# CURRICULUM VITAE
2022/07/22

| SURNAME and Name | GRILLO Alfio |
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| **Nationality** | Italian |
| **Place and date of birth** | Catania (Italy); September 13, 1977 |

**Italian National Scientific Qualification awarded for Full Professor**

| Academic Recruitment Field 01/A4 Mathematical Physics |
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| Italian National Scientific Qualification for Full Professor awarded on the 28th of March 2017 for the Scientific Recruitment Field *01/A4 – Mathematical Physics* (Announcement D.D. 1532/2016) |

**Academic Position**

| Qualification | Associate Professor (L. 240/2010) |
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| University | *Politecnico di Torino*, Torino, Italy |
| Department | *Dipartimento di Scienze Matematiche* (DISMA) "G. L. Lagrange", *'Dipartimento di Eccellenza 2018-2022'***.<br><br>*Department of Mathematical Sciences<br>**'Department of Excellence 2018-2022' |
| Academic Recruitment Field | 01/A4 Mathematical Physics |
| Academic Discipline | MAT/07 Mathematical Physics |

## 1. Working experience, education and training
### 1.A. Working experience (format: dd/mm/yyyy)

| From 01/10/2014 to date | Associate Professor 01/A4, MAT/07 (Decree no. 486 of the 29th of September 2014) at the *Dipartimento di Scienze Matematiche* (DISMA) "G. L. Lagrange" of the *Politecnico di Torino*, Corso Duca degli Abruzzi 24, 10129 Torino TO, Italy.<br><br>*Department of Mathematical Sciences |
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| From 16/12/2011 to 30/09/2014 | Assistant Professor (RU 01/A4, MAT/07) at the *Dipartimento di Scienze Matematiche* (DISMA) "G. L. Lagrange" of the *Politecnico di Torino*, Corso Duca degli Abruzzi 24, 10129 Torino TO, Italy.<br><br>*Department of Mathematical Sciences |
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| From 01/10/2008 to 15/12/2011 | *Post-doctoral fellow* in the work group of Prof. Gabriel Wittum at the *Goethe Center for Scientific Computing* (G-CSC), *Goethe Universität Frankfurt*, Institute of Informatics, Faculty of Informatics and Mathematics of the *Goethe Universität Frankfurt*, Frankfurt am Main, Germany. |
| From 01/09/2007 to 30/09/2008 | *Post-doctoral fellow* in the work group of Prof. Gabriel Wittum at the *Interdisciplinary Center for Scientific Computing* (IWR) of the *Ruprecht-Karls Universität Heidelberg*, Heidelberg, Germany. |
| From 01/09/2006 to 30/04/2007<br>from 01/05/2007 to 31/08/2007 | Scholarship awarded by CNISM (*Consorzio Nazionale Interuniversitario di Scienze Fisiche della Materia*), Research Unit CNISM of the *Università degli Studi di Catania****, Italy, at the *Dipartimento di Metodologie Fisiche e Chimiche per l'Ingegneria**** (DMFCI). Scientific supervisors: Prof. Gaetano Giaquinta and Prof. Giuseppe Faraci.<br><br>*National Inter-University Consortium of Physical Sciences of the Matter<br>**University of Catania<br>***Department of Physical and Chemical Methodologies for Engineering |
| From 13/01/2006 to 12/03/2006<br>from 15/03/2006 to 14/05/2006 | Temporary research contract stipulated with Prof. Gaetano Giaquinta, *Dipartimento di Metodologie Fisiche e Chimiche per l'Ingegneria*, *Università degli Studi di Catania**, Italy.<br><br>*Dept. of Physical and Chemical Methodologies for Engineering, University of Catania |
| From 24/02/2003 to 31/10/2005 | Student of the Research Doctorate (PhD Program) in Physical Engineering at the *Dipartimento di Metodologie Fisiche e Chimiche per l'Ingegneria* (DMFCI), *Università degli Studi di Catania** (Tutor: Prof. Gaetano Giaquinta; Coordinator: Prof. Gaetano Giaquinta).<br><br>*Dept. of Physical and Chemical Methodologies for Engineering, University of Catania |

**1.B. Education and training**

| **Research Doctorate (PhD)** | Physical Engineering (attended at the *Dipartimento di Metodologie Fisiche e Chimiche per l'Ingegneria* -DMFCI- *dell'Università degli Studi di Catania**, Italy; Supervisor: Prof. Gaetano Giaquinta; Coordinator: Prof. Gaetano Giaquinta). Title received on February 21, 2006, issued by the *Università degli Studi di Catania***, Italy.<br><br>*Dept. of Physical and Chemical Methodologies for Engineering, University of Catania<br>**University of Catania |
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| *Laurea*<br>**(5-year study plan, corresponding approximately to BSc+MSc)** | Mechanical Engineering, with final score 110/110. Title received on October 21, 2002, issued by the *Università degli Studi di Catania**, Italy. Tutors: Prof. Gaetano Giaquinta and Prof. Guido La Rosa.<br><br>*University of Catania |

**2. Coordinator of PhD Students and of research fellows; responsibility of research projects**

**2.A. Coordinator of PhD Students and of research fellows**

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| (2.A08) | 2021/11/01-to date: **Advisor of one PhD Student** of the Research Doctorate in "Pure and Applied Mathematics", *Politecnico di Torino* and *Università degli Studi di Torino*, Italy. |
| (2.A07) | 2019/11/01-2020/08/31: **Supervisor of one Research Fellow** of category A, employed in the context of the research project "*Proprietà strutturali dei tessuti biologici fibro-rinforzati: una descrizione fisico-matematica basata sull'accoppiamento di teorie cinetiche e teorie continue.\**" Twelve-month research fellowship co-funded by the *Dipartimento di Scienze Matematiche* (DISMA) "G. L. Lagrange" of the *Politecnico di Torino*.<br><br>\*Structural properties of fiber-reinforced biological tissues: a physico-mathematical description based on the coupling of kinetic and continuous theories. |
| (2.A06) | 2018/10/01-2021/09/30: **Advisor of one PhD Student** of the Research Doctorate in "Pure and Applied Mathematics", *Politecnico di Torino* and *Università degli Studi di Torino*. The research scholarship was co-funded by the *Dipartimento di Scienze Matematiche\** (DISMA) "G. L. Lagrange" up to 35685,38 Euros (Approval no. 58/C/18 of the CdD of the DISMA of June 5, 2018).<br><br>\*Dept. of Mathematical Sciences |
| (2.A05) | 2018/01/01-2018/04/30: **Supervisor of one Research Fellow**, employed in the context of the research project "*Il ruolo delle interazioni chemo-elettro-meccaniche nell'evoluzione strutturale dei tessuti biologici: uno studio dei fenomeni alla base di alcune patologie degenerative\**" (Approval no. 54/C/17 of the CdD of the DISMA of October 5, 2017). The research fellowship was co-funded by the *Dipartimento di Scienze Matematiche* (DISMA) "G. L. Lagrange" of the *Politecnico di Torino*.<br><br>\*"The role of the chemo-electro-mechanical interactions in the structural evolution of biological tissues: a study of the phenomena at the basis of some degenerative pathologies." |
| (2.A04) | 2016/10/01-2019/09/30: **Advisor of one PhD Student** of the Research Doctorate in "Pure and Applied Mathematics", *Politecnico di Torino* and *Università degli Studi di Torino*. Title awarded on September 24, 2020. |
| (2.A03) | 2015/12/15-2017/12/14: Within the research project "Multiscale Mathematical Modelling and Numerics of Growth and Structural Adaptation of Soft Biological Tissues and Tumour Masses – A Synergetic Approach Encompassing Electro-Chemo-Mechanical Phenomena", funded by the *Cassa di Risparmio di Torino* (CRT) and by the *Politecnico di Torino* (Project no.: 53_AI_15GRIALF; D.R. no. 602 of December 4, 2015) in the context of the funding campaign "*La Ricerca dei Talenti*" of the *Politecnico di Torino*, I was **supervisor** of **4 Research Fellows**:<br>- 1 of category B, from 2016/04/01 to 2017/11/30;<br>- 3 of category A: one from 2017/01/01 to 2017/09/11 and two from 2017/01/01 to 2017/12/31. |
| (2.A02) | 2014/01/01-2016/12/31: **Advisor of one PhD Student** of the Research Doctorate in "Applied Mathematics", *Politecnico di Torino*, Italy. |

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| (2.A01) | <u>2017/01/20-2017/02/27 and 2019/04/01-2019/05/30</u>: **Tutor** of one **PhD Student** of the University of Calgary, Canada, during his visit at the *Dipartimento di Scienze Matematiche\** (DISMA) "G. L. Lagrange" of the *Politecnico di Torino*, in the context of an international scientific collaboration with Prof. Salvatore Federico of the Department of Mechanical and Manufacturing Engineering, University of Calgary, Canada.<br><br>*Dept. of Mathematical Sciences |

