

Dr. Marco Cantonati - Academic Curriculum vitae

(<http://orcid.org/0000-0003-0179-3842>;

https://www.researchgate.net/profile/Marco_Cantonati2/;

<https://scholar.google.com/citations?hl=en&user=jlhqARcAAAAJ>;

main E-mail: marco.cantonati@muse.it)

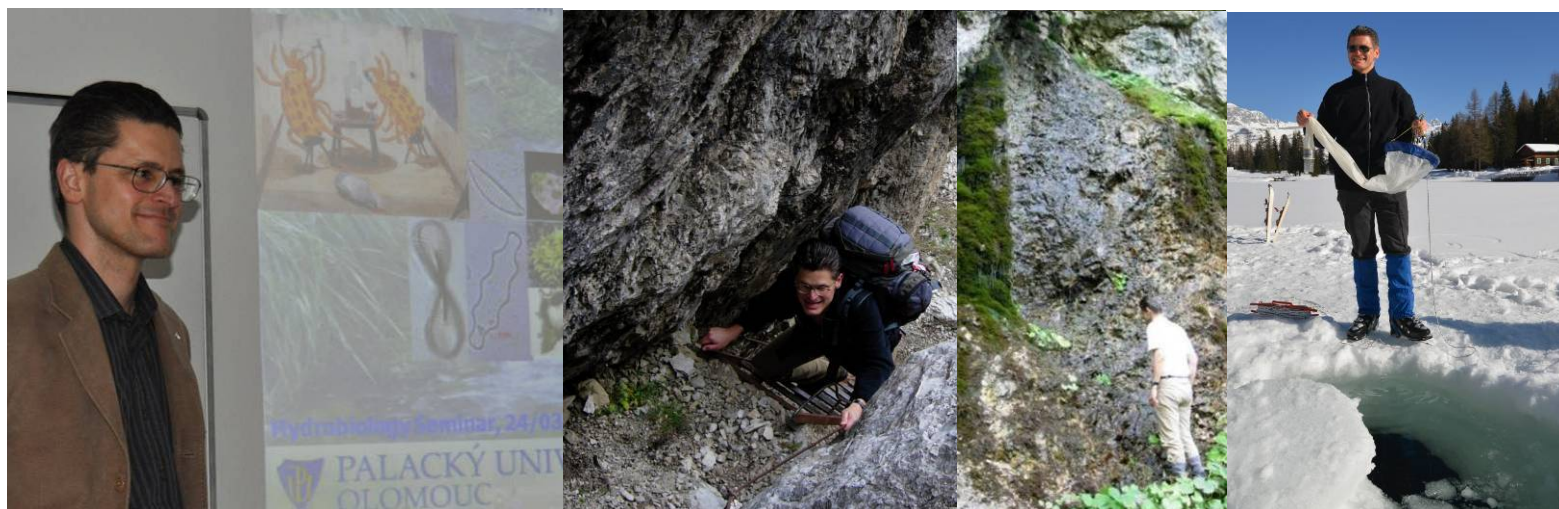
Education and career:

Since September 1st 2016: **Research Scientist (Diatom ecology and taxonomy), Academy of Natural Sciences of Drexel University**, Patrick Center for Environmental Research, Phycology Section, Philadelphia PA, USA. [unpaid leave from the MUSE in Trento]

2014: **Adjunct Associate Professor of Biology of Photoautotrophic Organisms University of Trento.**

2011: **Habilitation (venia docendi) in Limnology (Phycology) at the University of Innsbruck (Austria).** Title: 'Spring Habitats of the Alps: Biodiversity Hotspots and Sentinels of Environmental Change'. Awarded on the basis of 6 international reviews (4 on the **scientific production** and 2 on the **University teaching skills**) as well as of the public test lecture.

2010-2012: **Associate Researcher ISE (Institute for Ecosystem Study) of the Italian Research Council**, research module: "Ecosystem structures, biotic and abiotic interactions, and biodiversity in freshwater environments" (Prov. Assoc. N. 09/45, N. 0002109, 09/11/2009).



since 2000: **Head of the Limnology and Phycology Research Unit** within the **MTSN (MUSE since 2013).**

Responsible of a Research Group of 3-7 FTE. Since **2008** this Group includes a **Research Technical Assistant (permanent position).**

1998: **PhD in Freshwater Science** at the **University of Innsbruck, Austria** (February 19th 1998) with **honours** (Supervisor: Prof. Eugen Rott; Thesis: *Hydrobiology of springs of the Adamello-Brenta Nature Park - Trentino, Italy- with special reference to the algae*).

since 1995: *Research Scientist* within the *Trentino Nature & Science Museum (MTSN).*

1992: **MSc in Natural Sciences** (Life + Earth Sciences) with honours at the **Ecology Division of the University of Pavia** (Oct 19th 1992). In the same period, hydrobiological investigations in the frame of an environmental impact study commissioned to the Univ. Pavia by the AGIP Oil Refinery of Sannazzaro de' Burgondi (PV).

