

## **Lista delle pubblicazioni sviluppate nell'ambito delle iniziative di collaborazione dell'H2CU**

### **Meccanica:**

1. Zarghami, A., Di Francesco, S., Biscarini, C. "Porous substrate effects on thermal flows through a rev-scale finite volume lattice boltzmann model," *International Journal of Modern Physics C*, (2), pp. 1-21. Article in Press.
2. Reggio A., De Angelis, M., Betti R., "A state-space methodology to identify modal and physical parameters of non-viscously damped systems," *Mechanical Systems and Signal Processing*, Volume 41, Issues 1–2, December 2013, Pages 380-395, **2013**.
3. Zarghami, A., Biscarini, C., Succi, S., Ubertini, S. "Hydrodynamics in Porous Media: A Finite Volume Lattice Boltzmann Study," *Journal of Scientific Computing*, DOI10.1007/s10915-013-9754-4, 2013.
4. Tauro F., Porfiri M., Grimaldi S., "Fluorescent Eco-Particles for Surface Flow Physics Analysis," *AIP Advances*, vol. 3, p. 032108-1-032108-8, ISSN: 2158-3226, doi: 10.1063/1.4794797, **2013**.
5. Tauro F., Rapiti E., Al-Sharab J.F., Palermo L., Grimaldi S., Porfiri M., "Characterization of eco-friendly fluorescent nanoparticle-doped tracers for environmental sensing," *Journal of Nanoparticle Research*, 15 (9), 1-14, **2013**.
6. Tauro F., Mocio G., Rapiti E., Grimaldi S., Porfiri M., "Assessment of Fluorescent Particles for Surface Flow Analysis," *Sensors*, vol. 12, p. 15827-15840, ISSN: 1424-8220, doi: 10.3390/s121115827, 2013.
7. Hikosaka Behling, N., "Chapter 6 - History of Solid Oxide Fuel Cells, Fuel Cells," Pages 223-421, **2013**.
8. Grimaldi, E. Porfiri, M., Soria, L., "Finite amplitude vibrations of a sharp-edged beam immersed in a viscous fluid near a solid surface," *Journal of Applied Physics*, vol.112, no.10, pp.104907,104907-12, Nov **2012**.
9. Falcucci, G., Ubertini, S., Biscarini, C., Di Francesco, S., Chiappini, D., Palpacelli, S., De Maio, A., Succi, S., "Lattice boltzmann methods for multiphase flow simulations across scales," *Communications in Computational Physics*, 9 (2), pp. 269-296, **2012**.
10. Biscarini, C., Francesco, S.D., Mencattini, M., "Application of the lattice Boltzmann method for large-scale hydraulic problems," *International Journal of Numerical Methods for Heat and Fluid Flow*, 21 (5), pp. 584-601, **2011**.
11. Falcucci G., Aureli, M., Ubertini, S., Porfiri, M., "Transverse harmonic oscillations of laminae in viscous fluids: a lattice Boltzmann study," *Philosophical Transactions of the Royal Society A*, June 28, 2011 369 1945 2456-2466; doi:10.1098/rsta.2011.0062 1471-2962, **2011**.
12. Giacomello, A., Porfiri, M., "Underwater energy harvesting from a heavy flag hosting ionic polymer metal composites," *Journal of Applied Physics* , vol.109, no.8, pp.084903,084903-10, Apr **2011**.
13. Cappa, P., Jackson, J.L., Patanè, F., "Moment measurement accuracy of a parallel spherical robot for dynamic posturography , " *IEEE Transactions on Biomedical Engineering*, 57 (5), art. no. 5393034, pp. 1198-1208, **2010**.
14. Tauro, F., Aureli, M., Porfiri, M., Grimaldi, S. "Characterization of buoyant fluorescent particles for field observations of water flows," *Sensors*, 10 (12), pp. 11512-11529, **2010**.
15. Bajo, A.; Simaan, N., "Finding lost wrenches: Using continuum robots for contact detection and estimation of contact location," *Robotics and Automation (ICRA)*, 2010 IEEE International Conference on , vol., no., pp.3666,3673, 3-7 May **2010**.
16. Biscarini A., "Minimization of the knee shear joint load in leg-extension equipment," *Medical Engineering & Physics*, Volume 30, Issue 8, October 2008, Pages 1032-1041, **2008**.