## 2.B. Responsibility of research projects

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| (2.B06) | <u>2019/11/01-2020/10/31</u>: Principal Investigator of the 12-month departmental research project entitled *"Proprietà strutturali dei tessuti biologici fibro-rinforzati: una descrizione fisico-matematica basata sull'accoppiamento di teorie cinetiche e teorie continue\*"*, co-funded by the *Dipartimento di Scienze Matematiche\*\** (DISMA) "G. L. Lagrange" of the *Politecnico di Torino* for the opening of a 12-month research fellowship of category A. Funding: 15000,00 Euros. The project was interrupted on August 31, 2020.<br><br>\*"Structural properties of fiber-reinforced biological tissues: a physico-mathematical description based on the coupling of kinetic and continuous theories."<br>\*\*Dept. of Mathematical Sciences |
| (2.B05) | <u>2018/01/01-2018/12/31</u>: Principal Investigator of the 12-month departmental research project entitled *"Il ruolo delle interazioni chemo-elettro-meccaniche nell'evoluzione strutturale dei tessuti biologici: uno studio dei fenomeni alla base di alcune patologie degenerative\*"*, co-funded by the *Dipartimento di Scienze Matematiche\*\** (DISMA) "G. L. Lagrange" of the *Politecnico di Torino* for the opening of a 12-month research fellowship. Funding: 15000,00 Euros (Approval no. 54/C/17 of the Departmental Council of the DISMA of October 5, 2017). The project was interrupted on April 30, 2018.<br><br>\*"The role of the chemo-electro-mechanical interactions in the structural evolution of biological tissues: a study of the phenomena at the basis of some degenerative pathologies."<br>\*\*Dept. of Mathematical Sciences |
| (2.B04) | <u>2018/03/01-2018/10/31</u>: Principal Investigator of the research project "Mathematical multi-scale modeling of biological tissues," (project no. 64) for a 8-month pre-doctoral research scholarship for post-graduate international students awarded to a student to conduct research at the *Dipartimento di Scienze Matematiche* (DISMA) "G. L. Lagrange" of the *Politecnico di Torino.* The project was interrupted on September 30, 2018. |
| (2.B03) | <u>2015/12/15-2017/12/14</u>: Principal Investigator of the 24-month research project "Multiscale Mathematical Modelling and Numerics of Growth and Structural Adaptation of Soft Biological Tissues and Tumour Masses – A Synergetic Approach Encompassing Electro-Chemo-Mechanical Phenomena." Funding: 128609,00 Euros, awarded by the *Fondazione Cassa di Risparmio di Torino* (CRT) and by the *Politecnico di Torino* (project number: 53_AI_15GRIALF. D.R. no. 602 of December 4, 2015), in the context of the funding campaign *"La Ricerca dei Talenti"* ("Excellence in Research") of the *Politecnico di Torino*, Italy. |
| (2.B02) | <u>2015/01/10-2015/02/08</u>: Recipient of a funding for the visit in Italy of a foreign Visiting Professor. Funding: 2000,00 Euros, awarded by the *Istituto Nazionale di Alta Matematica\** "Francesco Severi" (INdAM) – *Gruppo Nazionale di Fisica Matematica\*\** (GNFM). N. Prot. U 2014/000402 10/10/2014 GNFM – GRILLO ALFIO. The dates reported above refer to the period in which the Visiting Professor was in Italy.<br><br>\*National Institute for Higher Mathematics |

| | **National Group of Mathematical Physics |
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| (2.B01) | 2013/05/13-2014/05/12: Principal Investigator of the 12-month research project *"Progetto Giovani GNFM 2013*"* entitled *"Modelli matematici multi-scala per il trasporto di massa nei sistemi biologici**."* Funding: 2000,00 Euros, awarded by the *Istituto Nazionale di Alta Matematica**** (INdAM) "Francesco Severi" - Gruppo Nazionale di Fisica Matematica***** (GNFM). N. Prot. U 2013/000124 13/05/2013 GNFM – GRILLO ALFIO. The date indicating the beginning of the project (2013/05/13) refers to the date in which the communication of funding was protocolled.<br><br>*"Research Project for Young Researchers"<br>**"Multi-scale mathematical models  for the transport of mass in biological systems"<br>***National Institute for Higher Mathematics<br>****National Group of Mathematical Physics |

## 3. Service activity for the scientific community

### 3.A. Guest Editor of international scientific journals

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| (3.A03) | 2021*: Guest Editor, together with Prof. Chiara Giverso and Prof. Giuseppe Saccomandi, of the *International Journal of Non-Linear Mechanics* (Elsevier) for the special issue *"Nonlinear mechanics: the driving force of modern applied and industrial mathematics* (in honour of Luigi Preziosi)."<br>https://www.sciencedirect.com/journal/international-journal-of-non-linear-mechanics/special-issue/10MM0FD4THS<br><br>*This indicates that the activity started in 2021 and not that it lasted for the whole year 2021. |
| (3.A02) | 2018*: Guest Editor, together with Prof. Salvatore Federico, of *Mathematics and Mechanics of Solids* for the special issue *"In memory of Prof. Gaetano Giaquinta (1945-2016)."*<br>https://journals.sagepub.com/toc/mmsa/25/5<br>https://journals.sagepub.com/doi/pdf/10.1177/1081286518766746<br><br>*This indicates that the activity started in 2018 and not that it lasted for the whole year 2018. |
| (3.A01) | 2018*: Guest Editor, together with Prof. Salvatore Federico, *AAPP-Atti dell'Accademia Peloritana dei Pericolanti* for the special issue *"In memory of Prof. Gaetano Giaquinta"*, vol. 96 n. 1 2018.<br>https://cab.unime.it/journals/index.php/AAPP/issue/view/Vol96_Supplement1<br><br>*This indicates that the activity started in 2018 and not that it lasted for the whole year 2018. |

### 3.B. Participation in the Editorial Board of international scientific journals

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| (3.B03) | 2021/01/01-to date: Member of the Editorial Board of the scientific journal *International Journal of Computing and Visualization in Science and Engineering* (ISSN: 2702-7856):<br>https://ijcvse.gcsc.uni-frankfurt.de/en/editorial_board?sid=ohiopq2FQWageuR4z |
| (3.B02) | 2014/05/02-2020/12/31: Member of the Editorial Board of the scientific journal *Computing and Visualization in Science* (print ISSN: 1432-9360; online ISSN: 1433-0369). |
| (3.B01) | 2016*-to date: Member of the Editorial Board of the scientific journal *Theoretical and Applied Mechanics* (ISSN: 1450-5584):<br>http://www.mi.sanu.ac.rs/tam/editorial<br><br>*This information about the date  is orientative. |

### 3.C. Peer-reviewing activity for international scientific journals and book proposals

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| Reviewer for 38 international scientific journals<br>Reviewer for a book proposal submitted to Wiley&Sons Publishing House (Author/Title details withheld). |

### 3.D. Reviewer/Examiner of Theses and Dissertations

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| (3.D09) | <u>February-March 2022</u>: Reviewer (*Rapporteur*) of a PhD Thesis authored by a Student of the *École Nationale Supérieure d'Arts et Métiers*, Paris, France, and the *Université du Luxembourg*, Luxembourg. |
| (3.D08) | <u>Year 2019</u>: Reviewer of a PhD Thesis authored by a student of the Department of Biomedical Engineering, Faculty of Engineering, of the Ben-Gurion University of the Negev, Beer-Sheva, Israel. |
| (3.D07) | <u>Year 2019</u>: Reviewer of one PhD Thesis authored by a Student of the Department of *Ingeniería de Estructuras, Cimentaciones y Materiales\**, University of Madrid, Spain.<br><br>*Engineering of Structures, Foundations, and Materials |
| (3.D06) | <u>Year 2016</u>: Reviewer of one PhD Thesis authored by a Student of the Goethe Center for Scientific Computing (G-CSC), *Fachbereich Informatik und Mathematik* ("Department of Informatics and Mathematics") of the *Goethe Univerität Frankfurt*, Frankfurt am Main, Germany. |
| (3.D05) | <u>Year 2016</u>: Reviewer of one PhD Thesis authored by a Student of the Goethe Center for Scientific Computing (G-CSC), *Fachbereich Informatik und Mathematik* ("Department of Informatics and Mathematics") of the *Goethe Univerität Frankfurt*, Frankfurt am Main, Germany. |
| (3.D04) | <u>Year 2015</u>: Reviewer of one PhD Thesis authored by a Student of the Department of Mathematics of the *Politecnico di Milano*, Italy, within the Doctoral Program in "Mathematical Models and Methods in Engineering". |
| (3.D03) | <u>Year 2014</u>: Reviewer of one PhD Thesis authored by a Student of the Goethe Center for Scientific Computing (G-CSC), *Fachbereich Informatik und Mathematik* ("Department of Informatics and Mathematics") of the *Goethe Univerität Frankfurt*, Frankfurt am Main, Germany. |
| (3.D02) | <u>Year 2013</u>: "Dissertation Committee Member" for the scientific proposal of one PhD Thesis authored by a PhD Student of the Institute for Computational Science, Faculty of Informatics, *Università della Svizzera Italiana* (USI), Lugano, Switzerland. |
| (3.D01) | <u>2010-2011\*</u>: External Examiner of dissertations authored by students of the School of Mathematics and Physical Sciences of the North West University, South Africa.<br><br>*This indicates that the activity started in 2010 and ended in 2011 and not that it lasted for the whole duration of 2010 and 2011. |

## 4. Visiting Professor in Italian and/or foreign Universities; invited visits to international Universities and research institutes

### 4.A. Visiting Professor in foreign Universities

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| (4.A01) | <u>2008</u>: Visiting Professor of Continuum Mechanics at the *Mashinski Fakultet* (Faculty of Mechanical Engineering) of the University of Kragujevac, Serbia (2008-06-09 - 2008-06-21). |