1990-1991: Position as Tutor at the Ghislieri College, and enrolment at the Faculty of Natural Sciences.

1990: **MSc in Biology** with honours at the **University of Pavia** (June 25th 1990).

1986: After attending a scientific high school, position as **Alumnus** -won by public selection- at the **Ghislieri College (Pavia)** [Most well-known Alumnus in the biological disciplines: Luigi Luca Cavalli-Sforza, 1922; most well-known Alumnus from the Autonomous Province of Trento: Vittorio Erspamer, 1909-1999].

Personal data: Italian citizen, born in Neuburg Donau (Germany), April 19th 1967, married (May 10th 1997) with Carla Contessi, one daughter (Sara, born May 29th 2010).

Biographical information available in: Who's Who in the World 2012 (29th Edition). 2000 Outstanding Intellectuals of the 21st Century 2012 (International Biographical Centre, IBC, Cambridge, England). Nominated among the *Top 100 Scientists 2012* by the IBC Awards Board.

Languages: **English** (excellent knowledge), **German** (comparable to native speaker). **Italian** (mother tongue).

Editorial activities (featured on Publons.com):

Guest Editor for international journals: • *Freshwater Science* (formerly *J. North Am. Bent. Soc.*), • *Science of the Total Environment*, • *Journal of Limnology*, • *Hydrobiologia*, • *Fottea*.

Member of the Editorial Board: *Journal of Limnology*, *International Journal of Biodiversity*, *Journal of Global Ecology and Environment*.

Referee for the main freshwater-science and phycology journals (e.g., ENVIRONMENTAL SCIENCE: *Freshwater Science*, *Journal of Biogeography*, *Limnology and Oceanography*, *Environmental Earth Sciences*, *Ecohydrology & Hydrobiology*, *Global Change Biology*, *Polar Research*, *Polar Biology*, *Ecosphere*, *Canadian Journal of Fisheries and Aquatic Sciences*, *Aquatic Microbial Ecology*, *Marine & Freshwater Research*, *Science of the Total Environment*, *Environmental Science and Pollution Research*, *Journal of Limnology*, *Biodiversity and Conservation*, *Fundamental and Applied Limnology-Archiv für Hydrobiologie*, *Environmental Pollution*, *Hydrobiologia*, *Water Air and Soil Pollution*, *Environmental Monitoring and Assessment*, *Environmental Management*, *Knowledge and Management of Aquatic Ecosystems*; PHYCOLOGY: *Journal of Phycology*, *European Journal of Phycology*, *Phytotaxa*, *Diatom Research*, *European Journal of Taxonomy*, *Botanical Studies*, *Algological Studies*, *Nova Hedwigia*, *Cryptogamy-Algology*, *Fottea*, *Plant Ecology and Evolution*, *Proceedings of the Academy of Natural Sciences of Philadelphia*,; **and book series** (e.g., *Diatom Monographs*, comprehensive monograph: *Lake Kinneret: Ecology and Management* - Springer 2013, *Iconographia Diatomologica*). **Others:** *Southeastern Naturalist*, *Proceedings of the Academy of Natural Sciences of Philadelphia*, *Polish Journal of Environmental Studies*, *Polish Botanical Journal*, *eco.mont*, *Acta Botanica Croatica*, *Lauterbornia*, *Berichte des Naturwissenschaftlich-Medizinischen Vereins in Innsbruck*, *Plant biosystems*, *Studi Trentini di Scienze Naturali*, *Gortania*, *Kuwait Journal of Science and Engineering*, *International Journal of Water Resources and Environmental Engineering*.

