


PERSONAL INFORMATION



Prof. Dr.-Ing. Giorgio Zavarise

 Politecnico di Torino
 Department of Structural, Geotechnical and Building Engineering
 Corso Duca degli Abruzzi, 24
 10129 Torino – Italy (office)

Via Benussi 44, 35136 Padova – Italy (home)

 +39 011 0904803 (office)  +39 338 2690187

 giorgio.zavarise@polito.it (office)
 giorgio.zavarise@icloud.com (home)

 <https://www.swas.polito.it/rubrica/list.asp?lang=it&freetext=Zavarise>

 Skype: giorgio.zavarise

Sex: Male | Date of birth: 27/06/1959 | Nationality: Italian

WORK EXPERIENCE

19/12/2017 – today

Full Professor of Structural Mechanics

Politecnico di Torino, Department of Structural, Geotechnical and Building Engineering,
 10129 Torino – Italy
www.polito.it

- Scientific research on Structural Mechanics and Contact Mechanics
- Foreign experience: University of Hannover – Germany
- Teaching experience: Courses of Structural Mechanics for Civil, and Mechanical Engineering
- Admin experience: Collaboration on writing scientific project proposals.

Business or sector Scientific research

01/11/2006 – 18/12/2017

Full Professor of Structural Mechanics

University of Salento, Faculty of Engineering, Department of Innovation Engineering, 73100 Lecce – Italy
www.unisalento.it

- Scientific research on Structural Mechanics and Contact Mechanics
- Foreign experience: University of Hannover – Germany
- Teaching experience: Courses of Structural Mechanics for Civil, and Mechanical Engineering
- Admin experience: Collaboration on writing scientific project proposals.

Business or sector Scientific research

01/01/2010 - today

Full Professor of Structural Mechanics

National Institute for Nuclear Physics, Facility of Lecce, 73100 Lecce – Italy
<https://web.le.infn.it/web/gruppo1/>

- Scientific research on Structural Mechanics and Contact Mechanics applied to sub-atomic particles detectors.

Business or sector Scientific research

29/04/2014 – 22/11/2016

Member of the Building Committee (“Commissione Edilizia”)

University of Salento, Lecce – Italy – www.unisalento.it

- Admin experience: Coordination and supervision of building’s maintenance, new construction’s planning.

Business or sector University governing

01/11/2007 – 30/10/2013 **Rector's Delegate for Facilities Management and Planning**
University of Salento, Lecce – Italy – www.unisalento.it

- Admin experience: Coordination and supervision of building's maintenance, new construction's planning, contacts with Regional, Provincial and local governments

Business or sector University governing

01/11/1998 – 31/10/2006 **Associate Professor of Structural Mechanics**
The Turin Polytechnic, Faculty of Engineering II, Department of Structural Engineering and Geotechnics, C.so Duca degli Abruzzi 24, 10129 Turin, Italy – www.polito.it

- Scientific research on Structural Mechanics and Contact Mechanics
- Foreign experience: University of Hannover – Germany
- Teaching experience: Courses of Structural Mechanics for Civil, and Mechanical Engineering
- Admin experience: Collaboration on writing scientific project proposals

Business or sector Scientific research and teaching

01/12/1993 – 31/10/1998 **Assistant Professor of Structural mechanics**
University of Padua, Faculty of Engineering, Institute of Management Engineering, Padua - Italy

- Scientific research on Structural Mechanics and Contact Mechanics, with application to nuclear fusion experimental machines
- Foreign experience: University of Hannover and University of Darmstadt – Germany
- Sabbatical: January - July 1996 – University of California at Berkeley – Prof. R.L. Taylor
- Teaching experience: Courses of Structural Mechanics for Civil, and Management Engineering
- Admin experience: Collaboration on writing scientific project proposals

Business or sector Scientific research and teaching

01/07/1992 – 30/10/1993 **Post-doc (scholarship)**
University of Padua, Faculty of Civil Engineering, Institute of Constructions, Bridges and Roads – Padua, Italy

- Scientific research on Structural Mechanics and Contact Mechanics, with application to innovative telescopes and nuclear fusion experimental machines
- Foreign experience: University of Hannover and University of Darmstadt – Germany
- Teaching experience: Courses of Structural Mechanics for Civil and Mechanical Engineering
- Admin experience: Collaboration on writing scientific project proposals

Business or sector Scientific research and teaching

01/11/1990 – 30/06/1992) **Post-doc co-worker and consultant engineer**
University of Padua, Faculty of Civil Engineering, Institute of Constructions, Bridges and Roads – Padua, Italy

- Scientific research on Structural Mechanics and Contact Mechanics, with application to innovative telescopes and nuclear fusion experimental machines
- Foreign experience: University of Hannover and University of Darmstadt – Germany
- Teaching experience: Courses of Structural Mechanics for Civil and Mechanical Engineering

Business or sector Scientific research and teaching

EDUCATION AND TRAINING

01/11/1987 – 31/10/1990 **PhD in Structural Mechanics (with unanimous evaluation of the Committee) – Tutor prof. B.A. Schrefler**
University of Bologna (Consortium among Universities of Bologna, Padua and Ancona), Bologna - Italy

- Studies on Structural Mechanics and Contact Mechanics
- Foreign experience: University of Hannover and University of Darmstadt – Germany
- Teaching experience: Courses of Structural Mechanics for Civil and Mechanical Engineering
- Title achieved with unanimous evaluation of the Commission on 10/10/1991.

25/03/1986 – 30/10/1987

Scientific co-worker

University of Padua, Faculty of Civil Engineering, Institute of Constructions, Bridges and Roads – Padua, Italy

- Scientific research on Structural Mechanics and Contact Mechanics, with application to innovative telescopes and nuclear fusion experimental machines

05/10/1978 – 24/03/1986

Degree (5-years course) in Civil Engineering-Structural Mechanics curriculum – max score 110/110 cum laude

University of Padua, Faculty of Civil Engineering – Padua, Italy

- Civil Engineering background, with a specific focus on Structural Mechanics, Computational Mechanics and special problems of advanced technology
- Note: Thesis awarded with a scholarship from the Alumina Company

01/10/1973 – 20/07/1978

Scientific Lyceum (High School) Degree - max score 60/60

Liceo Scientifico Statale, Montebelluna - TV, Italy

- High school in humanities and science

Continuous Education & Training - Courses ATTENDANCE

Within the Education and Training period several courses have been attended

1995	Costruire con l'acciaio, Padova
1995	Costruire con materiali innovativi, Padova
1994	Diagnosi del degrado e restauro strutturale per la conservazione del patrimonio edilizio e monumentale, Vicenza
1994	L'ingegneria sismica: dalla pianificazione del territorio al progetto dei dettagli costruttivi, Vicenza
1994	Costruire con il legno, Padova
1993	EuroSoftware '93, Venezia
1993	Metodologie di verifica agli stati limite di strutture di c.a. e c.a.p., Belluno, Vicenza
1993	La muratura portante di nuova costruzione ed esistente - aspetti normativi e problemi aperti, Venezia
1993	Sperimentazione fisica e modellazione numerica delle strutture, Rovigo, Vicenza
1993	Problemi di durabilità del calcestruzzo - calcestruzzi armati con fibre - barre speciali d'armatura per c.a., Rovigo, Vicenza
1993	Progettare il cemento armato in zona sismica secondo l'eurocodice N. 8, Treviso
1993	Modellazione strutturale e controllo dei risultati, Padova
1992	CAD & FEM - Tecniche di modellazione e di analisi strutturale, Padova
1991	L'impiego di conoscenze sismiche aggiornate nell'analisi e nel progetto: 1) i suoli; 2) le costruzioni civili, Padova
1990	Progress in Computational analysis of inelastic structures, P. Perzyna, A. Samuelsson, J.C. Simo, E. Stein, P. Wriggers, CISM, Udine
1989	Recent advances in nonlinear finite element analysis, T.J.R. Hughes and T.B. Belytschko, Lausanne
1989	Fracture mechanics of concrete with ramifications to rock and ceramics, Z.P. Bazant, Lausanne
1988	Modelli sulla formatura dei metalli: teoria e applicazioni O.C. Zienkiewicz, Torino
1984	XXVI Corso Internazionale di Storia dell'Architettura del Palladio, Chastel, Vicenza