**4.B. Invited visits to international Universities and research institutes**

*Invitations received after obtaining the PhD*

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| (4.B11) | <u>2019-03-17 - 2019-03-22</u>: School of Mathematics and Statistics, University of Glasgow, UK, for scientific collaboration with Dr. Raimondo Penta on the employment of the Theory of Asymptotic Homogenization for the characterization of electro-active composite materials. |
| (4.B10) | <u>June 2012\*</u>: Faculty of Mechanical Engineering of the University of Novi Sad, Novi Sad, Serbia, for scientific collaboration with Prof. Teodor Atanacković and with Prof. Dušan Zorica on the employment of Fractional Calculus in the constitutive theories of continuous media.<br><br>\*This indicates that the visit took place in June 2012, and not that it lasted for the entire month. |
| (4.B09) | <u>November 2011\*</u>: Institute of Computational Science (ICS), *Università della Svizzera Italiana* (USI), Lugano, Switzerland, for scientific collaboration with Prof. Rolf Krause and the PhD student Marco Favino on the biomechanics of the periodontal ligament.<br><br>\*This indicates that the visit took place in November 2011, and not that it lasted for the entire month. |
| (4.B08) | <u>April 2010\*</u>: Faculty of Mechanical Engineering of the University of Novi Sad, Novi Sad, Serbia, for scientific collaboration with Prof. Teodor Atanacković and with Prof. Dušan Zorica on the employment of Fractional Calculus in the constitutive theories of continuous media.<br><br>\*This indicates that the visit took place in April 2010, and not that it lasted for the entire month. |
| (4.B07) | <u>2008-06-09 - 2008-06-21</u>: Faculty of Mechanical Engineering of the University of Kragujevac, Serbia, for scientific collaboration with Prof. Milan V. Mićunović on the mechanics of growth in multiphasic continua (see also point 4.A01 of this CV). |
| (4.B06) | <u>April 2007\*</u>: Faculty of Mechanical Engineering of the University of Kragujevac, Serbia, for scientific collaboration with Prof. Milan V. Mićunović on the mechanics of growth.<br><br>\*This indicates that the visit took place in April 2007, and not that it lasted for the entire month. |
| (4.B05) | <u>September 2006\*</u>: Department of Energy Conversion Science, Kyoto University, Japan, for scientific collaboration with Prof. Shoji Imatani on the growth and remodeling of fiber-reinforced biological tissues.<br><br>\*This indicates that the visit took place in September 2006, and not that it lasted for the entire month. |
| (4.B04) | <u>March-May 2006\*</u>: Human Performance Laboratory (HPL), University of Calgary, Canada, for scientific collaboration with Prof. Walter Herzog and Dr. Salvatore Federico on "Growth and remodeling of soft tissues."<br><br>\*This indicates that the visit took place within the time-range reported, and not for the whole duration of the months. |

*Most relevant invitations received before obtaining the PhD*

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| (4.B03) | <u>September-October 2005\*</u>: Department of Energy Conversion Science, Kyoto University, Japan, for scientific collaboration with Prof. Shoji Imatani on the growth and remodeling of fiber-reinforced biological tissues.<br><br>\*This indicates that the visit took place within the time-range reported, and not for the whole duration of the months. |

| (4.B02) | <u>May-July 2004*</u>: Bogoliubov Institute of Theoretical Physics (BITP), Kiev, Ukraina, under the supervision of Prof. Larissa Brizhik and Prof. Alexander Eremko, to work on the research topic "Davydov's solitons in biological macromolecules." <br><br> *This indicates that the visit took place within the time-range reported, and not for the whole duration of the months. |
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| (4.B01) | <u>September-October 2003*</u>: Human Performance Laboratory (HPL), University of Calgary, Canada, for scientific collaboration with Prof. Walter Herzog and Salvatore Federico on the mechanics of fiber-reinforced tissues with statistical distribution of fibers and on the mechanics of volumetric growth in biological tissues. <br><br> *This indicates that the visit took place within the time-range reported, and not for the whole duration of the months. |

**5. Participation in national and international congresses as member of the Scientific and/or Organizing Committee, as Scientific Secretary, as invited speaker and/or invited participant; Invited seminars in Universities and/or Research Institutes; Seminars in Summer or Winter Schools; Organizer or Co-organizer of mini-symposia**

**5.A. Participation in national and/or international congresses as member of the Scientific and/or Organizing Committee, or as Scientific Secretary**

| (5.A06) | Member of the Scientific and Organizing Committee of the *International Multigrid Conference 2022:* 22-27 August 2022, Lugano, Switzerland (conference in preparation) <br> http://img2022.usi.ch/index.php |
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| (5.A05) | Member of the Scientific Committee of the *International Multigrid Conference 2019:* 11-16 August 2019, Kunming, Cina. <br> http://multigrid.org/index.php?id=img2019 |
| (5.A04) | Member of the Organizing Committee of the *International Multigrid Conference 2016:* 6-9 December 2016, Bruchsal, Germany. <br> http://www.computationalmathematics.org/announcements/04202016-1.html |
| (5.A03) | Member of the Organizing Committee of the *"Symposium on Numerics and Scientific Computing in honour of the 60th Birthday of Gabriel Wittum"*, 5 December 2016, Bruchsal Palace, Bruchsal, Germany. |
| (5.A02) | Member of the Organizing Committee of the XXI Congress of the Italian Association of Theoretical and Applied Mechanics (AIMETA), 17-20 September 2013, *Politecnico di Torino*, Torino, Italy. |
| (5.A01) | Scientific Secretary of the international congress *"Geometry, Continua and Microstructure 2008 (GCM 8),"* 10-12 October 2008, Villa Citelli, *Università degli Studi di Catania,* Catania, Italy. |

**5.B. Participation in international congresses as invited speaker and/or invited participant**

| (5.B26) | Invited speaker at the workshop *"A symposium on continuum questions."* <br> Title of the contribution: *"Thoughts on the mechanics of growth: some remarks on how the inhomogeneity and heterogeneity of tissues may impact their evolution."* <br> Dates: 12-13 May 2022. <br> Venue: School of Mathematics and Statistics, University of Glasgow, UK. |
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| (5.B25) | Invited speaker at the workshop *"Modelling and Simulation."*<br>Title of the contribution: *"Towards a fractional model of growth mechanics."*<br>Dates: 20-27 March 2022.<br>Venue: King Abdullah University of Science and Technology (KAUST), Saudi Arabia. |
| (5.B24) | Invited speaker at the INdAM Meeting *"Active materials: from mechanobiology to smart device."*<br>Title of the contribution: *"Fractional Diffusion in the Mechanics of Tumor Growth"*<br>Dates: 20-24 September 2021.<br>Venue: *Palazzone di Cortona, Scuola Normale Superiore di Pisa, Cortona*, Italy. |
| (5.B23) | Invited speaker at the congress *"Mathematical Models in Continuum Mechanics."*<br>Title of the contribution: *"Structural inhomogeneities and anomalous diffusion in tumour growth."*<br>Date: 20 January 2020.<br>Venue: *Dipartimento di Scienze Matematiche (DISMA) "G. L. Lagrange", Politecnico di Torino*, Torino, Italy. |
| (5.B22) | Invited speaker at the session *"Growth and remodelling"* of the congress *"16th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering and 4th Conference on Imaging and Visualization (CMBBE 2019)."*<br>Title of the contribution: *"Theories of growth and structural evolution of biological materials: a review of existing literature and an outlook on new methodologies."*<br>Dates: 14-16 August 2019.<br>Venue: Columbia University, New York, USA. |
| (5.B21) | Invited speaker at the session *"Heat and Mass Transfer in Porous Media"* of the congress *"Diffusion in Solids and Liquids (DSL2019)."*<br>http://www.dsl-conference.com/2019/ss7.html<br>Title of the contribution: *"Mechanical and flow properties of fibre-reinforced, hydrated biological tissues undergoing remodelling."*<br>Dates: 24-28 June 2019.<br>Venue: Athens, Greece. |
| | Invited contribution at the congress* *"Maths from the body II."*<br>Title of the contribution: *"Two manifestations of the BKL decomposition: growth and multiscale remodelling."*<br>Dates: 6-8 June 2019<br>Venue: Venice, Italy.<br><br>*Upon my request, my contribution was substituted with that of my former PhD Students  Dr. Salvatore Di Stefano and Dr. Ariel Ramírez Torres. |
| (5.B20) | Invited speaker *(keynote speaker)* at the workshop *"International CMALS Workshop on Mathematical Modelling in Biomechanics."*<br>https://www.gla.ac.uk/schools/mathematicsstatistics/events/details/?id=10317<br>Title of the contribution: *"Structural reorganisation and fibre reorientation in fibre-reinforced tissues."*<br>Date: 19 March 2019<br>Venue: University of Glasgow, UK. |
| (5.B19) | Invited speaker at the congress *"Modeling and Simulation in Science."*<br>Title: *"Generalization of non-Darcian flow law in deformable, anisotropic porous media."*<br>Dates: 24-28 February 2019. |

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| | Venue: *Computer, Electrical and Mathematical Science and Engineering Division, King Abdullah University of Science and Technology* (KAUST), Saudi Arabia. |
| (5.B18) | Invited speaker at the congress *"Trails in Quantum Mechanics and Surroundings."* https://tqms2018.cond-math.it/ <br> Title of the contribution: *"Thermal behaviour of the energy spectrum of "self-trapped" bosons in 1D harmonic lattices."* <br> Dates: 27-29 September 2018. <br> Venue: *Dipartimento di Scienze Matematiche (DISMA) "G. L. Lagrange", Politecnico di Torino,* Torino, Italy. |
| (5.B17) | Invited speaker at the INdAM Meeting *"Mathematical Physics of Living Systems."* https://cortona2017.weebly.com/program.html <br> Title of the contribution: *"Structural Evolution of fibre-reinforced biological tissues."* <br> Dates: 27 August – 2 September 2017. <br> Venue: *Palazzone di Cortona, Scuola Normale Superiore di Pisa,* Cortona, Italy. |
| (5.B16) | Invited speaker at the congress *"Advances in Mathematics for Technology (AMATH 2017)."* https://amath2017.icas.xyz/ <br> Title of the contribution: *"Salinity-driven flow in fractured porous media: Full-dimensional versus low-dimensional models."* <br> Dates: 9-11 October 2017. <br> Venue: *Villa Citelli, Università degli Studi di Catania,* Catania, Italy. |
| (5.B15) | Invited speaker at the symposium *"Symposium on Scientific Computing"*, in honor of the 60th birthday of Prof. Gabriel Wittum. <br> Title of the contribution: *"An overview of models and computational methods: From density-driven flow to poroplasticity."* <br> Date: 5 December 2016. <br> Venue: Bruchsal Palace, Bruchsal, Germany. |
| (5.B14) | Invited speaker at the congress *"International Multigrid Conference – IMG 2016."* <br> Title of the contribution: *"A poroplastic approach to the structural reorganisation of fibre-reinforced porous media."* <br> Dates: 6-9 December 2016. <br> Venue: Bruchsal Palace, Bruchsal, Germany. |
| (5.B13) | Invited speaker at the workshop *"Simulation in Technology."* <br> Title of the contribution: *"Structural reorganisation of biological tissues modelled with the aid of poroplasticity."* <br> Dates: 3-6 October 2016. <br> Venue: *King Abdullah University of Science and Technology* (KAUST), Saudi Arabia. |
| (5.B12) | Invited speaker at the congress *"Computational Mechanics of Generalized Continua and Applications to Materials with Microstructure."* <br> Title of the contribution: *"Remodelling in fibre-reinforced soft biological tissues."* <br> Dates: 29-31 October 2015. <br> Venue: *Scuola Superiore di Catania*, Catania, Italy. |
| (5.B11) | Invited speaker at the congress *"Mathematical Physiology of Cardiac, Skeletal, and Smooth Muscles."* <br> Title of the contribution: *"Structural reorganisation of soft tissues."* <br> Dates: 5-9 October 2015. |

