

Curriculum Vitae et Studiorum

As of March 2018

Federico Maggi

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The University of Sydney, 2006 Sydney, NSW, Australia
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Education

- Diploma (1993) Liceo Scientifico "Amedeo Avogadro", Vercelli, Italy.
MSc (1999) Polytechnic of Turin, Civil Engineering, Department of Hydraulics, Torino, Italy.
(<http://www.polito.it/ricerca/dipartimenti/ditic/>)
PhD (2005) Delft University of Technology, Civil Engineering and Geosciences, Environmental Fluid Mechanics, Delft, The Netherlands.
(<http://www.citg.tudelft.nl/live/pagina.jsp?id=d021d7f6-701d-4505-ac7d-bdb5149c9fcd&lang=en>)

Appointments

- (2005-2006) Associate Researcher, Civil and Environmental Engineering, Duke University, Durham, NC, USA, (<http://www.pratt.duke.edu>)
(2006-2009) Associate Researcher, Civil and Environmental Engineering, University of California, Berkeley, CA, USA, (<http://bwc.berkeley.edu/>)
(2006-2009) Associate Researcher, Earth Science Division, Lawrence Berkeley National Laboratory, Berkeley, CA, USA
(2009-2011) Lecturer, School of Civil Engineering, The University of Sydney, Sydney, NSW, Australia,
(2010-2016) Research Director, School of Civil Engineering, The University of Sydney, Sydney, NSW, Australia.
(2010-present) Continuing Guest Faculty Affiliate, Earth and Environmental Sciences Area, Lawrence Berkeley National Laboratory, Berkeley, CA, USA, (<https://eesa.lbl.gov/profiles/federico-maggi/>)
(2012-present) Senior Lecturer (tenured), Civil Engineering, The University of Sydney, Sydney, NSW, Australia, (<http://sydney.edu.au/engineering/civil/people/maggi.shtml>)
(2014-present) Head of Laboratory for Advanced Environmental Engineering Research (LAEER), School of Civil Engineering, The University of Sydney, Sydney, NSW, Australia.

Other Affiliations

- (2010-present) The ISI Foundation and CRT Foundation, Torino, Italy
(2014-present) Sydney Institute of Marine Science, SIMS, Sydney, NSW, Australia
(2017-present) Sydney Institute of Agriculture, Sydney, NSW, Australia

Key Research Interests

Eco/Hydrology, biogeochemistry, ecosystem dynamics, reaction-advection-dispersion processes, soil-plant-atmosphere processes, mathematical modeling.

Teaching

- (2009-present) CIVL6665 – Water Resources Engineering (PG level)
(2009-present) CIVL3614/9614 – Hydrology (UG levels)

