

Curriculum vitae

1) Introduction

Name: Bocchiola Daniele
Date and place of birth: Milano, Italy, 18-1-1972
Gender: Male
Nationality: Italian

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<https://www.facebook.com/polihigh?ref=hl>
<https://www.facebook.com/Climalteranti?ref=hl>
https://www.researchgate.net/profile/Daniele_Bocchiola
<https://polimi.academia.edu/DBocchiola>
<https://www.linkedin.com/in/daniele-bocchiola>
<https://www.climatelab.polimi.it>

Member:

EVK2CNR: Scientific Association, San Bernardino 145, Bergamo, Italy.
Phone: +39-035-3230551
url: <http://www.evk2cnr.org/cms/it/share/people>
NATRISK: Interdepartmental Center for Mountain Risk. University Turin, Italy.
url: <https://www.natrisk.unito.it/it>

Languages

Mother tongue: Italian
Good knowledge of English, spoken and written
Fulfilment of TOEFL exam in 1995 with a score of 570/ 680, then improved travelling
Good knowledge of Spanish spoken and written, acquired studying and travelling
Basic knowledge of French.
Basic knowledge of Russian.

Scientific scores (2000-2021).

Publications #: 87(ISI), 90(SCOPUS), 96 (G-Scholar).
H-index: 28 (ISI), 29 (SCOPUS), 35 (ResearchGate), 33 (G-Scholar). G-index: 39 (ISI), 41 (SCOPUS), 50 (G-Scholar). RG Score: 35.35. i10-Index(G-Scholar): 67.

2) Higher Education and career

i) PhD in Hydraulic Engineering and Hydrology 7th March 2003 at Politecnico di Milano, with **Special Mention** from the PhD board of reviewers. My doctorate was conducted in the field of **Data Assimilation** and remote sensing with the title "**A methodology for stochastic assimilation of rainfall rates data from multiple remote sensors**". Tutor: Prof. Renzo Rosso. Partially fulfilled at MIT, Cambridge, MA, USA. Advisors: Prof. Dara Entekhabi, Prof. Dennis McLaughlin. **Special mention** of the board for PhD.

ii) Master's Degree in Environmental Engineering at Politecnico di Milano, September 1991 to July 23th 1998, with full marks (91/100). My Degree master thesis was carried in the field in environmental hydraulics and fluid mechanics with the title "**A probe for shear stress measurement in water cylindrical currents**" tutor Prof. Giovanni Menduni. **Special mention** of the board for MS and publication of the results on ASCE J. Hydraulic Eng. The thesis was carried in the framework of a cooperation with the Research and Development division of the "Whirlpool Italy" company.

Main topics (exams) included in the environmental degree (5 years): Soil mechanics, Hydraulic Soil defence, Hydraulic, Physical and statistical Hydrology, Urban water infrastructures, Marine hydraulics, Topography, Photogrammetry, Power production machines, Environmental Impact Assessment.

iii) High schools at LSS Donatelli (Diploma in Science), Milano 1986-1991 (5 years as requested).

3) Experience and Employment history

i) May/2/2016-. Associate Professor, Hydrology and Hydraulic and Maritime Infrastructures (ICAR02), and Water Resources Management at Politecnico di Milano.

ii) June/16/05-May/1/2016. Charged as Assistant Professor (permanent staff) at Politecnico di Milano, Hydraulic Division, starting from Abilitation as *Associate Professor* from Italian Ministry for University, MIUR, February 2013.

iii) April 2003-June 2005. Research assistant at Politecnico di Milano, Hydraulic Division.



Milano, April 27th 2022.

Daniele Bocchiola

- iv) March 2000-March 2003, I've been working to my PhD thesis in Politecnico di Milano, fulfilled in March 2003.
- v) March to October 2001, I've been working at Massachusetts Institute of Technology. Full time, fulfilment of PhD thesis.

4) Mission

My field of interest in research covers a broad range of issues, with particular focus upon impact of ongoing and prospective climate change on water resources, natural hazard, agriculture, and cryosphere in the European Alps, the Andes, the Hindu-Kush Karakorum the Himalaya, the Caribbeans, Haiti.

5) Research Achievement

- i) I'm currently Charged as **Associate Professor** (permanent staff) at Politecnico di Milano, Hydraulic Division, starting from May/02/2016. **Habilitation as Full Professor ASN, on July 28th 2017.**
- ii) I was awarded the **Research Projects 5% Award** for outstanding young scientists, delivered by the Academic Senate of Politecnico di Milano, 2009 Edition, for the project: I CARE: Impact of Climate change on Alpine water RESources: the case of Italy and Switzerland. Funded budget (personal) \approx € 8 E⁴. <http://www.polimi.it/ricerca-scientifica/finanziamenti-alla-ricerca/progetti-5x1000-bando-2009/>
- iii) Ranked 1st **Young researcher** in DIAR, Dept. of Hydraulics, Road, Survey and Environmental Engineering, Politecnico di Milano, year 2008.
- iv) I have been nominated for **AGU Award for Early Career Hydrologic Sciences**, July 2009, nomination issued by Renzo Rosso.
- v) I have been ranked among **the best five young Italian researchers** (born after 1/1/1972) for the assignment of the prize "Italian Group of Hydraulics" (GII Gruppo Italiano Idraulica, President Prof. Aronne Armanini, University of Trento), during the XXX Congress of Hydraulics, Rome, September 2006.
- vi) I cooperate with personnel from several institutes, within EU and national projects in the field of data assimilation of precipitation for storm now and forecasting, hydrology of mountain snow fed rivers, natural hazards from floods, soil movements and snow avalanches, and eco-hydrological effect of climate change (e.g. MIT Cambridge, SLF/WSL Davos, TU Wien, CEMAGREF and LECA Grenoble, CESIRicerca Milano, Earth Sciences and Crop production Dept. University Milano, CNR of Italy, Lithuanian Energy Institute, ICTP-Trieste, University of Ljubljana, EPFL Lausanne, TU München, University of Innsbruck, University Turin, Seritit Strasbourg, University Wageningen, Melnikov Institute for Permafrost Research, among others)
- vii) I am an Associate member and scientific advisor for water resources and natural hazard for the Association **EVK2CNR committee for high mountain research** within projects in the field of hydrological budgets and climate change impacts in Italy, Hindu-Kush, Karakorum, Himalaya and South America, particularly within the framework of the project: **SHARE**, Stations at High Altitude for Research on the Environment (<http://www.evkc2cnr.org/cms/>, <http://www.evkc2cnr.org/cms/it/share/people>).
- viii) I am member of the Italian Glaciological Committee (**CGI, Comitato Glaciologico Italiano**, <http://www.glaciologia.it/>), as of June 18th 2009. Admission by cooptation upon recommendation by Prof. Claudio Smiraglia, former President.
- ix) I am member of **AGU, EGU** and **IGS**, and I currently participate to their meetings.
- x) First promoter and manager of the **HydroEcoLab initiative** @ Politecnico di Milano, aimed to foster research, seminars, talks at national and international congresses, publish papers on peer reviewed journals, and develop national and international scientific projects in this area.
- xi) I have held the following courses, seminars, speeches, interviews
 - 1) Bocchiola, D., *Stochastic approach to rainfall estimation from the assimilation of multi sensor measurements*, Seminar, Politecnico di Milano, 10 October 2001, Italian Language.
 - 2) Bocchiola, D., Rosso, R., *Hydro-geological Risk*, seminar in the course: *Environmental Impact assessment; indexes, examples and methods*, by R. Vismara, 26-30 May 2003, Politecnico di Milano. Italian Language.
 - 3) Bocchiola, D., *Data assimilation of multisensor rainfall measurements*, CNR-MIT Seminar, Climate Change and Hydrogeological Disaster, Rome, January 30th 2004. <http://smd.src.cnr.it/Irpi/CNR-MIT/index.html>. **Invited lecture.**
 - 4) Bocchiola, D., *The role of woody debris in watersheds dynamics*, 10 March 2004, **Invited lecture**, CNR of Bari, Italian language.
 - 5) Bocchiola, D., *The snow water resource: the case of Lombardia alps*, 10 November 2005, Seminar to Master's students in Environmental Engineering, course "Methods of hydrological simulation", Prof. M.C. Rulli, Politecnico di Milano, Italian language.
 - 6) Bocchiola, D., *The method of index flood for flood design*, Master SIRA, ESE Savona, 9 February 2006.
 - 7) Bocchiola, D., *Entrainment and transport of woody debris in rivers*, Master SIRA, ESE Savona, 14 March 2006.
 - 8) Bocchiola, D., *Flood proofing strategies for adaptation to climate changes*, Master SIRA, ESE Savona, 9 May 2006.
 - 9) Bocchiola, D., Chirico, G.B., *Present and future of field experimental hydrology*. **Invited lecture** in: *The new frontiers of hydrology*, Cycle of Seminars, University of Potenza, Dept. of Engineering and Physics of the Environment, 4 December 2006.
 - 10) Bocchiola, D. *Snow and avalanche*, Approx 16 hours. *Woody Debris*, Approx 8 hours. Part of the course: *Mountain Hydrology*. A course for PhD students at Politecnico di Milano and University of Brescia. May to July 2007.

- 11) Bocchiola, D., *The Politecnico di Milano in the CARIPANDA Project*, interview for the RAI Television, TG3 Leonardo, July 2007.
- 12) Bocchiola, D., *Hydrology in the Adamello park: some preliminary results*, Congress, The CARIPANDA project, Breno, 24 October 2007.
- 13) Bocchiola, D., Bianchi Janetti, E., Rosso, R., *Glaciers and rivers: issues and potentialities of a rapidly evolving relationship*, Climate and glaciers: the crisis of the water resources in Lombardia, Milano State University, 17 November 2007. **Invited lecture.**
- 14) Bocchiola, D., *Statistical methods in snow avalanche science: some results from Italy*, **Invited lecture**, Cemagref, Grenoble, 21 February 2008.
- 15) Bocchiola, D., Rosso, R., *Hazard analysis and modelling of snow avalanches: recent results from Italy*, **Invited lecture**, Irasmos Symposium 2008, Integral Risk Management of Natural Hazards "A merge of theory and practice", Davos, 15-16 May, 2008.
- 16) Bocchiola, D., *Water in the Alpine areas and the climate change: experiments and models for a glance into the future*, **Invited Lecture**, 4th Workshop on the new Frontiers in Hydrology, Rome, July 1st-3rd, 2009.
- 17) Bocchiola, D., *Climate change within Alpine areas: experiments and models for a glance into the future*, School of Mathematics, Meteorology & Physics, University Reading. December 9. **Invited Lecture.**
- 18) Bocchiola, D., Bignami, D. F., Rosso, R., *Rischio idrogeologico in Italia: riferimenti normativi, stato dell'arte e casi di studio*, February 24 2010, UTE Cinisello B., **Invited Lecture.**
- 19) Bocchiola, D., *Multiscale recursive estimation for multisensor rainfall assimilation*, SLF Davos, March 2nd 2010, **Invited Lecture.**
- 20) Bocchiola, D., *Ecohydrological value of woody debris in rivers*, WRU Hanoi, VN, 27-28 May 2010, **Invited seminars.**
- 21) Bocchiola, D., *Eco-hydrological value of large woody debris LWD in rivers, some experiments and examples*, June 28 2011, WORKSHOP: State of art in Water and River Research: barriers to its application within current catchment management schemes", Politecnico di Milano, **Invited talk.**
- 22) Bocchiola, D., *Climate change in the Alps and future water resources: a case study*, GeoItalia 2011, Torino, September 19-23, 2011, **Invited Talk.**
- 23) Bocchiola, D., *Climate change and the water towers of Asia: experiments and models for a glance into the future*, November 20113, CMCC Bologna, **Invited Seminar.**
- 24) Bocchiola, D. *Water resources and hydrological regimes of the upper Indus basin: results from the PAPRIKA and SEED projects.* **Invited Talk**, Conference: The Italian science and cooperation in the shadow of K2, Islamabad-Skardu, September 2013.
- 25) Bocchiola, D. *Climate change effect upon water resources and hydro-ecology in Northern Italy and the Alps*, **Invited Talk.** Conference: High Summit, International conference on mountain and climate change. Lecco, Italy, October 2013.
- 26) Bocchiola, D., *Exploring the tradeoff between water use and crop production under climate change: a case study in the Po valley of Italy*, **Invited Talk.** Workshop internazionale: Peri-urban areas and Food-Energy-Water Nexus, sustainability and resilience Strategies in the Age of Climate Change, Milano, 28-29 March 2014.
- 27) Third conference "Wood in World rivers" 2015, Padova, July 6-10 2015. Scientific committee.
- 28) D. Bocchiola, A. Soncini, Confortola G., A. Bianchi, G. Diolaiuti, C. Smiraglia, E. Vuillermoz, *Ice ablation, dynamics, and future hydrological regimes of the upper Indus basin*, **Key note Lecture**, International Conference on mountains and climate change: Resources, challenges and opportunities for better life and livelihoods, KIU, Gilgit, Pakistan, September 17 - 19, 2015.
- 29) U. Minora, **D. Bocchiola**, C. D'Agata, D. Maragno, C. Mayer, A. Lambrecht, E. Vuillermoz, A. Senese, C. Compostella, C. Smiraglia, G. Diolaiuti, *Contribution to evaluate the magnitude and rate of the "Karakoram anomaly"*, Oral, International Conference on mountains and climate change: Resources, challenges and opportunities for better life and livelihoods, KIU, Gilgit, Pakistan, September 17 - 19, 2015.
- 30) Bocchiola, D., *Hydrology of the upper Indus basin under climate change.* **Invited Lecture**, Workshop: Climate and Environment Change Impact on the Indus Basin Waters, ICIMOD, Kathmandu, 17-19 February 2016.
- 31) Bocchiola, D., *Climate change, science and potential social impacts worldwide*, Seminar *META*, Politecnico di Milano, February 15, 2017. **Invited Lecture.**
- 32) Bocchiola, D., *Cambiamenti climatici globali, catastrofi naturali e sicurezza alimentare: quale futuro ci aspetta ?*, Tavola rotonda: *Ogni bambino conta*, Progettazione Asia, Ass. L'Albero della vita, Onlus, October 11, Milano. **Invited Lecture.**
- 33) Bocchiola, D., *Tanti, maledetti e subito. Ma così i cibi non sono buoni...* Festival dei Diritti Umani, 21 Marzo 2018, Triennale di Milano.
- 34) Bocchiola, D., *Cambiamenti in atto tra sviluppo ed emergenza: quale futuro per il rispetto dei diritti?*, XXIV Corso Universitario Multidisciplinare di Educazione allo Sviluppo, UNIM, 23 Marzo 2018.

