depthwise Viscosity Gradients in UVâ€Cured Epoxy Coatings. Macromolecular Materials and Engineering, 2013, 298, 145-152.	1.7	13
56	Stress Development in Hard Particle Coatings in the Absence of Lateral Drying. Journal of the American Ceramic Society, 2015, 98, 2214-2222.	1.9	13
57	Self-aligned capillarity-assisted printing of top-gate thin-film transistors on plastic. Flexible and Printed Electronics, 2018, 3, 035004.	1.5	13
58	Block Copolymer and Nanosilica-Modified Epoxy Nanocomposites. ACS Applied Polymer Materials, 2021, 3, 4156-4167.	2.0	13
59	Influence of the drying conditions on the particle distribution in particle-filled polymer films: Predictive simulation of the particle distribution during drying. Journal of Composite Materials, 2017, 51, 3391-3403.	1.2	12
60	Copperâ€“Zincâ€“Tinâ€“Sulfide Thin Films via Annealing of Ultrasonic Spray Deposited Nanocrystal Coatings. ACS Applied Materials & Interfaces, 2017, 9, 18865-18871.	4.0	12
61	Apatite Converted from 3-D Ordered Macroporous Sol-Gel Bioactive Glass (3DOM-BG) Particles. Journal of the American Ceramic Society, 2005, 88, 587-592.	1.9	11
62	Calcium Carbonate Formation on Cross-Linked Polyethylene (PEX) and Polypropylene Random Copolymer (PP-r). Journal of Solar Energy Engineering, Transactions of the ASME, 2006, 128, 251-254.	1.1	11
63	Sag in drying coatings: Prediction and real time measurement with particle tracking. Progress in Organic Coatings, 2015, 86, 49-58.	1.9	10
64	Contact line dynamics in curtain coating of non-Newtonian liquids. Physics of Fluids, 2021, 33, .	1.6	10
65	Dynamic self-assembly of charged colloidal strings and walls in simple fluid flows. Soft Matter, 2017, 13, 1681-1692.	1.2	9
66	Capillary flow of evaporating liquid solutions in open rectangular microchannels. Journal of Fluid Mechanics, 2022, 938, .	1.4	9
67	Radicalâ€cured block copolymerâ€modified thermosets. Journal of Polymer Science, Part B: Polymer Physics, 2011, 49, 540-550.	2.4	8
68	Evaluating sag resistance with a multinotched applicator: correlation with surface flow measurements and practical recommendations. Journal of Coatings Technology Research, 2015, 12, 809-817.	1.2	8
69	Effect of particle size distribution on stress development and microstructure of particulate coatings. Journal of Coatings Technology Research, 2017, 14, 455-465.	1.2	8
70	Self-Aligned Capillarity-Assisted Printing of High Aspect Ratio Flexible Metal Conductors: Optimizing Ink Flow, Plating, and Mechanical Adhesion. Industrial & Engineering Chemistry Research, 2020, 59, 22107-22122.	1.8	8
71	Stress development in drying fibers and spheres. Journal of Applied Polymer Science, 2003, 90, 3934-3944.	1.3	7
72	Band Gap Tuning of Films of Undoped ZnO Nanocrystals by Removal of Surface Groups. Nanomaterials, 2022, 12, 565.	1.9	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.	1.9	6
74	Open-channel microfluidic diodes based on two-tier junctions. Applied Physics Letters, 2018, 113, .	1.5	6
75	Visualization and simulation of the transfer process of indexâ€matched silica microparticle inks for gravure printing. AICHE Journal, 2017, 63, 1419-1429.	1.8	5
76	Near-IR sintering of conductive silver nanoparticle ink with in situ resistance measurement. Journal of Coatings Technology Research, 2019, 16, 1699-1705.	1.2	5
77	Cavity filling with shear-thinning liquids. Physical Review Fluids, 2020, 5, .	1.0	5
78	Measurement of Porosity in Ceramic Coatings by Thermogravimetric Volatilization of Liquids. Journal of the American Ceramic Society, 1996, 79, 3317-3320.	1.9	4
79	Effects of freezing and thawing on the microstructure of latex paints. Journal of Colloid and Interface Science, 2013, 392, 183-193.	5.0	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.	1.5	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.	1.8	2
84	Roll-to-roll micromolding of UV curable coatings. Journal of Coatings Technology Research, 2021, 18, 627-639.	1.2	2
85	Lowering the percolation threshold of conductive composites using particulate polymer microstructure. Journal of Applied Polymer Science, 2001, 80, 692-705.	1.3	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.	11.1	0
95	Integrating 3-D Printing and CAD into a Materials Science and Engineering Curriculum. , 0, , .		0