Istvan Lagzi

List of Publications by Citations

117 papers	2,586 citations	27 h-index	48 g-index
130 ext. papers	2,992 ext. citations	4.9 avg, IF	5.28 L-index

#	Paper	IF	Citations
117	Maze solving by chemotactic droplets. *Journal of the American Chemical Society*, **2010**, 132, 1198-9	16.4	205
116	Nanoseparations: Strategies for size and/or shape-selective purification of nanoparticles. *Current Opinion in Colloid and Interface Science*, **2011**, 16, 135-148	7.6	189
115	How and why nanoparticle's curvature regulates the apparent pKa of the coating ligands. *Journal of the American Chemical Society*, **2011**, 133, 2192-7	16.4	183
114	Green synthesis of gold nanoparticles by thermophilic filamentous fungi. *Scientific Reports*, **2018**, 8, 3943	4.9	182
113	Chromatography in a single metal-organic framework (MOF) crystal. *Journal of the American Chemical Society*, **2010**, 132, 16358-61	16.4	177
112	Nanoparticle oscillations and fronts. *Angewandte Chemie - International Edition*, **2010**, 49, 8616-9	16.4	101
111	Liesegang rings engineered from charged nanoparticles. *Journal of the American Chemical Society*, **2010**, 132, 58-60	16.4	62
110	Bridging interactions and selective nanoparticle aggregation mediated by monovalent cations. *ACS Nano*, **2011**, 5, 530-6	16.7	57
109	Charged nanoparticles as supramolecular surfactants for controlling the growth and stability of microcrystals. *Nature Materials*, **2012**, 11, 227-32	27	55
108	Dispersion modeling of air pollutants in the atmosphere: a review. *Open Geosciences*, **2014**, 6,	1.3	53
107	Vesicle-to-micelle oscillations and spatial patterns. *Langmuir*, **2010**, 26, 13770-2	4	53
106	Pattern Formation in Reaction Diffusion Systems: Cellular Acidity Fronts. *The Journal of Physical Chemistry*, **1996**, 100, 14837-14839		52
105	Pattern formation and self-organization in a simple precipitation system. *Langmuir*, **2007**, 23, 961-4	4	52
104	Controlling and engineering precipitation patterns. *Langmuir*, **2012**, 28, 3350-4	4	50
103	Pattern transition between periodic Liesegang pattern and crystal growth regime in reaction diffusion systems. *Chemical Physics Letters*, **2009**, 468, 188-192	2.5	45
102	One-step green synthesis of gold nanoparticles by mesophilic filamentous fungi. *Chemical Physics Letters*, **2016**, 645, 1-4	2.5	42
101	Formation of Liesegang patterns in an electric field. *Physical Chemistry Chemical Physics*, **2002**, 4, 1268-1270	3.6	41

