

# Simon A Mathias

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

74  
papers

1,735  
citations

24  
h-index

39  
g-index

75  
ext. papers

1,915  
ext. citations

4.4  
avg, IF

4.84  
L-index

| #  | Paper  | IF  | Citations |
|----|--|-----|-----------|
| 74 | Hydraulic fractures: How far can they go?. <i>Marine and Petroleum Geology</i> , <b>2012</b> , 37, 1-6   | 4.7 | 172       |
| 73 | Approximate Solutions for Pressure Buildup During CO2 Injection in Brine Aquifers. <i>Transport in Porous Media</i> , <b>2009</b> , 79, 265-284  | 3.1 | 110       |
| 72 | Screening and selection of sites for CO2 sequestration based on pressure buildup. <i>International Journal of Greenhouse Gas Control</i> , <b>2009</b> , 3, 577-585                              | 4.2 | 81        |
| 71 | Nitrate pollution in intensively farmed regions: What are the prospects for sustaining high-quality groundwater?. <i>Water Resources Research</i> , <b>2011</b> , 47,                            | 5.4 | 71        |
| 70 | Pressure Buildup During CO2 Injection into a Closed Brine Aquifer. <i>Transport in Porous Media</i> , <b>2011</b> , 89, 383-397  | 3.1 | 69        |
| 69 | Approximate Solutions for Forchheimer Flow to a Well. <i>Journal of Hydraulic Engineering</i> , <b>2008</b> , 134, 1318-1325   | 1.8 | 68        |
| 68 | On relative permeability data uncertainty and CO2 injectivity estimation for brine aquifers. <i>International Journal of Greenhouse Gas Control</i> , <b>2013</b> , 12, 200-212                  | 4.2 | 65        |
| 67 | Role of partial miscibility on pressure buildup due to constant rate injection of CO2 into closed and open brine aquifers. <i>Water Resources Research</i> , <b>2011</b> , 47,                   | 5.4 | 57        |
| 66 | Analytical solution for Joule-Thomson cooling during CO2 geo-sequestration in depleted oil and gas reservoirs. <i>International Journal of Greenhouse Gas Control</i> , <b>2010</b> , 4, 806-810 | 4.2 | 56        |
| 65 | Linearized Richards' equation approach to pumping test analysis in compressible aquifers. <i>Water Resources Research</i> , <b>2006</b> , 42,  | 5.4 | 53        |
| 64 | A model for flow in the chalk unsaturated zone incorporating progressive weathering. <i>Journal of Hydrology</i> , <b>2009</b> , 365, 244-260  | 6   | 51        |
| 63 | Transient simulations of flow and transport in the Chalk unsaturated zone. <i>Journal of Hydrology</i> , <b>2006</b> , 330, 10-28  | 6   | 50        |
| 62 | Hydrological processes in the Chalk unsaturated zone – Insights from an intensive field monitoring programme. <i>Journal of Hydrology</i> , <b>2006</b> , 330, 29-43                             | 6   | 48        |
| 61 | Modelling long-term diffuse nitrate pollution at the catchment-scale: Data, parameter and epistemic uncertainty. <i>Journal of Hydrology</i> , <b>2011</b> , 403, 337-351                        | 6   | 47        |
| 60 | The significance of flow in the matrix of the Chalk unsaturated zone. <i>Journal of Hydrology</i> , <b>2005</b> , 310, 62-77   | 6   | 45        |
| 59 | Probabilistic longevity estimate for the LUSI mud volcano, East Java. <i>Journal of the Geological Society</i> , <b>2011</b> , 168, 517-523  | 2.7 | 39        |
| 58 | Catchment-scale modelling of flow and nutrient transport in the Chalk unsaturated zone. <i>Ecological Modelling</i> , <b>2007</b> , 209, 41-52   | 3   | 32        |

