

# Samuel P Kounaves

## List of Publications by Year in descending order

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76  
papers

5,095  
citations

147801

31  
h-index

88630

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. <i>Science</i> , 2009, 325, 64-67.	12.6	913
2	H <sub>2</sub> O at the Phoenix Landing Site. <i>Science</i> , 2009, 325, 58-61.	12.6	500
3	Evidence for Calcium Carbonate at the Mars Phoenix Landing Site. <i>Science</i> , 2009, 325, 61-64.	12.6	300
4	On-Site Analysis of Arsenic in Groundwater Using a Microfabricated Gold Ultramicroelectrode Array. <i>Analytical Chemistry</i> , 2000, 72, 2222-2228.	6.5	213
5	Microfabricated Array of Iridium Microdisks as a Substrate for Direct Determination of Cu <sup>2+</sup> or Hg <sup>2+</sup> Using Square-Wave Anodic Stripping Voltammetry. <i>Analytical Chemistry</i> , 1999, 71, 3567-3573.	6.5	203
6	Transitory microbial habitat in the hyperarid Atacama Desert. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 2670-2675.	7.1	172
7	Discovery of Natural Perchlorate in the Antarctic Dry Valleys and Its Global Implications. <i>Environmental Science &amp; Technology</i> , 2010, 44, 2360-2364.	10.0	167
8	Microfabricated Ultramicroelectrode Arrays: Developments, Advances, and Applications in Environmental Analysis. <i>Electroanalysis</i> , 2000, 12, 677-684.	2.9	156
9	Possible physical and thermodynamical evidence for liquid water at the Phoenix landing site. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	137
10	Evidence of martian perchlorate, chlorate, and nitrate in Mars meteorite EETA79001: Implications for oxidants and organics. <i>Icarus</i> , 2014, 229, 206-213.	2.5	133
11	Electrodeposition of Metal Alloy and Mixed Oxide Films Using a Single-Precursor Tetranuclear Copper-Nickel Complex. <i>Journal of the Electrochemical Society</i> , 1995, 142, 3357-3365.	2.9	127
12	Identification of the perchlorate parent salts at the Phoenix Mars landing site and possible implications. <i>Icarus</i> , 2014, 232, 226-231.	2.5	123
13	Wet Chemistry experiments on the 2007 Phoenix Mars Scout Lander mission: Data analysis and results. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	119
14	The origins of perchlorate in the Martian soil. <i>Geophysical Research Letters</i> , 2015, 42, 3739-3745.	4.0	119
15	Voltammetric measurement of arsenic in natural waters. <i>Talanta</i> , 2002, 58, 23-31.	5.5	108
16	Soluble sulfate in the martian soil at the Phoenix landing site. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	96
17	Fabrication and Characterization of a Solid State Reference Electrode for Electroanalysis of Natural Waters with Ultramicroelectrodes. <i>Analytical Chemistry</i> , 1997, 69, 1244-1247.	6.5	93
18	Field Evaluation of an Electrochemical Probe for In Situ Screening of Heavy Metals in Groundwater. <i>Environmental Science &amp; Technology</i> , 1998, 32, 131-136.	10.0	91