TEACHING & TRAINING

Teaching Activity

Short resume

- The educational activities as visiting lecturer at the Institute of Constructions, Bridges and Roads of the University of Padua began in the Academic Year 1986-87, few months after the graduation. From that date the teaching activity has been wide and intense, as shown here below.
- A special effort has been devoted to complementary educational activities, with the organization of extended theory tutorings, additional exercises. Even specific tutoring courses have been organized, to help students who had particular problem in passing the exams.
- As a side teaching activity, for several years, the coordination, management, educational and scientific support of the computational facilities for Civil Engineering in Padua has been provided.
- The implementation of educational programs on personal computer and its educational support for students, as well as the development of special programs devoted at graphical restitution for master students has also to be cited.
- Also, the students' judgment concerning the quality of teaching has always been very positive, despite the fact that the courses are among the most difficult ones for both civil and industrial engineering students. More details are available in the annexed Students' teaching evaluation list.

See also Annex 2.

Students' evaluation summary in the last 5 years

Structural Mechanics vs Faculty average (*)							
Topic	2016-17	2015-16	2014-15	2013-14	2012-13	2011-12	2010-11
Capability to stimulate/motivate the interest in the subject	95-(79)	86-(79)	90-(80)	91-(79)	89-(75)	88-(72)	90-(70)
Capability to explain the arguments in a clear way	91-(80)	76-(80)	79-(81)	80-(81)	81-(77)	86-(75)	85-(73)
Computational Mechanics vs Faculty average (*)							
Topic	2016-17	2015-16	2014-15	2013-14	2012-13	2011-12	2010-11
Capability to stimulate/motivate the interest in the subject	92-(80)	-	91-(80)	-	92-(75)	81-(72)	80-(70)
Capability to explain the arguments in a clear way	92-(80)	-	88-(81)	-	86-(77)	75-(75)	76-(73)

Extracurricular & Tutoring Courses

2012-05	Tutoring course of Structural Mechanics	(55 students – Unisalento)
2007-06	Highlights on the Finite Element Method	(40 students – Unisalento)
2007-06	Tutoring course of Structural Mechanics	(60 students – Unisalento)
2005-12	Tutoring course of Structural Mechanics Polytechnic)	(20 students – The Turin Polytechnic)
2003-12	Tutoring course of Structural Mechanics Polytechnic)	(20 students – The Turin Polytechnic)

Special initiatives

2013-2014-2015 SpaghettiBridge contest

The competition consists in building a 1-m bridge using pasta (usually spaghetti or bucatini) – spaghettibrige.unisalento.it; <https://www.facebook.com/Unisalento.SBC/?fref=ts>; <https://www.youtube.com/user/UniSalento/playlists>.

Courses

November 2006 – today (Full Professor)

University of Salento (former University of Lecce)

2016/2017

- Structural Mechanics (industrial)
 - Computational Mechanics (master civil)
 - Structural Mechanics (Brindisi, industrial (substitute))
 - Numerical Computing (High Schol ISUFI)
- 2015/2016
- Structural Mechanics (industrial)
 - Structural Mechanics - A (civil)
 - Structural Mechanics (Brindisi, industrial (substitute))
- 2014/2015
- Structural Mechanics (industrial)
 - Computational Mechanics (master civil)
 - Structural Mechanics (Brindisi, industrial (substitute))
- 2013/2014
- Structural Mechanics (industrial)
 - Computational Mechanics – A (master civil)
 - Structural Mechanics (Brindisi, industrial (substitute))
- 2012/2013
- Structural Mechanics (industrial)
 - Computational Mechanics – A (master civil)
 - Structural Mechanics (Brindisi, industrial (substitute))
- 2011/2012
- Structural Mechanics (industrial)
 - Computational Mechanics – A (master civil, materials)
 - Computational Mechanics – B (master civil, (substitute))
- 2010/2011
- Structural Mechanics (civil)
 - Computational Mechanics – A (master civil, materials)
 - Computational Mechanics – B (master civil, (substitute))
 - Structural Mechanics (Brindisi, industrial (substitute))
- 2009/2010
- Computational Mechanics – A (master civil, materials)
 - Computational Mechanics – B (master civil)
- 2008/2009
- Structural Mechanics (civil, mechanical, materials)
 - Structural mechanics II (master civil, material (substitute))
 - Computational Mechanics – A (master civil, materials)
 - Computational Mechanics – B (master civil (substitute))
- 2007/2008
- Structural Mechanics (civil, mechanical, materials)
 - Structural Mechanics (Brindisi, management (substitute))
 - Theory of Structures (Brindisi, Master aerospace (10 hours))
- 2006/2007
- Structural Mechanics (civil, mechanical, materials)
 - Structural Mechanics (Brindisi, management (substitute))
 - Theory of Structures (Brindisi, Master aerospace (10 hours))
- November 1998 – October 2006 (Associate Professor)**
University of Padua, Faculty of Engineering
- 2001/2002
- Computational Mechanics for Structures (civil (substitute))
- The Turin Polytechnic, Faculty of Engineering II**
- 2005/2006
- Structural Mechanics (civil)
 - Continuum Mechanics (mechanical (substitute))
 - Computational Mechanics of Structures I (civil, (collaboration - seminars and exercises))
 - Computational Mechanics of Structures II (civil, (collaboration))
- 2004/2005

- Structural Mechanics (civil)
 - Continuum Mechanics (mechanical, (collaboration - exercises))
- 2003/2004
- Structural Mechanics (civil)
 - Continuum Mechanics (mechanical (substitute))
 - Computational Mechanics of Structures (civil, (collaboration- seminars and exercises))
- 2002/2003
- Structural Mechanics (civil)
 - Continuum Mechanics (mechanical (substitute))
- 2001/2002
- Structural Mechanics (civil)
 - Continuum Mechanics (mechanical (substitute))
 - Computational Mechanics of Structures (civil, (collaboration - seminars and exercises))
- 2000/2001
- Structural Mechanics (civil/ mechanical)
 - Computational Mechanics of Structures (civil, (collaboration - seminars and exercises))
- 1999/2000
- Structural Mechanics (civil/ mechanical)
 - Reinforced Concrete Design (civil (substitute))
 - Computational Mechanics of Structures (civil, (collaboration - seminars and exercises))
- 1998/1999
- Structural Mechanics (civil/mechanical)

December 1993 – October 1998 (Assistant Professor)

University of Padua, Faculty of Engineering

Teaching experience within the courses of Structural mechanics for Civil engineering and Management engineering, Mechanics of Materials and Fracture, Theory of Structures. The teaching activity included exercises, seminars on special topics, and tutoring of homeworks and Master Theses. A noticeable support was also provided to the students for the use of software, by assisting them during scheduled exercise sessions, and by the management of the available computational facilities.