xii) Scientific experiences abroad

- 1) March 2001-February 2002. Invited scientist, the Parsons Laboratory, Massachusetts Institute of Technology (Ref. Prof. Dara Entekhabi and Prof. Dennis McLaughlin). Partial fulfilment of PhD thesis.
- 2) I have participated to several meetings and congresses abroad in USA, Chile, Brasil, Perù, India, Vietnam, Nepal, Pakistan, and several European countries.
- 3) May 2010 (1 week). Invited Visiting Scientist, WRU Hanoi, VN.
- 4) February 2012 (1 month). Invited Scientist, in Direccion General de Aguas, Ministerio de Obras Públicas, Santiago de Chile.
- 5) June 25-30 2018. Invited Scientist, Electroconsult-NEA, Nepal. Fulfilment of Project: *Hydrological assessment in support of the Dudhkoshi Storage Hydroelectric Project. Update of the Feasibility Study and Detailed Design.*
- 5) June 8-15 2019. Visiting Scientist, The National Schools of Art La Habana, Cuba, in fulfilment of the project *Landscape management and flood risk assessment and mitigation.*

xiii) I am member of the Scientific Committee of the climate change blog: <http://www.climalteranti.it/> as of December 2011.

xiv) Service to the scientific community

I currently serve as a reviewer for several journals, including: *Environmental Engineering Science, Hydrology and Earth system Sciences, Journal of Hydrology, Resources Conservation & Recycling, Water Resources Research, Physics and Chemistry of the Earth, Italian Journal of Zoology, Water Resources Management, ASCE Journal of Hydraulic Engineering* (<http://www.asce.org/PPLContent.aspx?id=30040>), *Journal of Hydrometeorology, Hydrological processes, JZUS-A: Applied Physics & Engineering* (<http://www.zju.edu.cn/jzus/reviewer.php>), *HESSD, NHESS, Journal of Hydrological Sciences, Advances in Water Resources, Climatic change, Journal of Mountain Science, Mountain Research and Development, IEEE Systems Journal, Climate Dynamics, Ecological Indicators, Science of the Total Environment, River Regulation and Management, Global Change Biology, Theoretical and applied climatology, Stochastic Environmental Research and Risk Assessment, Remote Sensing, African Journal of Agricultural Research, Technological Forecasting & Social Change, Journal of Asian Earth Sciences, Archives of Agronomy and Soil Sciences, Sustainability, Water, Climate, Ingegneria dell'Ambiente, Agricultural Water Management, PLOS-One, Climate Dynamics, Int. Journal of Climatology, Remote Sensing.*

xv) I have carried out a number of scientific field campaigns, in Europe, South America, Karakoram, Himalaya, as follows.

- 1) Fall-Summer 2003-2004. I cooperated in the development of INTERREG 3B DESERNET- Regione Liguria. EU project on Desertification in Mediterranean Environment, coordinated by Prof. R. Rosso. Together with Dr Rulli, I coordinated a number of expeditions in areas subjected to forest fire in Liguria Region of Italy (approx. 20 in situ working days, approx. 10 participants).
- 2) April 2007. Joint coordination of field snow measurements within AWARE project. Circa 20 persons involved.
- 3) CARIPanda (Climatic change and water resources in the Adamello park, 2007-2009) including expeditions on Italian Alps for glacier surveys (Summer 2007, 2008, 2009 circa 20 in situ working days per year, approx. 5 persons for each expeditions, including PhD students and Expert personnel for snow surveys). In summer 2009, surveys of in stream discharges for Venerocolo Glacier (2600 masl.), two persons per survey, three working days.
- 4) Summer 2009. In situ runoff investigation of Dosdè the glacier (Arnoga, Valtellina, Italy), and installation of a depth gage for continuous monitoring of discharge during summer 2009. Coord. Prof. C. Smiraglia. Principal investigator hydrology.
- 5) Idro-Stelvio (July 2010 - July 2011). Deployment of ten hydrometric gauges in Stelvio Park of Italy. Exp. 15, circa 10 in situ working days, circa 5 persons per expedition, including Post-doc and PhD students. Coordinator.
- 6) Share-Paprika (Exp. 2010-2013). Deployment of a network of hydrometric gauges within Baltoro Glacier and Indus river, Karakoram range (Pakistan, Asia). Circa 30 in situ working day per year, Coordinator Polimi Unit.
- 7) July 6th to August 6th 2011. Hydro-glaciological expedition, Baltoro glacier, Pakistan, 7 persons involved (plus 4 Pakistani cooperators). Leader low group (4600 m asl).
- 8) February 9 2012-March 5 2012. Field expedition for design of hydro-glaciological stations (S. Francisco, Yerba Loca, Monos de Agua, Tapado, Cipreses, Olivares β glaciers), Santiago de Chile, Cooperation with DGA, Direccion General de Aguas.
- 9) April 22 2012-May 13 2012. Field expedition for glacier survey and installation of a hydrometric station, Changri-Nup glacier, Everest, Nepal, 3 people, group leader, Share-Paprika project.
- 10) Semptember 2013. Upper Indus Basin in initiative. Field trip, Gilgit, Pakistan.
- 11) April 22 2014-May 18 2014. Field expedition for glacier survey and installation of a hydrometric station, Changri-Nup glacier, Everest, Nepal, 3 people, group leader, Khumbu Hydrology project.
- 12) July 18-28 2014. Field scientific expedition Ararat, Turkey. Joint to CAI Expedition.
- 13) September 11-21 2015. Field expedition, Gilgit-Skardu, Pakistan, project *Polimi for Karakoram*, Polisocial Award Politecnico di Milano.
- 14) June 8-14 2019. Field surveys, The University of Art ISA, La Habana, Cuba. Field measurements for Hydraulic design.

xvi) I am member of the *IGU Commission on Water Sustainability*, as of November 18th 2012. Admission upon cooptation by Prof. Claudio Cassardo, President. <http://water-sustainability.ph.unito.it>

xvii) Member of the *Upper Indus Basin Monitoring Working Group*, Islamabad, as Scientific Representative of EVK2CNR, as of December 2012. <http://www.icimod.org/?q=10110>

xviii) Member of *CONISMA (National Interuniversity Consortium for Sea Sciences)* of Italy, since March 2013. POLIMI Unit, Ref. Prof. Marino Gatto, www.conisma.it.

xix) Representative of EVK2CNR committee of Italy for the SPICE project (*Solid Precipitation Inter Comparison*) of WMO, test sites 1) Forni, 2) Pyramid site. www.wmo.int/pages/prog/www/IMOP/intercomparisons/SPICE/SPICE.html, <http://viewer.zmags.com/publication/f088b3fc#f088b3fc/152>

xx) Selected as Expert Reviewer for the IPCC “V assessment report”, WG II and WG III, March 2013.

xxi) I am member of the *Italian Association for Physical Geography and Geomorphology (AIGEO)*. Admission upon cooptation by Prof. Claudio Smiraglia, March 2013.

xxii) Member of the *Task Force on Climate Change Adaptation* of the Alpine Convention, and co-author of the *Guidelines for Climate Adaptation at the local level in the Alps*, 2014.

xxiii) Member of the *Augment, Water Monitoring for Decision Support* group, <http://www.eip-water.eu/working-groups/augment-water-monitoring-decision-support-ag124>

xxiv) POLI-HIGH group http://intranet.dica.polimi.it/fileadmin/user_upload/docenti_file/10019421/POLI_High_March_2015.pdf
Task force group for hydrology of the cryosphere, Director.

xxv) Editor: *Climate*, www.mdpi.com/journal/climate, as of May 6 2015.
Special issue Editor http://www.mdpi.com/journal/climate/special_issues/climate_blue_water_resources

xxvi) Selected as member of REPRISE: Register of Expert Peer Reviewers for Italian Scientific Evaluation, September 2015.

xxvii) Editor: Civil Engineering Journal, October 2015, <http://www.CivileJournal.org>

xxviii) Awards

2009. AWARD EXPO 2015 committee. Effetti del cambiamento climatico sulla risorsa idrica derivante dalla fusione nivoglaciale ed impatti sulle attività agricole in aree del Karakoram (Pakistan, Asia). Analisi delle evidenze attuali e formulazione di future strategie di adattamento.

2011. Polimi 5xmille AWARD. I CARE: Impact of Climate change on Alpine water REsources: the case of Italy and Switzerland.

2016. Tutor, Thesis MS, *Modellazione monodimensionale dello snow-gliding: il caso di Mont de la Saxe (AO)* [Monodimensional modeling of snow-gliding, the case study of Mont de la Saxe (AO)], Giulia Premoli, AWARD: Miglior Tesi di Laurea 2015, Comitato Glaciologico Italiano [Best Thesis 2015, Italian Glaciological Committee], Milano, December 11th 2015.

2017. *Highest Cited Paper Award*, for the paper *Impact of climate change scenarios on crop yield and water footprint of maize in the Po valley of Italy*, published in 2013. One of the 5 most highly cited papers during 2014, 2015 and up until June 2016.

2018. Awarded, 1 PhD scholarship, 2018-2021. *Aval-Risk: Avalanche risk under present and prospective climate change: experimental modeling and mathematical models for risk mapping*. Tutor. Awarded by the Doctorate School of Politecnico di Milano.

2018. *Paper Modelling hydrological components of the Rio Maipo of Chile, and their prospective evolution under climate change. Cover Story, Climate Issue 3 2018.*

2019. Giovanni Bombelli. MS Thesis. *L'influenza del cambiamento climatico sulla produzione idroelettrica dei grandi serbatoi lombardi [Impact of climate change upon hydropower production in large reservoirs of Lombardia]*. **Infopoint Morbegno Award** in the *Young Academics Award of the Alpine Convention*, Innsbruck, April 2019. Daniele Bocchiola Tutor.

2019. Leonardo Stucchi. MS Thesis. *La diga del ghiacciaio: Cambiamenti climatici e produzione all'impianto del Sabbione*. Award: **Premio di Laurea Comitato Glaciologico Italiano CGI 2019**, 1 Classificato. <http://www.glaciologia.it/il-comitato/premio-di-laurea/>. Daniele Bocchiola Tutor.

2021. ENEL InnoCentive Challenge 9934165 – Biodiversity Innovations for Sustainability Improvement at Renewable Energy Plants. Awarded with 4k\$ for the proposal “*RICH: River Continuum under Hydropower operation*”.

xxix) I am member of the *Panta Rhei* initiative, <http://distart119.ing.unibo.it/pantarhei/>. WG: Mountain Hydrology.

xxx) Member of scientific panel *Honours Program "Engineering for Sustainable Development"*, Politecnico di Milano.

xxxi) Advisory board of Preprints, MDPI (<http://www.preprints.org>).

xxxii) Member of the Initiative, Human and Social Studies on Science and Technology, META, Politecnico di Milano.

xxxiii) Editor, *The Open Atmospheric Science Journal*, January 2017. <https://benthamopen.com/TOASCJ/home/>.

xxxiv) Member IACS, *International Association of Cryospheric Sciences*, as of March 2017.

xxxv) Editor: *Advances in Meteorology*, Special Issue: *Effects of recent and perspective climate variability on cryospheric processes*. June 2017. <https://www.hindawi.com/journals/amete/si/497574/cfp/>

xxxvi) Scientific Committee “Le oche”. Radio Popolare. <http://www.radiopopolare.it/trasmissione/le-ocche/>

xxxvii) *Climate*, SI Editors, D. Bocchiola, C. Cassardo, G Diolaiuti: *Modified Hydrological Cycle under Global Warming*. http://www.mdpi.com/journal/climate/special_issues/hydrological_cycle

xxxviii) Commissions of trust/panels

Reviewer for the Award: Sigma Delta Epsilon/Graduate Women in Science fellowships, February 2009.

Reviewer for the Program: Austrian National Committee, research program "Alpine Research" of the Austrian Academy of Sciences, June 2009.

PhD Program in physical geography, University Milano, Invited member of Defense Commission, March 2014.

Third international conference on *Wood in world rivers*, July 6th-15th, Padua, Italy. Member of Scientific Committee.

Reviewer for the Program *ALWOP*, Council for the Earth and Life Sciences Netherlands Organisation for Scientific Research (NWO), 2015.

Reviewer for the Program: PrauB Bolzano, Projects in the field of scientific research. http://www.retecevicca.bz.it/it/servizi/servizi-categorie.asp?bnsvf_svid=1014921

Referee: PhD Program in physical geography, University Milano, Thesis: *The dark side of the ice: glaciological and biological aspects of supraglacial debris*, R.S. Azzoni, February 2017.

Commissary, PhD awarding commission, Program: *Environmental and Infrastructure Engineering*, Politecnico di Milano, 2017.

Referee: Swiss National Science Foundation. *Project funding in Mathematics, Natural sciences and Engineering (division II)*.

Referee: Netherlands Organisation for Scientific Research (NWO). *VIDI grant within the Innovational Research Incentives Scheme of the Domain Science*.

Referee: *NERC-CONCYTEC call on Peruvian Glacial Retreat*. November 2018.