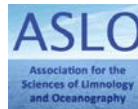
Organization of International Congresses and Special Sessions (14), Session Chairing (17), Invited talks (20) & List of talks given (44 internat. + 21 nat.) [Total = 116]:

• Member of the **Scientific Committee** of the 20th *Symposium of the International Association for Cyanophyte Research (IAC)*, August 2016, Innsbruck, Austria. • Member of the **International Scientific Committee** of the 24th *International Diatom Symposium (IDS2016)* & **Organizer and Chair** (with M. Kahlert & K- Manoylov) of the Session ***Diatom-based assessments and monitoring of freshwater habitats***, (13 talks, 12 posters) August 21-26 2016, Québec City, Canada. • **Member** of the **Organizing Committee, National Scientific Committee & Organizer and Chair** (with R. Gerecke) of the Session 36. ***Springs: well-known groundwater resources, disregarded biodiversity hotspots*** (21 talks, 5 posters) of the XXXIII **SIL (Internat. Soc. Limnology)** Congress, 31. July- 6. August 2016, Turin, Italy. • **Invited Lecture (Guest of honor)** *Long-term studies on algae in springs. XXXV International Conference of the Polish Phycological Society*. Łódź-Stryków, Poland, June 01.-04. 2016. • **Convenor** of the Session 5.8 *Ecohydrology and groundwater dependent ecosystems*, 42nd **IAH (Internat. Assoc. Hydrogeologists)** Congress, **AQUA2015**. Rome. Chairs: M. Cantonati & L. Ribeiro N. • **Organizer & Chair** of the International Symposium and Workshop: *Use of algae for monitoring rivers and comparable habitats* and *International Workshop on Benthic Algal Taxonomy (9th UAMRICH & InBAT, June 15-19 2015)*. • **Organizer** (with: Muotka T., Richardson J., & M. Vis) of the **Special Session *Spring-habitats' and spring-fed headwaters' biology fifty years after the definition of crenobiology***. 2014 Joint Aquatic Sciences Meeting (**JASM** = SFS+ASLO+PSA+SWS, 3100 attendees) (Portland, Oregon, USA). • Member of the Scientific Committee of the 8th **ISUAMR** (Madrid, Spain, 19-22/06/2012), • **Organizer** of the 2nd **CEDiatoM (Central European Diatomist Meeting, 2008 Trento; (zugleich 22. Deutschsprachiger Diatomologen Treffen)**, and of the 12th **Meeting of German speaking diatomists** (Trento, 1998). • **Organizer** (with Prof. R. Lowe) of the **Special Session *Lake benthic algae: communities, bioassessment, traits and adaptive ecology of selected species*** (12 contributed talks) at the 2012 Meeting of the *Society for Freshwater Science (SFS, formerly NABS, Louisville, KY, USA; Freshwater Stewardship: Challenges and Solutions*. • **Organizer** (with Prof. J. Richardson) of **Special Session *Springs and small streams: Understudied and under-protected key habitats for biodiversity conservation*** at the 30th Congress of the Internat. Soc. Limnology (**SIL 2007** Montréal, Canada). • **Chairperson of numerous Sessions** (e.g., 19th Internat. Diatom Symp., IDS2006, Listvyanka, Lake Baikal, Russia; IDS2008, Dubrovnik, Croatia; NABS2009, Conservation Ecology, Grand Rapids, MI, USA; Use of Algae for Monitoring 2009, Biofilms and choice of substrate, Luxembourg; Use of Algae 2012, Last advances in algal monitoring methodologies. Alcalá de Henares, Madrid, Spain). • **52** posters presented at Meetings.

Main Participations to Scientific Societies (9): • Society for Freshwater Science (S.F.S., formerly N.A.B.S.) (since 2012 Member of the International Coordination Committee), • Internat. Soc. Limnology (S.I.L.), • International Association of Hydrogeologists, • Assoc. Sciences Limnology & Oceanography (formerly Am. Soc. Limnol. Oceanogr., A.S.L.O.), • Internat. Soc. Diatom Res. (I.S.D.R.), • Internat. Phycol. Society (I.P.S.), • Phycol. Soc. America (P.S.A.), • Ecological Society of Italy (S.It.E.), • Italian Association of Scientific Museums (A.N.M.S.).