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| | Venue: *Centro De Giorgi, Scuola Normale Superiore di Pisa*, Pisa, Italy. |
| (5.B10) | Invited speaker at the congress *"Modeling Natural Barriers 2015: Modeling Storage in Deep Layers and Modeling the Barrier Functioning of the Human Skin."*<br>https://gcsc.uni-frankfurt.de/mnb2015/programme<br>Title of the contribution: *"The Darcy-Forchheimer Law for Modelling Density-Driven Flow in Fractured Porous Media."*<br>Dates: 28 September – 1 October 2015.<br>Venue: Bad Wildbad, Germany. |
| (5.B09) | Invited speaker at the congress *"Multiscale Models in Mechano and Tumor Biology: Modeling, Homogenization, and Applications (M3TB)."*<br>Title of the contribution: *"Mechanical and transport properties of biological systems: microstructural-based constitutive models and inelastic phenomena."*<br>Dates: 28-30 September 2015.<br>Venue: Technische Universität Darmstadt, Germany. |
| (5.B08) | Invited speaker at the congress *"Mechanics through Mathematical Modelling – Symposium in the honour of the 70th birthday of Academician Prof. Teodor Atanackovic."*<br>Title of the contribution: *"Fluid flow in biological porous media."*<br>Dates: 6-11 September 2015.<br>Venue: Novi Sad, Serbia. |
| (5.B07) | Invited speaker at the workshop *"Fast Solvers for Differential Equations (Schnelle Löser für partielle Differentialgleichungen)."*<br>Title of the contribution: *"Models and numerical strategies for inelastic processes in industrial and biological problems."*<br>Dates: 11-16 May 2014. Workshop ID: 1420.<br>Venue: *Mathematisches Forschungsinstitut Oberwolfach* (MFO), Germania. |
| (5.B06) | Invited speaker at the congress *"2nd International Conference on Contemporary Problems of Mathematics, Mechanics and Informatics – CPMMI 2012."*<br>Title of the contribution: *"Mechanics of multiphasic materials with applications to biological problems."*<br>Dates: 17-19 June 2012.<br>Venue: Novi Pazar, Serbia. |
| (5.B05) | Invited speaker at the congress *"Modelling Storage in Deep Layers – MDSL 2011."*<br>Title of the contribution: *"Numerical Models for Flow in Fractured Porous Media."*<br>Dates: 12-16 August 2011.<br>Venue: Schwetzingen, Germany. |
| (5.B04) | Invited speaker at the workshop *"Fast Solvers for Differential Equations (Schnelle Löser für Differentialgleichungen)."*<br>Title of the contribution: *"Models and simulations of variable-density flow."*<br>Dates: 22-28 May 2011. Workshop ID: 1121<br>Venue: *Mathematisches Forschungsinstitut Oberwolfach* (MFO), Germany. |
| (5.B03) | Invited speaker at the mini-workshop *"Numerical upscaling for flow problems: theory and applications."*<br>Title of the contribution: *"Mathematical Modelling of Fractured Porous Media."*<br>Dates: 1-7 March 2009. Workshop ID: 0910a<br>Venue: *Mathematisches Forschungsinstitut Oberwolfach* (MFO), Germany. |

| (5.B02) | Invited speaker at the mini-workshop *"The Mathematics of Growth and Remodelling of Soft Biological Tissues."* <br> Title of the contribution: *"Analysis of growth and diffusion dynamics in biological materials."* <br> Dates: 31 August – 6 September 2008. Workshop ID: 0836a <br> Venue: *Mathematisches Forschungsinstitut Oberwolfach* (MFO), Germany. |
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| (5.B01) | Invited participant (not speaker) at the workshop *"Schnelle Löser für partielle Differentialgleichungen"* (*"Fast Solvers for Partial Differential Equations"*) and *reporter* of the Oberwolfach Report "OWR_2008_23.pdf". <br> Dates: 18-24 May 2008. Workshop ID: 0821 <br> Venue: *Mathematisches Forschungsinstitut Oberwolfach* (MFO), Germany. |

## 5.C. Invited seminars in Universities and/or Research Institutes

| (5.C10) | Invited seminar at the *Dipartimento di Ingegneria Industriale e Scienze Matematiche – Area Scienze Matematiche dell'Università Politecnica delle Marche,*\* Ancona, Italy. <br> Title: *"An approach to growth mechanics based on Fractional Calculus"* <br> Date: 4 November 2021. <br><br> \*Department of Industrial Engineering and Mathematical Sciences - Section of Mathematical Sciences of the Polytechnic University of the Marche, Ancona, Italy. |
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| (5.C09) | Invited seminar at the Department of Mechanical and Industrial Engineering del New Jersey Institute of Technology (NJIT), New Jersey, USA. <br> Title: *"Two aspects of the structural reorganization of biological materials: Evolving internal structure and anelastic distortions"* <br> Date: 20 October 2021. |
| (5.C08) | Invited seminar at the Division of Mathematics, School of Science and Engineering, University of Dundee, Scotland, UK. <br> Title: *"An overview on some recent models of tumour growth: consolidated ideas and new perspectives."* <br> Date: 17 February 2020. |
| (5.C07) | Invited seminar at the *"Applied Mathematics Seminar"* of the School of Mathematics and Statistics, University of Glasgow, Scotland, UK. <br> https://www.gla.ac.uk/schools/mathematicsstatistics/events/details/?id=10283 <br> Title: *"A report on some recent studies on growth and remodelling."* <br> Date: 21 March 2019. |
| (5.C06) | Invited seminar at the *Università della Svizzera Italiana* (USI), Lugano, Switzerland. <br> Title: *"An overview of models on the mechanics of growth in porous media."* <br> Date: 11 November 2011. |
| (5.C05) | Invited seminar at the Mathematical Institute of the Serbian Academy of Sciences and Arts of Belgrade, Serbia. <br> Titolo: *"Hydrogeology, Biomechanics, Plasticity with an eye on Fractional Calculus."* <br> Data: 28 aprile 2010. |
| (5.C04) | Invited seminar at the Faculty of Mechanical Engineering of the University of Kragujevac, Serbia. <br> Title: *"A micromechanical approach to some growing living systems."* <br> Date: 20 April 2007. |

| (5.C03) | Invited seminar at the Mathematical Institute of the Serbian Academy of Sciences and Arts of Belgrade, Belgrade, Serbia.<br>Title: *"A multi-scale approach to modelling transport phenomena in growing living systems."*<br>Date: 18 April 2007. |
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| (5.C02) | Invited seminar at the Simulation and Technology Laboratory, IWR, Ruprecht-Karls Universität Heidelberg, Germany.<br>Title: *"Growth and transport phenomena in living tissues."*<br>Date: 22 January 2007 (period of the visit: 21-25 January 2007). |
| (5.C01) | Invited seminar at the *Dipartimento di Scienze e Tecnologie Biomediche della Facoltà di Medicina e Chirurgia dell'Università di Udine,*\* Udine, Italy.<br>Title: *"Biomeccanica dei tessuti molli: una panoramica su alcune proprietà meccaniche della cartilagine articolare."*\*\*<br>Date: 27 November 2006.<br><br>\*Department of Science and Biomedical Technologies of the Faculty of Medicine of the University of Udine, Udine, Italy.<br>\*\* Biomechanics of soft tissues: an overview on some mechanical properties of articular cartilage. |

## 5.D. Seminars in Summer or Winter Schools

| (5.D03) | Series of seminars held at the *Dipartimento di Matematica e Fisica dell'Università Cattolica del Sacro Cuore,* Brescia, Italy. Organizers: Prof. Alfredo Marzocchi and Prof. Alessandro Musesti.<br>Title: *"Structural reorganisation of biological materials – Inelastic aspects and fibre reorientation in fibre-reinforced tissues."*<br>Dates: 6-8 February 2019. |
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| (5.D02) | Seminar held at the summer school *"FOMICS Summer School on Cardiac Modeling and Simulation"*, Faculty of Informatics, Institute of Computational Science (ICS), *Università della Svizzera Italiana* (USI), Lugano, Switzerland.<br>TItle: *"Growth and Remodelling."*<br>Date: 26 August 2015. |
| (5.D01) | Seminars held at the summer school *"Modelling and Simulation of Biological Systems with the Simulation System UG,"* *Goethe Center for Scientific Computing* (G-CSC), *Goethe Universität Frankfurt*, Frankfurt am Main, Germany.<br>Title: *"Introduction in the Theory of porous and multiphasic media"* e *"Macroscopic models of transport processes. Dissipation inequality and constitutive laws."*<br>Dates: 21 September 2012 and 24 September 2012. |