Referee: *Austrian research initiative. Earth System Sciences (ESS)*. November 2018.

xxxix) Editor: *Journal of Advances in Climate Change*. <http://www.isaacpub.org/AboutThisJournal.aspx?ids=37>

xl) Former Editor: *International Journal of Hydrology*. <http://medcraveonline.com/IJH/>

xli) Albero della Vita Foundation, Position Paper: *Act now to face climate change: creating an adaptive environment for building children resilience*. Expert panel for preparation.

xlii) He is a member of *Mountain Research Initiative MRI*. <http://www.mountainresearchinitiative.org/en/>

xliii) Member of *Nat-Risk Center* since February 2019. <https://www.natrisk.unito.it/it>

xliv) Cooperation Agreement, CNR-IRSA. *Convenzione operativa per la conduzione di attività di Ricerca congiunta in merito alla gestione delle risorse Idriche in ambito montano e agli effetti dei cambiamenti climatici in alta quota*. Resp. Polimi, Daniele Bocchiola, Gianfranco Becciu.

xliv) Stati generali dell'Ingegneria: da Leonardo alle Olimpiadi. November 29-30. Reference Person POLIMI, Climate Change

xxxiii) EXPO 2020, Dubai. Delegate of DICA Director, Pavillion Italy.

xlvi) Editor: *Journal of Mountain Sciences*. <http://jms.imde.ac.cn/jms>

xlvii) Delegate of DICA Dept in EIT Climate-KIC, Working Group of Politecnico di Milano (<https://eit.europa.eu/our-communities/eit-climate-kic>).

xlviii) *Climate*, SI Editors, D. Bocchiola: *Effects of Climate Change on Mountain Hydrology - Recent Trends and Challenges*. https://www.mdpi.com/journal/climate/special_issues/cc_mount_hydrology

6) Publications list

At now, I have developed and/or contributed to the following publications.

i) Books, chapters, reports

- 1) Lucchini, F. S., *Central Valtellina, from Sondrio to Livigno [La Valtellina orientale. Da Sondrio a Livigno]*, by care of P.Pileri, Edited by: Camera di Commercio, Industria, Artigianato ed Agricoltura di Sondrio, based on the research carried by the students of the course of *Landscape Engineering*, a.y. 1996/1997, Politecnico di Milano, Lito Ignizio, Sondrio, 1997. Cooperator in the writing of introductory Chapters (acknowledge in foreword). **Published**
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- 7) Bocchiola, D., M.C. Rulli, R. Rosso, *Experimental assessment of the motion patterns of Large Woody Debris in rivers in presence of complex geometry*, Poster presentation and abstract at EGU General Assembly, Wien, 2005.
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- 10) Bocchiola, D., Medagliani, M., Rosso, R., *Avalanche hazard mapping using a regional approach: a case study in Lombardia region, northern Italy*, II Von Humboldt Conference, EGU, Lima, Perù, 5-9 March 2007. Oral presentation.
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- 16) Bocchiola, D., Bianchi Janetti, E., Medagliani, M., *A regional approach for the simulation of extreme snow avalanches: a case study in the Italian Alps*, Oral presentation and abstract at EGU General Assembly, Wien, 13-18 April 2008.
- 17) Bianchi Janetti, E., Bocchiola, D., Rosso, R., *Hydrological response of a debris covered glacier within the Adamello Group, Italy*, Oral presentation and abstract at EGU General Assembly, Wien, 13-18 April 2008.
- 18) Caccamo, P., Naaim-Bouvet, F., Naaim, M., Bocchiola, D., *Modification of powder avalanches flows due to a dam: physical simulation in a water tank for a full-scale case study*, Poster presentation and abstract at EGU General Assembly, Wien, 13-18 April 2008.
- 19) Malgarida, S., Mihalcea C., Diolaiuti, G., Bocchiola, D., Smiraglia, C., Rosso, R. (2008). *An energy based model for spring ice ablation for a debris covered glacier: the case of the Venerocolo glacier*, In: Perché i ghiacciai arretrano ? Una nuova frontiera nella ricerca scientifica: la meteorologia glaciale dai poli all'equatore [Why do glaciers retire ? A new frontier of scientific research: glacier meteorology from poles to equator], Congress, Milan, Italy, June 19 2008. Poster Presentation.
- 20) Bocchiola D. and the CARIPANDA team, Il Progetto CARIPANDA, CAMbio climatico e Risorsa Idrica nel Parco Naturale dell'Adamello Lombardo [The CARIPanda project, Climate change and water resources in the Adamello natural park of Lombardia] In: Perché i ghiacciai arretrano ? Una nuova frontiera nella ricerca scientifica: la meteorologia glaciale dai poli all'equatore [Why do glaciers retire ? A new frontier of scientific research: glacier meteorology from poles to equator], Congress, Milan, Italy, June 19 2008. Poster Presentation. Available upon request.
- 21) Groppelli, B., Bocchiola, D., Rosso, R. (2008). *Downscaling of GCM precipitation for a mesoscale Alpine basin of northern Italian Alps*. Abstract and poster presentation at the: 8th Annual Meeting of the European Meteorological Society, 7th European Conference on Applied Climatology, Sept. 29-Oct. 3, 2008. Amsterdam. Available upon request.
- 22) Nardi, F., Petroselli, A., Santini, M., Bocchiola, D., Grimaldi, S. (2008). Width Function based Instantaneous unit Hydrograph rainfall runoff model: relationship between Width Function, hillslope flow velocities and concentration times, Poster Presentation, AGU fall meeting 2003, 15-19 December 2008, San Francisco, USA.
- 23) Bocchiola, D. and the Caripanda Team. *The CARIPANDA project: Climate change and water resources in the Adamello Natural Park of Italy*, poster presentation for the EGU General Assembly, Wien, April 2009.
- 24) Rosso, R., Bocchiola, D., Rulli, M. C., *How accounting for transient catchment hydrology in the design of river engineering works ?*, **Invited talk** for the EGU General Assembly, Wien, April 2009.
- 25) Mihalcea, C., Diolaiuti, G., Bocchiola, D., Smiraglia, C., Rosso, R., *An energy based ablation model for a debris covered glacier: a case study in the Adamello glacier of Italy*, poster presentation for the EGU General Assembly, Wien, April 2009.
- 26) Rulli, M.C., Mihalcea, C., Diolaiuti, G., Bocchiola, D. (2009). *A distributed hydrological model for an Italian debris covered glacier*, oral presentation 8th IAHS Scientific Assembly, Hyderabad, 6-12 September 2009.
- 27) Groppelli, B., Bocchiola, D., Rosso, R., *Spatial downscaling of precipitation from AOGCMs for climate change projections using random cascades: a case study in Italy*, 11, Plinius11-42, 2009, poster presentation, 11th Plinius Conference on Mediterranean Storms, Barcellona, September 2009.
- 28) Bocchiola, D., *Regional methods for avalanche prediction: the case of Italian Alps*, poster presentation, ISSW, Davos, Sept 27-Oct 2, 2009.
- 29) Bocchiola, D., Diolaiuti, G., *The IDRO-STELVIO project (2010-on): A hydrometric network for hydrological conjectures within a natural Park of Italy*, Workshop Alpine Convention, Bozen, November 25-26, 2009.
- 30) Groppelli, B., Bocchiola, D., *The CARIPANDA project (2007-2009): Climate change and water resources in the Adamello Natural Park of Italy*, Workshop Alpine Convention, Bozen, November 25-26, 2009.
- 31) B. Groppelli, D. Bocchiola, R. Rosso, *Use of a random cascade approach for downscaling of AOGCMs projections of future precipitation*, poster presentation for the EGU General Assembly, Wien, May 2010.
- 32) B. Groppelli, D. Bocchiola, *Kriging estimation of Snow Water Equivalent at different dates within the Adamello Park of Italy*, poster presentation for the EGU General Assembly, Wien, May 2010.
- 33) A. Pirovano, D. Bocchiola, *Impact of transient climate change upon Grouse population dynamics in the Italian Alps*, oral presentation for the EGU General Assembly, Wien, May 2010.
- 34) Senese, A., Diolaiuti, G., Mihalcea, Smiraglia, C., Vuillermoz, E., Bocchiola, D., *Analysis of a 4 year record of meteorological data and energy and mass balance of Forni Glacier, Ortles-Cevedale Group (Stelvio National Park, Italian Alps)*, poster presentation for the EGU General Assembly, Wien, May 2010.
- 35) Mihalcea, C., Bocchiola, D., Diolaiuti, G., Mosconi, B., Smiraglia, C., Rosso, R., D'agata, C., *Analysis of meteorological data and surface energy balance of Venerocolo Debris-Covered Glacier (Adamello Group, Italy)*, poster presentation for the EGU General Assembly, Wien, May 2010.
- 36) C. Mihalcea, D. Bocchiola, G. Diolaiuti, B. Mosconi, C. Smiraglia, R. Rosso, *Analysis of surface energy fluxes and application of an energy based ablation model to Venerocolo Debris-Covered Glacier (Adamello Group)*, oral, AGM, March 25-26 2010, Milano.
- 37) D. Maragno, G. Diolaiuti, C. D'Agata, D. Bocchiola and C. Smiraglia, *Analysis of 1954-2003 aerial photos. 50 years of glacier changes in the Val Viola glacierized basin (central Italian Alps)*, poster, AGM, March 25-26 2010, Milano.
- 38) D. Maragno, G. Diolaiuti, C. D'Agata, D. Bocchiola and C. Smiraglia, *Analysis of 1983-2003 aerial photos. 20 years of glacier changes in the Ortles-Cevedale group (central Italian Alps)*, poster, AGM, March 25-26 2010, Milano.
- 39) B. Groppelli, D. Bocchiola and R. Rosso, *Downscaling of GCM snowfall for climate change impact assessment: a case study in Italy*, poster, AGM, March 25-26 2010, Milano.
- 40) Bocchiola, D., *Flow variation and minimum flows downstream dams: a case study in Italy*, Oral presentation, 78th Meeting ICOLD, May 2010, Hanoi, Vietnam
- 41) Le Thanh Hung, Rulli, M.C. Ranzi, R., *Effect of reservoirs on sediment load in the Lo river basin (China-Vietnam)*, Oral presentation, 78th Meeting ICOLD, May 2010, Hanoi, Vietnam. **Presented on behalf of the authors.**
- 42) Bocchiola, D., Groppelli, B. *Investigation of future snow avalanche regime under climate scenarios: a case study in the Italian Alps*, Latsis Symposium, Lausanne, 17-20 October 2010.
- 43) Confortola, G., Maggioni, M., Freppaz, M., Bocchiola, D., *Modelling soil erosion caused by snow avalanches: a case study in the Italian Alps*, Latsis Symposium, Lausanne, October 17-20, 2010.

- 44) Bocchiola, D., Pirovano, A., *The impact of climate change upon population dynamics of black grouse (Tetrao Tetrix) and rock partridge (Alcecoris Graeca Saxatilis) within the Italian Alps*, Abstract and oral presentation: 2nd Workshop: Ricerche naturalistiche in Provincia di Sondrio, Morbegno, October 23rd, 2010, Italian.
- 45) Groppelli, B., Soncini, A., Bocchiola, D., Rosso, R., *Accuracy of rainfall scenarios and downscaling criteria for hydrological applications of Global Circulation Models*, Congress : Project Strada, Milano, October 26th 2010. In Italian, **Invited Talk**.
- 46) Bocchiola, D., Groppelli, B., Soncini, A., Rosso, R., *Future water resources in an Alpine watershed of Italy under climate change scenarios*, AGU Fall Meeting, San Francisco, December 13-17. Poster Presentation.
- 47) Soncini, A., Bocchiola, D., *Future snow avalanche regime under climate scenarios in the Italian Alps*, EGU General Assembly, Wien, April 2011.
- 48) Soncini, A., Bocchiola, D., Castelletti, A., Weber, E., *Lake reservoir management under transient climate change in the Italian Alps*, EGU General Assembly, Wien, April 2011.
- 49) Soncini, A., Mihalcea, C., D'Agata, C., Mayer, C., Lambrecht, A., Diolaiuti, G., Bocchiola, D., Smiraglia, C., Rosso, R. *Future hydrological regimes of the upper Indus basin: a preliminary assessment*, EGU General Assembly, Wien, April 2011.
- 50) Bocchiola, D., *Climate change in the Alps and future water resources: a case study*, GeolItalia 2011, Torino, September 19-23, 2011, **Invited Talk**.
- 51) Soncini, A., Bocchiola, D., Mihalcea, C., Diolaiuti, G., Mosconi, B., Smiraglia, C., Rosso, R., *Hydrological scenarios for a high altitude catchment within the Adamello Lombardo group (BS)*, GeolItalia 2011, Torino, September 19-23, 2011, Oral.
- 52) Bocchiola, D., Pirovano, A., *L'impatto del cambiamento climatico sulla dinamica di popolazione di Gallo Forcello Tetrao tetrix e Coturnice Alecoris graeca saxatilis in provincia di Sondrio*, Poster, XVI Convegno Italiano di Ornitologia, Cervia, 22-25 Settembre 2011.
- 53) Groppelli, B., Confortola, G., Soncini, A., Bocchiola, D., Rosso, R., *Assesment of future river habitat suitability under climate change scenarios in a mesoscale Alpine watershed of Italy (Serio River, Italian Alps)*, AGU Fall Meeting, San Francisco, December 7-11, 2011.
- 54) Rosso, R., Groppelli, B., Soncini, A., Bocchiola, D., Colombo, F., *Spatial downscaling of precipitation from GCMs scenarios via random cascades for the Toce watershed, Italy*, AGU Fall Meeting, San Francisco, December 7-11, 2011.
- 55) Ravazzani, G., Bocchiola, D., Groppelli, B., Rulli, M.C., Colombo, F., Mancini, M., Rosso, R., *Continuous streamflow simulation for index flood estimation in an Alpine basin of Northern Italy*, Abstract and oral presentation, EGU 2012, 23-27 April, 2012.
- 56) G. Ravazzani, M. C. Rulli, B. Groppelli, D. Bocchiola, F. Colombo, M. Mancini, R. Rosso, *Raster based modelling of watershed erosion and sedimentation in an Alpine basin of Northern Italy*, Abstract and poster presentation, EGU 2012, 23-27 April, 2012.
- 57) E. Vuillermoz, A. Marinoni, P. Bonasoni, G.P. Verza, G. Diolaiuti, A. Senese, C. Smiraglia, D. Bocchiola, A. Soncini, U. Minora, *Studying Himalayan glaciers to understand atmospheric dynamics and ongoing climate variations. Data and findings from the Changri Nup Glacier (Nepal, Himalaya)*. International Conference on Cryosphere of the HinduKush – Himalayas: State of the Knowledge, Kathmandu, 14-16 May 2012. Oral
- 58) Bocchiola, D., Mosconi, B., Mayer, C., Lambrecht, A. Soncini, A. Bianchi, A. Diolaiuti, G., Vuillermoz, E., Mihalcea, C., D'Agata, C., Smiraglia, C., *Recent and future glacier dynamics and hydrological regime in the upper Karakoram*. International Conference on Cryosphere of the HinduKush – Himalayas: State of the Knowledge, Kathmandu, 14-16 May 2012. Poster.
- 59) Bozza, A., Allenbach, B., Bocchiola, D., *Modélisation du risque de ruissellement à Port au Prince*. 2nd atelier des contributeurs Kal-Haïti, June 6 and 7, 2012, CNES Paris.
- 60) D'Agata, C., Maragno, D., Smiraglia, C., Bocchiola, D., Diolaiuti, G., *Half a century of glacier changes by analysing different data sources: the 1954-2007 glacier variations in the Ortles-Cevedale group (Stelvio National Park, Lombardy, Italian Alps)*. Abstract, 8th IAG International Conference on Geomorphology, Paris, 27-31 August 2013.
- 61) Minora U., Bocchiola, D., D'Agata, C., Maragno, D., Mayer, C., Lambrecht, A., Mosconi, B., Vuillermoz, E., Smiraglia, C., Diolaiuti, G., *2001-2010 glacier changes in the central karakoram national park: a contribution to evaluate magnitude and rate of the "karakoram anomaly"*, Abstract, Esa-Esri, Conference EOS, Frascati, 13-16 November 2012. Proceedings submitted Novembre 2012.
- 62) Nana, E., Soncini, A., Confortola, G., Bocchiola, D., *Climate change related hazard for maize cropping in the Po valley of Italy*, Abstract, EGU 2013. Poster.
- 63) Minora U., Bocchiola, D., D'Agata, C., Maragno, D., Mayer C., Lambrecht, A., Mosconi, B., Vuillermoz, E., Senese A., Compostella, C., Smiraglia, C. Diolaiuti, G., *2001-2010 glacier changes in the Central Karakoram National Park: a contribution to evaluate the magnitude and rate of the "Karakoram anomaly"*, Abstract, EGU 2013. Poster.
- 64) Bocchiola, D., Soncini, A., Confortola, G., Nana, E., Bianchi, A., Rosso, R., Diolaiuti, G., Smiraglia, C., von Hardenberg, J., Palazzi, E., Provenzale, A., Giorgi, F., Solmon, F., Vuillermoz, E., *Future hydrological regimes of the upper Indus basin: results from the PAPRIKA project*, Abstract, EGU 2013. Oral.
- 65) Vuillermoz, E., Senese, A., Diolaiuti, G., Smiraglia, C., Cristofanelli, P., Marinoni, A., Bocchiola, D., Verza, G.P. Bonasoni, P., *Studying Himalayan glaciers to understand atmospheric dynamics and ongoing cryosphere variations. Data and findings from the Changri Nup glacier (Nepal, Himalaya)*. Abstract, EGU 2013.
- 66) Paramithiotti, V., Bookhagen, B., Soncini, A., Confortola, G., Vuillermoz, E., Diolaiuti, G., Bocchiola, D., *Assessing hydrologic components of a glaciated catchment in the central Himalaya*, Abstract, EGU 2013. Oral.
- 67) Bozza, A., Durand, A., Allenbach, B., Confortola, G., Bocchiola, D. *Potential of high resolution satellite imagery, remote weather data and 1D hydraulic modeling to evaluate flood areas in Gonaives, Haiti*, Abstract, EGU 2013. Oral.
- 68) Minora U., Mayer C., Bocchiola, D., D'Agata, C., Maragno, D., Lambrecht, A., Mosconi, B., Vuillermoz, E., Smiraglia, C. Diolaiuti, G. *The recent changes of the supra-glacial debris cover in the Central Karakoram National Park (CKNP, Pakistan)*, Abstract, EGU 2013. Poster.
- 69) Freppaz, M., Martin, M., Squinobal, E., Morra di Cella, U., Confortola, G., Bocchiola, D., *Water quality, hydrology, and soil properties in a recently deglaciated area (Indren glacier, Valle d'Aosta-NWItaly)*, Abstract, Mountain Under Watch, Aosta, February 2013.
- 70) Bocchiola, D. *Water resources and hydrological regimes of the upper Indus basin: results from the PAPRIKA and SEED projects*. **Invited Talk**, Conference: The Italian science and cooperation in the shadow of K2, Islamabad-Skardu, September 2013.
- 71) Bocchiola D., Soncini A., Confortola G.; Nana E., Bianchi A., Rosso R , Diolaiuti G., Smiraglia C., von Hardenberg J., Palazzi E., Provenzale A., Vuillermoz, E. *Future hydrological regimes under climate change scenarios in the Upper Indus Basin: the*

