Ph.D. Program in Computer Science and Computational Mathematics

Information for International Applicants

Program Description

The Ph.D. program in Computer Science and Computational Mathematics offered by Università degli Studi dell’Insubria is jointly administered by Dipartimento di Scienze Teoriche ed Applicate (Department of Theoretical and Applied Sciences) and by Dipartimento di Scienze ed Alta Tecnologia (Department of Sciences and High Technology). The program is aimed at students interested in obtaining research positions in universities as well as in government or industrial research institutions.

The goal of this program is to prepare students with a sound cultural background, providing them with a high level of flexibility, open minded and in-depth cutting edge competences in specific fields. These students will be able to carry out, manage and disseminate independent theoretical and/or applied research activities at an international level. They will be able to design mathematical models aimed at defining and building complex Information Technology (IT) systems, develop innovative IT applications and transfer their knowledge to the private sector, thereby also contributing to strengthening the role played by Italian industrial organizations in the global economic scenario. Our Ph.D. program stresses an interdisciplinary approach that nowadays characterizes most of the advances researches worldwide.

Normally, the Ph.D. program lasts three years; the defense can be postponed for an additional year, subject to approval by the Ph.D. Board. There are currently 9 available positions: 7 of of them come with a fellowship granted by our university, the remaining three have no associated grant. Additional grants might come from research projects supported by funding agencies and/or private companies.

The program is articulated into two phases. The first 18 months are mainly devoted to attending courses and seminars at both Università degli Studi dell’Insubria or elsewhere (other universities, national or international PhD schools, etc.). In this respect, the students have a significant amount of flexibility in building their own study plan; attending courses at other Italian and foreign universities, is highly encouraged. The second 18 months are mainly devoted to independent research activity under the guidance of a supervisor. The program also financially encourages students and supervisors to plan towards longer term research visits to international research venues.

The main outcome of a Ph.D. course of study is a Ph.D. dissertation collecting original research work carried out by the student. This will typically take the form of publications in international journals and/or proceedings of international research conferences. The dissertation will be defended in front of a defense jury made up of external experts.
**Admission**

All applicants to our Ph.D. program must have completed a five-year university curriculum (for instance, a three-year Bachelor plus a two-year Master). They are expected to demonstrate a sound background in Computer Science and/or Computational Mathematics, fluency in English and a strong motivation for research. Applicants are ranked according to their Curriculum Vitae (CV) and the result of an oral examination. The oral examination may also be carried out through video-conferencing tools. The 7 top ranked applicants qualify for a grant as well as a tuition fee waiver. The remaining applicants may either be admitted with no grant or not admitted at all. Some students who are admitted without a grant may be offered research fellowships on funded research projects.

**Application**

Applicants must send their CV, scientific publications, up to 2 recommendation letters, and a copy of their thesis (preferably on CD) by ordinary mail to one of the two following addresses:

- **Segreteria del Dipartimento di Scienze Teoriche ed Applicate (DiSTA), Via Mazzini 5, 21100, Varese, Italy;**
- **Segreteria del Dipartimento di Scienze ed Alta Tecnologia (DSAT), via Valleggio 11, 22100, Como, Italy, to the attention of Ms. Francesca Parassole (third floor). Office hours: Mon to Fri 9-12 and 14-15. For further information please contact segreteria.dipsat@uninsubria.it**

In the case of personal delivery, please contact the department secretariats at: +39 0332 218901 (DiSTA) or +39 031 238 6113 (DSAT).

The call for applications is posted at [www.uninsubria.it/web/dottorati](http://www.uninsubria.it/web/dottorati). Applicants must download the application form, fill it in and send it to Ufficio Post Lauream (Via Ravasi 2, Varese) by noon of September 23rd, 2014. For each application, candidates must pay a (nonrefundable) fee of Eur 50.00 either by bank transfer to "Università degli studi dell’Insubria" (IBAN: IT29D 05696 10801 000085001X87 - Banca Popolare di Sondrio - Filiale 158 – Viale Belforte, Filiale Varese, BIC/SWIFT: POSOIT22), and send the receipt of payment together with the completed application form by September 23rd, 2014, or by credit card through the terminals available at the above-mentioned Ufficio Post Lauream.

