Samuel P Kounaves

List of Publications by Year
in descending order

76 papers	5,095 citations	147566 31 h-index	88477 70 g-index
79 all docs	79 docs citations	79 times ranked	4123 citing authors

#	Article	IF	Citations
1	Detection of Perchlorate and the Soluble Chemistry of Martian Soil at the Phoenix Lander Site. Science, 2009, 325, 64-67.	6.0	913
2	H ₂ O at the Phoenix Landing Site. Science, 2009, 325, 58-61.	6.0	500
3	Evidence for Calcium Carbonate at the Mars Phoenix Landing Site. Science, 2009, 325, 61-64.	6.0	300
4	On-Site Analysis of Arsenic in Groundwater Using a Microfabricated Gold Ultramicroelectrode Array. Analytical Chemistry, 2000, 72, 2222-2228.	3.2	213
5	Microfabricated Array of Iridium Microdisks as a Substrate for Direct Determination of Cu2+or Hg2+Using Square-Wave Anodic Stripping Voltammetry. Analytical Chemistry, 1999, 71, 3567-3573.	3.2	203
6	Transitory microbial habitat in the hyperarid Atacama Desert. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 2670-2675.	3.3	172
7	Discovery of Natural Perchlorate in the Antarctic Dry Valleys and Its Global Implications. Environmental Science & Technology, 2010, 44, 2360-2364.	4.6	167
8	Microfabricated Ultramicroelectrode Arrays: Developments, Advances, and Applications in Environmental Analysis. Electroanalysis, 2000, 12, 677-684.	1.5	156
9	Possible physical and thermodynamical evidence for liquid water at the Phoenix landing site. Journal of Geophysical Research, 2009, 114, .	3.3	137
10	Evidence of martian perchlorate, chlorate, and nitrate in Mars meteorite EETA79001: Implications for oxidants and organics. Icarus, 2014, 229, 206-213.	1.1	133
11	Electrodeposition of Metal Alloy and Mixed Oxide Films Using a Singleâ€Precursor Tetranuclear Copperâ€Nickel Complex. Journal of the Electrochemical Society, 1995, 142, 3357-3365.	1.3	127
12	Identification of the perchlorate parent salts at the Phoenix Mars landing site and possible implications. Icarus, 2014, 232, 226-231.	1.1	123
13	Wet Chemistry experiments on the 2007 Phoenix Mars Scout Lander mission: Data analysis and results. Journal of Geophysical Research, 2010, 115, .	3.3	119
14	The origins of perchlorate in the Martian soil. Geophysical Research Letters, 2015, 42, 3739-3745.	1.5	119
15	Voltammetric measurement of arsenic in natural waters. Talanta, 2002, 58, 23-31.	2.9	108
16	Soluble sulfate in the martian soil at the Phoenix landing site. Geophysical Research Letters, 2010, 37, .	1.5	96
17	Fabrication and Characterization of a Solid State Reference Electrode for Electroanalysis of Natural Waters with Ultramicroelectrodes. Analytical Chemistry, 1997, 69, 1244-1247.	3.2	93
18	Field Evaluation of an Electrochemical Probe forin SituScreening of Heavy Metals in Groundwater. Environmental Science & Technology, 1998, 32, 131-136.	4.6	91