Grants and Awards

2009	<u>Early Career Research Grant Award (ECR)</u> , “Nutrient-sediment interaction”, Maggi , The University of Sydney, Sydney, NSW, Australia, AUD 30k
2010	<u>Lagrange Fellowship Award</u> , “The epidemics of Flavescence Dorée (FD) in grapevine plants in the Regione Piemonte”, Maggi , ISI Foundation and CRT Foundation, Torino, Italy, EU 5k.
2011	<u>Major Equipment Scheme (MES)</u> , “Material degradation due to environmental and biochemical exposure”, The University of Sydney. Maggi and Ranzi, AUD 93k
2012	<u>International Project Development Fund (IPDF)</u> , “Soil carbon cycle”, The University of Sydney, Maggi , Pallud, Riley, AUD 8.5k
2013	<u>Australian Mathematical Science Institute (AMSI)</u> , “Particle Removal Efficiency from Stormwater”. Maggi , AUD 25k
2013	<u>Civil Engineering Research Development Scheme (CERDS)</u> , The University of Sydney, “Bioregenerative soil systems in urban environments: a sustainable approach to reduce nutrient and contaminant loads, and recycle water and organic wastes”, Maggi , AUD 25k.
2014 - 2016	<u>ARC-Discovery Project DP140100945</u> , “A multi-scale theory of unsaturated porous media under extreme loading”. Shen, Nguyen, El-Zein, Maggi . AUD 405k.
2014	<u>International Research Collaborative Award (IRCA)</u> , “Linking carbon exchange fluxes across the soil, canopy and atmosphere continuum”. Maggi , Fares, Riley, AUD 10k.
2015 - 2016	<u>Civil Engineering Research Development Scheme (CERDS)</u> , The University of Sydney, “Resilience engineering: a new concept and analysis framework with application to the design of intelligent stormwater systems under climate change”. El-Zein, Maggi , Chung, AUD 80k.
2015	<u>Office of Global Engagement</u> , The University of Sydney and the University of Padova, “Soil Salinity”. Maggi , Salandin, AUD 8k.
2015 - 2017	<u>Civil Engineering Education Development Scheme (CEEDS)</u> , The University of Sydney, “Design and construction of a hydrometeorological station”. Maggi , AUD 44k.
2016 - 2018	<u>Civil Engineering Research Development Scheme (CERDS)</u> , The University of Sydney, “On the offsets of estuarine sediment and ecosystem dynamics caused by agrochemicals leaching”. Maggi and Birch, AUD 120k.
2017 - 2018	<u>CDIP</u> , Joint funding, The University of Sydney and Acquafil SRL, “Zero-footprint water desalination”, Maggi , Bernardi, AUD 58k.
2017 - 2019	<u>ARC-Discovery Project DP170102886</u> , “Assessing reservoir performance for carbon storage in saline aquifers”. Shen, Maggi , El-Zein, Gan. AUD 350k.
2017 - 2018	<u>Strategic Research Excellence Initiative 2020 (SREI)</u> , The University of Sydney and EESI Contracting, Centre for Contaminant Geoscience, “A new paradigm: dynamic microbe-centric environmental risk assessment”. Maggi , Tang, Coleman, Conoley, Vervoort. AUD 150k.
2018	<u>Mid-Career Research Award (MCR)</u> , The University of Sydney, “Microbial Modulation of C and N in soil organic matter (SOM) dynamics”. Maggi . AUD 55k.
2018	<u>Major Equipment Scheme (MES)</u> , The University of Sydney, “Three-Cell Permeameter for Laboratory Measurement of Hydraulic Conductivity”. El-Zein, Airey Wang, Gan, Maggi , Dias-Da-Costa, AUD 50k.
2018 - 2019	<u>Sydney Research Accelerator Fellowship (SOAR)</u> , The University of Sydney. Maggi . AUD 145k.
2019	<u>Sydney Institute of Agriculture (SIA)</u> , Seed Funding, “Addressing Nitrogen Use Efficiency in the Agroecosystem”, Minasny, Ancey, Barbour, Chandrawati, Dijkstra, Keite, Kaiser, Malik, Malone, Maggi , Merchant, Warren, Whelan, AUD 90k.

Certificates and Qualifications

2000	Post-graduate studentship Award Civil Engineering, Department of Hydraulics, Torino, Italy
2001	Certificate: <i>Turbulence</i> , J.M. Burgerscentrum, Research School for Fluid Mechanics, Delft, The Netherlands.

2001	Certificate: <i>Particle Image Velocimetry</i> , University of Oldenburg and DLR. (Deutsche Zentrum für Luft- und Raumfahrt), Göttingen, Germany.
2012	Graduate Certificate in Higher Education, The University of Sydney, Sydney, NSW, Australia.

Other Scientific Services

2005 - Present	Reviewer for various international journals in hydrology, water resources, soil biogeochemistry, sediment dynamics, isotopic methods.
2013 - Present	Editorial Review Board for <i>Frontiers in Soil Processes</i> , Nature Publishing Group.
2016 - Present	Associate Editor, <i>Journal of Hydrology</i> , Elsevier.
2017	Co-organizer of Session G4, "Recognising realism, pragmatism and dimensionality in ecohydrological modelling" at the MODSIM 2017, Hobart, Tasmania 3-8 December.

Memberships

2006 - Present	American Geophysical Union, member.
2016 - Present	American Chemical Society, member.

Invited Lectures:

