

PERSONAL INFORMATION

Matteo Facchini



EDUCATION AND TRAINING

01/12/2013–08/01/2018

PhD Candidate

ETH Zurich, Zürich (Switzerland)

Monitoring and modeling of downstream effects of Sediment Bypass Tunnel (SBT) releases at an alpine stream.

2010–2013

Master Degree in Environmental and Land Engineering

Università degli Studi di Trento, Trento (Italy)

Thesis: High order ADER-WENO finite volume schemes for Boussinesq-type equations

Advisor: Assoc. Prof. Michael Dumbser

09/2011–09/2012

Erasmus Exchange

Technische Universität Dresden, Dresden (Germany)

Civil and Environmental Engineering

2007–2010

Undergraduate Degree in Environmental Engineering

Università degli Studi di Trento, Trento (Italy)

Thesis: Aspetti dei deflussi di pioggia: dilavamento di superfici stradali e rischi per i bacini limitrofi

Advisors: Assoc. Prof. Sandra Dirè & Assoc. Prof. Maurizio Righetti

WORK EXPERIENCE

16/11/2013–08/01/2018

PhD Candidate

ETH Zürich

Hönggerberggring, 26, 8093 Zürich (Switzerland)

www.vaw.ethz.ch

Description: monitoring and modeling the eco-morphological effects of a sediment bypass tunnel (SBT) on the downstream river reach.

Advisors: Prof. Robert M. Boes & Dr. Annunziato Siviglia

16/11/2013–01/11/2017

Software developer

Laboratory of Hydraulics, Hydrology and Glaciology (VAW), Zurich (Switzerland)

Software development of BASEMENT (Basic Simulation Environment for Computation of Environmental Flow and Natural Hazard Simulation), a software used in river engineering and morphodynamics modeling.

01/2013–05/2013

Faculty Advisor

LEONARDO Formazione e Sviluppo, Catania (Italy)

Tutoring students going to simulate a session of the United Nations (National Model United Nations, NMUN) in New York.

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
German	C1	C1	C1	C1	C1
Zertifikat C1					

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages

Communication skills public speaking skills.
didactic skills.
team work orientation.
taking on responsibilities.

Organisational / managerial skills ability of dealing with conflicting priorities and multiple tasks.
working experience in events organization and planning, for medium events (concerts and the Trento Masquerade Ball 2013).

Job-related skills good experience in the field of river monitoring by means of direct field measurements (GIS data sampling with mobile mapping, grain size distributions, flow speed measurements, topography, etc.) and remote measurements (airborne photogrammetry, 3D laser scanning by means of Laser Imaging Detection and Ranging (LiDAR)).
good knowledge in the field of habitat evaluation and modeling of fluvial systems (mesoHABSIM methodology for morphological units classification).
perfect knowledge of BASEMENT, a software developed at VAW (ETH Zurich), used for river engineering and morphodynamic modeling.
very good knowledge of HydroVISH, a software developed by the company AHM (Innsbruck) used to classify clouds of points measured during LiDAR surveys.
very good knowledge of Geographic Information Systems (GIS) applied to the evaluation of river topographic changes, i.e. of digital elevation models (DEM) evolution.
basic knowledge of other softwares used in the engineering and mathematical fields such as Maple, HecRas, Ansys CFX e Comsol Multiphysics.

Digital skills very good knowledge of different operative systems (Macintosh, Windows and Ubuntu) and of their basic applications (e.g. iWork, Microsoft Office and LibreOffice).

excellent knowledge of programming and scripting languages such as Python and Matlab.
good knowledge of programming and scripting languages such as C++, Fortran and R.

Other skills ■ Music: percussions degree at the music school "I Minipolifonici" di Trento; several years of concert activity with the orchestra "I Filarmonici" di Trento (classical music), with the orchestras TU-Sinfonieorchester e TU-Kammerphilharmonie of the TU Dresden (classical music), with the

marching band Corpo Musicale Città di Trento (classical and folk music) and in local bands (rock, blues, and funky music).

