



Personal information

Surname(s) / First name(s)
Address(es)
Telephone(s)
Email(s)
Nationality(-ies)
Date of birth
Immigration status in US

Umberto E. Villa
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Italian
April 22nd 1983 (Milan)
F1 Visa

Education and training

Dates
Position
Research
Teaching
Principal subjects
GPA
Other works and projects
Name of organization providing education
Dates
Title of qualification awarded
Principal subjects
Interdisciplinary project

January 2008 - present
PhD student in Computational Mathematics at Emory University.
Computational Fluid Dynamics: algebraic splitting and time adaptivity for Navier-Stokes Equations.
Teaching assistant in Calculus class, tutoring.
Numerical Analysis, Matrix Analysis, Functional Analysis, Partial Differential Equation, Inverse Problem.
4.00/4.00.
Discretization of Navier-Stokes equations in moving boundary domains: Finite Elements vs Finite Volumes.
A comparison among different regularization approaches in image deblurring.
“Emory University” – Atlanta, GA (United States).
www.emory.edu
September 2005 - June 2008
ASP diploma - Alta Scuola Politecnica.
Interdisciplinary tools and aptitude to conceive, plan, implement and promote complex innovation projects.
Environment & energy - Hydrogen: opportunities and utilization. The project aimed at finding development roadmaps for the so called “hydrogen society”, either in terms of R&D or in terms of investment and infrastructures.
Sponsored by “Centro Estero Camere di Commercio Piemontesi”.

Activities related to the project	Dr. Woodrow Clark from Milken Institutes arranged for my team the following activities in Los Angeles: seminars about hydrogen applications at University of California (Irvine) and Caltech (Pasadena), visit to Californian Fuel Cell Partnership headquarters (CAFCEP), one day meeting with ARUP's engineers.
Name of organization providing education	"Politecnico di Milano" and "Politecnico di Torino" – Milan and Turin, Italy. http://www.asp-poli.it
Dates	September 2005 - December 2007
Title of qualification awarded	Master's degree in Mathematical Engineering with score of 110/110, cum laude.
Principal subjects	Major branch: scientific computing in Engineering. Minor branch: computational fluids dynamics.
Master thesis	Finite Element Analysis of the Brake Pad System and Multibody Modeling of Motor Vehicles in Braking-Phase. "Simulations and Computing" division of Brembo Sps was involved in the work.
Study abroad	"Parallel Numerical Simulation" (Technische Universität München - Munchen, March 2007), "Crash Analysis and Car Dynamics" (Ecole Nationale des Ponts et Chaussées - Paris, November 2006).
Other works and projects	Flame modeling simulation in composite solid rocket propellants. Fluid-structure interaction inside a disc brake caliper. Commissioned by Brembo. Advection and diffusion of pollutants in Venice Lagoon.
Name of organization providing education	"Politecnico di Milano" University – Milan, Italy. www.polimi.it/english/
Dates	September 2002 - July 2005
Title of qualification awarded	Degree in Mathematical Engineering with score of 110/110, cum laude.
Principal subjects	Mathematics, Applied Mathematics, Physics, Engineering, Computer Science.
First level thesis	Mathematical modeling and numerical simulation of hemodynamics problems
Honors	Medal for best graduate recipient in Mathematical Engineering course, academic years 2004-2005.
Name of organization providing education	"Politecnico di Milano" University – Milan, Italy.
Dates	September 1997 - July 2002
Title of qualification awarded	Diploma di maturità scientifica with score of 100/100.
Principal subjects	Mathematics, Physics, Chemistry, Italian, English, Philosophy.
Honors	Participation diploma at the final stage of "Olimpiadi Nazionali della Matematica" XVII edition (May 2001 - Cesenatico). (National mathematical contest organized by "Normale" University – Pisa, Italy)
Name of organization providing education	Liceo Scientifico Statale "Vittorio Veneto" – Milan, Italy.
Personal skills and competencies	
Mother tongue(s)	Italian
Other language(s)	English (Fluent)

Computer skills and competencies

Operating Systems	Windows, Linux.
Text Editor	Microsoft Office, LaTeX.
Programming	C++, C, Fortran. Parallel Computing with MPI Doxygen (source code documentation generator) Basic knowledge of automake and autoconfing tools.
Libraries for scientific computing	Junior developer of the finite element library LifeV. Knowledge of SparseSuite library (sparse direct solver for linear systems). Basic knowledge of Aztec/Trilinos library (sparse iterative solver for linear systems).
Scientific tools	Matlab, Octave, MSC Adams, FreeFem (a Finite Element Solver), R (a Statistical Analysis software).

Additional information

Driving licence(s)	Italian and US driving licences: cars and motorbikes. Attended two defensive driving courses on track: beginner and advanced level.
Personal interests	cars and motorbikes, basketball, skying, assembling pc.

References

Prof. Alessandro Veneziani ale@mathcs.emory.edu,
Prof. Michele Benzi, benzi@mathcs.emory.edu,
Prof. Eldad Haber, haber@mathcs.emory.edu,
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