PhD School - Politecnico di Milano

Regulations of the PhD Programme in:

Aerospace Engineering

Cycle XXXIII
1. General Information

PhD School - Politecnico di Milano

PhD Programme: **Aerospace Engineering**

Course start: November 2017

Location of the PhD Programme: Milano Bovisa

Promoter Department: Aerospace Science and Technology

Scientific Disciplinary Sectors:

- ING-IND/03 Flight Mechanics
- ING-IND/04 Aerospace Structures and Design
- ING-IND/05 Aerospace Equipments and Systems
- ING-IND/06 Fluid Dynamics
- ING-IND/07 Aerospace Propulsion
- ING-IND/22 Materials Science and Technology
- MAT/07 Mathematical Physics
- FIS/01 Experimental Physics

PhD School Website: [http://www.polimi.it/phd](http://www.polimi.it/phd)

PhD Programme Website: [www.aero.polimi.it/teaching/phd-in-aerospace-engineering/](http://www.aero.polimi.it/teaching/phd-in-aerospace-engineering/)

2. General presentation

The PhD Programme in Aerospace Engineering aims at educating students and creating world-class researchers in all the main technological disciplines relevant, but not limited, to the aerospace field. It is embedded in the Department of Aerospace Science and Technology (DAER) and is part of the PhD School of the Politecnico di Milano.

The PhD Programme covers a wide range of topics related to the aerospace engineering field. Based on historical aerospace disciplines such as, for example, Aerodynamics and Fluid Mechanics, Structures and Material, Flight Mechanics and Control, the Programme includes currently emerging disciplines requiring an enhanced multi disciplinary approach. Particular emphasis is given to research on rotary wing aircraft which requires understanding of the underlying physical processes, integration of multiple disciplines, an effective use of sophisticated mathematical models and of numerical and experimental methods. Successful programme graduates are expected to be able to conduct and manage original, cutting edge research in the rotorcraft technology domain, with the ability to rapidly move to neighbouring areas, such as wind energy, fixed-wing and automotive engineering, or other
related high-tech engineering fields. Indeed, over the years PhD students in Aerospace Engineering have developed research relevant to aircraft and space applications but also to technical areas not strictly related to the aerospace field.

Examples of research topics in which PhD theses have been recently developed are:

- Computational and experimental fluid mechanics;
- Passive and active control of turbulence;
- Aeroservoelasticity, dynamic and control of aerospace structures;
- Passive structural safety of both aerospace and non-aerospace vehicles;
- Space missions analysis and planning;
- Advanced materials and structures: design and testing;
- Innovative space propulsion systems;
- Identification, dynamic and control of structures and complex systems.
- Mechatronics
- Advanced rotors
- Maintenance-based design
- Mathematical modelling and simulation
- Airworthiness and certification
- Design and control of wind turbines

The PhD course is run by a Coordinator and a Faculty Board. The Coordinator chairs the Faculty Board, coordinates the preparation of the annual Educational Programme and organises the general educational activities of the PhD course (see Attachment A1). The Faculty Board is responsible for the Educational programme and for teaching and administrative activities related to the PhD course (see Attachment A2).

3. Objectives

The aim of the PhD programme is acquisition of the high level of competence required to carry out innovative research and/or state of the art advanced applications in: industries, research centres, Universities and service companies operating in the aerospace industrial and research area, including all fields having any connection with aerospace. The level of the programme should allow graduates to compete well in both the European and International aerospace environment.

4. Professional opportunities and job market

Due to the breadth and interdisciplinary nature of the aerospace arena, the professional skills attainable span a wide area and are not limited to just a few specific topics. The PhD therefore aims to create high level specialists in most domains related to aerospace activities.

In such context, a high level of competence can be gained either in a single subject or in the integration of multiple subjects such as: dynamics and control, fluid mechanics, systems and equipment, flight mechanics, passive structural safety, intelligent and automated systems, structures and materials, aeroservoelasticity.
In this light, a number of examples of professional skills acquired during the past 27 years of the PhD programme are provided below:

1) expert in computational and/or experimental fluid mechanics, with capabilities to develop methods and models for both aerospace applications and generic vehicles;
2) expert in active and passive control of the dynamics of aerospace structures, integrating global and subsystem design;
3) expert in active and passive structural safety of vehicles, both aerospace and non-aerospace;
4) expert in vibration and noise control, including modelling, analysis, system design and implementation of specific subsystems;
5) expert in the dynamics and control of aerospace vehicles and related operational missions;
6) expert in integrated design of complex aerospace systems.