- case study of the Shigar river. Poster. Conference: High Summit, International conference on mountain and climate change. Lecco, Italy, October 2013.
- 72) Paramithiotti, V., Confortola, V., Bookhagen, B., Diolaiuti, G., Soncini, A., Bocchiola, D., *Assessing hydrologic components of a glaciated catchment in the central Himalaya*. Poster. Conference: High Summit, International conference on mountain and climate change. Lecco, Italy, October 2013.
 - 73) Bocchiola, D. *Climate change effect upon water resources and hydro-ecology in Northern Italy and the Alps*, **Invited Talk**. Conference: High Summit, International conference on mountain and climate change. Lecco, Italy, October 2013.
 - 74) Palazzoli, I., Bocchiola, D., Nana, E., Uhlenbrook, S., and Maskey, S. (2), *Assessing the impact of climate change on agriculture in Indrawati Basin, Nepal*, Abstract, EGU 2014. Poster.
 - 75) Minora, U., Bocchiola, D. et al., *Mapping distribution and thickness of supraglacial debris in the Central Karakoram National Park: main features and implications to model glacier meltwater*, Abstract, EGU 2014. Poster.
 - 76) Minora, U., Bocchiola, D. et al., *Is supraglacial debris actually playing a role in driving the Karakoram Anomaly ?* Abstract, EGU 2014. Poster.
 - 77) Bocchiola, D., *Exploring the tradeoff between water use and crop production under climate change: a case study in the Po valley of Italy*, **Invited Talk**. Workshop internazionale: Peri-urban areas and Food-Energy-Water Nexus, sustainability and resilience Strategies in the Age of Climate Change, Milano, 28-29 March 2014.
 - 78) A. Soncini, D. Bocchiola, G. Confortola, E. Nana, A. Bianchi, R. Rosso, G. Diolaiuti, C. Smiraglia, J. von Hardenberg, E. Palazzi, A. Provenzale, E. Vuillermoz, *Hydrology of the upper Indus basin under potential climate change scenarios*, **Invited talk**, IAEG 2014, Turin.
 - 79) Bocchiola, D., Diolaiuti, G., Confortola, G., Soncini, A., Platter, W., *Un parco osservatorio per conoscere l'acqua delle nostre montagne: il progetto IDROSTELVIO e i primi risultati conseguiti* [A Park observatory to assess water in the Alps: Idrostelvio Project and first results]. **Invited talk**, Forum Alpinum, 17-19 Sept. 2014, Darfo (BS).
 - 80) Confortola, G., Viganò, G., Fornaroli, R., Cabrini, R., Canobbio, S., Mezzanotte, V., Bocchiola D., *Future climate change may affect habitat suitability in Alpine streams, Serio river case study*, Poster presentation, Forum Alpinum, 17-19 Sept. 2014, Darfo (BS).
 - 81) U. Minora, D. Godone, S. Lorenzini, C. D'Agata, D. Bocchiola, G. S. Barcaza, C. Smiraglia, G. Diolaiuti, *Remote sensing investigations to describe snow cover area (SCA) variability over 18 watersheds of the Central Chile in the time window 2008-2011*, Poster presentation, CGI Congress Turin, 18-21 Sept., 2014.
 - 82) G. Premoli, G. Confortola, M. Maggioni, M. Freppaz, E. Ceaglio, D. Bocchiola, *A 1D model of snow-gliding: the case study of Mont de la Saxe (NW Italian Alps)*, Oral presentation, CGI Congress Turin, 18-21 Sept., 2014.
 - 83) Vuillermoz, E., A. Senese, G. Diolaiuti, C. Smiraglia, P. Cristofanelli, A. Marinoni, D. Bocchiola, G.P. Verza, P. Bonasoni, *Studying Himalayan Glaciers to understand atmospheric dynamics and ongoing cryosphere variations. Data and findings from the Changri Nup Glacier (Nepal, Himalaya)*. Lollino et al. (eds.), *Engineering Geology for Society and Territory*, 1, 73-76.
 - 84) D. Bocchiola, A. Soncini, G. Confortola, U. Minora, G. Diolaiuti, C. Smiraglia, E. Vuillermoz, D. Shrestha, F. Salerno. *Potential effects of future climate change in the water towers of Asia: the case study of the Dudh Kosi basin, Nepal*. Alpine glaciological meeting AGM 2015, Milano, Italy. *Poster*
 - 85) M. Caccianiga, C. Compostella, R. Ambrosini, D. Bocchiola, C. Smiraglia, G. Diolaiuti. *Glaciological and biological features of supraglacial debris on Changri -Nup and Khumbu glaciers (Sagarmatha National Park, Nepal)*. Alpine glaciological meeting AGM 2015, Milano, Italy. *Poster*
 - 86) G. Confortola, K. Fyffe, G. Diolaiuti, D. Bocchiola. *Glacio-hydrological modeling of the debris covered Belvedere Glacier (VB), Italy*. Alpine glaciological meeting AGM 2015, Milano, Italy. *Poster*
 - 87) G. Confortola, F. Migliavacca, A. Soncini, G. Diolaiuti, G. Barcaza, D. Bocchiola. *Hydrology of the Rio Maipo of Chile under future climate change*. Alpine glaciological meeting AGM 2015, Milano, Italy. *Poster*
 - 88) U. Minora, M. Mariani, D. Bocchiola, G. Diolaiuti, C. Smiraglia. *Revision of the glacier inventory of the Afghani Hindu Kush*. Alpine glaciological meeting AGM 2015, Milano, Italy. *Poster*
 - 89) A. Senese, M. Maugeri, S. Ferrari, G. Confortola, D. Bocchiola, G. Diolaiuti. *Parameterization of radiative components and air temperature driving ablation at the Forni Glacier (Italian Alps)*. Alpine glaciological meeting AGM 2015, Milano, Italy. *Poster*
 - 90) A. Soncini, D. Bocchiola, G. Confortola, U. Minora, R. Rosso, C. Mayer, A. Lambrecht, E. Palazzi, C. Smiraglia, G. Diolaiuti, *Effects of future climate change upon the water towers of asia: a case study from the upper indus basin*. Alpine glaciological meeting AGM 2015, Milano, Italy. *Oral*.
 - 91) D. Bocchiola, *River habitat suitability under a changing climate: a cases study in the Alps of Italy*. **Invited Talk**, in: LET IT FLOW, Improving European stream connectivity, Amber launch event, November 30th 2016, Palazzo delle stelline., Milano, Italy.
 - 92) Gianinetto, M., Polinelli, F., Frassy F., Aiello^a, M., Rota Nodari F., Bocchiola, D., *Analysis of changes in crop farming in the Dudh Koshi basin (Nepal) driven by climate changes*, Conference on Earth Resources and Environmental Remote Sensing/GIS Applications, part of SPIE Remote Sensing. Warsaw, Poland, 11-14 September 2017.
 - 93) Bocchiola, D. *L'impatto della riduzione dei ghiacci sulle risorse idriche [Impacts of ice cover shrinking upon water resources]* <http://www.festivalsvilupposostenibile.it/gli-eventi/37-29/il-clima-del-futuro-i-ghiacci-del-pianeta-e-noi#.WRWFPSOLS00>. May 29, 2017. **Invited Talk**
 - 94) Bocchiola, D., A. Soncini, G., Diolaiuti. *Water security of Kabul river under climate change*. CUCS, Milano, September 2017.
 - 95) Bocchiola, D., Brunetti, L., Soncini, A., Polinelli, F., Gianinetto, M. *Food security of Nepal under climate change*. CUCS, Milano, September 2017.
 - 96) Diolaiuti, G., Smiraglia, C., Senese, A., Maragno, D. Davide Fugazza, Andrea Soncini, Carlo D'Agata, Roberto Sergio Azzoni, Umberto Minora, Daniele Bocchiola, Riaz Ul-Hassan, Elisa Vuillermoz, Mohammed Asif Khan, Adnan Shafiq Rana, Ghulam Rasul. *Inventory of glaciers and glacial lakes of the central Karakoram national park (Pakistan) as a contribution to know and manage mountain freshwater resource*. CUCS, Milano, September 2017.
 - 97) Bocchiola, D., *Cambiamenti climatici globali, catastrofi naturali e sicurezza alimentare: quale futuro ci aspetta ?* UNICEF CUMES, 2018. March 23rd, **Invited Talk**.
 - 98) Bocchiola, D., *Potenziati impatti dei cambiamenti climatici a scala locale: il caso dell'Himalaya Nepalese (+ qualcosa sull'Italia)*, Base Milano, February 6 2019, **Invited Talk**.
 - 99) Bocchiola, D., *Cambiamenti climatici, ghiacciai e ciclo dell'acqua: quale futuro ci aspetta ?* Post-Water, museo delle montagna di Torino, January 25 2019, **Invited talk**.