100	Air pollution modelling using a Graphics Processing Unit with CUDA. *Computer Physics Communications*, **2010**, 181, 105-112	4.2	36
99	Self-division of giant vesicles driven by an internal enzymatic reaction. *Chemical Science*, **2020**, 11, 3228-3235	9.4	35
98	Probability of the emergence of helical precipitation patterns in the wake of reaction-diffusion fronts. *Physical Review Letters*, **2013**, 110, 078303	7.4	35
97	Pattern Formation in Precipitation Reactions: The Liesegang Phenomenon. *Langmuir*, **2020**, 36, 481-497	4	35
96	Design of equidistant and revert type precipitation patterns in reaction-diffusion systems. *Physical Chemistry Chemical Physics*, **2008**, 10, 2368-73	3.6	32
95	A review of numerical models to predict the atmospheric dispersion of radionuclides. *Journal of Environmental Radioactivity*, **2018**, 182, 20-33	2.4	32
94	Bistability and Hysteresis During Aggregation of Charged Nanoparticles. *Journal of Physical Chemistry Letters*, **2010**, 1, 1459-1462	6.4	30
93	Short and long term dispersion patterns of radionuclides in the atmosphere around the Fukushima Nuclear Power Plant. *Journal of Environmental Radioactivity*, **2011**, 102, 1117-21	2.4	28
92	Maze solving using fatty acid chemistry. *Langmuir*, **2014**, 30, 9251-5	4	27
91	Simulation of the dispersion of nuclear contamination using an adaptive Eulerian grid model. *Journal of Environmental Radioactivity*, **2004**, 75, 59-82	2.4	27
90	Growth of nanoparticles and microparticles by controlled reaction-diffusion processes. *Langmuir*, **2015**, 31, 1828-34	4	25
89	Chemically coded time-programmed self-assembly. *Molecular Systems Design and Engineering*, **2017**, 2, 274-282	4.6	24
88	Maze solving using temperature-induced Marangoni flow. *RSC Advances*, **2015**, 5, 48563-48568	3.7	23
87	Independence of Primary and Secondary Structures in Periodic Precipitation Patterns. *Journal of Physical Chemistry Letters*, **2011**, 2, 345-349	6.4	23
86	Simulation of reaction□diffusion processes in three dimensions using CUDA. *Chemometrics and Intelligent Laboratory Systems*, **2011**, 108, 76-85	3.8	23
85	Interaction of Positively Charged Gold Nanoparticles with Cancer Cells Monitored by an in Situ Label-Free Optical Biosensor and Transmission Electron Microscopy. *ACS Applied Materials & Interfaces*, **2018**, 10, 26841-26850	9.5	22
84	Simulation of a crossover from the precipitation wave to moving Liesegang pattern formation. *Journal of Physical Chemistry A*, **2005**, 109, 730-3	2.8	21
83	Nanoparticle Oscillations and Fronts. *Angewandte Chemie*, **2010**, 122, 8798-8801	3.6	20

82	Simulation of Liesegang Patterns: Effect of Reversible Complex Formation of Precipitate. *Journal of Physical Chemistry B*, **2003**, 107, 13750-13753	3.4	19
81	Predictability of the dispersion of Fukushima-derived radionuclides and their homogenization in the atmosphere. *Scientific Reports*, **2016**, 6, 19915	4.9	19
80	"Nanoarmoured" droplets of different shapes formed by interfacial self-assembly and crosslinking of metal nanoparticles. *Nanoscale*, **2010**, 2, 2366-9	7.7	17
79	A new universal law for the Liesegang pattern formation. *Journal of Chemical Physics*, **2005**, 122, 184707	3.9	17
78	Effect of geometry on the time law of Liesegang patterning. *Chemical Physics Letters*, **2004**, 396, 97-101	2.5	16
77	Stochastic description of precipitate pattern formation in an electric field. *Physical Chemistry Chemical Physics*, **2003**, 5, 4144-4148	3.6	16
76	Modelling ozone fluxes over Hungary. *Atmospheric Environment*, **2004**, 38, 6211-6222	5.3	15
75	Probing the mystery of Liesegang band formation: revealing the origin of self-organized dual-frequency micro and nanoparticle arrays. *Soft Matter*, **2016**, 12, 8367-8374	3.6	15
74	Complex motion of precipitation bands. *Chemical Physics Letters*, **2007**, 433, 286-291	2.5	14
73	Systematic front distortion and presence of consecutive fronts in a precipitation system. *Journal of Physical Chemistry B*, **2006**, 110, 4535-7	3.4	12
72	Sensitivity enhancement for mycotoxin determination by optical waveguide lightmode spectroscopy using gold nanoparticles of different size and origin. *Food Chemistry*, **2018**, 267, 10-14	8.5	11
71	Label-free in situ optical monitoring of the adsorption of oppositely charged metal nanoparticles. *Langmuir*, **2014**, 30, 13478-82	4	11
70	Fatty acid droplet self-division driven by a chemical reaction. *Physical Chemistry Chemical Physics*, **2014**, 16, 4639-41	3.6	11
69	Chemical robotics: chemotactic drug carriers. *Open Medicine (Poland)*, **2013**, 8, 377-382	2.2	11
68	Helices in the wake of precipitation fronts. *Physical Review E*, **2013**, 88, 022141	2.4	11
67	Transition of Liesegang Precipitation Systems: Simulations with an Adaptive Grid PDE Method. *Communications in Computational Physics*, **2011**, 10, 867-881	2.4	11
66	Matalon-Packter law for stretched helicoids formed in precipitation processes. *Chemical Physics Letters*, **2013**, 577, 38-41	2.5	10
65	Modelling photochemical air pollutant formation in Hungary using an adaptive grid technique. *International Journal of Environment and Pollution*, **2009**, 36, 44	0.7	10