2006	"Multiscale and multiphase dynamics induced by water flows", Earth Science Division, Lawrence Berkeley National Laboratory, Berkeley;
2007	"Nitrogen and the Environment", Civil and Environmental Engineering, University of California, Berkeley;
2008	"Biological kinetic isotope fractionation during denitrification in soils: modeling variable fractionation and inverse fractionation", Environmental Science, Policy and Management, University of California, Berkeley.
2009	"Understanding the impact of micro-organisms in ecosystem dynamics", The University of Sydney.
2010	"Climate-change related effects of epidemics in plants, the case study of <i>Chrysanthemum Yellow Phytoplasma</i> ", University of Turin, Di.Va.P.R.A, Torino, Italy.
2010	"Mathematical modelling and experiments of <i>Flavescence Dorée</i> epidemics in grapevine plants in Piemonte, Italy", University of Turin, Di.Va.P.R.A, Torino, Italy.
2011	"SOC dynamics in soils", ESD, Lawrence Berkeley National Laboratory, Berkeley, CA, USA.
2012	"A mechanistic accounting of SOM speciation and kinetics in soils", School of agriculture and Environment, The University of Sydney, Sydney, NSW, AU.
2016	"Urine-fuelled bioregenerative life-support systems in space missions", Faculty of Science, The University of Sydney, Sydney, NSW, AU.
2017	"Physical and biological process complexation in aqueous ecosystems", Waikato University, Hamilton, New Zealand.
2017	"Scales and repercussions of microbe-induced processes on ecosystem dynamics", The University of Auckland, New Zealand.

Keynote Lectures

2014	"Modes and implications of mineral and biological interactions in aqueous-suspended sediments", at "Of Rainfall and Marine Snow: How Small-Scale Physical Interactions have Large-Scale Consequences" workshop, March 17-21, University of Leiden, NL.
2015	"Effectiveness of human urine recycling in agriculture: breakdown, uptake and losses in barley and soybean crops", at the 'Bioprocessing, Bioprospecting & Bioremediation, BioP3 Symposium', October 23, The University of Sydney.

PhD/MPhil completions

2013	Daniel Harrison, MPhil, 'Economics of Engineering Ocean Iron Fertilization'.
2015	Shumiao Chen, MPhil 'Cropping in urban ecosystems' (co-supervised with Prof. G. Ranzi).
2015	Imran Kabir, PhD, 'Dynamics of heavy metals in urban green water infrastructures'.
2016	Youventharan Duraisamy, PhD, 'Strength and stiffness improvement of bio-cemented Sydney sand' (co-supervised with Prof. David Airey)
2016	Cai Li, PhD, 'Dynamic Modeling Approaches for Geologic CO ₂ Storage in Fractured Aquifers -Application to the Ordos Basin CCS Project'.
2017	Fiona Tang, PhD, 'Microbiological modulation of suspended particulate matter dynamics: A study of biological flocculation in nutrient-enriched waters'.
2018	Daniele La Cecilia, PhD, expected in October 2018.
2018	Thu Ha Nguyen, PhD, expected in October 2018.
2019	Chiara Pasut, PhD, expected in July 2019.

Post-doctoral researchers advisor

2014	Renato Feitosa, supported by the Brazilian government visiting funds.
2015 - 2016	Emmanuel Flores-Johnson, supported by ARC-DP140100945.
2015 - 2017	Li Ling, supported by ARC-DP140100945.
2016 - 2018	Fiona Tang, supported by CERDS 2016-2018, SREI-2020.
2018 - 2019	Cai li, supported by ARC- DP170102886.
2018 - 2019	Giulia Ceriotti, supported by MCR2018.

Publications

Metrics (updated August 2017)

Publications:	62 journal articles, 15 conference proceedings, 20 conference abstracts
Citations:	>600 (Scopus), >900 (Google Scholar)
h-index:	14 (Scopus), 15 (Google Scholar)

Citation progression (Google Scholar, <http://scholar.google.com.au/citations?user=CVox-qIAAAA&hl=en>)

Journals (submitted, under review, decision pending)

- i. La Cecilia D., Riley W.J., and **F. Maggi**, (2017), Memory effects and Catabolite Repression in the Carbon biogeochemical cycle, *Soil Biology and Biochemistry* (under review).
- ii. Tang F.H.M., Coleman N., Vervoort R.W., Conoley C., and **Maggi F.**, (2018), Experiments and kinetic modeling of glyphosate and AMPA biodegradation in previously exposed and unexposed ecosystems, *Nature Communications*.
- iii. la Cecilia D., Tang F.H.M., Coleman N., Conoley C., Veervort R.W., and **Maggi F.**, (2018), Glyphosate dispersion, degradation, and aquifer contamination in vineyards and wheat crops in the Po Valley, Italy, *Journal of Agriculture and Food Chemistry*, (under review).
- iv. Tang F.H.M., la Cecilia D., Vervoort R.W., Coleman N., Conoley C., and **Maggi F.**, (2018), Integrating biological degradation potential into ecological risk assessment. *Journal of Mathematics and Computers in Simulation (Transactions of IMACS)*, (invited for special issues: on Good Modelling Practices).
- v. la Cecilia D., and **Maggi F.**, (2018), Stochastic sensitivity analysis of glyphosate biochemical degradation. *Journal of Mathematics and Computers in Simulation (Transactions of IMACS)*, (invited for special issues: on Good Modelling Practices).