- 100) Bocchiola, D. *Cambiamenti climatici: un impegno inderogabile*. UNICEF CUMES, 2019. March 29th, **Invited Talk**.
- 101) Bocchiola, D., Bompan, E., *Verso una pace blu: cambiamenti climatici e conflitti per l'acqua*. Festival dei Diritti Umani, 2 Maggio 2019. Iniziativa UNI, **Invited talk**.
- 102) Bocchiola, D., *I cambiamenti climatici nelle diverse zone del pianeta; come i cambiamenti climatici incidono in particolare nei contesti più poveri e i sui soggetti più vulnerabili*. Climaticamente, Abbazia di Mirasole, Sept. 25th, 2019. **Invited talk**.
- 103) Bocchiola, D., *I cambiamenti climatici e gli effetti sulla disponibilità delle risorse idriche*. Che Acqua Beviamo? Cremona, Sept. 27th 2019. **Invited talk**.

vi) Chairman/seminars

- 1) *Hydrology in the Adamello park: some preliminary results*, Congress, The CARIPANDA project, Breno, October 24th 2007.
- 2) *CARIPANDA: Water resources within Adamello Park, experiments and models for a glance into the future*. Congress, July 17th 2009.
- 3) De Michele, C., *Theoretical and Applied Ecohydrology in semi-arid climates*, May 7 2009, Hydro-Eco-Lab seminars.
- 4) Grimaldi, S., *Improving Hydrological Modelling with advanced DEM preprocessing*, June 12 2009, Hydro-Eco-Lab seminars.
- 5) Ravazzani, G., *Integrated modelling of hydrological and superficial processes and of groundwater dynamics*, March 11 2010, Hydro-Eco-Lab seminars.
- 6) *Water from the mountains and the climate change*, session AGM, 25-26 March 2010, Milano.
- 7) Copeland Wagenbrenner, N. *Post-fire Wind Erosion and Modeling Wind in Complex Terrain*, May 3 2011, Hydro-Eco-Lab seminars.
- 8) Wagenbrenner, J., *Effects of post-fire treatments on runoff and erosion rates*, May 3 2011, Hydro-Eco-Lab seminars.
- 9) Petaccia, A., *Some consideration about Italian large dams*, May 10 2011, Hydro-Eco-Lab seminars.
- 10) Diolaiuti, G., *The rapid ongoing decrease of Alpine glaciers*, In: The climate change and water of the future: the case study of Alps. May 25 2011. Conferences: "Pianeta Tremila" Politecnico di Milano, organized within I-CARE project
- 11) Lehning, M., *Snow Distribution Today and Tomorrow*. In: The climate change and water of the future: the case study of Alps. May 25 2011. Conferences: "Pianeta Tremila" Politecnico di Milano, organized within I-CARE project.
- 12) Bocchiola, D., *Impact of Climate change on Alpine water RESources: the case of Italy and Switzerland*. In: The climate change and water of the future: the case study of Alps. May 25 2011. Conferences: "Pianeta Tremila" Politecnico di Milano, organized within I-CARE project.
- 13) Bianchi, A., Addimando, N., Soncini, A., *Politecnico in Karakoram, una missione sul ghiacciaio del Baltoro*, June 15, 2011, Hydro-Eco-Lab seminars.
- 14) Curran Crowe, J., *River Restoration and Management: Two examples from the US*, October 13 2011, Hydro-Eco-Lab seminars.
- 15) Panziera, L., *Observing and forecasting rainfall: how does the radar help?*, June 12 2013, Hydro-Eco-Lab seminars.
- 16) *World Water Day 2017*. Workshop at Politecnico di Milano. March 22nd 2017. Leading organizer.
- 17) Organizer: Il clima del futuro i ghiacci del pianeta e noi [Future climate, ice on the planet, and us]. <http://www.festivalsvilupposostenibile.it/gli-eventi/37-29/il-clima-del-futuro-i-ghiacci-del-pianeta-e-noi#.WRWFPSOLS00>
- 18) Host: *Transboundary management of the Hadera basin: a Joint Israeli Palestinian National Authority goal*. September 23rd 2019, Milano, Politecnico. Co-organizer, with Eng. Rossella Monti, PhD.
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7) Teaching and tutoring

i) I have been and I am scientific advisor of a number of PhD students and research assistant:

- 1) Eng. Bavera, D., PhD student in Hydraulic Engineering at Politecnico di Milano. Started 2005, ongoing. Evaluation of Snow Water Equivalent in the Italian Alps. Tutor: Renzo Rosso. **Finished**
- 2) Eng. Groppelli, B., PhD student in Hydraulic Engineering at Politecnico di Milano. Started 2006, ongoing. Downscaling of precipitation. Tutor: Renzo Rosso. **Finished**
- 3) Eng. Bianchi Janetti, E., PhD student in Hydraulic Engineering at Politecnico di Milano. Started 2008. Hydrology of glaciers. Tutor: Renzo Rosso. **Withdrawn**
- 4) Dr Simayite, J., PhD in Mathematics, Lithuanian Energy Institute Lab. of Nuclear Safety Installations. Partially fulfilled at Politecnico di Milano (winter 2007) studying Spring floods affecting reservoirs' systems. Tutor: Juozas Augutis. **Finished**
- 5) Eng. Medagliani, M., Res. Ass., snow and avalanche sciences, March 2006-February 2007. Advisor. **Finished**
- 6) Eng. Gorni, E., Res. Ass., climate change in glacierized areas, July- December 2007. Tutor. **Finished**
- 7) Eng. Arena Lo Riggio, E., Res. Ass., avalanche modelling, March- December 2007 . Advisor. **Finished**
- 8) Eng. Mura, M., Res. Ass., avalanche modelling, March- December 2007. Advisor. **Finished**
- 9) Eng. Frignani, G., Res. Ass., experimental assessment of wood load in rivers, March- December 2007. Advisor. **Finished**
- 10) Eng. Pagani, A., Res. Ass., climate change in glacierized areas, March-September 2008. Tutor. **Finished**
- 11) MS Geol. Mosconi, B., PhD student, University Milan. Started November 2009, ongoing. Co-Advisor (with Guglielmina Diolaiuti). Tutor, Prof. C. Smiraglia. **Finished**
- 12) Eng. Soncini, A. PhD student in Hydraulic Engineering at Politecnico di Milano. Started October 2010. Climate change impact upon Alpine hydrology. Advisor. **Finished**
- 13) Eng. Confortola, G., Res. Ass., Hydrological modelling, Start. May, 2011. Advisor. **Finished**
- 14) Eng. Nana, E., Res. Ass., Hydrological modelling, Start. April, 2012-October 2013. Advisor. **Finished**
- 15) Dr. Minora, U., Res. Ass., Remote sensing of cryosphere, Start. April, 2014. Advisor. **Finished**
- 16) Eng. Palazzoli, I., PhD student in Hydraulic Engineering at Politecnico di Milano. Started October 2014. Climate change impact upon mountain hydrology and crop systems. Advisor. **Finished**
- 17) Eng. Habib Akbari, PhD student Tabriz University, Iran. Partial Fulfilment, March-October 2017.
- 18) Eng. Nasrollah Mousavi, PhD student Tabriz University, Iran. Partial Fulfilment, May-October 2018.
- 19) Eng. Balooch Mansour, PhD student Taxila University, Pakistan. Partial Fulfilment, July-December 2018.
- 20) Eng. Bombelli, G.M., PhD student, Scholarship *Aval-Risk*. Started November 2018.
- 21) Eng. Stucchi, L., PhD student, Started November 2019.
- 22) Eng. Casale, F., PhD student, Started November 2019.
- 23) Eng. Fuso, F., PhD student, Started November 2019.
- 24) Eng. Xu, H., PhD student, Started November 2020.
- 25) Eng. Galizzi, M., Res. Ass., 2019-2020.
- 26) Eng. Jacopino, D., Res. Ass., 2021-2022.
- 27) Dott. Rawad El Skaf. PhD, Philosophy, RTD-A Researcher. Joint tutoring with Prof. G. Valente. Dept. Mathematics Polimi. 2022-2024.

ii) I am tutor or co- tutor several master thesis, as follows

- 1) Viterbo, M., *Boundary layer probes for shear stress measurements: experimental study and theoretical analysis*, Pol. di Milano, ac. year 1997-98, tutor Prof. Eng. G. Menduni. In Italian. *Part ful* WHIRLPOOL company of Italy (VA) (Dr. David Ward).
- 2) Catalano, F., *Dynamics of a fluid current in presence of floating debris*, Pol. di Milano, ac. year 1999-2000, tutor Prof. Eng. G. Passoni. In Italian.

- 3) Bardelli, M. and Chini, A., *Hydrologic dynamics of some Italian watersheds*, Pol. di Milano, ac. year 2000-2001, tutor Prof. Eng. R. Rosso. In Italian.
- 4) Moscatelli, F., *Investigation of the iso-frequency hypothesis of flood and storm events using a derived distribution model*, Pol. di Milano, a.y. 2002-2003, Tutor Prof. R. Rosso. In Italian.
- 5) Giuffrida, D., *A methodology for data fusion of remotely sensed rainfall fields at different scales*, Pol. di Milano, a.y. 2002-2003, Tutor Prof. R. Rosso. In Italian.
- 6) Martinelli, O. and Modena, D., *A methodology for the estimation of snow water equivalent in the Lombardy pre-alps*, Pol. di Milano, a.y. 2002-2003, Tutor Prof. R. Rosso. In Italian.
- 7) Bernardi, A., Corsini, F., *Use of the median as an index value for extreme floods estimation: an application to Po basin and Thyrrenian Liguria*, Pol. di Milano, a.y. 2003-2004, Tutor Prof. R. Rosso. In Italian.
- 8) Manzo, G., *A preliminary study on the hydrologic response of watersheds subjected to forest fires*, Pol. di Milano, a.y. 2003-2004, Tutor Prof. R. Rosso. In Italian.
- 9) Motta, D., *An experimental Study on the fluvial dynamics of woody debris*, Pol. di Milano, a.y. 2003-2004, Tutor Prof. R. Rosso. In Italian.
- 10) Greppi, A. and Narciso, C., *Experimental study and development of a model for transport of woody debris on burned hill-slopes*, Pol. di Milano, a.y. 2003-2004, Tutor Prof. R. Rosso. In Italian.
- 11) Magnaghi, M., *A multiscale model for short forecast of rainfall*, Pol. di Milano, a.y. 2003-2004, Tutor Prof. R. Rosso. In Italian.
- 12) Casartelli, V., *Defence from floods using flood proofing techniques: application criteria and maps of intervention*, Pol. di Milano, a.y. 2003-2004, Tutor Prof. R. Rosso. In Italian.
- 13) Riboni, A., *A study on mapping of the avalanche hazard in Lombardia alps*, Pol. di Milano, a.y. 2003-2004, Tutor Prof. R. Rosso. In Italian. *Part ful* SLF Davos (CH) (Dr. Betty Sovilla).
- 14) Bordoni, A., *A statistical approach to the study of some flow variables of ecological interest*, Pol. di Milano, a.y. 2003-2004, Tutor Prof. R. Rosso. In Italian.
- 15) Belotti, G., Leonardo, G., *Mapping of hydrologic hazard in Lombardia water course: a state of the art analysis*, Pol. di Milano, a.y. 2003-2004, Tutor Prof. R. Rosso. In Italian.
- 16) Albonico, C., Bruni, E., *Application of a snowmelt model to estimate the seasonal flows in Valle Seriana*, Pol. di Milano, a.y. 2003-2004, Tutor Prof. R. Rosso. In Italian.
- 17) Garavaglia, S., Medagliani, M., *The forecast of the snow Water Equivalent for a mountain watershed: the case of the Mallero River*, Pol. di Milano, a.y. 2003-2004, Tutor Prof. R. Rosso. In Italian.
- 18) Di Prisco, M., *A method for the real time forecasting of floods at a dam site: the Case of S. Giustina Dam*, Pol. di Milano, a.y. 2003-2004, Tutor Prof. R. Rosso. In Italian.
- 19) Biesuz, S., Zanetti, A., *Entrainment of woody debris in rivers: experimental tests*, Pol. di Milano, a.y. 2004-2005, Tutor Prof. R. Rosso. In Italian.
- 20) Contrino, I. M., *Assessment of the quality of riverine environment using stochastic hydraulic models: a case study on Serio river*, Pol. di Milano, a.y. 2004-2005, Tutor. In Italian.
- 21) Danelli, A., *The scale invariance of floods applied to index flood estimation for some dam sites in northern Italy*, Pol. di Milano, a.y. 2004-2005, Tutor Prof. R. Rosso. In Italian.
- 22) Procopio, A., *Flow variation downstream of large dams: the S. Giustina dam, Trento*, Pol. di Milano, a.y. 2004-2005, Tutor. In Italian.
- 23) Cassuoli, M.A., Montalto Giampaoli, L., *Point assessment of snow melt at sub-daily time scale: the case study of the Mallero watershed*. 2005-2006, Tutor Prof. R. Rosso, In Italian.
- 24) Bianchi Janetti, E., Gorni, E., *Dynamic calculations of avalanches: a study on snow cover height in Switzerland with regional approach*, 2006-2007, Tutor. In English. *Part ful* SLF Davos (CH) (Dr. Betty Sovilla).
- 25) Benelli, R., *Modification of the water profile in the presence of woody debris: an experimental flume study*, 2005-2006, Tutor. In Italian.
- 26) Pagani, A., Sala, G., *Simulation of avalanches for hazard zones assessment: the case of the Vallecetta Mountain (SO)*, 2006-2007, Tutor. In Italian.
- 27) Malgarida, S., *A code for the simulation of ablation from the debris cover glacier of Venerocolo (BS)*, 2007-2008, Tutor. In Italian. *Part ful* Earth Sciences Dept. State University Milano (IT) (Prof. Claudio Smiraglia, Dr. Claudia Mihalcea).
- 28) Girola, E., *Experimental assessment of wood jams formation in streams*, 2007-2008, Tutor. In Italian.
- 29) Caccamo, P., *Experimental assessment of the influence of a dam on powder snow avalanche impact: the case study of Taconnaz*, 2007-2008, Tutor. In English. *Part ful* CEMAGREF Grenoble (FR) (Dr. Mohammed Naaim, Dr. Florence Naaim Bouvet)
- 30) Danelli, A., *Optimal strategies of flushing of reservoirs: the case study of the Forni dam (SO)*, 2007-2008, Tutor. In Italian. *Part ful* CESIRicerca Milano (IT) (Eng. Julio Alterach).
- 31) Cremante, M., *Hydroecological effect of climate change on ungulate species in high mountain areas, the case of Adamello Natural Park*, ongoing. In Italian.
- 32) Crapella, M., *Modelling of vegetation cover patterns for hydroecological purposes within the Oglio river*, ongoing. In Italian.
- 33) Soncini, A., *Downscaling of precipitation for projection of hydrological impact of climate change within the Oglio river*, ongoing. In Italian.
- 34) Apollonio, G., *Distributed modelling of hydrological fluxes upon a cirque debris cover glacier within the Adamello group of Italy*, ongoing. In Italian. *Part ful* Earth Sciences Dept. State University Milano (IT) (Prof. Claudio Smiraglia, Dr. Claudia Mihalcea).
- 35) Addimando, N., *Long term modelling of avalanche magnitude, entrainment and dynamics*, ongoing. *Part ful* SLF Davos (CH) (Dr. Betty Sovilla).
- 36) Dellarole, L., *Application of ALPINE 3D model for climate change projection upon hydrology of Oglio river*, ongoing. *Part ful* SLF Davos (CH) (Dr. Michael Lehning)
- 37) Confortola, G., *Use of a dynamic avalanche model to evaluate soil erosion*, ongoing. Coop. University Turin (Dr Michele Freppaz). In Italian.
- 38) Brambilla, G., *Assessment of suitability indexes for macroinvertebrates and fishes in the Serio river*, ongoing. In Italian.
- 39) Balzaretto, L., Brunetti, D., *Modelling of hydrological budget of Dosdè glacier, Alta Valtellina*. *Part ful* Earth Sciences Dept. State University Milano (IT) (Prof. Claudio Smiraglia, Dr. Guglielmina Diolaiuti).