The possible employment positions for graduates can be inferred from past experience and include:
- highly qualified activities in spin-off companies and/or small and medium high technology enterprises;
- research in public institutions, e.g.: Italian or foreign Universities;
- management of research in medium and large industries.

5. Enrolment

5.1 Admission requirements
Italian and foreign citizens can apply. They are requested to have graduated in accordance with the pre-existing laws D.M. 3.11.1999 n. 509, or to have a Master of Science degree in accordance with D.M. 3.11.1999 n. 509 or a Master of Science in accordance with D.M. 22.10.2004 n. 270, or similar academic title obtained abroad, equivalent for duration and content to the Italian title, with an overall duration of university studies of at least five years.
The certified knowledge of the English language is a requirement for admission. Please refer to the PhD School web site for details.
The admission to the programme will be established according to the evaluation of the candidates’ curricula, motivation letters, and an illustrative report about the development of a possible PhD research, which candidates will send contextually with their application to the admission announcement.

5.2 Admission deadlines and number of places available
The number of positions is indicated in the Call for admission to the 33rd PhD cycle Programmes: http://www.polimi.it/phd
Scholarships both on general and on specific themes are available, in accordance with what is specified in the call for admission.

6. Contents
6.1 Requirements for the PhD title achievement

The achievement of the PhD title in Aerospace Engineering requires a study and research activity of at least three years equivalent of full time study, research and development of PhD thesis.

PhD candidates in Aerospace Engineering must earn a minimum of 20 credits from PhD level courses (see paragraph 6.3 below) and to continuously conduct studies and research.

At the beginning of the course, the Faculty Board assigns a tutor to each PhD candidate to supervise and assist him/her in the overall training programme. The tutor shall be a professor belonging to the Faculty Board. The tutors assist the candidates in the choice of courses to be included in the study plan, which is eventually submitted for approval to the Coordinator of the PhD Programme (see also section 6.4 below).

The Faculty Board may assign extra course credits to one or more candidates, in case they need to complete their preparation in specific topics, relevant for their research projects.

In addition to the above requirements, the PhD candidates must complete, during the course of the program, at least one of the following activities:

1. present a paper, as co-author, at an International Conference
2. submit a manuscript, as co-author, to an International Archive Journal

6.2 Research development

The main aim of all Politecnico di Milano PhD programmes is the development in the candidates of a research-oriented mind-set, with expertise and skills in a specific research topic. To this end, candidates develop a problem-solving capability in complex contexts, including the capacity of performing in-depth analysis of the problem, identifying original solutions and evaluating their applicability in practical contexts.

These skills provide PhD candidates with major opportunities of development in their research both in the academic field and in public and private organisations.

PhD candidates are requested to develop an original research contribution. The PhD thesis must thus contribute to increase the knowledge in the candidate’s research field. Besides, it has to be coherent with the research topics developed in the Department where the PhD Programme is carried out.

The original research results are collected in the PhD thesis, where the candidate’s contribution is put in perspective with respect to the research state of the art in the specific research field.

The PhD research is developed under the guidance of a supervisor, who supports the candidate in the setting-out and in the everyday activities related to the thesis development. The supervisor is not necessarily a member of the Faculty Board and may also belong to an institution other than Politecnico di Milano. The supervisor can be supported by one or more co-supervisors.

Further activities intended to develop the candidate’s personal skills and research expertise are encouraged during the PhD path.

Candidates must acquire the capability to present and discuss their work in their research community. Consequently, both the participation to international conferences and the publication of the research results in in peer-reviewed journals are encouraged.
The PhD programme favors the candidates' research interactions with other groups in their research field, preferably abroad. Research visits of at least three months are strongly encouraged, as through them the candidates may acquire further skills to develop their research work and thesis. The duration of the programme is normally three years.

### 6.3 Objectives and general framework of the teaching activities

The PhD Programmes and the PhD School activate teaching forms of different kind and credit value, including courses, seminars, project workshops, laboratories. Teaching activities both cover the basic research issues (problems, theories, methods), which represent the founding element of the PhD Programme and identify clearly its cultural position, and deepening in a specialist way some research issues connected with the problems developed in the theses.