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19	Habitability of the Phoenix landing site. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	82
20	Iridium-based ultramicroelectrode array fabricated by microlithography. <i>Analytical Chemistry</i> , 1994, 66, 418-423.	6.5	79
21	Microfabricated heavy metal ion sensor. <i>Sensors and Actuators B: Chemical</i> , 1995, 23, 41-47.	7.8	75
22	The Enceladus Orbilander Mission Concept: Balancing Return and Resources in the Search for Life. <i>Planetary Science Journal</i> , 2021, 2, 77.	3.6	74
23	Evidence for the distribution of perchlorates on Mars. <i>International Journal of Astrobiology</i> , 2016, 15, 311-318.	1.6	73
24	Microfabricated electrochemical analysis system for heavy metal detection. <i>Sensors and Actuators B: Chemical</i> , 1996, 34, 450-455.	7.8	67
25	Determination of Selenium(IV) at a Microfabricated Gold Ultramicroelectrode Array Using Square Wave Anodic Stripping Voltammetry. <i>Electroanalysis</i> , 1998, 10, 364-368.	2.9	60
26	The MECA Wet Chemistry Laboratory on the 2007 Phoenix Mars Scout Lander. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	56
27	Deliquescence-induced wetting and RSL-like darkening of a Mars analogue soil containing various perchlorate and chloride salts. <i>Geophysical Research Letters</i> , 2016, 43, 4880-4884.	4.0	41
28	An indium based mercury ultramicroelectrode. <i>Journal of Electroanalytical Chemistry and Interfacial Electrochemistry</i> , 1991, 301, 77-85.	0.1	38
29	Mars Surveyor Program '01 Mars Environmental Compatibility Assessment wet chemistry lab: A sensor array for chemical analysis of the Martian soil. <i>Journal of Geophysical Research</i> , 2003, 108, 13-1 - 13-12.	3.3	35
30	Analytical utility of the iridium-based mercury ultramicroelectrode with square-wave anodic stripping voltammetry. <i>Analytical Chemistry</i> , 1993, 65, 375-379.	6.5	34
31	Measurements of Oxychlorine species on Mars. <i>International Journal of Astrobiology</i> , 2017, 16, 203-217.	1.6	33
32	Enhanced Microbial Survivability in Subzero Brines. <i>Astrobiology</i> , 2018, 18, 1171-1180.	3.0	32
33	Methanogenic Archaea Can Produce Methane in Deliquescence-Driven Mars Analog Environments. <i>Scientific Reports</i> , 2020, 10, 6.	3.3	30
34	The oxidation-reduction potential of aqueous soil solutions at the Mars Phoenix landing site. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a.	4.0	28
35	Carbon fiber electrode cell for square wave voltammetric detection of biogenic amines in high-performance liquid chromatography. <i>Analytical Chemistry</i> , 1989, 61, 1469-1472.	6.5	27
36	Analytical Characterization of Microlithographically Fabricated Iridium-Based Ultramicroelectrode Arrays. <i>Electroanalysis</i> , 1998, 10, 89-93.	2.9	27

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37	Indigenous Organicâ€Oxidized Fluid Interactions in the Tissint Mars Meteorite. <i>Geophysical Research Letters</i> , 2019, 46, 3090-3098.	4.0	25
38	Studies of cadmiumâ€”ethylenediamine complex formation in seawater by computer-assisted stripping polarography. <i>Analytica Chimica Acta</i> , 1979, 109, 327-339.	5.4	24
39	A perchlorate brine lubricated deformable bed facilitating flow of the north polar cap of Mars: Possible mechanism for water table recharging. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	24
40	Effects of Oxygen-Containing Salts on the Detection of Organic Biomarkers on Mars and in Terrestrial Analog Soils. <i>Astrobiology</i> , 2019, 19, 711-721.	3.0	24
41	Pseudopolarography at the mercury hemisphere ultramicroelectrode: theory and experiment. <i>Analytical Chemistry</i> , 1992, 64, 2998-3003.	6.5	23
42	Science Objectives for Flagship-Class Mission Concepts for the Search for Evidence of Life at Enceladus. <i>Astrobiology</i> , 2022, 22, 685-712.	3.0	21
43	Microbial Hotspots in Lithic Microhabitats Inferred from DNA Fractionation and Metagenomics in the Atacama Desert. <i>Microorganisms</i> , 2021, 9, 1038.	3.6	19
44	Adsorptive Stripping Analysis of Trace Nickel at Iridium-Based Ultramicroelectrode Arrays. <i>Electroanalysis</i> , 2000, 12, 44-47.	2.9	18
45	Nearly Forty Years after Viking: Are We Ready for a New Life-Detection Mission?. <i>Astrobiology</i> , 2015, 15, 413-419.	3.0	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. <i>Analytical Chemistry</i> , 1999, 71, 1176-1182.	6.5	16
47	Carbon-Nanofiber-Based Nanocomposite Membrane as a Highly Stable Solid-State Junction for Reference Electrodes. <i>Analytical Chemistry</i> , 2011, 83, 5749-5753.	6.5	16
48	Determination of organonitriles using enzyme-based selectivity mechanisms. 2. A nitrilase-modified glassy carbon microelectrode sensor for benzonitrile. <i>Analytical Chemistry</i> , 1995, 67, 1679-1683.	6.5	15
49	Determination of organonitriles using enzyme-based selectivity mechanisms. 1. An ammonia gas sensing electrode-based sensor for benzonitrile. <i>Analytical Chemistry</i> , 1993, 65, 3134-3136.	6.5	14
50	The Source of the Anomalous Cathodic Peak During ASV with In Situ Mercury Film Formation in Chloride Solutions. <i>Electroanalysis</i> , 2000, 12, 96-99.	2.9	13
51	Analysis of Simulated Martian Regolith Using an Array of Ion Selective Electrodes. <i>Electroanalysis</i> , 2005, 17, 1441-1449.	2.9	13
52	Effects of mercury electrodeposition on the surface degradation of microlithographically fabricated iridium ultramicroelectrodes. <i>Journal of Electroanalytical Chemistry</i> , 1998, 453, 39-48.	3.8	12
53	Stability and Lifetime of Potassium Solidâ€Contact Ion Selective Electrodes for Continuous and Autonomous Measurements. <i>Electroanalysis</i> , 2012, 24, 2071-2078.	2.9	12
54	Comparison of the Phoenix Mars Lander WCL soil analyses with Antarctic Dry Valley soils, Mars meteorite EETA79001 sawdust, and a Mars simulant. <i>Icarus</i> , 2013, 225, 933-939.	2.5	12