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|----|---|------|----|
| 57 | Step-drawdown tests and the Forchheimer equation. <i>Water Resources Research</i> , <b>2010</b> , 46,   | 5.4  | 31 |
| 56 | Analytical Model for CO <sub>2</sub> Injection into Brine Aquifers-Containing Residual CH <sub>4</sub> . <i>Transport in Porous Media</i> , <b>2012</b> , 94, 795-815                   | 3.1  | 30 |
| 55 | Masuda's sandstone core hydrate dissociation experiment revisited. <i>Chemical Engineering Science</i> , <b>2018</b> , 175, 98-109  | 4.4  | 28 |
| 54 | Farming for Water Quality: Balancing Food Security and Nitrate Pollution in UK River Basins. <i>Annals of the American Association of Geographers</i> , <b>2013</b> , 103, 397-407      |      | 28 |
| 53 | A simple model of variable residence time flow and nutrient transport in the chalk. <i>Journal of Hydrology</i> , <b>2006</b> , 330, 221-234  | 6    | 28 |
| 52 | Analysis of flow processes in fractured chalk under pumped and ambient conditions (UK). <i>Hydrogeology Journal</i> , <b>2009</b> , 17, 1849-1858                                       | 3.1  | 27 |
| 51 | Insights from a pseudospectral approach to the Elder problem. <i>Water Resources Research</i> , <b>2009</b> , 45,   | 5.4  | 27 |
| 50 | The significance of colloids in the transport of pesticides through Chalk. <i>Science of the Total Environment</i> , <b>2007</b> , 385, 262-71  | 10.2 | 23 |
| 49 | Hydraulic Fracture Propagation with 3-D Leak-off. <i>Transport in Porous Media</i> , <b>2009</b> , 80, 499-518  | 3.1  | 22 |
| 48 | A pseudospectral approach to the McWhorter and Sunada equation for two-phase flow in porous media with capillary pressure. <i>Computational Geosciences</i> , <b>2013</b> , 17, 889-897 | 2.7  | 20 |
| 47 | Recovering tracer test input functions from fluid electrical conductivity logging in fractured porous rocks. <i>Water Resources Research</i> , <b>2007</b> , 43,                        | 5.4  | 18 |
| 46 | Numerical simulation of Forchheimer flow to a partially penetrating well with a mixed-type boundary condition. <i>Journal of Hydrology</i> , <b>2015</b> , 524, 53-61                   | 6    | 16 |
| 45 | Analysis of Momentum Transfer in a Lid-Driven Cavity Containing a Brinkman-Forchheimer Medium. <i>Transport in Porous Media</i> , <b>2012</b> , 92, 101-118                             | 3.1  | 16 |
| 44 | Soil moisture data as a constraint for groundwater recharge estimation. <i>Journal of Hydrology</i> , <b>2017</b> , 552, 258-266  | 6    | 15 |
| 43 | Heat transport and pressure buildup during carbon dioxide injection into depleted gas reservoirs. <i>Journal of Fluid Mechanics</i> , <b>2014</b> , 756, 89-109                         | 3.7  | 15 |
| 42 | Deepwater canyons: An escape route for methane sealed by methane hydrate. <i>Earth and Planetary Science Letters</i> , <b>2012</b> , 323-324, 72-78                                     | 5.3  | 15 |
| 41 | Flow to a finite diameter well in a horizontally anisotropic aquifer with wellbore storage. <i>Water Resources Research</i> , <b>2007</b> , 43,   | 5.4  | 15 |
| 40 | Reply: Davies et al. (2012), Hydraulic fractures: How far can they go?. <i>Marine and Petroleum Geology</i> , <b>2013</b> , 43, 519-521   | 4.7  | 13 |