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19	Habitability of the Phoenix landing site. Journal of Geophysical Research, 2010, 115, .	3.3	82
20	Iridium-based ultramicroelectrode array fabricated by microlithography. Analytical Chemistry, 1994, 66, 418-423.	3.2	79
21	Microfabricated heavy metal ion sensor. Sensors and Actuators B: Chemical, 1995, 23, 41-47.	4.0	75
22	The Enceladus Orbilander Mission Concept: Balancing Return and Resources in the Search for Life. Planetary Science Journal, 2021, 2, 77.	1.5	74
23	Evidence for the distribution of perchlorates on Mars. International Journal of Astrobiology, 2016, 15, 311-318.	0.9	73
24	Microfabricated electrochemical analysis system for heavy metal detection. Sensors and Actuators B: Chemical, 1996, 34, 450-455.	4.0	67
25	Determination of Selenium(IV) at a Microfabricated Gold Ultramicroelectrode Array Using Square Wave Anodic Stripping Voltammetry. Electroanalysis, 1998, 10, 364-368.	1.5	60
26	The MECA Wet Chemistry Laboratory on the 2007 Phoenix Mars Scout Lander. Journal of Geophysical Research, 2009, 114, .	3.3	56
27	Deliquescenceâ€induced wetting and RSLâ€like darkening of a Mars analogue soil containing various perchlorate and chloride salts. Geophysical Research Letters, 2016, 43, 4880-4884.	1.5	41
28	An indium based mercury ultramicroelectrode. Journal of Electroanalytical Chemistry and Interfacial Electrochemistry, 1991, 301, 77-85.	0.3	38
29	Mars Surveyor Program '01 Mars Environmental Compatibility Assessment wet chemistry lab: A sensor array for chemical analysis of the Martian soil. Journal of Geophysical Research, 2003, 108, 13-1 - 13-12.	3.3	35
30	Analytical utility of the iridium-based mercury ultramicroelectrode with square-wave anodic stripping voltammetry. Analytical Chemistry, 1993, 65, 375-379.	3.2	34
31	Measurements of Oxychlorine species on Mars. International Journal of Astrobiology, 2017, 16, 203-217.	0.9	33
32	Enhanced Microbial Survivability in Subzero Brines. Astrobiology, 2018, 18, 1171-1180.	1.5	32
33	Methanogenic Archaea Can Produce Methane in Deliquescence-Driven Mars Analog Environments. Scientific Reports, 2020, 10, 6.	1.6	30
34	The oxidation-reduction potential of aqueous soil solutions at the Mars Phoenix landing site. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	28
35	Carbon fiber electrode cell for square wave voltammetric detection of biogenic amines in high-performance liquid chromatography. Analytical Chemistry, 1989, 61, 1469-1472.	3.2	27
36	Analytical Characterization of Microlithographically Fabricated Iridium-Based Ultramicroelectrode Arrays. Electroanalysis, 1998, 10, 89-93.	1.5	27

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37	Indigenous Organicâ€Oxidized Fluid Interactions in the Tissint Mars Meteorite. Geophysical Research Letters, 2019, 46, 3090-3098.	1.5	25
38	Studies of cadmiumâ€"ethylenediamine complex formation in seawater by computer-assisted stripping polarography. Analytica Chimica Acta, 1979, 109, 327-339.	2.6	24
39	A perchlorate brine lubricated deformable bed facilitating flow of the north polar cap of Mars: Possible mechanism for water table recharging. Journal of Geophysical Research, 2010, 115, .	3.3	24
40	Effects of Oxygen-Containing Salts on the Detection of Organic Biomarkers on Mars and in Terrestrial Analog Soils. Astrobiology, 2019, 19, 711-721.	1.5	24
41	Pseudopolarography at the mercury hemisphere ultramicroelectrode: theory and experiment. Analytical Chemistry, 1992, 64, 2998-3003.	3.2	23
42	Science Objectives for Flagship-Class Mission Concepts for the Search for Evidence of Life at Enceladus. Astrobiology, 2022, 22, 685-712.	1.5	21
43	Microbial Hotspots in Lithic Microhabitats Inferred from DNA Fractionation and Metagenomics in the Atacama Desert. Microorganisms, 2021, 9, 1038.	1.6	19
44	Adsorptive Stripping Analysis of Trace Nickel at Iridium-Based Ultramicroelectrode Arrays. Electroanalysis, 2000, 12, 44-47.	1.5	18
45	Nearly Forty Years after Viking: Are We Ready for a New Life-Detection Mission?. Astrobiology, 2015, 15, 413-419.	1.5	18
46	Effects of Chloride Ion Concentration on Mercury(I) Chloride Formation during ex Situ and in Situ Mercury Deposition with Selected Electrode Substrates and Electrolytes. Analytical Chemistry, 1999, 71, 1176-1182.	3.2	16
47	Carbon-Nanofiber-Based Nanocomposite Membrane as a Highly Stable Solid-State Junction for Reference Electrodes. Analytical Chemistry, 2011, 83, 5749-5753.	3.2	16
48	Determination of organonitriles using enzyme-based selectivity mechanisms. 2. A nitrilase-modified glassy carbon microelectrode sensor for benzonitrile. Analytical Chemistry, 1995, 67, 1679-1683.	3.2	15
49	Determination of organonitriles using enzyme-based selectivity mechanisms. 1. An ammonia gas sensing electrode-based sensor for benzonitrile. Analytical Chemistry, 1993, 65, 3134-3136.	3.2	14
50	The Source of the Anomalous Cathodic Peak During ASV with In Situ Mercury Film Formation in Chloride Solutions. Electroanalysis, 2000, 12, 96-99.	1.5	13
51	Analysis of Simulated Martian Regolith Using an Array of Ion Selective Electrodes. Electroanalysis, 2005, 17, 1441-1449.	1.5	13
52	Effects of mercury electrodeposition on the surface degradation of microlithographically fabricated iridium ultramicroelectrodes. Journal of Electroanalytical Chemistry, 1998, 453, 39-48.	1.9	12
53	Stability and Lifetime of Potassium Solidâ€Contact Ion Selective Electrodes for Continuous and Autonomous Measurements. Electroanalysis, 2012, 24, 2071-2078.	1.5	12
54	Comparison of the Phoenix Mars Lander WCL soil analyses with Antarctic Dry Valley soils, Mars meteorite EETA79001 sawdust, and a Mars simulant. Icarus, 2013, 225, 933-939.	1.1	12