October 1986 – November 1993 (Scientific co-worker, PhD Student, Post-doc)

University of Padua, Faculty of Engineering

Teaching experience within the courses of Structural Mechanics, Reinforced Concrete, Computational Mechanics for Structures, and Structural dynamics. The teaching activity included exercises, seminars, and tutoring of homeworks and Master Theses. A noticeable support was also provided to the students for the use of software, by assisting them during scheduled exercise sessions.

Training activity
Courses ORGANIZATION and
PARTICIPATION as speaker

Participation as speaker

1990-present

Several invited seminars at Italian and foreign Universities:

University of Hannover, University of Darmstadt, University of Stuttgart, University of Padua, University of Bologna, University of Berkeley, University of Stanford, The Turin Polytechnic, The Milan Polytechnic.

2016

TCN - 3-days course on "An introduction to the Finite Element Method" FIAT Res. Center, Orbassano, March 8-10, 2016.

2015

Recupero e restauro del patrimonio storico costruito: progettazione consapevole e coerenza degli interventi - Laboratorio TekneHub, Tecnopolo dell'Università degli Studi di Ferrara, Rete Alta Tecnologia dell'Emilia Romagna, Ferrara, 8 Maggio 2015.

2014

Workshop Italia – Il risanamento delle murature umide, Padova, 23 Settembre 2014.

2013

Workshop Italia – Il risanamento delle murature umide, Lecce, 17 Aprile 2013.

2012

TCN - 2-days course on "Numerical methods for contact problem: an overview of the current state of art" (together with prof. P. Wriggers) Bergamo, February 6-7, 2012.

2010

Il Sistema voltato delle fabbriche salentine, In cooperation with "Direzione Regionale per I Beni Culturali e Paesaggistici della Puglia, Soprintendenza per i Beni Architettonici e Paesaggistici per le Province di Bari, Barletta-Andria-Trani e Foggia. Serie "Incontri Culturali del Giovedì al Castello Svevo di Bari, 13 Maggio 2010.

2010

TCN - 2-days course on "An introduction to the Finite Element Method" Bergamo, May 10-11, 2010.

2010

TCN - 2-days course on "Numerical methods for contact problem: an overview of the current state of art" (together with prof. P. Wriggers) Bergamo, June 3-4, 2010.

2008

TCN - 2-days course on "Numerical methods for contact problem: an overview of the current state of art" (together with prof. P. Wriggers) Bergamo, April 17-18, 2008.

2007

TCN - 2-days course on "Numerical methods for contact problem: an overview of the current state of art" (together with prof. P. Wriggers) Bergamo, May 14-15, 2007.

2006

TCN - 2-days course on "Numerical methods for contact problem: an overview of the current state of art" (together with prof. P. Wriggers) FIAT Res. Center, Orbassano, February 20-21, 2006.

2005

Course on "Contact mechanics applied to industrial problems", Universidad Internacional de Andalucia, Baeza, Spagna, April 2005.

2005

TCN - 2-days course on "Introduction to numerical methods for contact problems with friction and thermo-mechanical coupling" (together with prof. P. Wriggers) FIAT Res. Center, Orbassano, Italy, July 11-12, 2005.

2004

TCN - 2-days course on "Introduction to numerical methods for contact problems with friction and thermo-mechanical coupling" (together with prof. P. Wriggers), Bergamo, Italy, May 10-11, 2004.

2003

TCN - 2-days course on "Introduction to numerical methods for contact problems with friction and thermo-mechanical coupling" (together with prof. P. Wriggers) FIAT Res. Center, Orbassano, Italy, February 24-25, 2003.

2002

NAFEMS - 2-days course on "Introduction to numerical methods for contact problems with friction and thermo-mechanical coupling" (together with prof. P. Wriggers), FIAT Res. Center, Orbassano, Italy, February 10-11, 2002.

2000

NAFEMS - 2-days course on "Introduction to numerical methods for contact problems with friction and thermo-mechanical coupling" (together with prof. P. Wriggers and prof. F. Bonollo), Padua, Italy October 11-12, 2000.

1988

Lessons for the Professional Board of Engineers of Treviso on: "The finite element method in structural design".

Organization**1991-1995 COMETT-ATTAC Courses**

Within the European Project COMETT-ATTAC several Continuous Education and Training Courses, in

cooperation with the Professional Engineering Boards of the Nord-East of Italy, have been organized. The total amount of activity concerns 15 courses, for a total of 30 working days:

- 1995 Costruire con materiali innovativi, Padova
- 1995 Costruire con l'acciaio, Padova
- 1994 Costruire con il legno, Padova
- 1994 L'ingegneria sismica: dalla pianificazione del territorio al progetto dei dettagli costruttivi, Vicenza
- 1994 Diagnosi del degrado e restauro strutturale per la conservazione del patrimonio edilizio e monumentale, Vicenza
- 1994 Diagnosi del degrado e restauro strutturale per la conservazione del patrimonio edilizio e monumentale, Vicenza
- 1993 Progettare il cemento armato in zona sismica secondo l'eurocodice N. 8, Treviso
- 1993 Problemi di durabilità del calcestruzzo - calcestruzzi armati con fibre - barre speciali d'armatura per c.a., Rovigo, Vicenza
- 1993 Sperimentazione fisica e modellazione numerica delle strutture, Rovigo, Vicenza
- 1993 La muratura portante di nuova costruzione ed esistente - aspetti normativi e problemi aperti, Venezia
- 1993 Metodologie di verifica agli stati limite di strutture di c.a. e c.a.p., Belluno, Vicenza
- 1993 EuroSoftware '93, Venezia
- 1993 Modellazione strutturale e controllo dei risultati, Padova
- 1992 CAD & FEM - Tecniche di modellazione e di analisi strutturale, Padova
- 1991 L'impiego di conoscenze sismiche aggiornate nell'analisi e nel progetto: 1) i suoli; 2) le costruzioni civili, Padova

SCIENTIFIC RESEARCH

Publications

Publications have focused on issues of Computational Mechanics. The complete publication list is available as separate document

Total to date

International publications:	178
National publications	49
Total	227

Detailed publication list

International

International journals	60
International journals accepted	0
International journals submitted	2
Monographs	4
Book chapters	4
Contributions on refereed books	8
Prefaces	1
Papers on conference proceedings	38
Extended abstracts and poster sessions in International Conferences	51
Reports	15

National

Publications on international journals	5
Monographs;	3
Papers on conference proceedings	27
Extended abstracts and poster sessions in National conferences	10
Internal reports	4

Scientific rankings

SCOPUS

- H-index: 25
- H-index without self-citations: 24
- Documents: 65
- Citations: 1611, by 1066 documents

See also Annex 3.

Google Scholar

- H-index: 30
- Citations: 5046
- I10-index: 54

See also Annex 3.

ResearchGate

- RG Score: 31.37
- Score higher than 90% of ResearchGate members'
- H-index: 27
- H-index without self-citations: 27
- Citations: 2358

See also Annex 3.

Mendeley

- H-index: 25
- Citations: 1507
- Views: 32811
- Readers: 1076

See also Annex 3.