Within the same deadline, applicants who hold a foreign academic qualification must send to Ufficio Post Lauream a degree certificate in Italian with specification of the marks achieved and a copy of their thesis (preferably on CD). The application may be amended until the deadline, and can be printed as confirmation of successful registration. Both the application and the application fee receipt must be held and presented upon request during the day of the oral examination.

Notice that the call for applications specifically requires the following documents to be attached to the application form:

- A certificate related to the most recent academic degree, translated into Italian or English by an official translator and certified by an Italian diplomatic office (Embassy or Consulate) in the country where the qualification was obtained;
- Declaration of local value (“dichiarazione di valore in loco”) issued by the same diplomatic office; if the qualification has been obtained in a European country, the declaration of local value can be replaced by the “Diploma Supplement” issued by the institution where the qualification was obtained;
- Application for recognition of equivalence between the foreign qualification and the Italian academic degree granting the admission (only in the case when this equivalence has not been declared yet). For this purpose, the applicant can enclose any document that is deemed helpful to the University Teaching Staff to declare the equivalence of the presented foreign qualification to the Italian degree;
- Photocopy of an identity document;
- CV including examinations taken and grades gained, along with a brief description of their content -- the CV must be accompanied by a report on any research activity carried out by the candidate;
- A list of scientific publications (if any).

All documents must be in Italian or English, or accompanied by a translation into Italian or English.

Candidates who will not be able to provide all the required documentation by the application deadline will be conditionally admitted to the selection process. In this case, successful candidates will be required to provide the above documents by the enrollment deadline (see below).

**Enrollment**

Admission to the Ph.D. program is decided by the Ph.D. Board. The agenda of the selection procedure will be published online at [www.uninsubria.it/web/dottorati](http://www.uninsubria.it/web/dottorati). The Ph.D. Board decisions will be made available through the publication of the list of admitted candidates at [www.uninsubria.it/web/dottorati](http://www.uninsubria.it/web/dottorati). No personal communication related to the outcome of the selection process will be given.

Successful candidates should enroll, under penalty of exclusion, by the deadline indicated in the above website. The following documents should be delivered to *Ufficio Post Lauream, Via Ravasi 2, 21100 – Varese, Italy*:

- Complete registration form (“modulo di immatricolazione”) which will be made available at [www.uninsubria.it/web/dottorati](http://www.uninsubria.it/web/dottorati) (check link “moduli” on the right);
- Photocopy of an identity document;
- Photocopy of the Italian Tax Code (“codice fiscale”);
- Bank account details (only for fellowship winners) -- form will be made available at [www.uninsubria.it/web/dottorati](http://www.uninsubria.it/web/dottorati);
- Social Security form (“Modulo gestione separata INPS dottorati”);
- Any other required documentation (if any) that was not provided at application time.

For candidates admitted without a grant, enrollment also requires the payment of a first installment tuition fee (Eur 456,00). The payment can be made at either any branch of BANCA POPOLARE DI SONDRIO, using the payment form which will be made available at [www.uninsubria.it/web/dottorati](http://www.uninsubria.it/web/dottorati) or by credit card directly at Ufficio Post Lauream. The receipt of payment should be attached to the enrollment form.

**Supervision**

After enrollment, the students are requested to provide the name of a supervisor among the professors and researchers of our Ph.D. board (see below). Supervisors are chosen based on the students' research interests, and are aimed at giving guidance and advice to their students throughout the course of the Ph.D. work, including the selection of courses and research topics. Supervisor's approval plays a major role in the Ph.D. Board's deliberation about the admission of the student to each year of the Ph.D. program.

**Grants**

Ph.D. grants are paid out monthly by the university administration, the current scholarship amounting to about 1100 euros per month after taxes. The payment is conditioned to the successful admission to each year of the Ph.D. Program. The grant lasts 3 years, regardless of any possible extended duration of the Ph.D.
Members of the PhD Faculty Board

The PhD Faculty Board is in charge of supervising all PhD activities (teaching activities, research activities, admission/assessment, etc.). Current members are the following researchers, listed below in alphabetic order, together with their associated research interest keywords.