64	Simulation of Liesegang pattern formation using a discrete stochastic model. *Chemical Physics Letters*, **2003**, 371, 321-326	2.5	10
63	Mechanical Control of Periodic Precipitation in Stretchable Gels to Retrieve Information on Elastic Deformation and for the Complex Patterning of Matter. *Advanced Materials*, **2020**, 32, e1905779	24	10
62	Existence of a Precipitation Threshold in the Electrostatic Precipitation of Oppositely Charged Nanoparticles. *Angewandte Chemie - International Edition*, **2018**, 57, 16062-16066	16.4	10
61	Three-dimensional superdiffusive chemical waves in a precipitation system. *Physical Chemistry Chemical Physics*, **2014**, 16, 24656-60	3.6	9
60	Chemical waves in heterogeneous media. *Journal of Physical Chemistry A*, **2014**, 118, 11678-82	2.8	9
59	Rewritable and pH-sensitive micropatterns based on nanoparticle "inks". *Small*, **2010**, 6, 2114-6	11	9
58	The Liesegang eyes phenomenon. *Chemical Physics Letters*, **2005**, 414, 384-388	2.5	9
57	Green synthesis and immobilization of gold nanoparticles and their application for the reduction of -nitrophenol in continuous-flow mode.. *RSC Advances*, **2019**, 9, 9193-9197	3.7	8
56	Numerical simulations of atmospheric dispersion of iodine-131 by different models. *PLoS ONE*, **2017**, 12, e0172312	3.7	7
55	Targets, ripples and spirals in a precipitation system with anomalous dispersion. *Physical Chemistry Chemical Physics*, **2015**, 17, 19806-14	3.6	7
54	Self-Assembly of Charged Nanoparticles by an Autocatalytic Reaction Front. *Langmuir*, **2015**, 31, 12019-24	4	7
53	Understanding the formation of aligned, linear arrays of Ag nanoparticles. *RSC Advances*, **2016**, 6, 28388-28392	3.7	7
52	Equidistant precipitate pattern formation behind a propagating chemical front. *Chemical Physics Letters*, **2003**, 372, 831-835	2.5	7
51	Chemical Resonance, Beats, and Frequency Locking in Forced Chemical Oscillatory Systems. *Journal of Physical Chemistry Letters*, **2020**, 11, 3014-3019	6.4	7
50	Inorganic salts direct the assembly of charged nanoparticles into composite nanoscopic spheres, plates, or needles. *Faraday Discussions*, **2012**, 159, 201	3.6	6
49	Regular Liesegang patterns and precipitation waves in an open system. *Physical Chemistry Chemical Physics*, **2005**, 7, 3845-50	3.6	6
48	From Master-Slave to Peer-to-Peer Coupling in Chemical Reaction Networks. *Journal of Physical Chemistry A*, **2017**, 121, 3192-3198	2.8	5
47	Self-assembly of like-charged nanoparticles into Voronoi diagrams. *Physical Chemistry Chemical Physics*, **2016**, 18, 25735-25740	3.6	5