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|----|---|------|----|
| 39 | Shape factors for constant-head double-packer permeameters. <i>Water Resources Research</i> , <b>2007</b> , 43,   | 5.4  | 13 |
| 38 | An irregular feather-edge and potential outcrop of marine gas hydrate along the Mauritanian margin. <i>Earth and Planetary Science Letters</i> , <b>2015</b> , 423, 202-209   | 5.3  | 11 |
| 37 | A study of non-linearity in rainfall-runoff response using 120 UK catchments. <i>Journal of Hydrology</i> , <b>2016</b> , 540, 423-436  | 6    | 11 |
| 36 | Recent advances in modelling nitrate transport in the Chalk unsaturated zone. <i>Quarterly Journal of Engineering Geology and Hydrogeology</i> , <b>2007</b> , 40, 353-359  | 1.4  | 11 |
| 35 | An improvement on Hvorslev's shape factors. <i>Geotechnique</i> , <b>2006</b> , 56, 705-706   | 3.4  | 11 |
| 34 | Multiple well systems with non-Darcy flow. <i>Ground Water</i> , <b>2013</b> , 51, 588-96   | 2.4  | 10 |
| 33 | The late field life of the East Midlands Petroleum Province; a new geothermal prospect?. <i>Quarterly Journal of Engineering Geology and Hydrogeology</i> , <b>2015</b> , 48, 104-114                               | 1.4  | 9  |
| 32 | Impact of Maximum Allowable Cost on CO2 Storage Capacity in Saline Formations. <i>Environmental Science &amp; Technology</i> , <b>2015</b> , 49, 13510-8  | 10.3 | 9  |
| 31 | A soil moisture accounting-procedure with a Richards' equation-based soil texture-dependent parameterization. <i>Water Resources Research</i> , <b>2015</b> , 51, 506-523   | 5.4  | 9  |
| 30 | A trigonometric interpolation approach to mixed-type boundary problems associated with permeameter shape factors. <i>Water Resources Research</i> , <b>2011</b> , 47,   | 5.4  | 9  |
| 29 | The realities of storing carbon dioxide - A response to CO2 storage capacity issues raised by Ehlig-Economides & Economides. <i>Nature Precedings</i> , <b>2010</b> ,   |      | 9  |
| 28 | A statistical analysis of well production rates from UK oil and gas fields – Implications for carbon capture and storage. <i>International Journal of Greenhouse Gas Control</i> , <b>2013</b> , 19, 510-518        | 4.2  | 8  |
| 27 | Gas Diffusion in Coal Powders is a Multi-rate Process. <i>Transport in Porous Media</i> , <b>2020</b> , 131, 1037-1051  | 3.1  | 8  |
| 26 | Storage Coefficients and Permeability Functions for Coal-Bed Methane Production Under Uniaxial Strain Conditions. <i>Transport in Porous Media</i> , <b>2019</b> , 130, 627-636                                     | 3.1  | 7  |
| 25 | Closed-form equation for subsidence due to fluid production from a cylindrical confined aquifer. <i>Journal of Hydrology</i> , <b>2019</b> , 573, 964-969   | 6    | 7  |
| 24 | Dissolution of CO2 From Leaking Fractures in Saline Formations. <i>Transport in Porous Media</i> , <b>2012</b> , 94, 729-745  | 3.1  | 7  |
| 23 | A parameter sensitivity analysis of two Chalk tracer tests. <i>Quarterly Journal of Engineering Geology and Hydrogeology</i> , <b>2009</b> , 42, 237-244  | 1.4  | 7  |
| 22 | Investigation of hydromechanical processes during cyclic extraction recovery testing of a deformable rock fracture. <i>International Journal of Rock Mechanics and Minings Sciences</i> , <b>2010</b> , 47, 517-522 | 6    | 7  |