- 40) Uranga, J., *Projections of future hydrological budget of Dosedè glacier, Alta Valtellina. Part ful* Earth Sciences Dept. State University Milano (IT) (Prof. Claudio Smiraglia, Dr. Guglielmina Diolaiuti).
 - 41) Garavaglia, R., Marzorati, A., *Future scenarios of precipitation in Switzerland: a preliminary investigation, 2009-2010*, Tutor. In Italian. Coop. SLF Davos.
 - 42) Rizzo, S., *Downscaling of wind series from GCM: the case of alta Valtellina, 2009-2010*, Tutor. In Italian.
 - 43) Bonaldi, D., *Impact of climate change upon dynamics of Pernice Bianca, Lagopus Muta, within Northern Alps of Italy*. Tutor, 2011. In Italian.
 - 44) Nana, E., *Impact of climate change upon crop yields in Northern Italy*. Tutor. In cooperation with R. Confalonieri @ University Milano. In Italian.
 - 45) Mallamaci, M.G., *Climate control upon crop yields in Northern Italy*. Tutor. In cooperation with R. Confalonieri @ University Milano. In Italian.
 - 46) Vigano, G., *Use of eco-hydrologic indicators for multi-objective management of Santa Giustina dam (TN)*. Tutor, 2011. In Italian. In cooperation with F. Pianosi @ DEI Polimi.
 - 47) Bizzozero, F., *Time downscaling of precipitation within the Stelvio Park of Italy*. Tutor, 2011. In Italian.
 - 48) Bozza, A., *Monitoring SCA in Nepal, using MODIS (Moderate Resolution Imaging Spectroradiometer)*. Tutor, 2011. In Italian. Part ful. LTHE Grenoble (Prof. Isabella Zin).
 - 49) Galasso, V., *Climate change impact upon water resources in the upper Indus, Pakistan*. Tutor, 2011. In Italian.
 - 50) Cerrato, E., *Optimal multi-objective management of Santa Giustina dam (TN) using eco-hydrologic indicators*. Tutor, 2011. In Italian, **Ongoing**.
 - 51) Tusi, A., *Use of MODIS® for Snow Cover Assessment upon Lombardia catchments*, Tutor, 2011. In Italian, Ongoing
 - 52) Addimando, N., *Modeling of pasture vegetation within the Central Karakoram National Park*, Master's thesis. Tutor, 2011. In Italian.
 - 53) Carincola, C., *Physically based modelling of hydrological budget of Dosedè glacier, Alta Valtellina. Part ful* Earth Sciences Dept. State University Milano (IT) (Prof. Claudio Smiraglia, Dr. Guglielmina Diolaiuti). 2012. In Italian.
 - 54) Grilli, C., *Modelling of hydrological budget of Indren glacier, Val D'Aosta. Part ful*. University Torino (Dr. Michele Freppaz). 2012. In Italian.
 - 55) Chiavico, M., *Set up of a pasture growth model, and application to some case studies*. 2012. In Italian.
 - 56) Mianiti, L., Bonizzoni, S., *Virtual Water trade*. 2012. In Italian.
 - 57) Richetti, D., *Statistical deterministic modeling of runoff at Como lake for forecasting aims*. 2012. In Italian.
 - 58) Fiore R., *Glacio-hydrological modeling of Indren glacier (AO)*. 2013. In Italian
 - 59) Merletti, M., *Water footprint and agriculture: the case of rice in Pavia province*. 2013. In Italian
 - 60) Fraschini, A., *Hydrological modelling of a high altitude glacial catchment.: the case Changri-Nup, Nepal*, 2013. In Italian.
 - 61) Lambri, L., *Analysis of a high altitude hydrometric network: the Idro-Stelvio project*. 2013. In Italian.
 - 62) Vigano, G., *Hydrological regime and and environmental suitability of the Serio river (BG) under prospective climate change*. 2013. In Italian.
 - 63) Ferrari, S., *A distributed radiative model for the assessment of ablation upon Forni glacier (SO)*. 2013. In Italian.
 - 64) Paramithiotti, V., *Climate change assessment and hydrological modeling in the Dudhkosi River basin, Eastern Nepal*. 2013. In Italian. Part. Ful. S. Barbara Univ., Dr. Bodo Bookhagen.
 - 65) Garavaglia, R., Marzorati, A., *1-D modelling of glacial dynamics and mass budget upon Forni glacier(SO)*. 2013. In Italian.
 - 66) Bolzoni, M., *Calibration of a hydrological model for an Alpin basin: the Adda river at Com lake*. 2013. In Italian.
 - 67) Bolognini, M., Sacchi, D., *Set up of a hydrological model or the glacial catchment of Shigar river, Karakoram*. 2013. In Italian.
 - 68) Palazzoli, I., *Impact of climate change upon hydrological cycle and crop production in the Indrawati catchment, Nepal*. In Italian. Part. Ful. IHE Delft, Prof. Stefan Uhlenbrook. 2013.
 - 69) Buizza, M., *Hydrological modelling of the Dudh Koshi basin, Nepal*, 2014.
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iii) I have been charged with the following teaching duties, including class lessons (two to twelve hours per week), written and oral examination and students contact hours (two hours per week).

- 1) Academic Years 2020-2021/22, Course "Cambiamenti Climatici e Resilienza Idrologica Urbana", Bachelor and Master, at Politecnico di Milano, Campus Milano, first semester. Approx 15 students.
- 2) 2015-2021/22. Course for PhD students: Bocchiola, D. *Mountain Hydrology and climate change*. Politecnico di Milano. PhD program: Environmental Engineering and Sciences, ICA dept., Politecnico di Milano. Approx. 10 PhD students.
- 3) 2016-2021/22. Professor, Course "Water Resources Management", MS, Civil and Environmental Engineering. Approx. 40 students. Offered as a course foR the *Honours Program* "Engineering for Sustainable Development, Polimi.
- 4) Academic Years 2010-2021/22, Charged as Lecturer for the course "Urban Water services" [Servizi Idrici a Rete], Bachelor and Master, at Politecnico di Milano, Campus Milano, first semester. Approx 50 students.
- 5) Academic Years 2012-2013, Charged as Lecturer for the course "Glaciology", Bachelor and Master, at State University Milano, first semester. Module "Avalanche sciences" 16 hours, Approx 50 students.
- 6) Academic Years 2010-2013, Charged as Lecturer for the course "Urban Water services", Bachelor and Master, at Politecnico di Milano, Campus Milano, first semester. Approx 50 students.
- 7) Academic Year 2009-2010, Charged as Lecturer for the course "Hydrology", Bachelor, at Politecnico di Milano, Campus Milano, second semester. Approx 80 students
- 8) 2008. Course for PhD students: Bocchiola, D. *Snow and avalanche*, Approx 16 hours. *Woody Debris*, Approx 8 hours. Part of the course: *Mountain Hydrology*. Politecnico di Milano and University of Brescia. From year 2008: PhD program: Environmental Engineering and Sciences, IAR dept., Politecnico di Milano.
- 9) Academic Year 2008-2009, Charged as Lecturer for the course "Hydrology", Bachelor, at Politecnico di Milano, Campus Milano, second semester. Approx 80 students
- 10) Academic Year 2007-2008, Charged as Lecturer for the course "Hydrology", Bachelor, at Politecnico di Milano, Campus Milano, second semester. Approx 50 students
- 11) Bocchiola, D. *Snow and avalanche*, Approx 16 hours. *Woody Debris*, Approx 8 hours. Part of the course: *Mountain Hydrology*. A course for PhD students at Politecnico di Milano and University of Brescia. May to July 2007.

- 12) Academic Year 2006-2007, Charged as Lecturer for the course “Hydraulic soil defence 2”, Master’s Degree, at Politecnico di Milano, Campus Milano, second semester. Approx 50 students
- 13) Academic Year 2005-2006, Charged as Lecturer for the course “Hydraulic soil defence 2”, Master’s Degree, at Politecnico di Milano, Campus Milano, second semester. Approx 50 students
- 14) Academic Year 2004-2005, Charged as Lecturer for the course “Design of hydraulic structures”, at Politecnico di Milano, Campus Como, first semester. Approx 50 students
- 15) Academic Year 2003-2004, Charged as Lecturer for the course “Design of hydraulic structures”, at Politecnico di Milano, Campus Como, first semester. Approx 50 students
- 16) Academic Year 2002-2003, Charged as Lecturer for the course “Informatics Lab of Hydrology”, at Politecnico di Milano, Campus Milano, second semester. Approx 50 students
- 17) Academic Year 2002-2003, teaching assistant for the course “Hydraulic soil defence” held by Prof. R.Rosso, at Politecnico di Milano, Campus Milano, second semester. Approx 150 students
- 18) Academic Year 2002-2003, teaching assistant for the course “Hydraulic soil defence” held by Prof. R.Rosso, at Politecnico di Milano, Campus Milano, second semester. Approx 150 students
- 19) Academic Year 2002-2003, teaching assistant for the course “Hydraulic Infrastructure” held by Prof. M.C.Rulli, at Politecnico di Milano, Campus Milano, Junior Engineers, first semester. Approx 50 students
- 20) Academic Year 2002-2003, teaching assistant for the course “Hydraulic Infrastructure” held by Prof. R.Airoldi, at Politecnico di Milano, Campus Milano, first semester. Approx 150 students
- 21) Academic Year 2001-2002, a teaching assistant for the course of “Hydrology”, held by Prof. M. Mancini, at Politecnico di Milano, Campus Como, second semester. Approx 50 students
- 22) Academic Year 2001-2002, teaching assistant for the course “Hydraulic soil defence” held by Prof. R.Rosso, at Politecnico di Milano, Campus Milano, second semester. Approx 150 students
- 23) Academic year 2001-02 I’ve been charged as a teaching assistant for the course of “Hydraulic Infrastructure” held by Prof. R.Rosso, at Politecnico di Milano, Campus Milano, first semester. Approx 150 students
- 24) Academic year 1998-99 and 1999-00 I’ve been also charged as a teaching assistant for the course of “Fluid Mechanics” held by Prof. A. Guadagnini, at Politecnico di Milano, Campus Lecco. Approx 50 students
- 25) Academic year 1998-99 and 1999-00 I’ve been charged as a teaching assistant for the course of “Fluid Mechanics”, held by Prof. G. Menduni, at Politecnico di Milano, Campus Leonardo. Approx 200 students

8) Professional status and membership of professional bodies

- i) I am Currently affiliated to the Milan **Order of Engineers** and I’m officially allowed to design engineering facilities under my own responsibility.
- ii) On the professional side, I worked on flood design at river sections and reservoirs, storm forecasting coupled with hydrological modelling for flood forecasting and flood hazard mapping and countermeasures.

9) Administrative and community contribution

- i) As a part of the permanent staff of the hydraulic division the I’m part of the **committee for the course of study in Environmental Engineering**.
- ii) Since December 2006 I am the responsible for the **ERASMUS** (students exchange) program for the Hydraulic division.
- iii) For academic year 2007-2008 I have been affiliated as an aggregated member to the **commission for Engineering Chartering** at Politecnico di Milano
- iv) Representative of Water Science Section (SIA) within Scientific Commission of DICA Department, POLIMI, as 2014-2020.
- v) Member of the Water Science Section (SIA) within the Advisory Board of the PhD Program of DICA Department, POLIMI, as of December 2014.
- vi) Scientific Responsible for the Agreement: “Scientific cooperation for the expedition on Agri Dagi (Ararat) mountain, Turkey”, year 2014, between Politecnico di Milano, and Italian Alpine Club, CAI, University Milano, Milano Bicocca, University Florence, University L’Aquila.
- vii) Co-organizer of the “World Water Day” initiative, at Politecnico, 2016. <http://www.dica.polimi.it/acquabuonaocattiva>
- viii) Leading organizer of the “World Water Day” initiative, at Politecnico, 2017. <https://www.youtube.com/watch?v=91heSxB6NZo>
- viii) Coordinator: Climate-Lab <https://www.facebook.com/Climate-Lab-1491551730875862/>

10) Training and development

- i) I have attended, several seminars and congresses since year 2000.

ii) I have developed knowledge of some softwares, including:

Good knowledge of Windows and Office (Word®, Excels®, Access®, Power Point®).

Good knowledge of some programming languages (C++®, Fortran®, Visual Basic®, Matlab®)

Good knowledge of some GISs (ArcView®, Grassland® and Rivertools®)

Good knowledge of some hydraulic automation instruments including Hec-Ras®, Watercad®, StormCad®, SewerCad®, AVALID®, FlowMaster®, FLEA® (Flood Event Analyser, developed by R.Rosso and R. Ranzi), RAP®, (Rainfall Analysis Package) developed by R.Rosso and P. Burlando). Knowledge of design software (AutoCad 14®). Knowledge of image management software (ENVI®)

11) Fund rising activity

i) I have participated and I am participating at a progressively increasing level in submission of a number of proposal and development of both research and professional projects. I here list some of the most recent ones