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55	Solid Contact Ion-Selective Electrodes for in Situ Measurements at High Pressure. <i>Analytical Chemistry</i> , 2017, 89, 4803-4807.	6.5	12
56	Perchlorate-Driven Combustion of Organic Matter During Pyrolysis-Gas Chromatography-Mass Spectrometry: Implications for Organic Matter Detection on Earth and Mars. <i>Journal of Geophysical Research E: Planets</i> , 2018, 123, 1901-1909.	3.6	12
57	Electrochemical Approaches for Chemical and Biological Analysis on Mars. <i>ChemPhysChem</i> , 2003, 4, 162-168.	2.1	10
58	Failure analysis of microfabricated iridium ultramicroelectrodes in chloride media. <i>Sensors and Actuators B: Chemical</i> , 1998, 50, 117-124.	7.8	8
59	Evaluation of the Tindouf Basin Region in Southern Morocco as an Analogue Site for Soil Geochemistry on Noachian Mars. <i>Astrobiology</i> , 2018, 18, 1318-1328.	3.0	8
60	The Role of Titanium Dioxide (TiO <sub>2</sub> ) in the Production of Perchlorate (ClO <sub>4</sub> <sup>-</sup> ) from Chlorite (ClO <sub>2</sub> <sup>-</sup> ) and Chlorate (ClO <sub>3</sub> <sup>-</sup> ) on Earth and Mars. <i>ACS Earth and Space Chemistry</i> , 2019, 3, 1678-1684.	2.7	8
61	<title>Microbial life detection with minimal assumptions</title>. , 2002, 4495, 137.		7
62	Electrochemistry of Aqueous Colloidal Graphene Oxide on Pt Electrodes. <i>Langmuir</i> , 2014, 30, 9599-9606.	3.5	7
63	The use of graphene oxide as a fixed charge carrier in ion-selective electrodes. <i>Electrochemistry Communications</i> , 2015, 55, 51-54.	4.7	6
64	Survivability of 1-Chloronaphthalene During Simulated Early Diagenesis: Implications for Chlorinated Hydrocarbon Detection on Mars. <i>Journal of Geophysical Research E: Planets</i> , 2018, 123, 2790-2802.	3.6	6
65	Effect of Hydration State of Martian Perchlorate Salts on Their Decomposition Temperatures During Thermal Extraction. <i>Journal of Geophysical Research E: Planets</i> , 2017, 122, 2793-2802.	3.6	5
66	Degradation of Amino Acids on Mars by UV Irradiation in the Presence of Chloride and Oxychlorine Salts. <i>Astrobiology</i> , 2021, 21, 793-801.	3.0	5
67	An Electrochemically Based Total Organic Carbon Analyzer for Planetary and Terrestrial On-Site Applications. <i>Analytical Chemistry</i> , 2012, 84, 6271-6276.	6.5	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. <i>ACS Symposium Series</i> , 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. <i>Computers &amp; Chemistry</i> , 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 “ ERRATUM. International Journal of Astrobiology, 2017, 16, 236-236.	1.6	1
75	Stable nitrogen and oxygen isotope fractionation during precipitation of nitrate salt from saturated solutions. Rapid Communications in Mass Spectrometry, 2020, 34, e8905.	1.5	0
76	Left with the Truth. Science, 1999, 285, 1013-1013.	12.6	0