46	Helicoidal precipitation patterns in silica and agarose gels. *Chemical Physics Letters*, **2014**, 599, 159-162	2.5	5
45	Effect of the soil wetness state on the stomatal ozone fluxes over Hungary. *International Journal of Environment and Pollution*, **2009**, 36, 180	0.7	5
44	Precipitate pattern formation in fluctuating media. *Journal of Chemical Physics*, **2004**, 120, 1837-40	3.9	5
43	Unified Development Solution for Cluster and Grid Computing and Its Application in Chemistry. *Lecture Notes in Computer Science*, **2004**, 226-235	0.9	5
42	Shape changes and budding of giant vesicles induced by an internal chemical trigger: an interplay between osmosis and pH change. *Physical Chemistry Chemical Physics*, **2021**, 23, 4262-4270	3.6	5
41	The Simulation of Photochemical Smog Episodes in Hungary and Central Europe Using Adaptive Gridding Models. *Lecture Notes in Computer Science*, **2001**, 67-76	0.9	5
40	Propagating fronts and morphological instabilities in a precipitation reaction. *Langmuir*, **2014**, 30, 5460-5	4	4
39	Dispersion of aerosol particles in the free atmosphere using ensemble forecasts. *Nonlinear Processes in Geophysics*, **2013**, 20, 759-770	2.9	4
38	Control of precipitation patterns in two-dimensions by pH field. *Chemical Physics Letters*, **2011**, 503, 231-234	2.5	4
37	Existence of a Precipitation Threshold in the Electrostatic Precipitation of Oppositely Charged Nanoparticles. *Angewandte Chemie*, **2018**, 130, 16294-16298	3.6	4
36	Self-Assembly of Chiral Menthol Molecules from a Liquid Film into Ring-Banded Spherulites. *Crystal Growth and Design*, **2019**, 19, 4063-4069	3.5	3
35	Künstliche Intelligenz aus dem Chemiereaktor. *Nachrichten Aus Der Chemie*, **2015**, 63, 445-446	0.1	3
34	Self-division of a mineral oil–fatty acid droplet. *Chemical Physics Letters*, **2015**, 640, 1-4	2.5	3
33	Time-Dependent Downscaling of PM2.5 Predictions from CAMS Air Quality Models to Urban Monitoring Sites in Budapest. *Atmosphere*, **2020**, 11, 669	2.7	3
32	Effect of the Membrane Composition of Giant Unilamellar Vesicles on Their Budding Probability: A Trade-Off between Elasticity and Preferred Area Difference. *Life*, **2021**, 11,	3	3
31	Electric field assisted motion of a mercury droplet. *Scientific Reports*, **2021**, 11, 2753	4.9	3
30	Autonomous Chemical Modulation and Unidirectional Coupling in Two Oscillatory Chemical Systems. *Journal of Physical Chemistry A*, **2019**, 123, 1498-1504	2.8	2
29	Solving Reaction-Diffusion and Advection Problems with Richardson Extrapolation. *Journal of Chemistry*, **2015**, 2015, 1-9	2.3	2