Lessons are usually in English, except when indicated otherwise. The PhD programme includes at least one complete path delivered in English language. Structured teaching activities allow to earn ECTS credits. Other activities, typically specialised and for which it is difficult to evaluate the learning and its quantification, fall within the scientific activities of which the Faculty Board takes into account in the overall evaluation, but they do not allow to earn ECTS.

Courses and activities are developed as follows:

1. **Main courses**: they are designed to develop PhD students' expertise in structuring research programmes in the area of their thesis. These courses should be attended in the first two years (mainly in the first year) in order to refine tools and methods to fully develop high-level research in the last part of the PhD period.

2. **Other activities**: internships, external courses (held by companies or other institutions), national and international seminars, conferences and workshops, participation in national and international research projects, scientific paper writing and paper presentations on research results, support to teaching activities.

3. **Development of the PhD thesis**: all thesis related activities.

A typical scheduling of PhD activity is given in the following figure.
Among the 20 credits required, **at least 10 credits** must be acquired through PhD School Courses (Type A), **at least 5 credits** from PhD courses characterizing the PhD program in Aerospace Engineering (Type B) and 5 or less credits may be acquired through external PhD courses, e.g. from other PhD programmes (Type C). All the mentioned courses foresee an evaluation of the PhD student in order to acquire the corresponding credits.

Master of Science courses may be inserted in the curriculum of the student, in agreement with the Supervisor (see below) and the Tutor, but do not contribute to the acquisition of credits.

The following table shows the foreseen path for candidates and refer only to coursework activities. At the same time, the programme foresees that the candidate is devoted to research activity in a continuous way, following the guidelines of their supervisors and of the Faculty Board.

**First/Second Year (proposed structure to be personalised)**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Reference to following tables</th>
<th>Number of credits (min-max)</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD School Courses</td>
<td>Table A</td>
<td>Min 10</td>
<td>See:  <a href="http://www.dottorato.polimi.it/en/during-your-phd/phd-school-courses/">http://www.dottorato.polimi.it/en/during-your-phd/phd-school-courses/</a></td>
</tr>
<tr>
<td>Courses characterising the PhD Programme</td>
<td>Table B</td>
<td>Min 5</td>
<td>These must be selected from the PhD courses offered by the PhD Programme in Aerospace Engineering.</td>
</tr>
<tr>
<td>Other PhD Courses</td>
<td></td>
<td>Max 5</td>
<td>These should be selected on topics connected with the research subject from PhD courses offered by the Politecnico di Milano and/or other Universities, subject to approval of the Supervisor.</td>
</tr>
</tbody>
</table>

**Second and Third year**

In the second half of the second year and during the whole of the third year the candidate should be devoted entirely to research and development of the PhD thesis.
PhD Course List

The PhD School of Politecnico di Milano proposes a set of courses aiming to train the PhD candidates in soft and transferable skills (Type A). The skills and abilities provided by these courses are expected to help candidates across different areas of their careers in order to respond to the rapidly evolving needs of the global economy and society at large. The acquisition of at least 10 credits is mandatory among the courses of A type. The PhD School courses activated for the 2017-2018 Academic Year are summarized in Table A.