Society for Freshwater Science
Formerly North American Benthological Society
<http://www.freshwater-science.org>



Current research interests in key words: Topics: freshwater science, ecohydrogeology, conservation ecology, freshwater biodiversity, environmental biology, bioassessment, organismal biology, community ecology, ecosystem ecology, oligotrophic habitats, benthic primary production, spring habitat ecology (crenoecology) and conservation, long-term ecological research, effects of environmental and climate change, paleolimnology, water-level fluctuations, depth distribution of benthic organisms in lakes, evolutionary biology with special attention to the ecophysiology and adaptive biology of benthic cyanoprokaryota and algae, species traits, indicators, biogeography, rare species, taxonomy, environmental significance of teratological forms of benthic diatoms (metals & toxic trace elements contamination etc.), biota in springs and streams of different lithology, longitudinal trends in watercourses, seasonality of the microphytobenthos in springs and streams, substrata preference of diatoms and cyanobacteria. Habitats & ecosystems: springs, spring-fed streams, mires, high-mountain running waters, high-mountain lakes, infralittoral, extremely-low alkalinity aquatic environments, ox-bow ponds. Organisms: diatoms, cyanobacteria, red algae, green algae. Ecological categories: microphytobenthos, periphyton, lake benthic algae, macroalgae, epilithon, epiphyton.

Academic teaching: Teaching in **internat. courses (Visiting Prof., practical courses, summer schools, workshops) (12)**, **PhDs** (Supervisor **6**, Opponent **5**, Reviewer **5**, Substantial contribution to **5**), **Post-Docs mentoring (1)**, Visiting Ph.D. students (**4+2**), Volunteer research assistants (**4**), **MScs (15)**, **Bachelors (9)**. *Habilitation (venia docendi)* in Limnology (Phycology) at the University of Innsbruck (Austria, 2011). Courses (as Contract Professor) of at the Universities of Trento (*Biology of Photoautotrophic Organisms, Natural Sciences for High School Teachers – P.A.S. Class A060*) and Innsbruck (freshwater ecology and algal taxonomy). Member of the Ecology Doctoral-Studies Committee of the University of Parma. Supervisor of 6 PhDs (Universities of Zürich, Switzerland; Univ. Parma; Univ. Innsbruck, Austria; Ain Shams University, Cairo, Egypt; Univ. Eastern Piedmont), and Member of the Committee / Opponent / Referee of 9 Ph. D. theses in international Universities (Savoie - France, Brno – Czech Rep., Parma - Italy, Girona - Spain). Visiting Prof. at the Universities of Brno and Olomouc (Czech Republic). Supervisor of MScs (14) and Bachelors (9). Organizer and Instructor of the Workshop / Practical course “Diatoms in oligotrophic habitats” (June 2008). Instructor in international freshwater ecology courses (among these: *Limnology of a mountain lake: Lake Tovel* and *Limnology of a large perialpine lake: Lake Garda*). Practical courses on *diatom taxonomy and ecology* for students from Italian Universities and professionals at the Limnological Station of the Museum at Lake Tovel. Seminars, tutorials, and laboratories for several courses of ecological and limnological subject at the Universities of Pavia and Innsbruck.

Publications: Author of 340 scientific contributions: a) **Research Articles on ISI International Journals with IF (70)**; b) **International Books or Book Chapters**, and **Special Issues (19)**; c) Research Articles on International Refereed Proceedings (14); d) Textbooks or book chapters that can be used as aquatic-science teaching material. Multilingual (11); e) Research Articles on Refereed National ISI Journals & National Refereed Proceedings (21); f) National Special Issues, Monographic Volumes, Books or Book Chapters (19); g) Papers and book chapters for the popularization of freshwater ecology & phycology topics (40); h)

Congress Abstracts – Oral presentations (only those referring to works not published *in extenso* on the Proceedings) (73); i) Congress Abstracts – Posters (only those referring to works not published *in extenso* on the Proceedings) (73).

R&D Funding acquisition: Scientific coordinator or WP coordinator of 21 Projects. **Total budget managed (1.6 Million EURO).** Main ones: • **CRENODAT** (Biodiversity assessment and integrity evaluation of **springs** of Trentino (Italian Alps) and long-term ecological research) (funded by the University and Scientific Research Dept. of the Autonomous Province of Trento-PAT; 2004-2007). Scientific Coordinator of the overall Project. • **ACE-SAP (Alpine Ecosystems in a Changing Environment: Biodiversity, Sensitivity and Adaptive Potential)** (funded by the PAT University and Scientific Research Dept.; 2008-2011). Coordinator of Work Package 2 on the rhodophyte *Bangia atropurpurea* in Activity 2 **Adaptation - Aquatic Environments**. Scientific co-ordinator of the overall Project: Prof. David B. Neal. Univ. of California Davis, USA. • **SALTO/BEST (Blooms and Environment: Science for Lake Tovel)** (funded by the PAT University and Scientific Research Dept.; 2001-2004). Coordinator of WP 2 (**Paleolimnology**) and 6 (**Ecophysiology of dinoflagellates**). • **OLOAMBIENT (Environmental and ecosystem responses to Holocene climate variability in Trentino based on multi proxy-data from lacustrine environments, calcareous tufa and moonmilk)** (funded by the PAT University and Scientific Research Dept.; 2002-2005). Co-ordinator of WP 2 (**Monitoring**) and 3 (**Microfossils and pollen**). Scientific co-ordinator of the overall Project: Prof. Silvia Frisia (Trentino Nature & Science Museum, now at The Univ. of Newcastle, Australia). • **Life Tovel (LIFE00 ENV/IT/000132 Tovel - a concerted model of sustainable tourism development; 2001-2004)**, promoted by the Municipality of Tuenno, in collaboration with the Adamello–Brenta Nature Park, and the Trentino Nature & Science Museum. In charge for WP 5 *Development of educational and scientific initiatives for Schools and Universities*.