From Universita' degli Studi dell' Insubria (alphabetical order):

- **Marco Benini**, Assistant Professor, email: marco.benini@uninsubria.it
  Homepage: [http://marcobenini.wordpress.com/](http://marcobenini.wordpress.com/)

- **Elisabetta Binaghi**, Associate Professor, email: elisabetta.binaghi@uninsubria.it
  Homepage: [http://www4.uninsubria.it/online/home/rubrica/home-page-docente.html?P1_m=P032409](http://www4.uninsubria.it/online/home/rubrica/home-page-docente.html?P1_m=P032409)
  Research interests: Pattern Recognition, Computational Intelligence and Biomedical Image Analysis.

- **Barbara Carminati**, Assistant Professor, email: barbara.carminati@uninsubria.it
  Homepage: [http://dawsec.dicom.uninsubria.it/barbara.carminati/](http://dawsec.dicom.uninsubria.it/barbara.carminati/)
  Research interests: Security and Privacy.

- **Daniele Cassani**, Assistant Professor, email: daniele.cassani@uninsubria.it
  Homepage: [http://www4.uninsubria.it/online/home/rubrica/home-page-docente.html?P1_n=daniele.cassani](http://www4.uninsubria.it/online/home/rubrica/home-page-docente.html?P1_n=daniele.cassani)

- **Alberto Coen Porisini**, Professor, email: alberto.coenporisini@uninsubria.it
  Homepage: [http://www4.uninsubria.it/online/home/rubrica/home-page-docente.html?P1_m=P000419](http://www4.uninsubria.it/online/home/rubrica/home-page-docente.html?P1_m=P000419)
  Research interests: Real-Time Software, Object oriented programming, Wireless Sensor Networks

- **Sabrina Copelli**, assistant professor, email: sabrina.copelli@uninsubria.it
  Research interests: ...

- **Marco Donatelli**, Assistant Professor, email: marco.donatelli@uninsubria.it
  Homepage: [http://scienze-como.uninsubria.it/mdonatelli](http://scienze-como.uninsubria.it/mdonatelli)
  Research interests: Numerical Linear Algebra, Discrete Ill-Posed Problems.

- **Elena Ferrari**, Professor, email: Elena.ferrari@uninsubria.it
  Homepage: [http://www.dicom.uninsubria.it/~elena.ferrari/](http://www.dicom.uninsubria.it/~elena.ferrari/)
  Research interests: Security and Privacy, Social Networks, Cloud Computing, Data Management Systems

- **Mauro Ferrari**, Associate Professor, email: mauro.ferrari@uninsubria.it
  Homepage: [www.dicom.uninsubria.it/~ferram/](http://www.dicom.uninsubria.it/~ferram/)
  Research interests: Mathematical Logics, Proof Theory.

- **Ignazio Gallo**, Assistant Professor, email: ignazio.gallo@uninsubria.it
  Homepage: [http://www.dicom.uninsubria.it/~ignazio.gallo/](http://www.dicom.uninsubria.it/~ignazio.gallo/)
  Research interests: Image processing, Pattern Recognition, Neural Computing, Computer Vision.

- **Claudio Gentile**, Associate Professor, email: claudio.gentile@uninsubria.it; cla.gentile@gmail.com
  Homepage: [http://www.dicom.uninsubria.it/~cgentile/](http://www.dicom.uninsubria.it/~cgentile/)
  Research interests: Machine Learning, Online Learning, Data-Mining, Theoretical Computer Science.

- **Luigi Lavazza**, Associate professor, email: luigi.lavazza@uninsubria.it
  Homepage: [http://www.dicom.uninsubria.it/~luigi.lavazza/](http://www.dicom.uninsubria.it/~luigi.lavazza/)
  Research interests: Software process modeling, Requirements engineering, Model-based development of real-time and embedded software.

- **Giorgio Mantica**, Associate professor, email: giorgio.mantica@uninsubria.it
Homepage: [http://www.dfm.uninsubria.it/mantica/](http://www.dfm.uninsubria.it/mantica/)
Research interests: Dynamical Systems and Chaos (both classical and quantum).

- **Paolo Massazza**, Associate professor, email: paolo.massazza@uninsubria.it
  Homepage: [http://www4.uninsubria.it/on-line/home/rubrica/home-page-docente.html?P1_m=P000298](http://www4.uninsubria.it/on-line/home/rubrica/home-page-docente.html?P1_m=P000298)

- **Sandro Morasca**, Professor, email: sandro.morasca@uninsubria.it
  Homepage: [http://www.uninsubria.eu/research/dista/cv_Morasca.htm](http://www.uninsubria.eu/research/dista/cv_Morasca.htm)
  Research interests: Empirical Software Engineering, Software verification.