- 1) 2005-2008 AWARE: a tool for monitoring and forecasting Available Water Resource in mountain environment. GMES – Global Monitoring for Environment and Security FP6–2003–SPACE–1. MIL unit Budget € 2E⁵. Coordinator of MIL unit: Dr. Carlo De Michele. Main co-operator in project submission for the Politecnico di Milano Unit. First investigator in snow water resources estimation. **Funded**
- 2) 2005-2008 Integral Risk Management of Extremely Rapid Mass Movements “IRASMOS” European project. SUSTDEV-2004-3.IV.1.3 Long-term forecasting of landslides and avalanches. MIL unit budget € 2E⁵. Coordinator of MIL unit: Prof. R. Rosso, Main cooperator in proposal submission for MIL unit. First investigator scientist in avalanche science. **Funded**
- 3) 2006-2008. Cooperating as a consultant for the Department of “Environmental Science” at the “State University” in Milano in the framework of a three years project on water quality assessment “Strategies for assessment, defence and recovery of fluvial environment of Serio river (BG)”, commissioned by the province of Bergamo, Italy. Reference: Dr. V. Mezzanotte. Writer of the hydrological part of the proposal. Responsible for hydrology of snow, hydraulic modelling for river quality assessment. Full budget ≈ € 1.0E⁵. **Funded**
- 4) 2007-2009 CARIpanda, Climatic change and water resources in the Adamello park, funded by Cariplo Foundation. Coordinators: Daniele Bocchiola, Renzo Rosso. Full funded budget € 7003.6E⁵. Writer of the proposal and scientific coordinator of the five working units. **Funded**
- 5) September 2007. Naying Hydro Electric project, Arunachal Pradesh, India. Hydrological study, commissioned by CEA. Main investigator, Scientific Responsible, Prof. R. Rosso. **Proposal submitted.**
- 6) Year 2007. Young researcher research funds, Politecnico di Milano, € 1.7E³. **Funded**
- 7) February 2008. Study and development of technologies for the mitigation of hydrological hazard, Lot 7., Evaluation of flood discharges, commissioned by Regional Basin Authority of Calabria. Flood discharge investigator. Scientific Responsible, Prof. R. Rosso. **Proposal submitted.**
- 8) June 2008. Interconnections between forest fire, desertification risk and climate change in Fiji Islands. Project call by the Municipality of Milano: Milano per la tutela della biodiversità. Contributi a favore della solidarietà e della cooperazione internazionale [Milano for biodiversity: grants for international cooperations]. Requested budget ≈ € 5 E⁴. Cooperator in proposal submission. Coordinator, Prof. R. Rosso. In cooperation with SOPAC, Pacific Islands Applied Geoscience Commission. **Proposal Submitted.**
- 9) September 2008. Interaction of woody debris dynamics and stream quality for the Oglio River (BS). Coordinators: Daniele Bocchiola, Renzo Rosso. Italian Ministry of Agriculture. Writer of the proposal. Full requested budget ≈ € 4.5 E⁵. Four working units, including ecologists and biologists and the Oglio Park Authority. **Proposal submitted.**
- 10) October 2008. REWOODIT: REstoration of streams using WOOD: The case of Italy. In partnership with personnel of CNR-IRSA Brugherio. ERC Starting Grant. Requested budget (personal: Daniele Bocchiola) ≈ € 2 E⁶. **Proposal submitted.**
- 11) November 2008. ECOHYDROALPS - Impacts of land-use and climate changes on Alpine ecosystems. Alpine Space Program. Ten working units from Alpine Area. Coord: Daniele Bocchiola, Renzo Rosso. Requested budget ≈ € 2 E⁶. **Proposal submitted.**
- 12) February 2009. Effects of climate change on water resources in high elevation glacierized areas. An appraisal from the Italian Alps and the Himalaya: present evidences and future adaptation strategies. FIRB project of Italian Ministry of Research. Three OUs. Coord: Guglielmina diolaiuti, UNIMI; Coord POLIMI UNIT: Daniele Bocchiola. Requested budget ≈ € 1 E⁶. **Proposal submitted.**
- 13) March 2009. Expo 2015, International cooperation for development, Milano Province. Effetti del cambiamento climatico sulla risorsa idrica derivante dalla fusione nivo-glaciale ed impatti sulle attività agricole in aree del Karakoram (Pakistan, Asia). Analisi delle evidenze attuali e formulazione di future strategie di adattamento. [Effects of climate change on water resources and impacts on agriculture in Karakoram (Pakistan, Asia). Present evidences and future adaptation strategies]. Coord: Claudio Smiraglia, UNIMI; Coord POLIMI UNIT: Daniele Bocchiola. Requested budget ≈ € 4 E⁵. **Awarded by the EXPO committee.** Not funded due to shortage of funding from *Provincia di Milano*.
- 14) January-December 2009. Hydrological investigation of water budget of Dosedè glacier (Valtellina, Italy). Coord. Prof. C. Smiraglia. Principal investigator hydrology. Funded by Company LEVISSIMA of Italy. Full budget ≈ € 3 E⁴. **Funded.**
- 15) 2010-2013 SHARE-STELVIO. Un Parco-Osservatorio per lo studio dei Cambiamenti Climatici e Ambientali in alta quota. [A park observatory for studies of climate change at high altitudes]. Funded by Lombardia Region, full budget ≈ 1.5E⁶ €. Principal investigator hydrology, Coordinator POLIMI UNIT. **Ongoing.**
- 16) Stelvio-Lab: Un Parco-Osservatorio per conoscere l'aria e l'acqua delle nostre montagne. [A park observatory to know air and water within our Alps]. Principal investigator hydrology POLIMI. Call: Bando ex art. Legge 6/2000 Diffusione della cultura scientifica. Requested budget ≈ € 4.5 10⁵. **Proposal submitted.**
- 17) Year 2008. Young researcher research funding, Politecnico di Milano, First Ranked in DIAR Dept. € 6.1 E³. **Funded**
- 18) IDRO-STELVIO. Una rete idrometrica per il Parco dello Stelvio [A hydrological network for the Stelvio Park]. Funded by Parco dello Stelvio Authority. Budget € 8 E⁴. Coordinator Polimi Unit. **Ongoing.**

- 19) Il Cambiamento Climatico ed i suoi effetti sull'Acqua e sull'Agricoltura del Karakorum (Pakistan, Asia) [Climate change and its effects upon water resources and agriculture within Karakoram (Pakistan, Asia)]. Regione Lombardia "Bando per la presentazione di Progetti di Cooperazione Decentrata nei Paesi in via di sviluppo o ad economia di transizione – anno 2010", [International cooperation with developing countries, year 2010]. Requested budget 1E⁵ €. Coordinator Polimi Unit. **Proposal submitted.**
- 20) January-December 2010. Investigation of Alpine permafrost, and processes upon exposed rocks upon Cima de Piazzi (3439 m a.s.l.). Funded by Company LEVISSIMA (Nestlé) of Italy. Coordinator. Full budget ≈ € 1 E⁴.
- 21) July 2010- July 2013. Share-Paprika. Effects of climate change on water resources Karakoram range (Pakistan, Asia). Funded by EVK2CNR committee. Several working units. Coord POLIMI UNIT: Daniele Bocchiola. Renzo Rosso. Full budget ≈ € 2 E⁶. **Ongoing.**
- 22) 2-FOR, Forni Forward, Forward projection of the dynamics of Forni glacier of Italy, National Geographic Society, Requested budget € 20 E³. Coordinator. **Proposal preliminarily approved by NGS, February 2010.**
- 23) January 2010. I CARE: Impact of Climate change on Alpine water Resources: the case of Italy and Switzerland. Coordinators: Daniele Bocchiola. Partners, SLF Davos (Dr. Miky Lehning), UNIMI (Dr. G. Diolaiuti), UNITO (Dr. M. Freppaz). Stakeholders: EDISON, ENEL Hydropower companies of Italy. Requested budget (personal: Daniele Bocchiola) ≈ € 8 E⁴. Research Projects 5% Junior, Politecnico di Milano, year 2009. **Funded.**
- 24) July 2010. Reclamation of the Urban centre, sewage and water supply systems of the city of Multan (Pakistan, Asia). Funded by EVK2CNR committee of Italy. Several working units. Coord POLIMI UNIT: Daniele Bocchiola, Renzo Rosso. **Funded.**
- 25) SEED, Social, Economic and Environmental Development for the realization of Central Karakoram National Park (CKNP). Funded by EVK2CNR committee of Italy. Coord POLIMI UNIT: Daniele Bocchiola, Full budget ≈ € 1 E⁵. **Ongoing.**
- 26) Design and implementation of a pilot educational high altitude measurement network within the Italian Alps. Rolex Awards for Enterprise, 2011, **Submitted.**
- 27) WATCROP-CC-IT, Water resources management and crop failure under climate change in Italy, AXA Research Fund 2011. Coordinator. **Submitted.**
- 28) Cooperación técnica no reembolsable ATN/OC-11996 Chile, Programa plan de acción para la conservación de glaciares ante el cambio climático, DGA-BID, Dirección General de Aguas, Ministerio de Obras Públicas. Grant awarded to EVK2CNR, Dr. Daniele Bocchiola coordinator for hydrometric network installation, hydrological modelling. Full budget ≈ € 2 E⁵. **Funded.**
- 29) Bid: Affidamento di incarico professionale per lo studio per la caratterizzazione e il monitoraggio degli aspetti ambientali dell'area interessata dal progetto vb-e-29, sistemazione idraulica ai fini della laminazione delle piene e della riduzione del rischio idraulico lungo l'asta del fiume Toce nei comuni di Gravelona Toce, Ornavasso e Mergozzo. [Monitoring environmental aspects of the area undergoing project vb-e-29, hydraulic recovery for flood dampening and flood risk reduction along Toce river stem, within the municipalities of Gravelona Toce, Ornavasso, Mergozzo]. **Submitted.**
- 30) 2012-2013. IDRO-STELVIO-2. Monitoraggio idrometrico del Parco dello Stelvio [Hydrological monitoring of the Stelvio Park]. Funded by Parco dello Stelvio Authority. Budget € 3 E⁴. Coordinator Polimi Unit. **Ongoing.**
- 31) February 2012. Estudio a Diseño Final de Alternativas de Suministro (De rápida implementación) en el Sistema El Alto para enfrentar el crecimiento demográfico y adaptarse al Retroceso Acelerado de los Glaciares en las Cuencas Tuni, Condoriri y Huayna Potosí, BID. Submission of EOI joint with EVK2CNR, Dr. Daniele Bocchiola coordinator for climate change studies. **Shortlisted.** April 2012.
- 32) February 2012. Forecasting study of Climate Change impact on Red River Basin, and upgrading existing irrigation systems infrastructure for the Bac Hung Hai Irrigation and drainage scheme. ADB. Submission of EOI joint with EVK2CNR, Dr. Daniele Bocchiola coordinator for climate change and hydrology. **Submitted.**
- 33) March 2012. Modelling and control of waterborne diseases in multilayered networks: an ecohydrological approach, PRIN project. 2 OUs Coordinator Marino Gatto, Polimi. Dr. Daniele Bocchiola PI climate change and hydrological projections. **Submitted.**
- 34) March 2012. Climate change impacts on the interactions between biosphere, cryosphere and atmosphere in Arctic and Alpine environments: a comparative study. FIRB project, 4 OUs. Coordinator Carlo Calfapietra, CNR-IBAF, Dr. Daniele Bocchiola PI climate change and hydrological projections. **Submitted.**
- 35) "Proposal for Consulting Services for Feasibility Study and Detailed Design of Budhi Gandaki Hydropower Project (Nepal)". **Shortlisted.** April 2012. In cooperation with ELC Electroconsult SpA. Polimi in charge for training hydrology. Coord. Daniele Bocchiola.
- 36) Tender: "PK-Islamabad: DCI-climate change adaptation and impact assessment study for Munda dam, Pakistan 2012/S 53-085428". In cooperation with Environ Italy, EVK2CNR. Polimi in charge for hydrological study. Coord. Daniele Bocchiola, Renzo Rosso. **Shortlisted.** April 2012.
- 37) CLIMATEACH- School of climate, Progetti annuali (L.6/2000) D.D. 369/Ric. del 26/06/2012, Coord. Daniele Bocchiola, **Submitted.** October 2012, Requested budget ≈ € 8 E⁴.
- 38) GIS-BEER, *Gestione idrica sostenibile di un birrifico Italiano*, Bando OIGA 2012, Coord. Daniele Bocchiola, Requested budget ≈ € 2 E⁵, **Submitted.**
- 39) Khumbu Forward, Forward projection of the dynamics of Khumbu glacier of Nepal, National Geographic Society, Requested budget € 30 E³. Coordinator. **Preliminarily Approved, February 2013.**
- 40) SIGAGROWATER, Smart irrigation management for an optimum water use in outdoor crop farming, Submitted FP7, Daniele Bocchiola coordinator Polimi Unit. Requested budget ca. € 2 E⁶. **Submitted.**
- 41) Caracterización física del manto nival en campo de hielo norte en base a mediciones gpr terrestre, Bando DGA 1224, Dirección General de Aguas, Ministerio de Obras Públicas. Dr. Daniele Bocchiola coordinator for snow modeling. Full budget ≈ € 3 E⁵. **Submitted.**
- 42) SERCC, Sensitive Ecosystems Response to Climate Change, PRIN project. 5 OUs. Coordinator, Prof. Onofri, Università della Toscana. Daniele Bocchiola PI climate change and hydrological projections, embedded in OU Unimi. Full budget, ca. 6 E⁵ €, **Preliminarily approved by UniTus.**
- 43) WASH-CC. Water Security in the Himalayas under transient Climate Change. ERC Consolidator Grant, 2012. Requested budget ca. € 2 E⁶. **Submitted.** February 2013.
- 44) 2014-2015. Setup of a hydrological modelling framework for Koshi Basin, Nepal. EVK2CNR-NAST Bilateral committee. Requested budget ca. € 7 E⁴. **Starting** January 2014.