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55	Solid Contact Ion-Selective Electrodes for in Situ Measurements at High Pressure. Analytical Chemistry, 2017, 89, 4803-4807.	3.2	12
56	Perchlorateâ€Driven Combustion of Organic Matter During Pyrolysisâ€Gas Chromatographyâ€Mass Spectrometry: Implications for Organic Matter Detection on Earth and Mars. Journal of Geophysical Research E: Planets, 2018, 123, 1901-1909.	1.5	12
57	Electrochemical Approaches for Chemical and Biological Analysis on Mars. ChemPhysChem, 2003, 4, 162-168.	1.0	10
58	Failure analysis of microfabricated iridium ultramicroelectrodes in chloride media. Sensors and Actuators B: Chemical, 1998, 50, 117-124.	4.0	8
59	Evaluation of the Tindouf Basin Region in Southern Morocco as an Analogue Site for Soil Geochemistry on Noachian Mars. Astrobiology, 2018, 18, 1318-1328.	1.5	8
60	The Role of Titanium Dioxide (TiO₂) in the Production of Perchlorate (ClO₄^{â€“}) from Chlorite (ClO₂^{â€“}) and Chlorate (ClO₃^{â€“}) on Earth and Mars. ACS Earth and Space Chemistry, 2019, 3, 1678-1684.	1.2	8
61	<title>Microbial life detection with minimal assumptions</title>. , 2002, 4495, 137.		7
62	Electrochemistry of Aqueous Colloidal Graphene Oxide on Pt Electrodes. Langmuir, 2014, 30, 9599-9606.	1.6	7
63	The use of graphene oxide as a fixed charge carrier in ion-selective electrodes. Electrochemistry Communications, 2015, 55, 51-54.	2.3	6
64	Survivability of 1â€Chloronapthalene During Simulated Early Diagenesis: Implications for Chlorinated Hydrocarbon Detection on Mars. Journal of Geophysical Research E: Planets, 2018, 123, 2790-2802.	1.5	6
65	Effect of Hydration State of Martian Perchlorate Salts on Their Decomposition Temperatures During Thermal Extraction. Journal of Geophysical Research E: Planets, 2017, 122, 2793-2802.	1.5	5
66	Degradation of Amino Acids on Mars by UV Irradiation in the Presence of Chloride and Oxychlorine Salts. Astrobiology, 2021, 21, 793-801.	1.5	5
67	An Electrochemically Based Total Organic Carbon Analyzer for Planetary and Terrestrial On-Site Applications. Analytical Chemistry, 2012, 84, 6271-6276.	3.2	4
68	Volatiles Measured by the Phoenix Lander at the Northern Plains of Mars. , 2019, , 265-283.		4
69	Determination of Geochemistry on Mars Using an Array of Electrochemical Sensors. ACS Symposium Series, 2002, , 306-319.	0.5	3
70	Microbial Detection Array (MDA), a Novel Instrument for Unambiguous Detection of Microbial Metabolic Activity in Astrobiology Applications. , 2007, , .		3
71	Acquisition, processing, and presentation of 3-D chromatovoltammographic data using an IBM PS/2 and par model 273 potentiostat. Computers & Chemistry, 1992, 16, 29-33.	1.2	2
72	Planar Array REDOX Cells and pH Sensors for ISS Water Quality and Microbe Detection. , 2003, , .		2

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73	Extraterrestrial. Nanostructure Science and Technology, 2014, , 131-151.	0.1	2
74	Evidence for the distribution of perchlorates on Mars â€“ ERRATUM. International Journal of Astrobiology, 2017, 16, 236-236.	0.9	1
75	Stable nitrogen and oxygen isotope fractionation during precipitation of nitrate salt from saturated solutions. Rapid Communications in Mass Spectrometry, 2020, 34, e8905.	0.7	0
76	Left with the Truth. Science, 1999, 285, 1013-1013.	6.0	0