Publons

- **Rankings**
 - 98th percentile of reviewers from University of Salento until January 2017.
 - 98th percentile of reviewers in Engineering (all) on Publons up until January 2017.
- **Ranking**
 - 1st reviewer of University of Salento, with merit 428.
 - 1st reviewer of world ranking in Engineering – Computational Mechanics
 - 73rd reviewer of world ranking in Engineering
- **University of Salento ranking**
 - 21 Reviewers - 35th in Italy (Highest merit G. Zavarise)
 - 387 reviews – 21th in Italy (142 from G. Zavarise)
 - 1143 Merit – 21th in Italy (439 from G. Zavarise)
- **Peer Review Summary**
 - Reviewed 146 manuscripts for journals including Computational Mechanics and Computer Methods in Applied Mechanics and Engineering; placing in the 98th percentile for verified review contributions on Publons up until January 2017:
- **Peer Review list**
 - 37 Computational Mechanics
 - 21 Computer Methods in Applied Mechanics and Engineering
 - 19 International Journal for Numerical Methods in Engineering
 - 13 Tribology International
 - 12 International Journal of Solids and Structures
 - 8 Journal of Tribology
 - 4 Computers & Structures
 - 4 Wear
 - 4 Mechanics Research Communications
 - 4 Archive of Applied Mechanics
 - 3 International Journal of Mechanical Sciences
 - 2 European Journal of Mechanics, A/Solids
 - 2 Journal of Mathematical Analysis and Applications
 - 2 Meccanica
 - 2 Journal of Applied Mechanics, Transactions ASME
 - 2 Nanomaterials and Nanotechnology
 - 2 Journal of Engineering Mathematics
 - 1 Journal of Computational Physics
 - 1 Mechanics of Advanced Materials and Structures
 - 1 Engineering Computations
 - 1 AIMS Materials Science
 - 1 Steel & Composite structures

See also Annex 3.

H-index without self-citations, - full professors of the Department of Innovation Engineering, University of Salento

- Professors: 19
- 1st: prof. A. Maffezzoli – Materials' Science, H-index 26
- 2nd: prof Giorgio Zavarise – Structural Mechanics, H-index 21
- Mean value: 13.84

See also Annex 3.

H-index without self-citations, full professors in Structural Mechanics, Italy

- Professors: 85
- 1st: prof. F. Auricchio, H-index 38
- 12th: prof Giorgio Zavarise – Structural Mechanics, H-index 21
- Mean value: 13.76

See also Annex 3.

VQR 2004-2010 (National evaluation of the quality of the research)

Excellent evaluation (max rank) of the submitted papers. The Civil Engineering scientific area resulted the only one with excellent evaluation of the whole University of Salento.

Selected also as referee for evaluation of scientific contributions in the field of Structural Mechanics.

See also Annex 3.

ASN 2012 (National Scientific Habilitation)

Eligible member of the Evaluation Commission for associate and full professorship positions.

See also Annex 3.

ASN 2016 (National Scientific Habilitation)

Eligible member of the Evaluation Commission for associate and full professorship positions.

See also Annex 3.

Others

- Journal "Wear" - Top 25 articles, July-September 2004: G. Zavarise, M. Borri-Brunetto, M. Paggi. On the reliability of microscopical contact models, *Wear, Volume 257, Issue 3-4, 1 August 2004, Pages 229-245.*
- Several scientific books contain citations to Giorgio Zavarise's papers.

See also Annex 3.

Honours and awards

Publons Top reviewers for Sentinels of Science: Engineering (all) (Oct. 2015 - Sept. 2016).

See also Annex 3.

Editorial Boards Memberships

Computational Mechanics – Springer - (from May 2011),

<http://www.springer.com/engineering/mechanics/journal/466?detailsPage=editorialBoard>.

Structural and Computational Mechanics Book Series, Società Editrice Esculapio, Bologna (from July, 2015), <http://www.editrice-esculapio.com/structural-and-computational-mechanics-book-series/>;

ISSN: 2421-2822, DOI: 10.15651/structural-and-computational-mechanics-book-series.

Reviewer' activity for Scientific Journals

Reviewer's activity for top-class scientific journals in the field of Mechanics and Computational mechanics is quite wide.

Review performed in the last years

- 2018: 8
- 2017: 18
- 2016: 26
- 2015: 24
- 2014: 12
- 2013: 12
- 2012: 15

Scientific Journals

- 1) Advanced Modeling and Simulation in Engineering Sciences
- 2) AIMS Materials Science

- 3) Applied Sciences
- 4) Archive of Applied Mechanics
- 5) ASME Journal of Applied Mechanics
- 6) ASME Journal of Tribology
- 7) Computational Mechanics
- 8) Computer Methods in Applied Mechanics and Engineering
- 9) Communications in Numerical Methods in Engineering
- 10) Computers & Structures
- 11) Engineering Computation
- 12) European Journal of Mechanics A/Solids
- 13) Engineering Computations: International Journal for Computer-Aided Engineering and Software
- 14) Fibers
- 15) Finite Elements in Analysis and Design
- 16) International Journal of Geomechanics
- 17) International Journal of Mechanical Sciences
- 18) International Journal of Solids and Structures
- 19) International Journal for Numerical Methods in Engineering
- 20) Journal of Computational Physics
- 21) Journal of Engineering Mathematics
- 22) Journal of Mathematical Analysis and Applications
- 23) Meccanica
- 24) Mechanics of Advanced Materials and Structures
- 25) Mechanics Research Communications
- 26) Nanomaterials and Nanotechnology
- 27) Polymers
- 28) Steel and Composite Structures, An International Journal
- 29) Tribology International
- 30) Wear

Reviewer' activity for National and International Institutions

National Institution (research proposals and scientific performances evaluation)

- 1) Miur - Ministry of Education, University and Research (Register of Expert Peer Reviewers for Italian Scientific Evaluation)
- 2) ANVUR - National Agency for the Evaluation of the University and Research System
- 3) Puglia Region – Italy
- 4) Campania Region - Italy
- 5) University of Padua - Italy

International Institutions (research proposals and scientific performances evaluation)

- 1) Deutsche Forschungsgemeinschaft (German Research Foundation)
- 2) Swiss National Science Foundation
- 3) Fonds National de la Recherche Luxembourg
- 4) Austrian Science Fund (FWF)
- 5) Shota Rustaveli National Science Foundation (SRNSF) – Georgia

PhD Evaluation Committees

Universidad Pontificia Comillas, Madrid, Spain
 University of Hannover, Germany
 University of Salento, Lecce, Italy
 The Bari Polytechnic, Italy
 The Turin Polytechnic, Turin, Italy
 IMT School for Advanced Studies - Lucca

Research periods abroad

The whole scientific activity is characterized by a strong link with top-class Universities

2006-present

short visits at the University of Hannover, Germany. As full professor, collaboration with Prof. P. Wriggers.

1998-2005

One month per year, University of Hannover, Germany. As associate professor, collaboration with Prof. P. Wriggers.

01/1996-06/1996

Stage at the University of Berkeley, California – USA. As assistant professor, collaboration with Prof. R.L. Taylor.

1994-1996

One month per year, University of Darmstadt, Germany. As assistant professor, collaboration with Prof. P. Wriggers.

1991-1993

One month per year, University of Darmstadt, Germany. As Post-doc student, collaboration with Prof. P. Wriggers.

04/1990-05/1990

University of Darmstadt, Germany. As PhD student, under the guidance of Prof. P. Wriggers.

01/1990-03/1990

University of Hannover, Germany. As PhD student, under the guidance of Prof. E. Stein and Prof. P. Wriggers.

10/1989-12/1989

University of Hannover, Germany. As PhD student, under the guidance of Prof. E. Stein and Prof. P. Wriggers.