- 45) Kongoli, C., Bocchiola, D., Lehning, M., Parajka, J., GAMES: A Global network for the Assessment of Multiple source water Equivalent of Snow, NSF-CNIC program, Requested budget ca. € 5 E⁴. **Preliminary approved**, November 2013.
- 46) Adaptation Strategies and Innovation Needs of Climate Smart Farmers (CC-SMART-FARMERS; ID 233), Call: FACCE-ERA-NET+ Call on Climate Smart Agriculture 2013, **Pre-proposal Approved**, Submission of full proposal ongoing, January 2014. Giovanni Ravazzani, Daniele Bocchiola PIs Politecnico di Milano Unit.
- 47) DELTA, Dynamics and Legacy of conTaminants in the Alpine glacial environment, and their impact on water resources, **Submitted** for the Call “Research on water pollution and correct water resources management”, Cariplo Foundation, 2014. Requested budget ca. € 3 E⁵. Leader POLIMI Unit.
- 48) 2014-2015. *Polimi for Karakoram*, Polisocial Award Politecnico di Milano, 2013-2014, Coord. Eleonora Bersani. Members of proposing team, D. Bocchiola, M. Nastri, B. Bogoni, Budget ca. 70 K Euro. **Project funded**.
- 49) Khumbu-AV-Risk, Set up of a Avalanche Risk Framework for the Khumbu Region, Himalaya. Coord. Daniele Bocchiola. Approved by EVK2CNR-NAST Bilateral committee. Requested budget ca. € 14 E⁴. **Approved. Not funded yet**.
- 50) Design of Barsa Corniche, Proposal for Basra Governor, July 2014. Main proposer, G. Spalla, M. Biritognolo, A. Spalla. Responsible for Polimi, Renzo Rosso, Daniele Bocchiola. **Ranked first** by the examining commission, January 2015.
- 51) Khumbu-AV-Risk, an Avalanche Risk Framework for the Khumbu Region, Himalaya, Swiss-RE Foundation, Global Programmes, Req. Budget: € 12 E⁴, January 2015.
- 52) DELTA, *Dynamics and Legacy of conTaminants in the Alpine glacial environment, and their impact on water resources*, **Re-submitted** for the Call “Research on water pollution and correct water resources management”, Cariplo Foundation, 2015. Requested budget ca. € 3 E⁵. PI POLIMI Unit.
- 54) SUSAN, *SUSustainable Agriculture in Nepal*. Short Proposal Approved for POLI-SOCIAL AWARD 2016. Requested budget ca. € 55 E³.
- 55) SALSA. *Snow Avalanches and Shallow Landslides*. Submitted for CARIPLO foundation Award Hydrogeological Risk. Requested budget ca. € 2 E⁵.
- 56) *Climate-Lab. Interdipartimental Laboratory on Climate Change*. **Funded by Politecnico di Milano**. 2017-2019. Budget € 125 k. Coordinator.
- 57) GAL *Oglio-PO. Study and adaptation to climate change*. Requested Budget, € 310 k. **Funded by Lombardia Region**. Coordinator.
- 58) 2017-2019. Convenzione di ricerca finanziata: *Attività di monitoraggio per lo studio della risorsa idrica nel Parco dello Stelvio*. Budget € 50 K. **Funded by Parco dello Stelvio Authority**. Coordinator.
- 59) HERASE, *Hydrogeological modeling for Erosion Risk Assessment from SpacE*. Budget € 195 K. **Funded by Cariplo Foundation**, Coordinator Marco Gianinetto. PI Climate change impact.
- 60) *SUSAHN, SUSustainable Agriculture and Hydropower in Nepal*, Swiss-RE Foundation, Global Programmes, Req. Budget: € 1 E⁵, November 2017.
- 61) *SAHARA, Snow Avalanche HAzaRd in the Alps*, **Submitted**. Cariplo Foundation. Req. Budget € 2 E⁵. April 2017.
- 62) *MHYCONOS. Mapping the hydrological control on shallow landsliding*. Cariplo Foundation. Req. Budget € 2 E⁵. December 2017. **Funded**. PI snow hydrology and climate change.
- 63) *Interdisciplinary Project for assessing current and expected Climate Change impacts on MOUNTain PASTures (IPCC MOUPA)*. Cariplo Foundation. Budget € 1.5 E⁵. **Starting May 2018**. PI Polimi Unit.
- 64) *Sustainable feed design applying circular economy principles: the case former food in pig nutrition (SusFEED)*, Call: “Economia circolare: ricerca per un futuro sostenibile 2018”. Coordinator POLIMI Unit. **Funded. December 2018**. Ca. 75 KEuro.
- 65) *WWW.World.Water.Watch The www of water, a proposed worldwide water watch. 1. Water from Ice*. COSMO-SkyMed and Synergies with other EO Missions. Started May 2018.
- 66) *VCL Virtual Climate-Lab: Un laboratorio basato su tecnologie di realtà virtuale per migliorare la comunicazione e favorire la presa di coscienza sui cambiamenti climatici*. **Submitted**. Fondazione Banca del Monte Lombardia, June 2018.
- 67) *DEAR: CommunicAction for Planet - A European strategy of communication and youth activism against Climate Change*. **Selected for Phase 2**. EuropeAid/160048/DH/ACT/Multi. Coordinator Polimi UNIT. October 2018.
- 68) *Innovare la formazione Agroecologica per proporre azioni misurabili per contrastare gli effetti del climate change*. **Submitted**. B-CIRCULAR, FIGHT CLIMATE CHANGE. October 2018. Coordinator POLIMI Unit.
- 69) *GE.RI.KO. Mera. Gestione risorse idriche ed ambienti acquatici in comune – Il bacino del Fiume MERA*. Interreg IT-CH, 2016. Coordinator POLIMI UNIT. **Funded**, December 2018. Ca. 150 KEuro.
- 70) *AI-DAPT-Perù: AI assisted, crowd based adaptation to climate driven risk in the Cordillera Blanca, Perù*. **Submitted**. AI for Earth Innovation Grant. October 2018. Coordinator.
- 71) *Be Green. Be a Super-Hero*. Bando AICS. Bando per iniziative di sensibilizzazione ed Educazione alla Cittadinanza Globale, 2018. **Submitted**. October 2018. Coordinator Polimi Unit.
- 72) *The national schools of art La Habana, Cuba. Landscape management and flood risk assessment and mitigation*. Started September 2018. Getty Foundation. PI Flood Risk. Coordinator Renzo Rosso.
- 73) *ASSO-Alimentazione Suina SOSTenibile*. Bando per il finanziamento di progetti di ricerca in campo agricolo e forestale della Regione Lombardia. **Submitted**. July 2018. Coordinator Polimi Unit.
- 74) *ACQUA(=)CULTURA, Salvaguardia del patrimonio culturale lombardo nella gestione dell'acqua a fronte dell'innovazione tecnologica e sotto la minaccia del cambiamento climatico*, Bando Cariplo, PIC 2019. **Submitted**.
- 75) *Aval-Risk: Avalanche risk under present and prospective climate change: experimental modeling and mathematical models for risk mapping*. Interdipartimental PhD Scholarship Call, Polimi 2018-2021. Tutor. Started November 2018.
- 76) *CLUB-Milano: Clima Urbano e Biodiversità a Milano*. Fondazione Banca del Monte di Lombardia: Bando 2019. **Submitted**, February 2019.
- 77) *Acquisizione di un servizio finalizzato alla redazione di linee guida per la definizione e l'applicazione di un fattore correttivo N al DMV nell'ambito del progetto LIFE IP Gestire 2020; action A.19*. Call ERSAF. **Submitted**, April 2019.
- 78) *Let's farm! Ri-attiviamo agricoltura sociale a Chiaravalle, restituendo campi e beni alla collettività*. Bando Cariplo Coltivare Valore, April 2019. **Selected in Phase 1**.
- 79) *Assessment of hydrological flows in Lombardy alpine rivers, and their connection with the underground aquifer, under potential climate change scenarios in the XXI century*. PhD Scholarship, 2019-2022. Funded by Consorzio Acque Provinciale, CAP Milano. Started November 2019.

- 80) *RAMSES, Resilience and Adaptation from the Moeris for a Sustainable Enduring Society*. Call: National Geographic: Enduring Impacts – Archaeology of Sustainability. **Submitted** October 2020.
- 81) *Kidron Virtuale: percorsi virtuali nella valle del Kidron/Nar*. Premio Rita Levi-Montalcini ed. 2020. **Submitted** October 2020.
- 82) *DANCE-Po. Data intensive Approach to the Nexus Climate-Emissions: the Po valley*. Cariplo: Data Science for science and society – 2020. **Submitted** October 2020.
- 83) *Reducing the risk of waterborne disease transmission during an emergency using a physico-chemical wastewater treatment in Ecuador*. Call: Innovation challenge: faecal sludge treatment solutions for disease outbreaks in densely populated humanitarian settings. **Submitted** October 2020.
- 84) 2021-2024. Project. *Studio delle dinamiche idro-climatiche del Parco dello Stelvio Lombardo*. Funded by Parco dello Stelvio Lombardo, 50 K€.
- 85) 2012-2022. Project. DICA e ANVCO (Acque Novara Verbano Cusio Ossola). *Monitoraggio, ricerca scientifica e azioni di divulgazione sulle ri-sorse idriche e gli eventi estremi, con particolare riferimento all'area di competenza del ANVCO ed in generale nell'arco alpino*. Funded by ANVCO, 40 K€.

12) References and collaborators

i) List of possible referees

- 1) Prof. Entekhabi, D., MIT, 77 Massachusetts Avenue, Cambridge, MA, 02139, USA. Telephone: +1 617 253-9698. E-mail: darae@mit.edu
- 2) Prof. Gatto, M., Ecological Division, Politecnico di Milano, 32 L. Da Vinci Square, Milano, 20133, IT. Telephone: +39 02 2399 3536. E-mail: gatto@elet.polimi.it
- 3) Dr. Lehning, M. Swiss Federal Institute for Snow and Avalanche Research, Flüelastr. 11, CH-7260, Davos Dorf, CH Telephone: +41 81 4170 158. E-mail: lehning@slf.ch.
- 4) Prof. Naaim, M., Cemagref Grenoble, 2 Rue de la Papeterie, BP 76, 38402 ST-MARTIN-D'HERES, FR, Telephone: +33 04 76 76 27 22. E-mail: mohamed.naaim@cemagref.fr.
- 5) Prof. Rinaldo, A., IDRA, Università degli Studi di Padova, Loredan St., 20, Padova, 35131, IT., Telephone: +39 0498275431 E-Mail: rinaldo@idra.unipd.it. EPFL Lausanne, Bureau(x): GRC1575 Tel : +41 21 69 38034, E-mail: andrea.rinaldo@epfl.ch
- 6) Prof. Rosso, R., Hydraulic Division, Politecnico di Milano, 32 L. Da Vinci Square, Milano, 20133, IT. Telephone: +39 02 2399 6295 E-mail: renzo.rosso@polimi.it
- 7) Prof. Savenije, H. G., Delft University of Technology, Dept. of Water Resources, P.O. Box 5048 2600, Delft, GA, Netherlands. Telephone: +31 15 2781433. E-mail: h.h.g.savenije@tudelft.nl
- 8) Prof. Smiraglia, C. Dept. of Earth Sciences, State University Milano, Mangiagalli St., 34, Milano, 20133, IT. Telephone +39 02 50315516 E-mail: claudio.smiraglia@unimi.it
- 9) Prof. Fofoula Georgiou, Efi, **St. Anthony Falls Laboratory**, University of Minnesota, Twin Cities, 2 Third Avenue SE, Minneapolis, MN 55414. Telephone +1 6126260369 E-mail: efi@umn.edu
- 10) Prof. Gupta, V., CIRES, University of Colorado, Boulder, CO 80309-0450, Telephone +1 3034923696, E-mail: gupta@cires.colorado.edu
- 11) Prof. Blöschl, G., Vienna University of Technology, Karlsplatz 13/222, A-1040 Vienna, Austria, Telephone +43-1-58801-22315 E-mail: bloeschl@hydro.tuwien.ac.at

ii) Some past and present cooperations

- 1) Andrea Castelletti, DEI Politecnico di Milano, castelle@elet.polimi.it
- 2) Andrea Pirovano, Progetto Natura, andreapirovano@teletu.it
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- 6) Filippo Giorgi, ICTP Trieste, giorgi@ictp.it
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- 9) Isabella Zin, Grenoble INP, isabella.zin@hmg.inpg.fr
- 10) Julio Alterach, CESI Seriate, julio.alterach@erse-web.it
- 11) Jurgita Simaytite, Lithuanian Energy Institute, , jurgita@mail.lei.lt
- 12) Manuela Antonelli, DIAR POLIMI, manuela.antonelli@polimi.it
- 13) Margherita Maggioni, DIVAPRA Torino, margherita.maggioni@unito.it
- 14) Maurizio Maugeri, University Milano, maurizio.maugeri@unimi.it
- 15) Michele Freppaz, DIVAPRA Torino, michele.freppaz@unito.it
- 16) Roberto Confalonieri, roberto.confalonieri@unimi.it
- 17) Roberto Ranzi, University Brescia, ranzi@ing.unibs.it
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- 23) Christoph Mayer, Bavarian Academy of Science, Christoph.Mayer@lrz.badw-muenchen.de
- 24) Kelly Caylor, Princeton University, kcaylor@princeton.edu
- 25) Domenico Capolongo, Università di Bari, capolongo@geo.uniba.it
- 26) Nynke Hofstra, University Wageningen, nynke.hofstra@wur.nl
- 27) Shreedar Maskey, s.maskey@unesco-ihe.org
- 28) Stefan Uhlenbrook, s.Uhlenbrook@unesco-ihe.org

iii) Memorandum of understanding/agreements

- 1) 2014. Agreement: Alpine Club of Italy, UNIMI, UNIMIB, UNIFI, UNIQ, for expedition on mount ARARAT, July 2014. Joint research activity.
- 2) 2019. MOU: *Convenzione operativa per la conduzione di attività di ricerca congiunta in merito alla gestione delle risorse idriche in ambito montano e agli effetti dei cambiamenti climatici in alta quota*. [Framework of cooperation for water resources management in the mountain areas, and climate change effects. Politecnico di Milano, CNR-IRSAF, Verbania. Responsible: Daniele Bocchiola, Gianfranco Becciu.
- 3) 2021-2026. Framework Agreement. *Collaborazione tra il DICA e il Parco dello Stelvio Lombardo, per "Attività di monitoraggio, ricerca scientifica e azioni di divulgazione sugli ecosistemi alpini e sulle risorse naturali, con particolare riferimento alle risorse idriche e glaciali del Parco"*. Responsabile Daniele Bocchiola
- 4) 2021-2024. Framework Agreement. *Collaborazione tra il DICA e ANVCO (Acque Novara Verbano Cusio Ossola) nell'ambito delle rispettive attività di monitoraggio, ricerca scientifica e azioni di divulgazione sugli ecosistemi alpini e sulle risorse naturali, con particolare riferimento all'area di competenza dell'ANVCO (Province di Novara e Verbania) e in generale nell'arco alpino.*

13) Hobbies and recreational activities

- 1) I like outdoor mountain hiking and I do most of my vacation camping.
- 2) I've been volunteering in a Scout group (1982-1995), also for some years as a Scout Chief. AGESCI (<http://www.agesci.org/>)
- 3) SCUBA Diver (CMAS certificate, 1st level, ca. 60 dives) and I'm particularly interested in sea environment and its defence and conservation.
- 4) I like travelling and photography (I have held a conference on Costa Rican Environment at the "Museum of natural history" in Milano, see <http://www.scienzenaturali.com/csfv/csfv-incontri.htm>).
- 5) I carry sporting activity, including tennis, football, swimming, rugby light, kayaking, biking.
- 6) I continuously organize and play soccer (5to5) one-two nights per week, ever since 1997.
- 7) I continuously do jogging (ca. 25 km per week), since 2010, and biking (ca. 50 km per week) since 2016. <https://connect.garmin.com/it-IT/>
- 8) I've been fulfilling my military duties carrying out Civil Service at S. Donato (MI) as a co-operator of the dioceses.
- 9) I've been travelling in South-America (Costa Rica, Chile, Brasil, Perù, Argentina) as well as in the USA (e.g. California, Alaska, Massachusetts), and Canada (Quebec), in India, Vietnam, Cambodia, Pakistan, Namibia, Nepal, South Africa, Ile Maurice, Cuba, and in several countries in Europe (Turkey, Sweden, Spain, France, Russia, England, Belgium, Netherland, Switzerland, Austria, etc..).