Table A: PHD SCHOOL COURSES

<table>
<thead>
<tr>
<th>Course name</th>
<th>Professor</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethics in Research</td>
<td>Andrea Aliverti</td>
<td>5</td>
</tr>
<tr>
<td>Ethics, Technology, and Society</td>
<td>Viola Schiaffonati</td>
<td>5</td>
</tr>
<tr>
<td>From Knowledge to Decision</td>
<td>Simona Chiodo</td>
<td>5</td>
</tr>
<tr>
<td>Public Engagement and Communication for Science and Research</td>
<td>Paolo Ciuccarelli</td>
<td>5</td>
</tr>
<tr>
<td>Sulla Responsabilità della Tecnica</td>
<td>Paolo Maria Ossi</td>
<td>5</td>
</tr>
<tr>
<td>Sociology of research</td>
<td>Paolo Volontè</td>
<td>5</td>
</tr>
<tr>
<td>Design thinking - management and production of ideas</td>
<td>Nicola Crea</td>
<td>5</td>
</tr>
<tr>
<td>Methods and models for the decision making</td>
<td>Alberto Colorni</td>
<td>5</td>
</tr>
<tr>
<td>Collaborative Research Methodologies</td>
<td>Rami Shani</td>
<td>5</td>
</tr>
<tr>
<td>Scientific Communication in English</td>
<td>Timothy J Sluckin</td>
<td>5</td>
</tr>
<tr>
<td>Advanced Interaction Skills for Academic Professionals</td>
<td>Michela Arnaboldi</td>
<td>5</td>
</tr>
<tr>
<td>Professional Communication</td>
<td>Nicoletta Di Blas</td>
<td>5</td>
</tr>
<tr>
<td>Science, Technology, Society and Wikipedia</td>
<td>Guido Raos</td>
<td>5</td>
</tr>
<tr>
<td>Disseminating Research</td>
<td>Anna Maria Paganoni</td>
<td>5</td>
</tr>
<tr>
<td>Research Skills</td>
<td>Donatella Sciuto</td>
<td>5</td>
</tr>
<tr>
<td>Research Planning</td>
<td>Tullio Tolio</td>
<td>5</td>
</tr>
<tr>
<td>Innovative Teaching Skills</td>
<td>Giulio Magli</td>
<td>5</td>
</tr>
<tr>
<td>Industrial Skills</td>
<td>Paolo Biscari</td>
<td>5</td>
</tr>
<tr>
<td>Project Management Basics</td>
<td>Alfonso Fuggetta</td>
<td>5</td>
</tr>
<tr>
<td>Project Management (in Action)</td>
<td>Mauro Mancini</td>
<td>5</td>
</tr>
<tr>
<td>Project Management PMI-CAPM Certification Preparation</td>
<td>Alfonso Fuggetta</td>
<td>5</td>
</tr>
</tbody>
</table>

The Aerospace Science and Technology Department organizes specific courses (Type B), characterizing the PhD program in Aerospace Engineering. The acquisition of at least 5 credits is mandatory among the courses of B type. The courses scheduled for the 2017-18 academic year are listed in Table B.

Table B: PHD COURSES CHARACTERISING THE PHD PROGRAMME
<table>
<thead>
<tr>
<th>SSD</th>
<th>Name of Course</th>
<th>Professor</th>
<th>Semester</th>
<th>Language</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ING-IND</td>
<td>Mechanics of elastic solids</td>
<td>M. Morandini</td>
<td>2nd semester</td>
<td>English</td>
<td>5</td>
</tr>
<tr>
<td>/04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ING-IND</td>
<td>Science and engineering of materials</td>
<td>G. Sala</td>
<td>1st semester</td>
<td>English</td>
<td>10</td>
</tr>
<tr>
<td>/04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ING-IND</td>
<td>Applied computational fluid dynamics</td>
<td>F. Auteri</td>
<td>2nd semester</td>
<td>English</td>
<td>5</td>
</tr>
<tr>
<td>/06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ING-IND</td>
<td>Dynamics of multi-body systems</td>
<td>P. Masarati / F. Cheli</td>
<td>1st semester</td>
<td>English</td>
<td>10</td>
</tr>
<tr>
<td>/04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ING-IND</td>
<td>Aerodynamics and aeroacoustics of rotors</td>
<td>L. Vigevano</td>
<td>2nd semester</td>
<td>English</td>
<td>5</td>
</tr>
<tr>
<td>/06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ING-IND</td>
<td>Flight dynamics and aeroelasticity of Rotary-Wing</td>
<td>G. Quaranta</td>
<td>1st semester</td>
<td>English</td>
<td>5</td>
</tr>
<tr>
<td>/03</td>
<td>Aircrafts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAT/07</td>
<td>Introduction to Microfluidics</td>
<td>A. Frezzotti</td>
<td>2nd semester</td>
<td>English</td>
<td>5</td>
</tr>
<tr>
<td>ING-INF/04</td>
<td>Identification and control of rotary-wing aircraft</td>
<td>M. Lovera</td>
<td>1st semester</td>
<td>English</td>
<td>5</td>
</tr>
<tr>
<td>/04</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>ING-IND</td>
<td>Nonlinear Optimal Control with Applications</td>
<td>F. Topputo</td>
<td>2nd semester</td>
<td>English</td>
<td>5</td>
</tr>
<tr>
<td>/03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ING-IND</td>
<td>High Performance Computing in Multibody Dynamics</td>
<td>R. Serban / A.Tasora</td>
<td>2nd semester</td>
<td>English</td>
<td>5</td>
</tr>
<tr>
<td>/04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ING-IND</td>
<td>Perturbation methods for astrodynamical applications</td>
<td>M. Lara / C. Colombo</td>
<td>1st semester</td>
<td>English</td>
<td>5</td>
</tr>
<tr>
<td>/03</td>
<td></td>
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</table>