Referee–Assessor - for funding Agencies & LTER: Belmont Forum (international group of funding agencies focusing on environmental change research) - Freshwater Security theme, The **Research Council of Norway, National Geographic Society, Icelandic Research Fund – IRF, Grant Agency of the Academy of Science of the Czech Republic-GACR, Marie Curie Individual Fellowships** (European Commission), Polish National Science Centre, Romanian Government - National Research Council-CNCS, Hungarian Scientific Research Fund – OTKA. Referee of an Italian Long Term Ecological Research (**LTER**) site.

Eponymy & Scientific awards: Several taxa dedicated to MC by Colleagues in recognition of his freshwater-science studies: - **diatoms** (3): *Navicula cantonatii* Lange-Bertalot (*Diatoms of Europe* 2, 2001), *Cymbella cantonatii* Lange-Bertalot (*Diatoms of Europe* 3, 2002), *Eunotia cantonatii* Lange-Bertalot et Tagliaventi (*Diatoms of Europe* 6, 2011); - **water mite** (1): *Feltria cantonatii* Gerecke (*Stuttgarter Beiträge zur Naturkunde A*, 2012); - **copepod** (1): *Diacyclops cantonatii* Stoch (in prep.).

Awards: «**Garbini**» **Prize for limnological research** 1992 (Feb. 22nd 1994). Grants from the Ghislieri College, AGIP, Austrian Ministry for Scientific Research, Italian Ministry for Foreign Affairs, and the Tyrol Region.

New taxa described & taxonomic achievements: Diatoms (2 genera, 13 spp.): - gen. nov.: *Microfissurata* Lange-Bertalot, Cantonati et Van de Vijver, *Neidiomorpha* Lange-Bertalot et Cantonati; - sp. nov.: *Achnantheidium dolomiticum* Cantonati et Lange-Bertalot, *Geissleria gereckeii* Cantonati & Lange-Bertalot, *Microfissurata paludosa* Cantonati et Lange-Bertalot [generitype species], *Cymbella tridentina* Lange-Bertalot, Cantonati et Scalfi, *Encyonema sublangebertainii* Lange-Bertalot et Cantonati, *Eunotia glacialispinosa* Lange-Bertalot et Cantonati, *Naviculadicta langebertainii* Cantonati et Leira, *Eunotia cisalpina* Lange-Bertalot et Cantonati, *Eunotia fallacoides* Lange-Bertalot et Cantonati, *Eunotia insubrica* Lange-Bertalot et Cantonati, *Odontidium neolongissimum* & *O. neomaximum* Jüttner, D.M. Williams, Levkov, Falasco, Battezzato, Cantonati, Van de Vijver, Angele et Ector, *Navicula veronensis* Lange-Bertalot et Cantonati; 4 comb. nov. **Cyanoprokaryotes** (1 sp.): *Geitleribactron purpureum* Cantonati et Komárek. MC included in **lists of European taxonomists: 1. Protists, 2. Cyanobacteria.**

Research visits abroad: • Palacký University Olomouc, Lab. Prof. A. Poulíčková (2014). • Universities of Brno and Olomouc (2010). • 28/05/2008 - 02/06/2008 & 22/10/2008 - 27/10/2008: labs. of Prof. J. Komárek (Botany Inst. AS CR & University of South Bohemia), research visits on the ecology and taxonomy of spring cyanobacteria. • 13/02/2000 - 04/03/2000: lab. of Dr. Eileen Cox, Botany Dept. of The Natural History Museum, London (funded by Bioresource-LSF

EC Programme). • January 1996: lab. of Prof. Horst Lange-Bertalot (University of Frankfurt, Germany). • 1993-1994: Botany Institute of the University of Innsbruck (Austria). • Summer 1989: Zoology Dep. of the University of Cambridge (UK, Dr. L.E. Friday, ecophysiology of *Utricularia vulgaris* L. in the Nature Preserve of Wicken Fen).