**Economia:**

1. Albino, V., Chapter: "Green Economy," *Corporate Sustainability*, **2013**.

**Medicina:**

1. Raz, E., Bester, M., Sigmund, E.E., Tabesh, A., Babb, J.S., Jaggi, H., Helpern, J., Mitnick, R.J., Inglesse, M., "A better characterization of spinal cord damage in multiple sclerosis: a diffusional kurtosis imaging study," *American Journal of Neuroradiology*, 34(9):1846-52. doi: 10.3174/ajnr.A3512, Sept. **2013**.

**Civile:**

1. Xu X., Taylor, J.E., Pisello, A.L., "Network synergy effect: establishing a synergy between building network and peer network energy conservation effects," *Energy and Buildings*, In Press, Accepted Manuscript, Available online 19 September **2013**.
2. Pisello, A.L., Cotana, F., Chapter: "Existing Buildings' Energy Upgrade: An Economical and Environmentally Sustainable Opportunity," in *Corporate Sustainability*, **2013**.
3. Pisello, A.L, Taylor, J.E., Xu, X., Cotana, F., "Inter-building effect: Simulating the impact of a network of buildings on the accuracy of building energy performance predictions," *Building and Environment*, Volume 58, December 2012, Pages 37-45, **2012**.

**Idraulica e Idrologia:**

4. Gräler B., Van den Berg M. J., S. Vandenberghe, Petroselli A., Grimaldi S., De Baets B., and Verhoest N.E.C. "Multivariate return periods in hydrology: a critical and practical review focusing on synthetic design hydrograph estimation," *Hydrology and Earth System Sciences*, vol. 17, p. 1281-1296, ISSN: 1027-5606, doi: 10.5194/hess-17-1281-2013, **2013**.
5. Petroselli A., Grimaldi S., Romano N., "Curve-Number/Green-Ampt Mixed Procedure for Net Rainfall Estimation: A Case Study of the Mignone Watershed, IT" *Procedia Environmental Sciences*, Volume 19, 2013, Pages 113-121, **2013**.
6. Grimaldi S., Petroselli A., Arcangeletti E., Nardi F. "Flood mapping in ungauged basins using fully continuous hydrologic-hydraulic modeling," *Journal of Hydrology*, Volume 487, 22 April 2013, Pages 39-47, **2013**.
7. Grimaldi S., Petroselli A., Romano N., "Curve-Number/Green-Ampt mixed procedure for streamflow predictions in ungauged basins: Parameter sensitivity analysis," *Hydrological Processes*, Volume 27, Issue 8, 15 April 2013, Pages: 1265–1275, **2013**.
8. Gorokhovich Y., Doocy S., Walyawula F., Nardi F., Chapter "Landslides in Bududa, Eastern Uganda: Preliminary Assessment and Proposed Solutions," *Landslide Science and Practice*, **2013**.
9. Tauro F., Grimaldi S., Porfiri M., Petroselli A. "Fluorescent Particles for Non-intrusive Surface Flow Observations," *Procedia Environmental Sciences*, Volume 19, 2013, Pages 895-903, **2013**.
10. Ridolfi E., Alfonso L., Di Baldassarre G., Dottori F., Russo F., Napolitano F., "An Entropy Approach for the Optimization of Cross-Section Spacing for River Modelling," *Hydrological Sciences Journal*, **2013**.
11. Tauro F., Grimaldi S., Petroselli A., Rulli M.C., Porfiri M. "Fluorescent particle tracer for surface flow measurements: a proof of concept in a semi-natural hillslope," *Hydrology and Earth System Sciences*, vol. 16, p. 2973-2983, ISSN: 1027-5606, doi: 10.5194/hess-16-2973-2012, **2012**.