- board member at the orchestra "I Filarmonici" di Trento until 2013.
- board member at the Corpo Musicale Città di Trento until 2013.
- member of the artistic board at the Corpo Musicale Città di Trento until 2013.
- students delegate at the high school Liceo Scientifico Statale "G. Galilei" di Trento during school years 2005-2006 e 2006-2007.
- students delegate in the Department Council at the Department of Civil, Environmental and Mechanical Engineering of the Università degli Studi di Trento during the academic year 2010-2011.

ADDITIONAL INFORMATION

Conferences

European Geosciences Union General Assembly 2014, Wien, Austria
 First International Workshop on Sediment Bypass Tunnels, Zürich, Switzerland
 Second International Workshop on Sediment Bypass Tunnels, Kyoto, Japan

Publications

- Facchini, M., Siviglia, A., Boes, R. M., (2015). Downstream morphological impact of a sediment bypass tunnel – preliminary results and forthcoming actions. In Proceedings of the First International Workshop on Sediment Bypass Tunnels, VAW Mitteilungen 232, ETH Zürich, Schweiz, 137-146.
- Dumbser, M., Facchini, M., (2016). A space-time discontinuous Galerkin method for Boussinesq-type equations. Applied Mathematics and Computation, 272(2): 336-346.
- Facchini, M., Siviglia, A., Boes, R. M., (2017). Downstream morphological effects of SBT releases: 1D numerical study and preliminary LiDAR data analysis. In Proceedings of the 2nd International Workshop on Sediment Bypass Tunnels (T. Sumi ed.), Kyoto University, Kyoto, Japan.
- Facchini, M., Boes, R. M., Vetsch, D.F., Siviglia, A., (2018). Riverbed and surface composition adjustments in a gravel-bed river subject to repeated Sediment Bypass Tunnel operations, under review.

Seminars

Post-graduate Course on Advanced Numerical Methods for Hyperbolic Equations and Applications - Trento, Italy - February 3 - February 14, 2014
 Post-graduate Course on Basic Interdisciplinary River Morphodynamics: First Edition, River Bars - Trento, Italy - October 27 - October 31, 2014
 Introduction to writing at doctoral level: Natural sciences and engineering C1 - Zurich, Switzerland - Fall Semester 2015
 Summer School on Fluvial Geomorphology - Losone, Switzerland - June 27 - July 1, 2016






Matteo Facchini

Mother tongue(s)
Italian

Other language(s)
English, German






English

Self-assessment of language skills

UNDERSTANDING		SPEAKING		WRITING
 Listening	 Reading	 Spoken interaction	 Spoken production	 Writing
C1 Proficient user	C1 Proficient user	C1 Proficient user	C1 Proficient user	C1 Proficient user

German






Self-assessment of language skills

UNDERSTANDING		SPEAKING		WRITING
 Listening	 Reading	 Spoken interaction	 Spoken production	 Writing
C1 Proficient user	C1 Proficient user	C1 Proficient user	C1 Proficient user	C1 Proficient user