**PREPARATORY COURSES**

If the supervisor and the tutor find it useful or necessary that the candidate attends preparatory courses (chosen among the activated courses at the Politecnico di Milano) the Faculty Board of the PhD programme may assign some extra-credits to be acquired to complete the training path. The credits acquired in this way will be considered as additional, in relation to the mandatory credits to be acquired with the PhD courses.

**SPECIALISTIC COURSES, LONG-TRAINING SEMINARS**

The attendance of Specialist Courses, Workshops, Schools, Seminars cycles is strongly encouraged and (if these seminars, workshops are certified and evaluated) may permit to acquire credits according the modalities established by the Faculty Board and previous approval of the study plan submitted by the candidate. These courses and workshops can be inserted in the study plan, even if they are not evaluated (and therefore not qualified as credits), as optional “additional teaching”.

**6.4 Presentation of the study plan**

PhD candidates must submit a study plan, which may be revised periodically (approximately every three months), in order to adequate them to possible changes in the course list, or to needs
motivated by the development of their PhD career. The study plans must be approved by the PhD programme Coordinator, according to the modalities established by the Faculty Board of the PhD Programme itself.

6.5 Yearly evaluations
Candidates present their work to the Faculty Board at least once a year. In particular, the candidates must pass an annual evaluation in order to be admitted to the following PhD year. The third year evaluation establishes the candidate's admission to the final PhD defense. As a result of each successful annual evaluation, the candidates receive an evaluation (A/B/C/D). Candidates who do not pass the exam will be qualified as “Repeating candidate” (Er) or “not able to carry on with the PhD (Ei)”.
After the final year, candidates who have achieved sufficient results but need more time to draw up their theses, may obtain a prorogation of up to 12 months.

6.6 PhD thesis preparation
The main objective of the PhD career is the development of an original research contribute. The PhD thesis is expected to contribute to the advance of the knowledge in the candidate's research field. The PhD study and research work is carried out, full time, during the three years of the PhD course. Stages or study periods in (Italian or International) companies or external Institutions may complete the candidate's preparation.
The resulting theses need to be coherent with the research issues developed in the Department where the PhD programme is developed.
The candidate must present an original thesis, discuss its contribution to the state of the art in the research field in the research community.
The PhD research is developed following the lead of a supervisor, who supports the candidate in the setting out and in the everyday activities regarding the thesis development.

6.7 Final exam
At the conclusion of the studies, the Board of Professors evaluates the candidates. Candidates who receive a positive evaluation submit their theses to two external reviewers for refereeing. If the evaluation provided by the reviewers is positive (o after the revisions required by the external reviewers), the candidates defend their thesis in a final exam, in front of an examination Committee composed by three members (at least two of which must be external experts).

7. Laboratories, PhD Secretary Services
The Department of Aerospace Science and Technology is equipped with many experimental and research labs, including:
- Structural testing
- Aerodynamics
- Space systems
- Space Propulsion
- Crash
8. Internationalisation and other activities

A research period of at least three months to be spent at foreign universities, research laboratories and industries is not compulsory but strongly recommended for all PhD candidates. Politecnico di Milano supports joint PhD paths with International Institutions, as well as Joint and Double PhD programmes. Further information can be found on the PhD School and PhD programme websites.