- **Andrea Posilicano**, Associate Professor, email: andrea.posilicano@uninsubria.it
  Homepage: [http://www.uninsubria.eu/research/physmath/cv_Posilicano.htm](http://www.uninsubria.eu/research/physmath/cv_Posilicano.htm)

- **Gabriella Puppo**, Associate Professor, email: gabiella.puppo@uninsubria.it
  Homepage: [http://www4.uninsubria.it/on-line/home/rubrica/home-page-docente.html?P1_m=P032348](http://www4.uninsubria.it/on-line/home/rubrica/home-page-docente.html?P1_m=P032348)
  Research interests: Numerical Analysis.

- **Matteo Rocca**, Professor, email: matteo.rocca@uninsubria.it
  Homepage: [http://www4.uninsubria.it/on-line/home/rubrica/home-page-docente.html?P1_m=P000097](http://www4.uninsubria.it/on-line/home/rubrica/home-page-docente.html?P1_m=P000097)

- **Nicoletta Sabadini**, Professor, email: nicoletta.sabadini@uninsubria.it
  Homepage: [http://www4.uninsubria.it/on-line/home/rubrica/home-page-docente.html?P1_m=P000248](http://www4.uninsubria.it/on-line/home/rubrica/home-page-docente.html?P1_m=P000248)
  Research interests: Complex System Modeling via algebraic-categorial approaches, Formal Language Theory.

- **Raffaello Seri**, Assistant Professor, email: raffaello.seri@uninsubria.it
  Homepage: [http://eco.uninsubria.it/webdocenti/seri/](http://eco.uninsubria.it/webdocenti/seri/)
  Research interests: Statistics and Econometrics, Mathematical Psychology and Decision Making.

- **Stefano Serra Capizzano**, Professor, email: s.serracapizzano@uninsubria.it
  Homepage: [http://scienze-como.uninsubria.it/serra](http://scienze-como.uninsubria.it/serra)

- **Simone Tini**, Associate Professor, email: simone.tini@uninsubria.it
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- **Alberto Trombetta**, Assistant Professor, email: alberto.trombetta@uninsubria.it
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From other universities (alphabetic order):

- **Michele Benzi**, Professor, Emory University, United States, Department of Mathematics and Computer Science
  email: benzi@mathcs.emory.edu
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- **Lionel Briand**, Professor, University of Luxembourg, Luxembourg, Department of Computer Science and Communications
  email: lionel.briand@uni.lu
  Homepage: [http://people.svv.lu/briand/](http://people.svv.lu/briand/)
Research interests: Software Engineering, Software Testing, Model-driven Software Engineering

- **Raymond Chan**, Professor, Chinese University of Hong Kong, China, Department of Mathematics
  email: rchan@math.cuhk.edu.hk

- **Dario Fasino**, Associate Professor, Universita' di Udine, Italy, Dipartimento di Fisica, Chimica e Ambiente
  email: dario.fasino@uniud.it
  Homepage: [http://people.uniud.it/page/dario.fasino](http://people.uniud.it/page/dario.fasino)
  Research interests: Numerical Analysis.

- **Yishay Mansour**, Professor, Tel Aviv University, Israel, School of Computer Science
  email: mansour@tau.ac.il
  Research interests: Algorithmic Game Theory, Machine Learning, Algorithms.

- **Benedetta Morini**, Associate Professor, Universita' di Firenze, Italy, Dipartimento di Ingegneria Industriale
  email: benedetta.morini@unifi.it
  Homepage: [http://ciro.de.unifi.it/~morini/](http://ciro.de.unifi.it/~morini/)
  Research interests: Numerical Analysis, Optimization, Image Restoration.

- **Bhavani Thuraisingham**, Professor, University of Texas at Dallas, Cyber Security Research and Education Institute
  Homepage: [http://www.utdallas.edu/~bhavani.thuraisingham/](http://www.utdallas.edu/~bhavani.thuraisingham/)
  Research interests: Data Security, Data Mining, Social Computing.

**Queries ...**

... can be directed to the PhD Program coordinator:

**Claudio Gentile**

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