Organization of International and National Conferences**As Chairman**

- 2019 – ICCCM2019 – 6th International Conference on Computational Contact Mechanics, Hannover, July 2015.
- 2018 – ICCM – 9th International Conference on Computational Methods, Rome, August 6-10, 2018 (Local Co-Chairman).
- 2018 – CMIS2018 – 9th Contact Mechanics International Symposium, Biella, Italy, May 2018.
- 2017 – ICCCM2017 – 5th International Conference on Computational Contact Mechanics, Lecce, July 2017.
- 2015 – ICCCM2015 – 4th International Conference on Computational Contact Mechanics, Hannover, May 2015.
- 2015 – GAMM2015 – 86th Annual Meeting of the International Association of Applied Mathematics and Mechanics, Lecce, Italy, March 2015 (850 participants).
- 2013 – ICCCM2013 – 3rd International Conference on Computational Contact Mechanics, Lecce, July 2013.
- 2011 – TCCM 2011 – Trends & Challenges in Computational Mechanics, Padua, Italy September 2011.
- 2011 – ICCCM11 – 2nd International Conference on Computational Contact Mechanics, Hannover, June 2011.
- 2009 – ICCCM2009 – 1st International Conference on Computational Contact Mechanics, Lecce, September 2009.

As member of the Organizing Committee

- 2017 – YIC 2017 – 4th ECCOMAS Young Investigators Conference and PhD Olympiad 2017, Milan, September 2017.
- 2008 – TCN-CAE 2008 – International Conference on CAE and Computational Technologies for Industry, Venice, October 2008.
- 2008 – WCCM8 – 8th World Congress on Computational Mechanics, Venice, Italy, June 2008.
- 2007 – FRAMCOS-6 – 6th International Conference on Fracture Mechanics of Concrete and Concrete Structures, Catania, Italy, June 2007.
- 2005 – ICF11 – 11th International Conference on Fracture, Turin, Italy, March 2005.
- 2003 – GAMM2003 – 74th Annual Meeting of the International Association of Applied Mathematics and Mechanics, Abano Terme, Italy, March 2003, (Scientific secretary, 750 participants).
- 1988 – Computer Modelling in Ocean Engineering, Venice, Italy, September 1988.

As member of the Scientific Committee

- 2020 – CMIS2020 – 10th Contact Mechanics International Symposium, Chebex, Suisse May 2020.
- 2018 - 9ICCSM 9th International Congress of the Croatian Society of Mechanics, Split, Croatia, September 18-22, 2018.
- 2016 – WCCM XII 12th World Congress on Computational Mechanics & APCOM VI – 6th Asia-Pacific Congress on Computational Mechanics, Seoul, Korea, July 24-29, 2016.
- 2016 – GIMC–GMA 21th National Congress of Computational Mechanics, Lucca, Italy, June 2016.
- 2016 – CMIS 2016 – 8th Contact Mechanics International Symposium, Warsaw, Poland, May 2016.
- 2015 – EUROMECH Colloquium 575 – Contact Mechanics and Coupled Problems in Surface Phenomena, Lucca, Italy, April 2015.
- 2014 – GIMC–GMA 20th National Congress of Computational Mechanics, Cassino, Italy, June 2014.
- 2012 – Euromech Colloquium 514 – New Trends in Contact Mechanics, Cargese, Corsica, France, March 2012 (member of the Advisory Board).
- 2010 – ECCM2010 – 4th European Conference on Computational Mechanics, Paris, France, May 2010 (member of the International Advisory Board).
- 2009 – CMIS2009 – 5th Contact Mechanics International Symposium, Chania, Greece, April 2009.
- 2005 – CMIS2005 – 4th Contact Mechanics International Symposium, Hannover, Germany, July 2005.

Memberships

PhD Faculty Committees

2013-present

PhD Faculty Committee, PhD program in “Engineering of Complex Systems” – Faculty of Engineering, University of Salento.

2009 – Present

Member of the “MEG – Electron Gamma” Research Group, INFN - National Institute for Nuclear Physics – Section of Lecce.

2009-2010

PhD Faculty Committee, PhD program in “Mechanical and Industrial Engineering” – Faculty of Engineering, University of Salento.

1998-2006

PhD Faculty Committee, PhD program in “Structural Engineering” – Faculty of Engineering, The Turin Polytechnic.

Scientific Associations

1990-present

Member of AIMETA – Italian Association of Theoretical and Applied Mechanics.

Member of GIMC – Italian Group of Computational Mechanics.

10/2013-6/2016

Chairman of GIMC - Italian Group of Computational Mechanics.

Member of the Presidents of Affiliated Associations List of IACM – International Association of Computational Mechanics.

Member of ECCOMAS – European Community on Computational Methods in Applied Sciences, as representative of GIMC.

10/2013- Present

Member of the General Council of IACM – International Association of Computational Mechanics.

1998-2006

Member of IGF – Italian Group of Fracture.

Others

2015-present

International Scientific Committee for the Conservation of the Marble Floor of the St John's. Co-Cathedral, Malta (with R. Bondin, C. Degiorgio, S. Bonsanti, S. Cather, F. Piqué).

2009-2014

Advanced Computing Group – Center of Excellence “Scienza ed applicazioni di paradigmi

computazionali avanzati”, Department of Information Engineering, University of Padua, Italy.

Research projects coordination,
management and participation

2016-present

Coordinator of the University of Salento Unit for the National project “PRIN 2015 - Advanced mechanical modeling of new materials and structures for the solution of 2020 Horizon challenges.

2013-present

Collaboration for development of subatomic particles detectors - Experiment “Mu2e for Direct Muons to Electron Conversion at Fermilab”; Experiment SuperB at Cabibbo Lab.”, INFN - National Institute for Nuclear Physics – Section of Lecce.

2012-2017

Scientific collaboration for the European Project ERC-2011-StG – Proposal n. 279439 INTERFACES, (Ing. Laura De Lorenzis).

2012-2016

Proposal development and scientific collaboration for University of Salento Unit of the the National Project FIRB-RBFR107AKG “Modelli di meccanica strutturale per applicazioni in ambito di energie rinnovabili” (structural mechanics models for applications in the field of renewable energies) National coordinator Ing. Marco Paggi, Politecnico di Torino.

2011-2013

Consultant for the Research Project ENEL (National energy generation and distribution company) “Sviluppo di filiere corte per la valorizzazione dei residui termoelettrici nel settore delle costruzioni” (Development of fast industrial strategies for the exploitation of thermoelectric residues (ash) in the construction sector), Coordinator prof. A. De Risi.

2010-2012

Coordinator of the University of Salento Unit for the National project “PRIN 2008 - Advanced applications of Fracture Mechanics for the study of integrity and durability of materials and structures”.
See also Annex 4.

2009-present

Collaboration for development of subatomic particles detectors - Experiment “MEG – Muon Electron Gamma”, INFN - National Institute for Nuclear Physics – Section of Lecce.

2009-2011

Consultant for the industrial res. project STAR2 (Simulation Technology Aeronautic Research 2) – Res. Program POR Puglia Region, Italy 2007/2013 – Asse I

2007-2008

Consultant for the industrial res. project STAR (Simulation Technology Aeronautic Research) – Res. Program POR Puglia Region, Italy 2000/2006 – PIT n. 7.

2008

Italy-Germany DAAD / CRUI Vigoni Programme, Project on “Multi-scale modelling of advanced heterogeneous materials”.

2006-2009

Proposal development and coordination; Consultant activity for management and research for the “Leonardo da Vinci Program” - European Project I/06/B/F/PP-154069 “ILTOF - Innovative Learning and Training On Fracture”.

2003 - 2006

National coordinator of the Italian Unit for the “Leonardo da Vinci Program” - European Project E/03/B/F/PP-149.038 “NUFRIC - Numerical Medium-Level Training on Industrial Friction Problems”.