## 5.E. Organizer or Co-organizer of mini-symposia

| (5.E10) | Co-organizer of the mini-symposium *"New challenges in the Modeling and Numerics of meta-materials and biological, industrial and geological multi-scale media,"* with Ariel Ramírez Torres (School of Mathematics and Statistics, The University of Glasgow, UK), in the context of the congress *"International Multigrid Conference 2022 (IMG 2022)."*<br>Dates: **to be held** from 22 August 2022 to 27 August 2022.<br>Venue: Lugano, Switzerland.<br>**Ongoing organization** |
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| (5.E09) | Co-organizer of the mini-symposium *"Geometry and Continuum Mechanics"* (MS25), with Salvatore Federico (The University of Calgary, Canada), Reuven Segev (Ben-Gurion University of the Negev, Israel) and Géry de Saxé (University of Lille, France), in the context of the congress *"2022 International Conference on Nonlinear Solid Mechanics, ICoNSoM 2022."*<br>http://www.memocsevents.eu/iconsom2022/mini-symposia/<br>Dates: 13-16 June 2022.<br>Venue: Alghero, Italy. |
| (5.E08) | Co-organizer of the mini-symposium *"Biophysics of living porous media: theory, experiment, modeling and characterization"* (MS20), with Giuseppe Sciumè (University of Bordeaux, Francia), Stefano Dal Pont (Université Grenoble Alpes, France) and Sylvie Lorthois (Tolouse Fluid Mechanics Institute, France), in the context of the congress *"11th Annual Meeting of the International Society for Porous Media (InterPore)."*<br>https://events.interpore.org/event/12/page/71-minisymposia<br>Dates: 6-10 May 2019.<br>Venue: Valencia, Spain. |
| (5.E07) | Co-organizer of the mini-symposium *"Moisture transport through porous media: exploring the use of different potentials"* (MS1.13), with L. Schreyer (Washington State University, USA), in the context of the congress *"9th International Conference on Porous Media & Annual Meeting of the International Society or Porous Media (InterPore)."*<br>http://www.testing.interpore.org/minisymposia-and-general-sessions<br>Date: 8-11 May 2017.<br>Venue: Rotterdam, The Netherlands. |
| (5.E06) | Co-organizer of the mini-symposium *"Advanced numerical methods for subsurface flow simulations in poro-fractured media"* (MS2.10) with Stefano Berrone, Sandra Pieraccini and Stefano Scialò (*Politecnico di Torino*, Torino, Italy), in the context of the congress *"8th International Conference on Porous Media & Annual Meeting of the International Society of Porous Media (InterPore)."*<br>https://www.testing.interpore.org/65-event-booking/8th-international-conference-on-porous-media-annual-meeting/375-minisymposia14-2<br>Dates: 9-12 May 2016.<br>Venue: Cincinnati, Ohio, USA. |
| (5.E05) | Co-organizer of the mini-symposium *"Theoretical and Computational Methods for Problems in Highly Heterogeneous and Fractured Porous Media,"* with Arne Naegel and Gabriel Wittum (*Goethe Universität Frankfurt*, Germany) in the context of the congress *"SIAM Conference on Mathematical and Computational Issues in the Geosciences."*<br>Dates: 29 June - 2 July 2015.<br>Venue: Stanford, California, USA. |
| (5.E04) | Co-organizer of the mini-symposium *"Extended Finite Volumes,"* with Arne Naegel, Gillian Queisser and Gabriel Wittum (Goethe Universität Frankfurt, Germania), in the context of the congress *"X-DMS 2015 – eXtended Discretization Methods."*<br>https://x-dms2015.sciencesconf.org/resource/page/id/33.html<br>Dates: 9-11 September 2015.<br>Venue: Ferrara, Italy. |

| (5.E03) | Co-organizer of the mini-symposium *"Highly Heterogeneous Porous Media in Biomechanics and Environmental Sciences: From Fibre-Reinforced Biological Tissues to Fractured Hydrogeological Formations,"* with Arne Naegel and Gabriel Wittum (Goethe Universität Frankfurt, Germany) in the context of the congress *"7th International Conference on Porous Media & Annual Meeting of the International Society for Porous Media (InterPore)."* <br> Dates: 18-21 May 2015. <br> Venue: Padova, Italia. |
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| (5.E02) | Co-organizer of the mini-symposium *"Fractional Mechanical Modeling: From Theory to Experiments,"* with Pietro Cornetti, Alberto Sapora (*Politecnico di Torino*) and Dušan Zorica (Serbian Society of Arts and Sciences, Serbia) in the context of the congress *"International Conference on Fractional Differentiation and its Applications (FDA 2014)."* <br> Dates: 23-25 June 2014. <br> Venue: Catania, Italy. |
| (5.E01) | Organizer of the mini-symposium *"Interdisciplinary Problems in the Physics of Porous Media: Models, Numerics and Experiments from Biomechanics to Hydrogeology"* in the context of the XXI Congress of the Italian Association of Theoretical and Applied Mechanics (AIMETA). <br> Dates: 17-20 September 2013. <br> Venue: *Politecnico di Torino,* Torino, Italy. |

## 6. Teaching activity in Italian and/or foreign Universities

## 6.A. Courses held, or to be held, for the Bachelor or the Master of Science at the *Politecnico di Torino*, Italy

| *Courses held and/or to be held at the* Politecnico di Torino *and at the Turin Polytechnic University at Tashkent (Tashkent, Uzbekistan), from the academic year (A.Y.) 2011/2012 to the current academic year, either as appointed professor or as collaborator, both at the* **Bachelor of Science** *and at the* **Master of Science** *level.* | | |
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| (6.A10) | *Mathematical Analysis 1* <br> A.Y. 2014/2015-2022/2023: Appointed Prof.; <br> A.Y. 2012/2013, 2013/2014: Collaborator. | All courses of the Bachelor of Science in Engineering of the *Politecnico di Torino*. |
| (6.A09) | *Mathematical Analysis 2* <br> A.Y. 2015/2016: Collaborator. | All courses of the Bachelor of Science in Engineering of the *Politecnico di Torino*. |
| (6.A08) | *Analytical Mechanics* <br> A.Y. 2012/2013: Appointed Prof. (both lectures of theory and exercises). <br> A.A. 2016/2017: Appointed Prof. (both lectures of theory and exercises). | Master of Science in *Mechanical Engineering*. |
| (6.A07) | *Mechanics of Continua* <br> A.Y. 2013/2014-2016/2017: Collaborator. | Master of Science in *Mathematical Engineering*. |
| (6.A06) | *Mechanics of Porous Media* <br> A.Y. 2011/2012, 2017/2018-2021/2022: Collaborator. | Master of Science in *Mathematical Engineering*. |
| (6.A05) | *Rational Mechanics* <br> A.Y. 2011/2012: Collaborator; <br> A.Y. 2014/2015: Appointed Prof. | Bachelor of Science in *Civil Engineering* and *Mathematics for Engineering*. |

| (6.A04) | *Mathematical and Statistical Methods for Engineering*<br>A.Y. 2018/2019-2021/2022: Appointed Prof. | Bachelor of Science in *Civil Engineering*. |
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| (6.A03) | *Numerical and Statistical Methods for Engineering*<br>A.Y. 2015/2016, 2016/2017: Appointed Prof.<br>A.Y. 2017/2018: Collaborator. | Bachelor of Science in *Civil Engineering*. |
| (6.A02) | *Variational Methods and Applications*<br>A.Y. 2018/2019-2021/2022: Collaborator. | Master of Science in *Mathematical Engineering*. |
| (6.A01) | *Analytical Mechanics*<br>A.Y. 2019/2020, 2020/2021: Appointed Prof. | Bachelor of Science in *Industrial And Civil Engineering And Architecture* (TTPU), Tashkent, Uzbekistan. |

**6.B. Courses held, or to be held, for the Doctoral Program in "Pure and Applied Mathematics",** *Politecnico di Torino* **and** *Università degli Studi di Torino* **(formerly Doctoral Program in "Applied Mathematics,"** *Politecnico di Torino***).**

| (6.B05) | *Strain gradient theories for biomechanical problems: Models, methods and implementation*<br>Period: A.Y. 2021/2022.<br>Role: Appointed Professor and teacher.<br>Duration: 20 hours (10 hours of lectures + 10 hours of exercises). **To be held.** |
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| (6.B04) | *Introduction to Geometric Continuum Mechanics* (lectures held by Prof. Reuven Segev)<br>Period: A.Y. 2021/2022 from 2022/05/09 to 2022/05/31.<br>Role: Proposer of the course.<br>Duration: 20 hours held by Prof. Reuven Segev (Ben-Gurion University of the Negev, Israel) in the context of the Didactic of Excellence of the Doctoral Program. |
| (6.B03) | *Variational Methods in Biomechanics*<br>Periodi:<br>A.Y. 2018/2019 from 2019/09/10 to 2019/09/20;<br>A.Y. 2021/2022 from 2021/11/08 to 2021/11/19.<br>Role: Appointed Professor and teacher.<br>Duration: 20 hours. |
| (6.B02) | *Modelling and Simulation of Biological Systems* (lectures held by Prof. G. Wittum, Dr. M. Hoffer, and Dr. S. Reiter)<br>Period: A.Y. 2017/2018.<br>Role: Proposer.<br>Duration: 20 hours held by Gabriel Wittum (KAUST, Saudi Arabia), by Dr. Michael Hoffer (G-CSC, Goethe Universität Frankfurt, Germany) and Dr. Sebastian Reiter (G-CSC, Goethe Universität Frankfurt, Germany) in the context of the Didactic of Excellence of the Doctoral Program. |
| (6.B01) | *Mechanics of Porous Media and Multiphasic Materials*<br>Period: A.Y. 2013/2014 from 2014/09/08 to 2014/11/14.<br>Role: Appointed Professor and teacher.<br>Duration: 30 hours. |