2018

- J1. Wang S., Shen L., **Maggi F.**, El-Zein A., Nguyen G., Zheng Y., Zhang H., Chen Z., (2018), Influence of dry density and confinement environment on the high strain rate response of partially saturated sand, *International Journal of Impact Engineering* 116, 65-78.
- J2. **Maggi F.**, Tang F.H.M., C. Pallud and C. Gu, (2018). A urine-fuelled soil-based bioregenerative life support system for long-term and long-distance manned space missions. *Life Sciences in Space Research* 17 (1 May 2018), 1-14.
- J3. La Cecilia D. and **F. Maggi**, (2018), Analysis of glyphosate degradation in a soil microcosm, *Environmental Pollution* 233, 201-207, <https://doi.org/10.1016/j.envpol.2017.10.017> (IF 4.8).
- J4. Li L., L. Shen, G.D. Nguyen, A. El-Zein, **F. Maggi**, (2018), A smoothed particle hydrodynamics framework for modelling multiphase interactions at meso-scale, *Computational Mechanics*, <https://doi.org/10.1007/s00466-018-1551-3> (IF 2.86)
- J5. **Maggi F.** Tang F.H.M., and W.J. Riley, (2018), The thermodynamic links between substrate, enzyme, and microbial dynamics in Michaelis-Menten-Monod kinetics, *International Journal of Chemical Kinetics*, DOI 10.1002/kin.21163. (IF 1.736)
- J6. Tang F.H.M. and **Maggi F.**, (2018), Biomodulation of nitrogen cycle in sedimentary habitat, *Journal of Geophysical Research – Biogeosciences*, DOI: 10.1002/2017JG004165. (IF 3.4) (in press)

2017

- J7. Mukherjee M., G.D. Nguyen, A. Mir, H.H. Bui, L. Shen, A. El-Zein, **F. Maggi**, (2017), Capturing pressure- and rate-dependent behaviour of rocks using a new damage-plasticity model, *International Journal of Impact Engineering*, <http://dx.doi.org/10.1016/j.ijimpeng.2017.01.006>. (IF 2.93)
- J8. Tang F.H.M. and **F. Maggi**, (2017), Living microorganisms change the information (Shannon) content of a geophysical system, Scientific Reports, *Scientific Reports* 7, 3320, DOI:10.1038/s41598-017-03479-1. (IF 4.26)
- J9. Nguyen T.H., F.H.M Tang., and **F. Maggi**, Optical measurement of cell colonization on individual suspended sediment aggregates, *Journal of Geophysical Research – Earth Surface* 122, 1794–1807. DOI: 10.1002/2017JF004263. (IF 3.44)
- J10. Kabir I., E. Daly, and **F. Maggi**, (2017), Geochemical modelling of heavy metals in urban stormwaterbiofilters. *Ecological Engineering* 102, 565–576 (IF 2.74)
- J11. **Maggi F.** and W.J. Riley, (2017), Near-activation and differential activation in enzymatic reactions, *International Journal of Chemical Kinetics*, DOI 10.1002/kin.21076 (IF 1.736)
- J12. Wang S., L. Shen, **F. Maggi**, A. El-Zein, and G.D. Nguyen, (2017), Uniaxial compressive behaviour of partially saturated granular media under high strain rates, *International Journal of Impact Engineering*, 102, 156-168, 10.1016/j.ijimpeng.2016.12.018. (IF 2.93)
- J13. Li C., K. Zhang, C. Guo, J. Xie, J. Zhao, X. Li, and **F. Maggi**, (2017), Impacts of Relative Permeability Hysteresis on the Reservoir Performance in CO₂ Storage in the Ordos Basin, *Greenhouse Gas Science and Technology* 00, 1–14 (2016); DOI: 10.1002/ghg. (IF 1.92)
- J14. Dwivedi D., W.J. Riley, Torn M.S., N. Spycer, **F. Maggi**, and J.Y. Tang, (2017), Mineral properties, microbes, transport, and plant-input profiles control vertical distribution and age of soil carbon stocks, *Soil Biology & Biochemistry* 107, 244-259, <http://doi.org/10.1016/j.soilbio.2016.12.019> (IF 5.43)