Main courses & workshops attended: • 2015: Focusing on Learning: **STEM education reform** and the **flipped classroom** (SFS Congress, Milwaukee, WI, USA). • 2014: Tools and Techniques for Giving **Compelling Talks** - Dennis Meredith (JASM Congress, Portland, OR, USA). • 2012: **R** for environmental statistical analyses (SFS Congress, Louisville, KY, USA). • Several one-week periods of joint work with Prof. Horst Lange-Bertalot on the **taxonomy and ecology of diatoms** (Trento: 2006-2015). • 2005: **Freshwater Algae**, Field Studies Council, Kindrogan Field Centre, Scotland. • 2005: Introduction to the use of the LEO EVO 40XVP **S.E.M.** (Assing S.p.a.). • 1995: **Restoration of freshwater ecosystems** (European Environmental Research Organisation Training Centre, Silkeborg - Denmark). • 1993 - 1994: 8 exams during Ph.D. studies, in particular: **Ecological physiology of algae** (Prof. Susan Kilham, University of Philadelphia), **Taxonomy and ecology of the periphyton** (Prof. E. Rott, Univ. Innsbruck), **Running waters ecology** (Prof. E. Rott, Univ. Innsbruck), **Taxonomy and ecology of water mites** (Dr. Reinhard Gerecke). • 1990 - 1991: **Preservation and management of vertebrates in the River Po floodplain**. Animal Biology Dept., Univ. Pavia. • 1990: **Use of macroinvertebrates for the mapping of the quality of watercourses**. Istituto Agrario di S. Michele all'Adige (TN).

Service (Work in Committees and Commissions): • **Panel of experts** in charge for developing a **National Adaptive Strategy (SNA) to Environmental and Climate Change** for the Italian Ministry for the Environment (2012; topic: **Biodiversity and Ecosystems. Aquatic Ecosystems**; Chair: Prof. Pierluigi Viaroli, University of Parma). • **Doctoral Studies Committee** of the Ph.D. in **Ecology** at the University of **Parma** (since 2001). • **Selection Committees for staff employment** (permanent positions): 5 Technical Assistants (including one for Limnology and Phycology) for the Trentino Nature & Science Museum – August 2008; 2 Technical Assistants (Vertebrate Zoology and Prehistory) for the Nature & Science Museum – December 2012. • **Doctoral Studies Committee** of the Ph.D. in **Evolutionary Biology** at the University of **Pisa** (2004-2007). • Member (as “**Cultore della Materia**” = Scholar) of the **Exam's Commissions** of the courses of **Ecology**, and **Hydrobiology and Fisheries**. • M.Sc. Theses evaluation Commissions for **Natural and Biological Sciences**. • Administrative Committee of the **Adamello-Brenta Nature Park** (1995-) • Scientific Committee of the **Museo Tridentino di Scienze Naturali** and of the journal **Studi Trentini di Scienze Naturali** (1995-2005).



Preparation techniques of phycological materials.

Administrative & Management duties - Museum work: • Administration work, in particular for the **management of the Limnology and Phycology Research Unit** (research, collections, pedagogical activities); • Contributions to the exhibitions of the **new Trentino Science Museum – MUSE**, that is hosted a **Renzo Piano building**; topics: general & regional limnology, freshwater biology, benthic algae (grand opening event: July 27th 2013). • New exhibition halls for the **Natural History Museum of Trento** (MTSN, 2009); topics: main adaptations in high elevation aquatic environments, microscopic world, biodiversity of diatoms. • Established a rapidly growing diatom collection on oligotrophic habitats (mainly Alps). • Contributions to temporary exhibitions: *Antarctica*, *The Deluge* (1999-2000), *The Museum investigates the Alps* (1996). • “**Villino Campi**” (Lake Garda Museum). • **Press releases and conferences on limnological topics:** Taxa new to science in springs, reddening of Lake Tovel, acidification risk in high-elevation lakes. • Identification and consultancy on algae samples sent by colleagues or interested persons. •

Other interests: Mountains, Hiking, Swimming, Languages, Travelling, Cultures, Eno-gastronomy, Wellness.

Sincerely yours September 19th 2016


Dr. Marco Cantonati