2005-2007

Coordinator of the Turin Polytechnic Unit for the national project “PRIN 2005 - Meccanica del contatto e meccanica della frattura: sinergie, interazioni e applicazioni” (Contact mechanics and fracture

mechanics: synergies, interactions, applications).
See also Annex 4.

2003-2005

Coordinator of the Turin Polytechnic Unit for the national project “PRIN 2003 - Aspetti fisici e computazionali nella meccanica del contatto fra solidi” (Physical and computational aspects of the mechanical contact between solids).

See also Annex 4.

2003

Italy-Germany DAAD / CRUI Vigoni Programme, Project on “Numerical simulation of electromechanical contact processes with the Finite Element Method”.

2002

Italy-Germany DAAD / CRUI Vigoni Programme, Project on “Numerical simulation of electromechanical contact processes with the Finite Element Method”.

2001

Italy-Germany DAAD / CRUI Vigoni Programme, Project on “Numerical simulation of electromechanical contact processes with the Finite Element Method”.

2001 – 2002

National coordinator and coordinator of the Turin Polytechnic Unit for the national project “PRIN 2000 - La meccanica del contatto: legami costitutivi dei fenomeni di interfaccia e tecniche di discretizzazione” (Contact mechanics: constitutive laws for interfacial phenomena and discretization techniques).

See also Annex 4.

2000 – 2002

Coordination, management and research for European Project GROWTH GRD1-10330, G1RD-CT2000-00161-“CUTTER” – Enhanced design and production of wear resistant rock cutting tools for construction machinery (coordinated by prof. B. Schrefler – University of Padua).

2000 - 2002

Coordination, management and research for the thermonuclear fusion – sector on superconducting cables, Proj. EFDA – Mechanical modelling of ITER superconducting cable (coordinated by prof. B. Schrefler – University of Padua).

1993 – 2000

Scientific and management collaboration and participation to several research projects coordinated by prof. B. Schrefler – University of Padua:

- PRIN - National Res. Projects;
- Columbus Telescope Project - International projects for the design new large telescopes;
- ITER Research Project – Design of superconducting coils for the nuclear fusion ITER reactor.
- Italy-Germany DAAD / CRUI Vigoni Programme 1999.

Research main topics

The scientific work is carried out in a context of international-type collaborations.

These collaborations began in 1989 with a stay at the University of Hannover, to work under the guidance of Prof. E. Stein, who is an outstanding scientist in the field of computational mechanics. The joint activity subsequently involved also Prof. P. Wriggers, of the University of Darmstadt. Since 1989 regular research stays have been made at both these Universities.

In 1996 a collaboration started with Prof. R.L. Taylor, of the University of Berkeley, California - USA, with a 6-months internship at Berkeley.

The main topics of the research belong to several research fields of Mechanics of Solids and Structures. The unifying aspect of the scientific production is the focus on numerical modeling, although there have been connections to physical experimentation, both for building and calibrating the numerical models, and for their critical evaluation in engineering applications.

The following main topics have been addressed:

- Contact mechanics
- Structural problems in advanced technology fields
 - Sub-atomic particles detectors
 - Technology of controlled thermonuclear fusion

- Technologies for instruments of new conception in astronomic optics
- Effect of mechanical stresses on optical fibers
- Masonry structures
- Massive concrete castings and structures under fire
- Numerical discretization and error control
- Mechanics of geostructures
- Structural restoration of concrete structures

Contact mechanics

This research theme, which is the main one, has been studied first for the PhD Thesis.

Starting from the analysis and mathematical representation of the contact surface roughness, both mechanical actions and heat flows are analyzed first on microscopic scale. This approach permitted to build macroscopic laws for mechanical and thermal exchange, with a close analogy with the constitutive laws of the continuum. Both the physical and computational aspects are considered within a robust and rigorous framework.

The FE discretization technique of these contact laws was performed paying attention to the computational efficiency. For this purpose, both consistent linearization of the equation set, and non-consistent but rapidly converging algorithms have been suitably developed. This approach follows the mainstream developed at the Universities of Hannover (E. Stein, P. Wriggers) and Stanford (J. Simo), and requires a multi-disciplinary field knowledge, about mechanics, tribology, and computational mechanics of coupled problems. More in detail, the thermo-mechanical contact problem is a natural extension and complement of the usual mechanical contact one. It currently finds interesting applications in the aeronautical and space industries, nuclear power, forming and micro-electronics. Moreover, the research has been also extended to the field of electro-mechanical contact problems.

The research activity in recent years has led to new techniques for solving contact problems and a new definition of the geometric parameters for the discretization of the surfaces. Scientific contributions have been given also with augmentation techniques, constitutive models (friction, delamination, comparison between micro-mechanical models), special techniques for rapid convergence, isogeometric approaches for an accurate modeling of the contact surfaces.

A remarkable contribution has been given also in the field of contact between beams, with two papers that are nowadays a sort of starting and reference point for this research field. A contribution has been given also on the field of interactions between fracture mechanics and contact mechanics, with exploration of possible synergies, applications to the delamination problems, and the assessment of the accuracy of micromechanical contact models.

This research experience, recognized at international level, has led to the invitation to the drafting of a chapter of the prestigious "Encyclopedia of Computational Mechanics", in collaboration with prof. P. Wriggers.

Structural problems in advanced technology fields

All these researches have been carried out within a framework of international partnership.

Sub-atomic particles detectors

The collaboration with "INFN - National Institute for Nuclear Physics – Section of Lecce" for the structural design of subatomic particles detectors started in 2011. The research activity has been devoted to structural problems of the detectors of: experiment Mu2e – a detector for "Direct Muons to Electron Conversion", to be installed at Fermilab, Batavia, USA; experiment SuperB – a detector for "high-luminosity electron-positron collider"; to be installed at the Cabibbo Lab, Rome, Italy; experiment MEG – a new detector for "Muon to Electron plus Gamma experiment", to be installed at the Paul Scherrer Institute, Zurich, Switzerland.

Technologies for thermonuclear fusion

This activity deals with structural problems of a facility for the preliminary studies on controlled thermonuclear fusion. More in detail, the studies are related to the "RFX – Reversed Field eXperiment" machine, which is a toroidal vacuum chamber. The analyses were devoted to the support rings of the superconducting coils for the magnetic confinement of the plasma. The survey covered the study of unilateral contact between chamber and supporting rings.

The machine has been built in 1991, and is now part of the facilities of the CNR – National Res. Center, in Padua.

More recently a contribution has been given also for the design of the superconducting coils of the ITER project. In this case an electromechanical contact model has been suitably developed to study the mechanical and thermal effects at the contact points of the superconducting filaments.

Technologies for newly developed optical astronomical instruments

This research field concerns the feasibility study of the mechanical structure for a newly designed Large Binocular Telescope. Static and dynamic studies have been performed for the conceptual design of the support structure. The design, based on innovative criteria, satisfies the tight dynamic characteristics required for achieving a very high image quality.

The project of the structure, supporting two mirrors 8.4 meters in diameter, has been performed in

collaboration with the Astrophysical Observatory of Arcetri and the Steward Laboratory at the University of Tucson. The LBT telescope, (originally named "Columbus Telescope") is now part of the Mount Graham International Observatory.

Effects of mechanical stresses on the optical fibers

The highly topical issue concerns the influence of mechanical deformation on the efficiency of data transmission in optical fiber ribbons, since small changes in geometry caused by residual stresses due to the production process can affect the efficiency significantly.