More specifically, the PhD programme in Aerospace Engineering is actively participating in the following Marie Curie European programs:

- EJD program NITROS, in collaboration with Delft University, University of Liverpool and University of Glasgow.
- ETN program UTOPIAE, in collaboration with University of Strathclyde, University of Durham, Ghent University

and is associated to the ETN program MIGRATE, in collaboration with Karlsruher Institut fuer Technologie, University of Limerick, Università di Bologna, Institut National Des Sciences Appliquées de Toulouse and University of Thessaly, providing training and secondments.

It is also carrying out a joint PhD program with Vrije Universiteit Brussel.

Interaction with and exposure to non-academic sectors provides significant benefits to doctoral candidates as well as to research and innovation intensive employment sectors. Direct exposure to the challenges and opportunities in non-academic sectors of the economy and society at large is fostered by networking, connectivity, inter-sectoral mobility and wide access to knowledge. In particular, the PhD programme in Aerospace Engineering collaborates with the following Research Agencies and Industrial partners:

- European Space Agency, ESA
- Istituto Nazionale di Astrofisica, INAF
- D-Orbit Spa

through the activation of thematic scholarships.
Attachment A1 – PhD Programme Coordinator

Prof. Luigi Vigevano CV

1978 Degree in aeronautical engineering at Politecnico di Milano
1978-79 Von Karman Institute Diploma with honours
1979-82 Research scholarships at the Von Karman Institute for Fluid Dynamics, Rhode-St-Genese, Belgium
1983-90 Professional activity at Agusta SpA and Ansaldo Componenti SpA.
1990 Appointed as Ricercatore at Politecnico di Milano, Dipartimento di Ingegneria Aerospaziale.
2004 Appointed as Professore Associato at Politecnico di Milano, Dipartimento di Ingegneria Aerospaziale.

Research activity in the following subjects:
- modelling and simulation of turbulent combustion (1990-2001)
- numerical simulation of inviscid compressible flows in the unsteady and high Mach regimes (1994-2000)
- numerical simulation of inviscid and viscous flows with unstructured grids (1991-2010)
- investigation on helicopter rotor aeroacoustics (2016-2017)
- development of numerical algorithms for the simulation of real gas flows (1997-2009)
- numerical simulation of rarefied and reactive gas flows (2005-2013)

Head developer, under partial fundings from Agusta SpA, of a Navier-Stokes solver dedicated to complete helicopter aerodynamics.

Has participated as representative of Dip. Ing. Aerospaziale, Politecnico di Milano to the following European research programs, concerning helicopter aerodynamics:
- HELISHAPE (1994-96)
- EROS (1997-99)
- GOAHEAD (2005-09)

Sub-task leader (task: overall aerodynamics) in the following European research program, concerning tilt-rotor design:
- NICETRIP (2006-12)

In Italy, he has obtained the license to Full Professor during ASN 2012.

Attachment A2 – PhD Faculty Board

Description of the composition of the Faculty Board

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
<th>SSD / Title of SSD</th>
</tr>
</thead>
<tbody>
<tr>
<td>L. Vigevano (coordinator)</td>
<td>Associate Prof.</td>
<td>ING-IND/06</td>
</tr>
<tr>
<td>A. Airoldi</td>
<td>Associate Prof.</td>
<td>ING-IND/04</td>
</tr>
<tr>
<td>F. Auteri</td>
<td>Associate Prof.</td>
<td>ING-IND/06</td>
</tr>
<tr>
<td>F. Bernelli Zazzera</td>
<td>Full Prof.</td>
<td>ING-IND/05</td>
</tr>
<tr>
<td>P. Bettini</td>
<td>Assistant Prof.</td>
<td>ING-IND/04</td>
</tr>
<tr>
<td>J. Biggs</td>
<td>Associate Prof.</td>
<td>ING-IND/03</td>
</tr>
<tr>
<td>C. Bisagni</td>
<td>Associate Prof.</td>
<td>ING-IND/04</td>
</tr>
<tr>
<td>Last Name</td>
<td>First Name</td>
<td>Company/Organization</td>
</tr>
<tr>
<td>-----------</td>
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<td>----------------------</td>
</tr>
<tr>
<td>NANNONI</td>
<td>Fabio</td>
<td>AgustaWestland</td>
</tr>
<tr>
<td>LUCCHESINI</td>
<td>Massimo</td>
<td>AleniaAermacchi</td>
</tr>
<tr>
<td>ONGARO</td>
<td>Franco</td>
<td>ESTEC</td>
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