12. Tauro F., Pagano C., Porfiri M., Grimaldi S., "Tracing of shallow water flows through buoyant fluorescent particles," *Flow Measurement and Instrumentation*, Volume 26, August 2012, Pages 93-101, **2012**.
13. Grimaldi S., Petroselli A., Nardi F., "A parsimonious geomorphological unit hydrograph for rainfall-runoff modelling in small ungauged basins," *Hydrological Sciences Journal*, Volume 57, Issue 1, January 2012, pages 73-83, **2012**.
14. Grimaldi S., Petroselli A., Serinaldi F., "A continuous simulation model for design-hydrograph estimation in small and ungauged watersheds," *Hydrological Sciences Journal*, Volume 57, Issue 6, August 2012, pages 1035-1051, **2012**.
15. Grimaldi, S., Petroselli, A., Nardi, F. "Convolution of linear system using geomorphological watershed information," *AIP Conference Proceedings*, 1479 (1), pp. 1800-1803, **2012**.
16. Grimaldi, S., Petroselli, A., Romano, N. "Empirical solution of Green-Ampt equation using Soil Conservation Service - Curve Number values," (2012) *AIP Conference Proceedings*, 1479 (1), pp. 1788-1791, **2012**.
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18. Rianna, M., Orlando, D., Montesarchio, V., Russo, F., Napolitano, F. "Soil conservation service curve number: How to take into account spatial and temporal variability," (2012) *AIP Conference Proceedings*, 1479 (1), pp. 1792-1795, **2012**.
19. Ubertini, L. Preface of the "minisymposium on mathematical modeling in hydrology" (2012) *AIP Conference Proceedings*, 1479 (1), p. 1776, **2012**.
20. Grimaldi S., Petroselli A., Tauro F., Porfiri M., "Time of concentration: a paradox in modern hydrology," *Hydrological Sciences Journal*, Volume 57, Issue 2, February 2012, pages 217-228, **2012**.
21. Tauro F., Grimaldi S., Petroselli A., Porfiri M., "Fluorescent particle tracers for surface flow measurements: A proof of concept in a natural stream," *Water Resources Research*, Volume 48, Issue 6, June **2012**.
22. Grimaldi S., Petroselli A., Serinaldi F., "Design hydrograph estimation in small and ungauged watersheds: continuous simulation method versus event-based approach," *Hydrological Processes*, Volume 26, Issue 20, 30 September 2012, Pages: 3124–3134, **2012**.
23. Serinaldi, F. and Grimaldi, S., "Synthetic Design Hydrographs Based on Distribution Functions with Finite Support," *Journal of Hydrologic Engineering*, 2011 16:5, 434-446, **2011**.
24. Grimaldi S., Rodriguez-Iturbe I., Ubertini L., "Novel insights in hydrological modeling," *Advances in Water Resources*, Volume 33, Issue 10, October 2010, Page 1187, **2010**.
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26. Forzieri, G., Moser, G., Vivoni, E., Castelli, F., Canovaro, F. "Riparian Vegetation Mapping for Hydraulic Roughness Estimation Using Very High Resolution Remote Sensing Data Fusion," *Journal of Hydraulic Engineering* 2010 136:11, 855-867, **2010**.
27. Forzieri, G., Guarnieri, L., Vivoni, E. R., Castelli, F. and Preti, F., "Spectral-ALS data fusion for different roughness parameterizations of forested floodplains," *River Research and Applications*, 27: 826–840. doi: 10.1002/rra.1398, **2010**.
28. Grimaldi, S., Rodriguez-Iturbe, I., Ubertini, L. "Novel insights in hydrological modeling," *Advances in Water Resources*, 33 (10), p. 1187, **2010**.
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30. Santini M., Grimaldi S., Nardi F., Petroselli A., Rulli M.C., "Pre-processing algorithms and landslide modelling on remotely sensed DEMs," *Geomorphology*, Volume 113, Issues 1–2, 1 December 2009, Pages 110-125. **2009**.
31. Serinaldi, F., "Comment on "Multivariate non-normally distributed random variables in climate research-introduction to the copula approach by C. Schölzel and P. Friederichs, Nonlin, Processes Geophys.," 15, 761-772, 2008, *Nonlinear Processes in Geophysics*, 16 (2), pp. 331-332, **2009**.
32. Serinaldi, F. "A multisite daily rainfall generator driven by bivariate copula-based mixed distributions," *Journal of Geophysical Research D: Atmospheres*, 114 (10), art. no. D10103, **2009**.
33. Serinaldi, F., Bonaccorso, B., Cancelliere, A., Grimaldi, S. "Probabilistic characterization of drought properties through copulas," *Physics and Chemistry of the Earth*, 34 (10-12), pp. 596-605, **2009**.
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36. Serinaldi F., "Copula-based mixed models for bivariate rainfall data: an empirical study in regression perspective," *Stochastic Environmental Research and Risk Assessment* (2009) 23:695–696, **2009**.
37. Villarini G., Serinaldi F., Krajewski W.F., "Modeling radar-rainfall estimation uncertainties using parametric and non-parametric approaches," *Advances in Water Resources*, Volume 31, Issue 12, December 2008, Pages 1674-1686. **2008**.
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39. Nardi F., Grimaldi S., Santini M., Petroselli A., Ubertini L., "Hydrogeomorphic properties of simulated drainage patterns using digital elevation models: the flat area issue / Propriétés hydrogéomorphologiques de réseaux de drainage simulés à partir de modèles numériques de terrain: la question des zones planes," *Hydrological Sciences Journal*, Volume 53, Issue 6, December 2008, pages 1176-1193, **2008**.
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42. Serinaldi, F. and Grimaldi, S. "Fully Nested 3-Copula: Procedure and Application on Hydrological Data," *Journal of Hydrologic Engineering* 2007 12:4, 420-430, **2007**.
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44. Grimaldi S., Koutsoyiannis D., Piccolo D., Napolitano F., "Time series analysis in hydrology," *Physics and Chemistry of the Earth, Parts A/B/C*, Volume 31, Issue 18, 2006, Pages 1097-1098, **2006**.
45. Serinaldi F., "Copula-based mixed models for bivariate rainfall data: an empirical study in regression perspective," *Stochastic Environmental Research and Risk Assessment* (2009) 23:677–693
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47. Nardi, F., Vivoni, E.R., Grimaldi, S., "Investigating a floodplain scaling relation using hydrogeomorphic delineation method," *Water Resources Research*, 42 (9), **2006**.