28	Oxidation of a water-soluble porphyrin complex by bromate. *Reaction Kinetics and Catalysis Letters*, **2008**, 95, 135-142		2
27	Liesegang patterns: Complex formation of precipitate in an electric field **2005**, 64, 291-298		2
26	Online coupled modeling of weather and air quality of Budapest using the WRF-Chem model. *Idojaras*, **2019**, 123, 203-215	1.7	2
25	Spatiotemporal and Microscopic Analyses of Asymmetric Liesegang Bands: Diffusion-Limited Crystallization of Calcium Phosphate in a Hydrogel. *Crystal Growth and Design*,	3.5	2
24	Coupling traffic originated urban air pollution estimation with an atmospheric chemistry model. *Urban Climate*, **2021**, 37, 100868	6.8	2
23	pH mediated kinetics of assembly and disassembly of molecular and nanoscopic building blocks. *Reaction Kinetics, Mechanisms and Catalysis*, **2018**, 123, 323-333	1.6	2
22	The Relevance of Inorganic Nonlinear Chemical Reactions for the Origin of Life Studies. *Communications in Computer and Information Science*, **2019**, 138-150	0.3	1
21	Stretchable Gels: Mechanical Control of Periodic Precipitation in Stretchable Gels to Retrieve Information on Elastic Deformation and for the Complex Patterning of Matter (Adv. Mater. 10/2020). *Advanced Materials*, **2020**, 32, 2070077	24	1
20	Nanocrystals Assembled by the Chemical Reaction of the Dispersion Solvent. *Angewandte Chemie - International Edition*, **2020**, 59, 13086-13092	16.4	1
19	Shortest Path Finding in Mazes by Active and Passive Particles. *Emergence, Complexity and Computation*, **2018**, 401-408	0.1	1
18	Eulerian and Lagrangian Approaches for Modelling of Air Quality. *Mathematics in Industry*, **2016**, 73-85	0.2	1
17	Estimation of the dispersion of an accidental release of radionuclides and toxic materials based on weather type classification. *Theoretical and Applied Climatology*, **2012**, 107, 375-387	3	1
16	The width of Liesegang bands: A study using moving boundary model and simulation **2012**, 78, 135-145		1
15	Development of a grid enabled chemistry application. *International Journal of Computational Science and Engineering*, **2009**, 4, 195	0.4	1
14	Stabilization and destabilization effects of the electric field on stochastic precipitate pattern formation. *Chemical Physics*, **2004**, 303, 151-155	2.3	1
13	ReactionDiffusion Assisted Synthesis of Gold Nanoparticles: Route from the Spherical Nano-Sized Particles to Micrometer-Sized Plates. *Journal of Physical Chemistry C*, **2021**, 125, 26116-26124	3.8	1
12	Synthesis of zeolitic imidazolate framework-8 and gold nanoparticles in a sustained out-of-equilibrium state.. *Scientific Reports*, **2022**, 12, 222	4.9	1
11	Design of non-autonomous pH oscillators and the existence of chemical beat phenomenon in a neutralization reaction. *Scientific Reports*, **2021**, 11, 11011	4.9	1

10	Interfacial Mass Transfer in Trichloroethylene/Surfactants/ Water Systems: Implications for Remediation Strategies. *Reactions*, **2021**, 2, 312-322	1.5	1
9	Carbon Dioxide-Driven Coupling in a Two-Compartment System: Methyl Red Oscillator. *Journal of Physical Chemistry A*, **2020**, 124, 10758-10764	2.8	0
8	Chemical-based Maze Solving Techniques. *Current Physical Chemistry*, **2015**, 5, 29-36	0.5	0
7	Inhibition of the urea-urease reaction by the components of the zeolite imidazole frameworks-8 and the formation of urease-zinc-imidazole hybrid compound. *Reaction Kinetics, Mechanisms and Catalysis*,1	1.6	0
6	Reaction-Diffusion Dynamics of pH Oscillators in Oscillatory Forced Open Spatial Reactors.. *ACS Omega*, **2021**, 6, 34367-34374	3.9	0
5	Nanocrystals Assembled by the Chemical Reaction of the Dispersion Solvent. *Angewandte Chemie*, **2020**, 132, 13186-13192	3.6	
4	Marangoni Flow Driven Maze Solving. *Emergence, Complexity and Computation*, **2017**, 237-243	0.1	
3	Comment on "Precipitate pattern formation in fluctuating media" [J. Chem. Phys. 120, 1837 (2004)]. *Journal of Chemical Physics*, **2004**, 121, 3943	3.9	
2	Development of a Grid Enabled Chemistry Application **2005**, 137-144		
1	Development of a Quartz Crystal Microbalance with Impedance Measurement with Bio-Gold Nanoparticles for Enhanced Sensitivity. *International Journal of Electrical Energy*, **2018**, 122-126	2	