**6.C. Courses held at the Goethe Universität Frankfurt, Frankfurt am Main, Germany**

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| (6.C02) | *"Spezielle Themen des Wissenschaftlichen Rechnens: Simulation in der Strömungsmechanik"* (*"Special Topics of Scientific Computing: Simulation in Fluid Mechanics"*) A.Y. 2010/2011; 2011/2012 | Course offered both to students of Master of Science and to students of Doctoral Programs. The course was held together with Prof. Gabriel Wittum and Dr. Arne Nägel. The course was held in German language. |
| (6.C01) | *Spezielle Themen des Wissenschaftlichen Rechnens: Modellierung und numerische Simulation in der Strömungsmechanik"* (*"Special Topics of Scientific Computing: Modeling and Numerical Simulations in Fluid Mechanics"*) A.Y. 2009/2010 | Course offered both to students of Master of Science and to students of Doctoral Programs. The course was held together with Prof. Gabriel Wittum and Dr. Vadym Aizinger. The course was held in German language. |

**6.D. Courses held at the University of Catania, Catania, Italy**

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| (6.D01) | *Foundations of Experimental Physics II and Elements of the Physics of the Matter (module of "Elements of the Physics of the Matter").* The course was held together with Dr. Paolo Bellia. A.Y. 2006/2007, 2007/2008 |

**6.E. Supervision and/or co-supervision of PhD, Master of Science and Bachelor of Science Theses.**

*Politecnico di Torino*, **Italy**

*Research Doctorate*

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| (6.E03D) | Tutor and advisor of Ariel Ramírez Torres, PhD course in "Pure and Applied Mathematics" (XXXIV Cycle), *Politecnico di Torino* and *Università degli Studi di Torino*. PhD Thesis: *"Multiscale studies of the constitutive behaviour of biological media."* Date of the defense: 2022/07/04 . |
| (6.E02D) | Tutor and advisor of Salvatore Di Stefano, PhD course in "Pure and Applied Mathematics" (XXXII Cycle), *Politecnico di Torino* and *Università degli Studi di Torino*. PhD Thesis: *"Growth and remodelling of biological tissues, tumour masses and cellular aggregates: a theoretical and computational study."* Date of the defense: 2020/09/24. |
| (6.E01D) | Tutor and advisor of Melania Carfagna, PhD course in "Applied Mathematics" (XXIX Cycle), *Politecnico di Torino*. PhD Thesis: *"Flow, Growth, and Remodelling in Fibre-Reinforced Deformable Biological Tissues and Tumour Masses."* Date of the defense: 2017/03/30. |

*Master of Science Theses which I have supervised or co-supervised (in descending chronological order)*

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| (6.E14M) | Student: Giuseppe Auricchio Thesis: *"Uno studio preliminare della meccanica della crescita volumetrica formulata secondo la teoria gradiente di Gurtin e Anand dei fenomeni anelastici*"*, Master of Science in Mathematical Engineering, Politecnico di Torino, 2022. Role: Advisor. *"A preliminary study of the mechanics of volumetric growth formulated according to the Gurtin and Anand gradient theory of anelastic phenomena." |

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| (6.E13M) | Student: Valentina Licari<br>Thesis: *"Considerazioni sulla possibilità di formulare alcune leggi evolutive della crescita volumetrica di aggregati cellulari come equazioni dinamiche di teorie meccaniche dei processi anelastici\*"*, Master of Science in Mathematical Engineering, Politecnico di Torino, 2021.<br>Role: Advisor.<br><br>\*"Considerations on the possibility of formulating some evolution laws of the volumetric growth of cellular aggregates as dynamic equations of mechanical theories of anelastic processes." |
| (6.E12M) | Studente: Vito Napoli<br>Thesis: *"Formulazioni frazionaria e frattale del modello di Poisson-Nernst-Planck per la propagazione del potenziale di membrana in una cellula nervosa.\*"* Master of Science in Mathematical Engineering, Politecnico di Torino, 2021.<br>Role: Advisor.<br><br>\*"Fractional and fractal formulation of the Poisson-Nernst-Planck model for the propagation of the membrane potential in a nerve cell." |
| (6.E11M) | Student: Alessandro Giammarini<br>Thesis: *"Un modello poroplastico per un test di compressione di un aggregato multicellulare.\*"* Master of Science in Mathematical Engineering, Politecnico di Torino, 2020.<br>Role: Advisor.<br><br>\*"A poroplastic model of a compression test of a multicellular aggregate." |
| (6.E10M) | Student: Simone Portaro<br>Thesis: *"Impiego del Calcolo Frazionario in alcuni problemi di Biomeccanica.\*"* Master of Science in Mathematical Engineering, Politecnico di Torino, 2020.<br>Role: Advisor.<br><br>\*"Employment of Fractional Calculus in some biomechanical problems." |
| (6.E09M) | Student: Michele Loverre<br>Thesis: *"Un approccio secondo la "Teoria Gradiente" alla crescita e al rimodellamento in tessuti tumorali isotropi.\*"* Master of Science in Mathematical Engineering, Politecnico di Torino, 2018.<br>Role: Advisor.<br><br>\*"A 'gradient theory' approach to the growth and remodeling of isotropic tumor tissues." |
| (6.E08M) | Student: Roberta Limone<br>Thesis: *"Analisi di trasporto anomalo in un mezzo poroso con il Continuous Time Random Walk.\*"* Master of Science in Mathematical Engineering, Politecnico di Torino, 2017.<br>Role: Advisor.<br><br>\*"Analysis of anomalous transport in a porous medium with the aid of the Continuous Time Random Walk." |
| (6.E07M) | Student: Salvatore Di Stefano<br>Thesis: *"Aspetti teorici e computazionali dei fenomeni anelastici in biomeccanica.\*"* Master of Science in Mathematical Engineering, Politecnico di Torino, 2016.<br>Role: Advisor.<br><br>\*"Theoretical and computational aspects of the anelastic phenomena in biomechanics." |

| (6.E06M) | Student: Marco Ballesio<br>Thesis: *"Indirect inference for scalar time-homogeneous stochastic differential equations based on moments expansions."* Master of Science in Mathematical Engineering, Politecnico di Torino, 2016.<br><br>Role: Co-advisor. |
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| (6.E05M) | Student: Alberto Stracuzzi<br>Thesis: *"Stime dell'influenza della correzione di Forchheimer nei modelli bifasici della cartilagine articolare.\*"* Master of Science in Mechanical Engineering, Politecnico di Torino, 2015.<br>Role: Advisor.<br><br>\*"Estimates of the influence of Forchheimer's correction on the biphasic models of articular cartilage."<br><br>Tesi interna (di cui sono stato relatore): *"Considerations on the Karush-Kuhn-Tucker multiplier in Finite Strain, Rate-Independent Elastoplasticity."* Prova finale, di livello triennale, presso la Scuola Superiore di Catania, 2014. |
| (6.E04M) | Studente: Alessandro Arduino<br>Thesis: *"Modellizzazione matematica della permeabilità e del rimodellamento di membrane fisiologiche\*."* Master of Science in Mathematical Engineering, Politecnico di Torino, 2014.<br>Role: Co-advisor.<br><br>\*"Mathematical modeling of the permeability and remodeling of physiological membranes." |
| (6.E03M) | Student: Emanuele Cattaneo<br>Thesis: *"Stima a posteriori della validità della legge di Darcy nell'analisi meccanica della cartilagine articolare.\*"* Master of Science in Mechanical Engineering, Politecnico di Torino, 2014.<br>Role: Advisor.<br><br>\*"A posteriori estimate of the validity of Darcy's law in the mechanical analysis of articular cartilage." |
| (6.E02M) | Student: Maurizio Deffacis<br>Thesis: *"Analisi Termica e Strutturale di un dispositivo payload drain brain per uso aerospaziale.\*"* Master of Science in Mathematical Engineering, Politecnico di Torino, 2014.<br>Role: Co-advisor.<br><br>\*"Thermal and Structural Analysis of a payload drain brain device per aerospace use." |
| (6.E01M) | Student: Melania Carfagna<br>Thesis: *"Modelli e Simulazioni di transizioni di fase liquido-vapore in uno scambiatore di calore passivo.\*"* Master of Science in Mathematical Engineering, Politecnico di Torino, 2013.<br>Role: Co-advisor.<br><br>\*"Modelling and Simulations of Liquid-Vapour Phase Transitions in an Industrial Heat Pipe." |

*Bachelor of Science (in descending chronological order)*

| (6.E13B) | Student: Cirino Iraci<br>Thesis: *"Uno studio sulla dinamica Vakonomica "modificata" di sistemi meccanici soggetti a vincoli anolonomi reonomi.\*"* Bachelor of Science in Mathematical Engineering, Politecnico di Torino, 2022.<br>Role: Tutor. |
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| | *"A study of the 'modified' Vakonomic dynamics of mechanical systems subjected to non-holonomic and rheonomic constraints." |
| (6.E12B) | Student: Alessandro Bonaduce<br>Thesis: *"Omogeneizzazione Asintotica di un problema di diffusione non-locale in un materiale composito altamente eterogeneo.*" Bachelor of Science in Mathematical Engineering, Politecnico di Torino, 2020.<br>Role: Tutor.<br><br>*"Asymptotic homogenization of a problem of non-local diffusion in a highly heterogeneous composite material." |
| (6.E11B) | Student: Gianluca Gambacorta<br>Thesis: *"Metodo agli Elementi Finiti per lo studio dello stato tensionale piano di un corpo elastico.*" Bachelor of Science in Civil Engineering, Politecnico di Torino, 2019.<br>Role: Co-tutor<br><br>*"Finite Element Method for the study of the plane-stress state of an elastic body." |
| (6.E10B) | Student: Valentina Licari<br>Thesis: *"Uno studio preliminare di alcuni aspetti del Calcolo Frazionario in problemi di diffusione.*" Bachelor of Science in Mathematical Engineering, Politecnico di Torino, 2019.<br>Role: Tutor<br><br>*"A preliminary study of some aspects of Fractional Calculus in problems of diffusion." |
| (6.E09B) | Student: Vito Napoli<br>Thesis: *"Alcune conseguenze dell'impiego del Teorema di Noether nella meccanica della crescita volumetrica.*" Bachelor of Science in Mathematical Engineering, Politecnico di Torino, 2018.<br><br>*"Some consequences of the employment of Noether's Theorem on the mechanics of volumetric growth." |
| (6.E08B) | Student: Marco Martino Rosso<br>Thesis: *"Propagazione di onde elastiche in mezzi solidi non omogenei: studio analitico e risoluzione numerica.*" Bachelor of Science in Civil Engineering, Politecnico di Torino, 2018.<br>Role: Co-tutor.<br><br>*"Propagation of elastic waves in non-homogeneous solid media: analytical study and numeric solution." |
| (6.E07B) | Student: Raniero Leendert Casesa<br>Thesis: *"Panoramica sulle Equazioni alle Derivate Parziali.*" Bachelor of Science in Civil Engineering, Politecnico di Torino, 2017.<br>Role: Tutor.<br><br>*"An overview on Partial Differential Equations." |
| (6.E06B) | Student: Silvia Bennici<br>Thesis: *"Approccio covariante alla teoria dell'elasticità lineare.*" Bachelor of Science in Civil Engineering, Politecnico di Torino, 2017.<br>Role: Tutor<br><br>*"A covariant approach to linear elasticity." |
| (6.E05B) | Student: Gabriele Paratore<br>Thesis: *"Studio di alcuni metodi di soluzione dell'equazione del calore.*" Bachelor of Science in Civil Engineering, Politecnico di Torino, 2016. |