Masonry structures

A contribution has been given also in the field of numerical study of discrete masonry structures under static and dynamic loading. The numerical models have evidenced interesting aspects of the failure mechanisms for walls, columns and arches.

Massive concrete castings and structures under fire

The research deals with the mechanical behavior of massive concrete castings subjected to thermal time-varying fields and concrete structures subjected to fire.

Massive concrete castings

The research deals with a model for the simulation of thermo-mechanical phenomena that take place during concrete hardening. The numerical model takes into account the interaction of environmental factors, such as wind, solar radiation, the degree of cloud cover and the heat removed from the surfaces of the castings, also in the presence of surface curing. The analysis of the mechanical behavior is devoted to avoid crack propagations due to thermal expansion/contraction. The study of thermal transients takes into consideration the construction phase of a gravity dam. The variations in shape of the structure, as well as the boundary conditions are fully considered. The effects of surface treatments are suitably modeled by identifying the mathematical model and operating the discretization by an appropriate boundary condition, developed and implemented on purpose.

Structures subjected to fire

The non-linear thermomechanical analysis of two- and three-dimensional structures has been extended to steel structures subject to fire, investigating the thermal transient data and the effects of different types of insulating material adopted.

Numerical discretization and error control

The research has been focused on a new technique for the automatic generation of shape functions for the serendipity elements. The method is based on the propagation of non-zero terms in the Pascal's triangle when growing the elements' order. The study provided also a computer code that computes the polynomial coefficients of the shape functions. The proposed method allows a considerable flexibility in the construction of non-standard and non-symmetric elements. This fact has interesting prospects for highly nonlinear problems. Concerning mesh refinement, a contribution was also given, with a method of error estimate and error propagation control.

Mechanics of geo-structures

The research in this field has been focused on the employment of coupled numerical models for investigating the electrical responses of hydrated rock samples. The survey was carried out considering an equally-spaced pore distribution with cubic geometry. The geometry, although simple, has been effective to describe adequately the real geometry of inhomogeneous rock samples taken at great depths.

The research field has been the subject of further contributions within the collaboration to the European project "CUTTER". Just for this purpose a technology for modeling the soil as a set of discrete rigid elements interconnected by suitably modified contact elements has been developed.

Structural restoration of concrete structures

Concerning the concrete structures, the research has been focused on problems related to the structural restoration techniques and problems associated with the use of new types of steel.

The noticeable importance of the structural restoration requires an accurate knowledge of the phenomena taking place at the damaged surfaces. For this scope, both experimental and numerical tools for determining the resistance limit values have been developed. The possibility offered by newly developed high-ductility steel has been analyzed both with statistical and computational instruments, which highlighted some salient aspects.

Students' tutorship

Tutor of graduation theses – 2006-2016

- 29 bachelor theses
- 15 master theses

See also Annex 5

Tutor and co-tutor of PhD and Post-doc students

- 2001-2004, Marco Paggi – PhD, The Turin Polytechnique. Now Associate professor of Structural Mechanics
- 2000-2004, Boso Daniela – Post-doc, University of Padua. Now Associate professor of Structural Mechanics
- 2010-2014, Viviana Palmieri – PhD and Post-doc, University of Salento
- 2006-2014, Laura De Lorenzis Assistant professor. Now full professor in Germany
- 2009-2016, Rossana Dimitri – PhD and Post-doc. Now assistant professor
- 2013-2015, Giuseppe Sciumè – Assistant professor. Now lecturer in France
- 2015-2016, Maria Laura De Bellis – Assistant professor
- 2016- , Ada Malagnino – PhD
- 2016- , Francesco Pinnola – Assistant professor
- **Remarks:** due to the developed scientific knowledge both Marco Paggi and Laura De Lorenzis have been able to get an ERC Starting Grant

PROFESSIONAL EXPERIENCE

Professional habilitations

Habilitated as Professional Engineer in May 1986, with 120/120.
 Member of the Board of Engineers of the Province of Treviso, 29/07/1986 to 28/10/2002.
 Member of the Board of Engineers of the Province of Padova since 18/02/2008, N. 5015.

Consulting activity

Consulting activity for private and public companies:

- Arcetri Astrophysical Observatory, Italy & University of Tucson, Arizona – USA: Scientific research consulting on the structural design of the Columbus Telescope, (with P. Salinari C. Maiorana).
- Zollet Ingegneria, Santa Giustina, Italy: National telescope “Galileo” – Coordination of the design of the rotating building (with C. Barbieri, C. Maiorana).
- Hilti Group – Liechtenstein: Scientific research consulting on frictional heating during the nail shooting transient (with P. Wriggers).
- ILVA S.p.A., Taranto, Italy: Consultant on legal disputes.
- University of Salento, Italy: Static testing and administrative testing of new constructions.
- EnginSoft S.p.A., Trento, Italy: Scientific research consulting on wide fields.
- Town of Vercelli, Italy: Static testing of a bridge.
- Iberdrola Generacion, S.A, Spain: Scientific research consulting on hydraulic turbine braking.
- Court Law of Treviso, Italy: Consultant on legal disputes.
- Foundation of the St. John’s Co-Cathedral, Malta: Scientific research consulting for the preservation of the marble floor (with R. Bondin, C. Degiorgio, S. Bonsanti, S. Cather, F. Piqué).

Consulting activity for private citizens: Consultant on legal disputes.

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

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

Digital competence

SELF-ASSESSMENT

Information processing	Communication	Content creation	Safety	Problem solving
Independent user	Proficient user	Basic user	Independent	Proficient user

- good knowledge of office suite (word processor, spread sheet, presentation software)
- good knowledge of photo editing software gained producing scientific images
- good knowledge of scientific software (Kaleidagraph, LyX, LateX,)

Driving license Italian driving license, Class B (motorcycle, cars and small vans)

ADDITIONAL INFORMATION

Personal Abilities and Competences Excellent teaching ability, ability of coordination and management of research projects, competences in the field of Computational Mechanics, ability to interact with external institutions and industries for studies, research and consulting in applied technologies and technology transfer.

Technical abilities and competences Fortran programming, use of, of scientific programs (data visualization, scientific text editors, commercial codes for structural analysis).

Social skills and competences Capacity for coordination and management of research units, for motivation of students, co-workers and colleagues.

Artistic abilities and competences Writing poems and short stories.

References

Prof. Peter Wriggers
 Institute of Continuum Mechanics - Leibnitz University of Hannover, Appelstrasse 11, 30167 Hannover, Germany
 Tel: +49 511 762 2220
 Email: wriggers@ikm.uni-hannover.de

Prof. R.L. Taylor
 Department of Civil and Environmental Engineering – University of California at Berkeley, 714 Davis Hall, Berkeley, CA 94720-1710, USA
 Tel: +1 510 642-3066
 Email: : rt@ce.berkeley.edu

Prof. Bernhard Schrefler
 Department of Civil, Environmental and Architectural Engineering – University of Padua, Via Marzolo, 9, 35131 Padova.
 Tel: +39 049 827 5611
 Email: bernhard.schrefler@dicea.unipd.it

Prof. M. Di Paola
 Dipartimento di Ingegneria Civile, Ambientale, Aerospaziale, dei Materiali – Università di Palermo, Viale delle Scienze, Ed. 8
 90128 PALERMO (PA)
 Tel: +39 091 238 96737
 Email: Mario.dipaola@unipa.it

See also Annex 6

ANNEXES

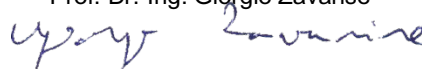
- Annex 1 - Publications list
- Annex 2 - Teaching activity

- Annex 3 – Scientific rankings
- Annex 4 – National research projects
- Annex 5 – Students' tutorship
- Annex 6 - References

The undersigned, pursuant to Legislative Decree N. 196/2003, gives his consent to the processing of personal data.