Certificates and diplomas

Title	Awarding body	Date	Level*
Zertifikat C1	Goethe Institut	22/04/2017	C1

Common European Framework of Reference for Languages - Self-assessment grid

		A1 Basic user	A2 Basic User	B1 Independent user	B2 Independent user	C1 Proficient user	C2 Proficient user
Understanding	 Listening	I can understand familiar words and very basic phrases concerning myself, my family and immediate concrete surroundings when people speak slowly and clearly.	I can understand phrases and the highest frequency vocabulary related to areas of most immediate personal relevance (e.g. very basic personal and family information, shopping, local area, employment). I can catch the main point in short, clear, simple messages and announcements.	I can understand the main points of clear standard speech on familiar matters regularly encountered in work, school, leisure, etc. I can understand the main point of many radio or TV programmes on current affairs or topics of personal or professional interest when the delivery is relatively slow and clear.	I can understand extended speech and lectures and follow even complex lines of argument provided the topic is reasonably familiar. I can understand most TV news and current affairs programmes. I can understand the majority of films in standard dialect.	I can understand extended speech even when it is not clearly structured and when relationships are only implied and not signalled explicitly. I can understand television programmes and films without too much effort.	I have no difficulty in understanding any kind of spoken language, whether live or broadcast, even when delivered at fast native speed, provided I have some time to get familiar with the accent.
	 Reading	I can understand familiar names, words and very simple sentences, for example on notices and posters or in catalogues.	I can read very short, simple texts. I can find specific, predictable information in simple everyday material such as advertisements, prospectuses, menus and timetables and I can understand short simple personal letters.	I can understand texts that consist mainly of high frequency everyday or job-related language. I can understand the description of events, feelings and wishes in personal letters.	I can read articles and reports concerned with contemporary problems in which the writers adopt particular attitudes or viewpoints. I can understand contemporary literary prose.	I can understand long and complex factual and literary texts, appreciating distinctions of style. I can understand specialised articles and longer technical instructions, even when they do not relate to my field.	I can read with ease virtually all forms of the written language, including abstract, structurally or linguistically complex texts such as manuals, specialised articles and literary works.
Speaking	 Spoken interaction]	I can interact in a simple way provided the other person is prepared to repeat or rephrase things at a slower rate of speech and help me formulate what I'm trying to say. I can ask and answer simple questions in areas of immediate need or on very familiar topics.	I can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar topics and activities. I can handle very short social exchanges, even though I can't usually understand enough to keep the conversation going myself.	I can deal with most situations likely to arise whilst travelling in an area where the language is spoken. I can enter unprepared into conversation on topics that are familiar, of personal interest or pertinent to everyday life (e.g. family, hobbies, work, travel and current events).	I can interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible. I can take an active part in discussion in familiar contexts, accounting for and sustaining my views.	I can express myself fluently and spontaneously without much obvious searching for expressions. I can use language flexibly and effectively for social and professional purposes. I can formulate ideas and opinions with precision and relate my contribution skilfully to those of other speakers.	I can take part effortlessly in any conversation or discussion and have a good familiarity with idiomatic expressions and colloquialisms. I can express myself fluently and convey finer shades of meaning precisely. If I do have a problem I can backtrack and restructure around the difficulty so smoothly that other people are hardly aware of it.
	 Spoken production	I can use simple phrases and sentences to describe where I live and people I know.	I can use a series of phrases and sentences to describe in simple terms my family and other people, living conditions, my educational background and my present or most recent job.	I can connect phrases in a simple way in order to describe experiences and events, my dreams, hopes and ambitions. I can briefly give reasons and explanations for opinions and plans. I can narrate a story or relate the plot of a book or film and describe my reactions.	I can present clear, detailed descriptions on a wide range of subjects related to my field of interest. I can explain a viewpoint on a topical issue giving the advantages and disadvantages of various options.	I can present clear, detailed descriptions of complex subjects integrating sub-themes, developing particular points and rounding off with an appropriate conclusion.	I can present a clear, smoothly-flowing description or argument in a style appropriate to the context and with an effective logical structure which helps the recipient to notice and remember significant points.
Writing	 Writing	I can write a short, simple postcard, for example sending holiday greetings. I can fill in forms with personal details, for example entering my name, nationality and address on a hotel registration form.	I can write short, simple notes and messages. I can write a very simple personal letter, for example thanking someone for something.	I can write simple connected text on topics which are familiar or of personal interest. I can write personal letters describing experiences and impressions.	I can write clear, detailed text on a wide range of subjects related to my interests. I can write an essay or report, passing on information or giving reasons in support of or against a particular point of view. I can write letters highlighting the personal significance of events and experiences.	I can express myself in clear, well-structured text, expressing points of view at some length. I can write about complex subjects in a letter, an essay or a report, underlining what I consider to be the salient issues. I can select a style appropriate to the reader in mind.	I can write clear, smoothly-flowing text in an appropriate style. I can write complex letters, reports or articles which present a case with an effective logical structure which helps the recipient to notice and remember significant points. I can write summaries and reviews of professional or literary works.

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