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| | Role: Tutor. |
| | *"Study of some solution methods of the heat equation." |
| (6.E04B) | Student: Gianpaolo Piepoli<br>Thesis: *"Trasmissione del calore tempo-dipendente in campo monodimensionale con applicazione delle equazioni generalizzate di Bessel - Casi particolari di corpi solidi sferici e cilindrici.*" Bachelor of Science in Civil Engineering, Politecnico di Torino, 2016.<br>Role: Tutor.<br><br>*"One-dimensional time-dependent heat transport with application of generalized Bessel functions - Particular cases of spherical and cylindrical solid bodies." |
| (6.E03B) | Student: Francesco Busso<br>Thesis: *"Studio Analitico e Numerico della Propagazione di Onde Elastiche in Mezzi Solidi.*" Bachelor of Science in Civil Engineering, Politecnico di Torino, 2016.<br>Role: Tutor.<br><br>*"Analytical and numerical study of the propagation of elastic waves in solid media." |
| (6.E02B) | Student: Michele Loverre<br>Thesis: *"Considerazioni sulla simmetria del tensore di conducibilità termica.*" Bachelor of Science in Mathematical Engineering, Politecnico di Torino, 2016.<br>Role: Tutor.<br>*"Considerations on the symmetry of the thermal conductivity tensor." |
| (6.E01B) | Student: Marco Ballesio<br>Thesis: *"Deeper Insights on Noether's Theorem."* Bachelor of Science in Mathematical Engineering, Politecnico di Torino, 2013.<br>Role: Tutor. |

### University of Catania, Italy

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| (6.E08C) | Thesis: *"Termomeccanica della crescita in continui mono- e multifasici.*" Bachelor of Science in Mechanical Engineering, University of Catania, a.y. 2009-2010.<br>Role: Co-tutor.<br><br>*"Thermomechanics of growth in mono- and multiphasic continua." |
| (6.E07C) | Thesis: *"Multiscale analysis of transport and diffusion phenomena and growth model in biological tissues."* Bachelor of Science in Mechanical Engineering, University of Catania, a.y. 2008-2009.<br>Role: Co-tutor. |
| (6.E06C) | Thesis: *"Studio teorico di un motore molecolare interagente con un ambiente a temperatura variabile.*" Bachelor of Science in Mechanical Engineering, "very new Study Regulation", University of Catania, a.y. 2007-2008.<br>Role: Co-tutor.<br><br>*"Theoretical study of a molecular motor interacting with an environment at variable temperature." |
| (6.E05C) | Thesis: *"Risposta di un tessuto biologico molle ed idratato alla prova di compressione confinata: un approccio alla Liouville-Stekloff.*" Master of Science in Engineering of Automation and Control of Complex Systems, Study Regulation 2001/2002, University of Catania, a.y. 2006-2007.<br>Role: Co-supervisor. |

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| | *"Response of a soft and hydrated biological tissue to the confined compression test: a Liouville-Stekloff approach." |
| (6.E04C) | Thesis: *"Interazione tra crescita e fenomeni di trasporto in miscele biologiche.*" Master of Science in Mechanical Engineering, Study Regulation 1996/1997, University of Catania, a.y. 2005-2006.<br>Role: Co-supervisor.<br><br>*"Interaction between growth and transport phenomena in biological mixtures." |
| (6.E03C) | Thesis: *"Diffusione di un agente chimico in un mezzo poroso, bifasico, limitato, in presenza di crescita.*" Master of Science in Mechanical Engineering, University of Catania, a.y. 2003-2004.<br>Role: Co-supervisor.<br><br>*"Diffusion of a chemical agent in a porous, biphasic and bounded medium, in the presence of growth." |
| (6.E02C) | Thesis: *"Ripristino della funzionalità di una membrana assonale danneggiata – uno studio preliminare.*" Master of Science in Mechanical Engineering, University of Catania, a.y. 2003-2004.<br>Role: Co-supervisor.<br><br>*"Restoration of the functionalities of a damaged axonal membrane - a preliminary study." |
| (6.E01C) | Thesis: *"Analisi del tratto lombo-sacrale del rachide soggetto a sollecitazioni random."* Master of Science in Mechanical Engineering, University of Catania, a.y. 2002-2003.<br>Role: Co-supervisor.<br><br>*"Analysis of the lumbo-sacral segment of the rachis, subjected to random loadings." |

### Co-supervision of Students from foreign Universities

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| (6.E02A) | Between 2011 and 2012, I co-supervised a Student of the Department of Mechanical and Manufacturing Engineering of the University of Calgary, Canada, for his Master of Science Thesis in Mechanical Engineering entitled *"Nonlinear Elasticity, Fluid Flow and Remodelling in Biological Tissues."* The Advisor was Prof. Salvatore Federico. |
| (6.E01A) | From 2008 to 2011, I co-supervised Students of Prof. Gabriel Wittum (Goethe Center for Scientific Computing, G-CSC, Goethe Universität Frankfurt, Germany) for their Bachelor of Science, Master of Science, and PhD Theses. |

## 7. Services and institutional assignments in italian and foreign Universities and/or public or private institutions

| 7.A. Institutional assignments at the *Politecnico di Torino*, Italy | |
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| (7.A02) | From the academic year 2018-2019 to date: Person in charge for the incoming and outgoing student mobility in the context of the ERASMUS and ERASMUS+ projects, for the Bachelor of Science in "Mathematics for Engineering" and for the Master of Science in "Mathematical Engineering" of the *Politecnico di Torino*. |
| (7.A01) | 2019/08/01-2022/07/31: Member of the Council of the *Scuola di Master e Formazione Permanente** of the *Politecnico di Torino*. Appointment received on 5 July 2019, Rector Decree no. 705/2019.<br><br>*School of Master and Permanent Education |

**7.B. Member of the Selection Committee for the recruitment of Assistant Professors (*Ricercatori Universitari a tempo determinato RTD-A/B*)**

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| (7.B04) | <u>Year 2021</u>: Selection of a *Ricercatore Universitario a Tempo Determinato di cui al comma 3, lettera b) art. 24 della Legge 240/2010 (RTD-B)*, Academic discipline MAT/07 Mathematical Physics, at the *Università Cattolica del Sacro Cuore di Brescia*, Italy (D.R. no. 7336 of 19 March 2021). |
| (7.B03) | <u>Year 2020</u>: Selection of a *Ricercatore Universitario a Tempo Determinato di cui al comma 3), lettera a) art. 24 della Legge 240/2010 (RTD-A)*, Academic discipline MAT/07 Mathematical Physics, at the *Politecnico di Milano*, Italy (D.R. no. 6481 of September 25, 2020). |
| (7.B02) | <u>Year 2019</u>: Selection of a *Ricercatore Universitario a Tempo Determinato di cui al comma 3, lettera a) art. 24 della Legge 240/2010 (RTD-A)*, Academic discipline MAT/07 Mathematical Physics, at the *Dipartimento di Scienze Matematiche* (DISMA) "G. L. Lagrange" of the *Politecnico di Torino*, Italy (D.R. no. 1304 of December 12, 2019). |
| (7.B01) | <u>Year 2017</u>: Selection of a *Ricercatore Universitario a Tempo Determinato di cui al comma 3, lettera b) art. 24 della Legge 240/2010 (RTD-B)*, Academic discipline MAT/07 Mathematical Physics, at the *Politecnico di Milano*, Italy (D.R. no. 3664 of June 27, 2017). |