Lecce, 25/04/2018

Prof. Dr.-Ing. Giorgio Zavarise



Prof. Dr.-Ing. Giorgio Zavarise
Department of Structural, Geotechnical and Building Engineering
Politecnico di Torino

CV - ANNEX 01

Publications list

INTERNATIONAL PUBLICATIONS

JOURNALS

- 1) **Majorana CE, Zavarise G, Borsetto M, Giuseppetti M.** Nonlinear analysis of thermal stresses in mass concrete castings, *Cem. Concr. Res.*, Vol. 20-(4), 559-578, 1990.
- 2) **Zavarise G, Vitaliani R, Schrefler BA.** An algorithm for the generation of shape functions in Serendipity elements, *Eng. Computations*, Vol. 8, 19-31, 1991.
- 3) **Zavarise G, Wriggers P, Stein E, Schrefler BA.** A numerical model for thermomechanical contact based on microscopic interface laws, *Mech. Res. Commun.*, Vol. 19-(3), 173-182, 1992.
- 4) **Zavarise G, Wriggers P, Stein E, Schrefler BA.** Real contact mechanisms and finite-element formulation - a coupled thermomechanical approach, *Int. J. Numer. Methods Eng.*, Vol. 35-(4), 767-785, 1992.
- 5) **Schrefler BA, Zavarise G.** Constitutive laws for normal stiffness and thermal resistance of a contact element, *Microcomp. Civil Eng.*, Vol. 8, 299-308, 1993.
- 6) **Majorana C, Zavarise G.** Environmental effects modelling in thermal analysis of large concrete castings, *Int. J. of Comput. Appl. Technol.*, Vol. 6-(4), 187-201, 1993.
- 7) **Zavarise G, Wriggers P.** Thermomechanical contact - a rigorous but simple numerical approach, *Comput. Struct.*, Vol. 46-(1), 47-53, 1993.
- 8) **Schrefler BA, Zavarise G, Gori R.** A fast error check for structural analysis using the virtual force principle, *Int. J. Numer. Methods Eng.*, Vol. 36-(19), 3223-3237, 1993.
- 9) **Wriggers P, Zavarise G.** Application of augmented lagrangian techniques for nonlinear constitutive laws in contact interfaces, *Commun. Numer. Methods Eng.*, Vol. 9-(10), 815-824, 1993.
- 10) **Zavarise G, Wriggers P, Schrefler BA.** On augmented lagrangian algorithms for thermomechanical contact problems with friction, *Int. J. Numer. Methods Eng.*, Vol. 38-(17), 2929-2949, 1995.
- 11) **Zavarise G, Wriggers P.** On the efficiency of new and old strategies for solving contact problems, *ZAMM - J. Appl. Math. Mech - Zeitschrift für Angewandte Mathematik und Mechanik*, Vol. 76-S5, 563-564, 1996.
- 12) **Schrefler BA, Zavarise G.** On cross-constraints method and physical contact laws, *Matem. Mod.*, Vol. 8-(9), 85-94, 1996.
- 13) **Wriggers P, Zavarise G.** On contact between three-dimensional beams undergoing large deflections, *Commun. Numer. Methods Eng.*, Vol. 13-(6) 429-438, 1997.
- 14) **Galtarossa A, Someda CG, Tommasini A, Schrefler BA, Zavarise G, Schiano M.** Stress distribution in optical-fiber ribbons, *IEEE Photonics Technol. Lett.*, Vol. 9-(3-4), 354, 356, 1997.
- 15) **Zavarise G, Wriggers P.** A segment-to-segment contact strategy, *Math. Comput. Model.*, Vol. 28, (4-8), 497-515, 1998.
- 16) **Zavarise G, Wriggers P, Schrefler BA.** A method for solving contact problems, *Int. J. Numer. Methods Eng.*, Vol. 42-(3), 473-498, 1998.
- 17) **Wriggers P, Zavarise G, Zohdi TI.** A computational study of interfacial debonding damage in fibrous composite materials, *Comput. Mater. Sci.*, Vol. 12-(1), 39-56, 1998.
- 18) **Zavarise G, Wriggers P.** A superlinear convergent augmented Lagrangian procedure for contact problems, *Eng. Computation.*, Vol. 16-(1), 88-119, 1999.
- 19) **Zavarise G, Wriggers P.** Contact with friction between beams in 3-D Space, *Int. J. Numer.*

Methods Eng., Vol. 49-(8), 977-1006, 2000.

- 20) **Cantizano A, Carnicero A, Zavarise G.** Numerical simulation of wear-mechanisms maps, *Comput. Mater. Sci.*, Vol. 25-(1-2), 54-60, 2002.
- 21) **Bellina F, Boso D, Schrefler BA, Zavarise G.** Modelling a multistrand SC cable with an electrical DC lumped network. *IEEE Trans. Appl. Supercond.*, Vol. 12-(1), 1408-1412, 2002.
- 22) **Nardin A, Zavarise G, Schrefler BA.** Modelling of cutting tools-soil interactions – Part I: Contact behaviour, *Comput. Mech.*, Vol. 31-(3-4), 327-339, 2003.
- 23) **Boso DP, Zavarise G, Schrefler BA.** A microscopical model for electric-mechanical contact, *PAMM - Proc. Appl. Math. Mech.* Vol. 3, 258–259, 2003. DOI 10.1002/pamm.200310401.
- 24) **Nardin A, Schrefler BA, Zavarise G.** Discrete method for soil modelling, *PAMM - Proc. Appl. Math. Mech.* Vol. 3, 308–309, 2003. DOI 10.1002/pamm.200310426.
- 25) **Zavarise G, Borri Brunetto M, Paggi M.** On the reliability of microscopical contact models, *Wear*, Vol. 257-(3-4), 229-245, 2004. ISSN: 0043-1648, DOI: 10.1016/j.wear.2003.12.010.
- 26) **Zavarise G, Bacchetto A, Gänser HP** Frictional heating in contact mechanics – a methodology to deal with high temperature gradients, *Comput. Mech.*, Vol. 35-(6), 418-429, 2005. DOI: 10.1007/s00466-004-0631-8.
- 27) **Boso DP, Zavarise G, Schrefler BA.** A formulation for electrostatic-mechanical contact and its numerical solution. *Int. J. Numer. Methods Eng.*, Vol. 64-(3), 382-400, 2005. DOI: 10.1002/nme.1371.
- 28) **Carpinteri A, Paggi M, Zavarise G.** Snap-back instability in micro-structured composites and its connection with superplasticity, *Strength, Frac. Complexity*, Vol. 3-(2-4), 61-72, 2005. ISSN: 1567-2069.
- 29) **Zavarise G, Borri-Brunetto M, Paggi M.** On the resolution dependence of micromechanical contact models, *Wear*, Vol. 262-(1-2) 42-54, 2007. ISSN: 0043-1648, DOI: 10.1016/j.wear.2006.03.044.
- 30) **Carpinteri A, Paggi M, Zavarise G.** The effect of contact on the decohesion of laminated beams with multiple microcracks, *Int. J. Solids Struct.*, Vol. 45-(1), 129-143, 2008. ISSN: 0020-7683, DOI: 10.1016/j.ijsolstr.2007.07.012.
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Lecce, 13/06/2018

Giorgio Zavarise