- J15. **Maggi F.**, D. Bosco, L. Galetto, S. Palmano, C. Marzachi, (2017), Space-time point pattern analysis of Flavescence Dorée epidemic in a grapevine field: disease progression and recovery, *Frontiers in Plant Science*, article 1987, <https://doi.org/10.3389/fpls.2016.01987>. (IF 4.5)
- J16. La Cecilia D. and **F. Maggi**, (2017), In-situ atrazine biodegradation dynamics in wheat (*Triticum*) crops under variable hydrologic regime, *Journal of Contaminant Hydrology* 203 (2017) 104–121. (IF 2.0)
- J17. Nguyen V.P., Nguyen G.D., Nguyen C.T., Shen L., Dias-da-Costa D., El-Zein A. and **Maggi F.**, (2017), Modelling complex cracks with finite elements: a kinematically enriched constitutive model, *International Journal of Fracture*, pp 1-19, DOI 10.1007/s10704-016-0114-x. (IF 2.25)

2016

- J18. La Cecilia D., **Maggi F.**, (2016), Kinetics of atrazine, deisopropylatrazine, and deethylatrazine soil biodecomposers, *Journal of Environmental Management*, <http://dx.doi.org/10.1016/j.jenvman.2016.09.012>. (IF 3.13)
- J19. Flores-Johnson E.A., Wang S., **Maggi F.**, El-Zein A., Gan Y., Nguyen G.D., Shen L., (2016), Discrete element simulation of dynamic behaviour of partially saturated sand, *Int. J. Mechanics and Materials in Design* 12(4), 495-507, doi:10.1007/s10999-016-9350-5
- J20. **Maggi F.** and La Cecilia D., (2016), Implicit analytic solution of Michaelis-Menten-Monod kinetics, *American Chemical Society, ACS-Omega*, DOI 10.1021/acsomega.6b00174.
- J21. Tang F.H.M., and **Maggi F.**, (2016). Breakdown, uptake and losses of human urine chemical compounds in barley (*Hordeum vulgare*) and soybean (*Glycine max*) agricultural plots, *Nutrient Cycling in Agroecosystems* DOI 10.1007/s10705-016-9768-z. (IF 1.98)
- J22. Li C., K. Zhang, Y. Wang, C. Guo, and **F. Maggi**, (2016), Experimental and Numerical Analysis of Reservoir Performance for CO₂ Geological Storage in the Ordos Basin in China, *International Journal of Greenhouse Gas Control* 45, 216–232. (IF 3.94).
- J23. Tang F.H.M., and **Maggi F.**, (2016). A mesocosm experiment of suspended particulate matter dynamics in nutrient- and biomass-affected waters, *Water Research* 89, 76-86, DOI: 10.1016/j.watres.2015.11.033. (IF 5.53)

2015

- J24. **Maggi F.**, (2015), Experimental evidence of how the fractal structure controls the hydrodynamic resistance on granular aggregates moving through water, *Journal of Hydrology*, 528, 694-702, <http://dx.doi.org/10.1016/j.jhydrol.2015.07.002>. (IF3.053)
- J25. **Maggi F.**, W.J. Riley, (2015), The effect of temperature on the rate, affinity, and ¹⁵N fractionation of NO₃ during biological denitrification in soils, *Biogeochemistry* DOI 10.1007/s10533-015-0095-2. (IF 3.73)
- J26. **Maggi F.**, F.H.M Tang, (2015), Analysis of the effect of organic matter content on the architecture and sinking of sediment aggregates, *Marine Geology* 363 (2015) 102–111. (IF 2.586)
- J27. Tang F.H.M. and **F. Maggi**, (2015), Reconstructing the fractal dimension of granular aggregates from light intensity spectra, *Soft Matter*, 2015, DOI: 10.1039/C5SM01885D. (IF 4.09)

2014

- J28. Riley W.J., **F. Maggi**, M. Kleber, M.S. Torn, J.Y. Tang, D. Dwivedi and N. Guerry, (2014), Long residence times of rapidly decomposable soil organic matter: application of a multi-phase, multi-component, and

vertically-resolved model (TOUGHREACTv1) to soil carbon dynamics, *Geoscientific Model Development* 7, 815-870, doi:10.5194/gmdd-7-815-2014. (IF 5.06)