### Biologia e Scienze Ambientali

1. Polverino, G., Phamduy, P., Porfiri, M., "Fish and Robots Swimming Together in a Water Tunnel: Robot Color and Tail-Beat Frequency Influence Fish Behavior," *PLoS ONE* 8(10), e77589, **2013**.
2. Cianca, V., Bartolini, T., Porfiri, M., Macrì, S. "A Robotics-Based Behavioral Paradigm to Measure Anxiety-Related Responses in Zebrafish," *PLoS ONE* 8(7): e69661  
doi:10.1371/journal.pone.0069661, **2013**.
3. Polverino, G., Porfiri, M. "Zebrafish (*Danio rerio*) behavioural response to bioinspired robotic fish and mosquitofish (*Gambusia affinis*)," *Bioinspiration and Biomimetic*, 8 044001, **2013**.
4. Kopman, V., Laut, J., Polverino, G., Porfiri M., "Closed-loop control of zebrafish response using a bioinspired robotic-fish in a preference test," *Journal of Royal Society Interface*, January 6, 2013 10 78 20120540; doi:10.1098/rsif.2012.0540 1742-5662, **2013**.
5. Spinello, C., Macrì, S., Porfiri, M., "Acute ethanol administration affects zebrafish preference for a biologically inspired robot," *Alcohol*, Volume 47, Issue 5, August 2013, Pages 391-398, **2013**.
6. Polverino G., Porfiri M., "Mosquitofish (*Gambusia affinis*) responds differentially to a robotic fish of varying swimming depth and aspect ratio," *Behavioural Brain Research*, Volume 250, 1 August 2013, Pages 133-138, **2013**.
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8. Morani, A., Nowak, D.J., Hirabayashi, S., Calfapietra, C., "How to select the best tree planting locations to enhance air pollution removal in the MillionTreesNYC initiative," *Environmental Pollution*, Volume 159, Issue 5, May 2011, Pages 1040-1047, **2011**.
9. Serinaldi F., Grimaldi F., Abdolhosseini M., Corona P., Cimini D., "Testing copula regression against benchmark models for point and interval estimation of tree wood volume in beech stands," *European Journal of Forest Research* (2012) 131:1313–1326, **2012**.