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| 21 | Laplace transform inversion for late-time behavior of groundwater flow problems. <i>Water Resources Research</i> , <b>2003</b> , 39,  | 5.4 | 7 |
| 20 | Methane hydrate recycling offshore of Mauritania probably after the last glacial maximum. <i>Marine and Petroleum Geology</i> , <b>2017</b> , 84, 323-331   | 4.7 | 6 |
| 19 | Approximate solutions for Forchheimer flow during water injection and water production in an unconfined aquifer. <i>Journal of Hydrology</i> , <b>2016</b> , 538, 13-21                           | 6   | 6 |
| 18 | Simulation of Three-Component Two-Phase Flow in Porous Media Using Method of Lines. <i>Transport in Porous Media</i> , <b>2016</b> , 112, 1-19  | 3.1 | 5 |
| 17 | A Lambert W function solution for estimating sustainable injection rates for storage of CO2 in brine aquifers. <i>International Journal of Greenhouse Gas Control</i> , <b>2013</b> , 17, 546-548 | 4.2 | 5 |
| 16 | Gas venting that bypasses the feather edge of marine hydrate, offshore Mauritania. <i>Marine and Petroleum Geology</i> , <b>2017</b> , 88, 402-409  | 4.7 | 5 |
| 15 | Dynamic modelling of a UK North Sea saline formation for CO2 sequestration. <i>Petroleum Geoscience</i> , <b>2014</b> , 20, 169-185   | 1.9 | 5 |
| 14 | Modelling radioiodine transport across a capillary fringe. <i>Journal of Environmental Radioactivity</i> , <b>2008</b> , 99, 716-29   | 2.4 | 4 |
| 13 | North Sea next life: extending the commercial life of producing North Sea fields. <i>Petroleum Geology Conference Proceedings</i> , <b>2018</b> , 8, 561-570                                      |     | 3 |
| 12 | Uncertainty in static CO2 storage capacity estimates: Case study from the North Sea, UK <b>2013</b> , 3, 212-230  |     | 3 |
| 11 | Capturing the coupled hydro-mechanical processes occurring during CO2 injection - example from In Salah. <i>Energy Procedia</i> , <b>2014</b> , 63, 3416-3424                                     | 2.3 | 3 |
| 10 | Transient divergent flow and transport in an infinite anisotropic porous formation. <i>Ground Water</i> , <b>2010</b> , 48, 438-41  | 2.4 | 3 |
| 9  | Analytical solution for clay plug swelling experiments. <i>Applied Clay Science</i> , <b>2017</b> , 149, 75-78  | 5.2 | 2 |
| 8  | An approximate solution for toughness-dominated near-surface hydraulic fractures. <i>International Journal of Fracture</i> , <b>2011</b> , 168, 93-100  | 2.3 | 2 |
| 7  | A Model for the Soil Freezing Characteristic Curve That Represents the Dominant Role of Salt Exclusion. <i>Water Resources Research</i> , <b>2021</b> , 57, e2021WR030070                         | 5.4 | 2 |
| 6  | Impact of sub seismic heterogeneity on CO2 injectivity. <i>Energy Procedia</i> , <b>2014</b> , 63, 3078-3088  | 2.3 | 1 |
| 5  | Transmission loss estimation for ephemeral sand rivers in Southern Africa. <i>Journal of Hydrology</i> , <b>2021</b> , 600, 126487  | 6   | 1 |
| 4  | Capillary processes increase salt precipitation during CO2 injection in saline formations. <i>Journal of Fluid Mechanics</i> , <b>2018</b> , 852, 398-421   | 3.7 | 0 |

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| 3 | Pseudospectral methods provide fast and accurate solutions for the horizontal infiltration equation. <i>Journal of Hydrology</i> , <b>2021</b> , 598, 126407   | 6   | o |
| 2 | Strain characteristics and permeability evolution of faults under stress disturbance monitoring by fibre bragg grating sensing and pressure pulses. <i>Geomechanics and Geophysics for Geo-Energy and Geo-Resources</i> , <b>2021</b> , 7, 1 | 3.8 | o |
| 1 | Reply to comment by Robert P. Chapuis and Djaouida Chenaf on "Shape factors for constant-head double-packer permeameters" <i>Water Resources Research</i> , <b>2008</b> , 44,  | 5.4 |   |