- J29. Tang F.H.M., F. Alonso-Marroquin and **F. Maggi**, (2014), Stochastic collision and aggregation analysis of kaolinite in water through experiments and the spheropolygon theory, *Water Research* 53, 180-190. (IF 5.39)
- J30. Kabir Md. I., E. Daly and **F. Maggi**, (2014), A review of ion and metal pollutants in urban green water infrastructures, *Science of the Total Environment* 470-471, 695-706. (IF 3.79)
- J31. **Maggi F.**, D. Bosco, and C. Marzachi', (2014), Dynamics of acquisition and transmission of "flavescence dorée" phytoplasma in grapevine, *Phytopathogenic Mollicutes* 4(2), 59-71, DOI : 10.5958/2249-4677.2014.00583.0.
- J32. **Maggi F.**, L. Galetto, C. Marzachi' and D. Bosco, (2014), Temperature-dependent transmission of "Candidatus Phytoplasma asteris" by the vector leafhopper *Macrostes quadripunctulatus* Kirschbaum, *Entomologia* 2:202, 87-94, doi:10.4081/entomologia.2014.202.

2013

- J33. Gan Y., **F. Maggi**, G. Buscarnera and I. Einav, (2013), A particle-water based model for water retention hysteresis, *Geotechnique Letters* 3, 152-161, <http://dx.doi.org/10.1680/geolett.13.00046>
- J34. **Maggi F.** and F. Alonso-Marroquin, (2013), Temperature dependence of the capillary dynamics in multiphase and multicomponent adiabatic approach, *Physical Review E*, 88, 053013, DOI:10.1103/PhysRevE.88.053013. (IF 2.307)
- J35. Li C., N.-C. Tien, K. Zhang, C.-P. Jen, P.-S. Hsieh, S.-Y. Huang, and **F. Maggi**, (2013), Assessment of large-scale offshore CO₂ geological storage in Western Taiwan Basin, *International Journal of Greenhouse Gas Control* 19 (2013) 281-298. (IF 5.191)
- J36. **Maggi F.** and E. Daly, (2013), Decomposition pathways and rates of human urine in soils, *Journal of Agricultural and Food Chemistry*, 61, 6175-6186. (IF 2.906)
- J37. **Maggi F.**, C. Marzachi' and D. Bosco, (2013), A Stage-Structured Model of *Scaphoideus titanus* Ball in Vineyards, *Environmental Entomology* 42(2), 181-19.
- J38. **Maggi F.**, (2013), The settling velocity of mineral, biomineral and biological particles and aggregates in water, *Journal of Geophysical Research – Oceans*, 118, 1-15, doi:10.1002/jgrc.20086. (IF 3.4)

2012

- J39. **F. Maggi**, (2012), Multiphase capillary rise of multicomponent miscible liquids, *Colloids Surf. A: Physicochem. Eng. Aspects* (2012), DOI: 10.1016/j.colsurfa.2012.09.003 (IF 2.36)
- J40. Gu C., W. Anderson and **F. Maggi**, (2012), Riparian biogeochemical hot moment induced by stream fluctuations, *Water Resources Research* 48(9), W09546, DOI: 10.1029/2011WR011720.
- J41. Dobrohotoff P.B., S.I Azeezullah, **F. Maggi**, and F. Alonso-Marroquin, (2012), Optimal description of two-dimensional complex-shaped objects using spheropolygons, *Granular Matter* 14, 651-658. (IF 2.0)
- J42. **F. Maggi** and F. Alonso-Marroquin, (2012), Multiphase capillary flows, *International Journal of Multiphase Flow* 42, June 2012, 62-73, doi:10.1016/j.ijmultiphaseflow.2012.01.01. (IF 2.2)
- J43. Tang F.H.M. and **F. Maggi**, (2012), The effect of 15N to 14N ratio on nitrification, denitrification and dissimilatory nitrate reduction, *Rapid Communications in Mass Spectrometry* 26, 1-13, DOI: 10.1002/rcm.6119. (IF 2.509)
- J44. **Maggi F.** and C. Pallud, (2012), The rise of water science off Earth, *Journal of Hydrology* (416-417), 12-18, doi:10.1016/j.jhydrol.2011.11.020. (IF 3.053)

- J45. **Maggi F.** and C. Pallud, (2010), Space agriculture in micro- and hypo-gravity: A comparative study of soil hydraulics and biogeochemistry in a cropping unit on Earth, Mars, the Moon and the space station, *Planetary and Space Science*, 58, 1996–2007, doi:10.1016/j.pss.2010.09.025. (IF 2.245)
- J46. **Maggi F.** and C. Pallud, (2010), Martian base agriculture: The effect of low gravity on water flow, nutrient cycles, and microbial biomass dynamic, *Advances in Space Research* 46, 1257-1265, doi:10.1016/j.asr.2010.07.012 (IF 1.121)
- J47. **Maggi F.** and C. Pallud, (2010), Effect of low gravity on water and soil-nutrient-biomass dynamics in a Martian soil-based agricultural plot, *Geochimica et Cosmochimica Acta* 74 (Suppl. 1), A677. (IF 4.8)
- J48. **Maggi F.** and W. J. Riley, (2010), Mathematical treatment of isotopologue and isotopomer speciation and fractionation in biochemical kinetics, *Geochimica et Cosmochimica Acta* 74, 1823–1835, doi:10.1016/j.gca.2009.12.021. (IF 4.8)
- J49. Marzachi C., **F. Maggi**, C. Roggia and D. Bosco, (2009), Effect of changing climatic conditions on chrysanthemum yellows phytoplasma infection, *Journal of Plant Pathology* 91(4, Supplement, December 2009), S4.31-S4.42. (IF 2.729)
- J50. **Maggi F.** and W.J. Riley, (2009), Transient competitive complexation in biological kinetic isotope fractionation explains non-stationary isotopic effects: Theory and application to denitrification in soils, *Journal of Geophysical Research - Biogeosciences* 114, G04012, doi:10.1029/2008JG000878. (IF 3.4)
- J51. **Maggi F.**, (2009), Bioflocculation of suspended particles in nutrient-rich aqueous ecosystems, *Journal of Hydrology* 376, 116-125, doi:10.1016/j.jhydrol.2009.07.040. (IF3.053)
- J52. Gu C., **Maggi F.**, W.J. Riley, G.M. Hornberger, T. Xu, C.M. Oldenburg, N. Spicher, N.L. Miller, R.T. Venterea and C. Steefel, (2009), Aqueous and gaseous nitrogen losses induced by fertilizer application, *Journal of Geophysical Research – Biogeosciences* 114, G01006, doi:10.1029/2008JG000788, doi:10.1029/2008JG000788. (IF 3.4)
- J53. **Maggi F.**, (2008), Projection of compact fractal sets: application to diffusion-limited and cluster-cluster aggregates, *Nonlinear Processes in Geophysics* 15, 1-5.
- J54. **Maggi F.**, Gu C., W.J. Riley, G.M. Hornberger, R.T. Venterea, T. Xu, N. Spicher, C. Steefel, N.L. Miller and C.M. Oldenburg, (2008), A mechanistic treatment of the dominant soil nitrogen cycling processes: Model development, testing, and application, *Journal of Geophysical Research – Biogeosciences* 113, G02016, doi:10.1029/2007JG000578. (IF 3.4)
- J55. **Maggi F.**, (2008), Stochastic flocculation of cohesive sediment: Analysis of floc mobility with the floc size spectrum, *Water Resources Research* 44, W01433, doi:10.1029/2007WR006109.
- J56. **Maggi F.** and A. Porporato, (2007), Coupled moisture and microbial dynamics in unsaturated soils, *Water Resources Research* 43, W07444, doi:10.1029/2006WR005367. (IF3.549)
- J57. **Maggi F.**, F. Mietta and J.C. Winterwerp, (2007), Effect of variable fractal dimension on the floc size distribution of suspended cohesive sediment, *Journal of Hydrology*, 343(1-2), 43-55, doi:10.1016/j.jhydrol.2007.05.035 (IF3.053)
- J58. **Maggi F.**, (2007), Variable fractal dimension: A major control for floc structure and flocculation kinematics of suspended cohesive sediment, *Journal of Geophysical Research – Oceans* 112, C07012, 10.1029/2006JC003951. (IF 3.4)
- J59. **Maggi F.**, A.J. Manning and J.C. Winterwerp, (2006), Image separation and geometric characterisation of mud flocs, *Journal of Hydrology* 326(1-4), 325-348, doi:10.1016/j.jhydrol.2005.11.005.
- J60. **Maggi F.** and J.C., Winterwerp, (2004), Method for computing the three-dimensional capacity dimension from two-dimensional projections of fractal aggregates, *Physical Review E*, 69(1), 011405.

Conference Proceedings

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