**7.C. Member of the Selection Committee for the recruitment of Research Fellows**

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| (7.C06) | <u>Year 2019</u>: President of the Selection Committee for the assignment of a "professionalizing" research fellowship (Category A) in the context of the research program *"Proprietà strutturali dei tessuti biologici fibro-rinforzati: una descrizione fisico-matematica basata sull'accoppiamento di teorie cinetiche e teorie continue\*"* at the *Dipartimento di Scienze Matematiche* (DISMA) "G. L. Lagrange" of the *Politecnico di Torino*, Italy (D.D.G. no. 1819 of October 1, 2019).<br><br>\*"Structural properties of fiber-reinforced biological tissues: a physico-mathematical description based on the coupling of kinetic and continuous theories." |
| (7.C05) | <u>Year 2019</u>: Secretary of the Selection Committee for the assignment of a senior research fellowship (Category C) in the context of the research program *"Ambiente di simulazione di materiale basato su approcci ontologici"* at the *Dipartimento Scienza Applicata e Tecnologia* of the *Politecnico di Torino*, Italy (D.D.G. no. 214 of February 5, 2019).<br><br>\*"Simulation environment of materials based on ontological approaches." |
| (7.C04) | <u>Year 2018</u>: President of the Selection Committee for the assignment of a post-doctoral research fellowship (Category B) in the context of the research program *"Modelli matematici di percolazione di base-k (k-core) nelle reti di interazione proteina-proteina nelle cellule\*"* at the *Dipartimento di Scienze Matematiche* "G. L. Lagrange" of the *Politecnico di Torino*, Italy (D.D.G. no. 2611 of December 11, 2018).<br><br>\*"Mathematical models of base-k (k-core) percolation in the protein-protein interaction nets in the cells." |
| (7.C03) | <u>Year 2016</u>: Member of the Selection Committee for the assignment of a professionalizing research fellowship (Category A) in the context of the research program *"Modellazione matematica multiscala e aspetti computazionali della crescita e del rimodellamento di tessuti biologici e masse tumorali - un approccio sinergico che include fenomeni elettro-chemo-meccanici"* at the *Dipartimento di Scienze Matematiche* "G. L. Lagrange" of the *Politecnico di Torino*, Italy (D.D.G. no. 1155 of November 22, 2016).<br><br>\*"Multiscale Mathematical Modelling and Numerics of Growth and Structural Adaptation of Soft Biological Tissues and Tumour Masses – A Synergetic Approach Encompassing Electro-Chemo-Mechanical Phenomena." |

| (7.C02) | <u>Year 2016</u>: Member of the Selection Committee for the assignment of a professionalizing research fellowship (Category A) in the context of the research program *"Modellazione matematica multiscala e aspetti computazionali della crescita e del rimodellamento di tessuti biologici e masse tumorali - un approccio sinergico che include fenomeni elettro-chemo-meccanici"* at the *Dipartimento di Scienze Matematiche* "G. L. Lagrange" of the *Politecnico di Torino*, Italy (D.D.G. no. 996 of October 25, 2016).<br><br>\*"Multiscale Mathematical Modelling and Numerics of Growth and Structural Adaptation of Soft Biological Tissues and Tumour Masses – A Synergetic Approach Encompassing Electro-Chemo-Mechanical Phenomena." |
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| (7.C01) | <u>Year 2016</u>: Secretary of the Selection Committee for the assignment of a research fellowship (Category B) in the context of the research program "Multiscale Mathematical Modelling and Numerics of Growth and Structural Adaptation of Soft Biological Tissues and Tumour Masses – A Synergetic Approach Encompassing Electro-Chemo-Mechanical Phenomena" at the *Dipartimento di Scienze Matematiche* "G. L. Lagrange" of the *Politecnico di Torino*, Italy (D.D.G. no. 56 of February 23, 2016). |

**7.D. Member of the Committee for the assignment of scientific awards**

| (7.D01) | <u>July 2019</u>: Member of the Committee for the assignment of the *"Premi Qualità Dottorandi 2019\*"* for the XXXI and XXXII Cycle of the Doctoral Program in "Pure and Applied Mathematics" (*Politecnico di Torino* and *Università degli Studi di Torino*, Italy).<br><br>\*"PhD Quality Prizes 2019." |
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**7.E. Member of the Selection Committee for the recruitment of PhD Students**

| (7.E01) | <u>Year 2017</u>: Member of the Selection Committee for the XXXII Cycle of the Doctoral Program in "Pure and Applied Mathematics", *Politecnico di Torino* and *Università degli Studi di Torino*, Italy (D.R. no. 2081 of June 27, 2017 of the *Università degli Studi di Torino*). |
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**7.F. Member of PhD Defense Committees**

| (7.F07) | <u>2022/03/15</u>: Member of a PhD Defense Committee for awarding the title of Research Doctor. Doctoral School: *"École doctorale n° 432 Sciences des Métiers de l'Ingénieur (Biomécanique et ingénierie pour la santé)* e *"Doctoral School in Science and Engineering"* (Engineering Science). Appointment with the *École Nationale Supérieure d'Arts et Métiers*, Paris, France. |
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| (7.F06) | <u>2017/03/30</u>: Aggregate Member (without the right to vote) of a PhD Defense Committee for awarding the title of Research Doctor in "Applied Mathematics," Department of Mathematical Sciences (DISMA) "G.L. Lagrange", *Politecnico di Torino*. Appointment with the *Politecnico di Torino*, Italy. |
| (7.F05) | <u>2016/12/09</u>: Member of a PhD Defense Committee for awarding the title of Research Doctor. Informatics and Mathematics, *Goethe Center for Scientific Computing* (G-CSC), *Goethe Universität Frankfurt*, Frankfurt am Main, Germany. Appointment with the *Goethe Universität Frankfurt*, Frankfurt am Main, Germany. |
| (7.F04) | <u>2016/01/29</u>: Member of  PhD Defense Committee for awarding the title of Research Doctor. Informatics and Mathematics, *Goethe Center for Scientific Computing* (G-CSC), *Goethe Universität Frankfurt*, Frankfurt am Main, Germany. Appointment with the *Goethe Universität Frankfurt*, Frankfurt am Main, Germany. |
| (7.F03) | <u>2014/11/26</u>: Member of a PhD Defense Committee for awarding the title of Research Doctor to |

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| | a student of the Institute for Computational Science, Faculty of Informatics, *Università della Svizzera Italiana* (USI), Lugano, Switzerland.<br>Appointment with the *Università della Svizzera Italiana* (USI), Lugano, Switzerland. |
| (7.F02) | <u>2014/09/22</u>: Member of a PhD Defense Committee for awarding the title of Research Doctor. Informatics and Mathematics, *Goethe Center for Scientific Computing* (G-CSC), *Goethe Universität Frankfurt*, Frankfurt am Main, Germany.<br>Appointment with the Goethe Universität Frankfurt, Frankfurt am Main, Germany. |
| (7.F01) | <u>2014/02/07*</u>: Member of a PhD Defense Committee for awarding the title of Research Doctor in *"Modelli e metodi matematici per l'Ingegneria**"*, A.Y. 2013/2014, Session 1, no. 2, *Politecnico di Milano*, Italy.<br>Appointment with the *Politecnico di Milano*, Italy.<br><br>*The date refers to the date of appointment.<br>*"Mathematical models and methods for Engineering." |

**List of all the most relevant publications**

In the following, the publication year refers to the date in which a given publication first appeared on-line

| **I. Articles published in international scientific journals with anonymous peer-reviewers** | |
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| **Year 2022** | |
| [A65] | Di Stefano, S., Giammarini, A., Giverso, C., **Grillo, A.**: "An elasto-plastic biphasic model of the compression of multicellular aggregates: the influence of fluid on stress and deformation." *Zeitschrift für Angewandte Mathematik und Physik*, 2022; 73, pp. 1-39 (79). DOI: https://doi.org/10.1007/s00033-022-01692-1 Disponibile in rete: 2022-03-28. |
| **Year 2021** | |
| [A64] | Ramírez-Torres, A., Penta, R., **Grillo, A.**: "Two-scale, non-local diffusion in homogenised heterogeneous media." *Archive of Applied Mechanics*, 2022; **92**, pp. 559–595. DOI: https://doi.org/10.1007/s00419-020-01880-3 Disponibile in rete: 2021-03-09. |
| [A63] | Ramírez-Torres, A., Di Stefano, S., **Grillo, A.**: "Influence of non-local diffusion in avascular tumour growth." *Mathematics and Mechanics of Solids*, 2021; **26(9)**, pp. 1264-1293. DOI: https://doi.org/10.1177/1081286520975086 Disponibile in rete: 2021-01-04 |
| **Year 2020** | |
| [A62] | Di Stefano, S., Miller, L., **Grillo, A.**, Penta, R.: "Effective balance equations for electrostrictive composites." *Zeitschrift für angewandte Mathematik und Physik*, 2020; **71(5)**, p. 166 (36 pagine). DOI: https://doi.org/10.1007/s00033-020-01365-x Disponibile in rete: 2020-09-22 |
| [A61] | Hashlamoun, K., Abusara, Z., Ramírez-Torres, A., **Grillo, A.**, Herzog, W., Federico, S.: "Fluorescence recovery after photobleaching: direct measurement of diffusion anisotropy." *Biomechanics and Modeling in Mechanobiology*, 2020; **19**, pp. 2397-2412. DOI: https://doi.org/10.1007/s10237-020-01346-z Disponibile in rete: 2020-06-19 |
| **Year 2019** | |
| [A60] | Federico, S., Alhasadi, M. F., **Grillo, A.**: "Eshelby's inclusion theory in light of Noether's Theorem." *Mathematics and Mechanics of Complex Systems*, 2019; **7(3)**, pp. 247-258. DOI: dx.doi.org/10.2140/memocs.2019.7.247 Disponibile in rete: 2019-12-22 |
| [A59] | Giverso, C., Di Stefano, S., **Grillo, A.**, Preziosi, L.: "A three dimensional model of multicellular aggregate compression." *Soft Matter*, 2019; **15**, 10005-10019. DOI: https://doi.org/10.1039/C9SM01628G Disponibile in rete: 2019-11-07 |

| [A58] | Di Stefano, S., Carfagna, M., Knodel, M. M., Hashlamoun, K., Federico, S., **Grillo, A.**: "Anelastic reorganisation of fibre-reinforced biological tissues." *Computing and Visualization in Science*, 2019; **20(3-6)**, pp. 95-109.<br>DOI: https://doi.org/10.1007/s00791-019-00313-1<br>Disponibile in rete: 2019-06-29 |
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| [A57] | Carfagna, M., **Grillo, A.**: "A Cahn-Hilliard approach to thermodiffusion in porous media." *Journal of Porous Media*, 2019; **22(7)**, pp. 761-785.<br>DOI: 10.1615/JPorMedia.2019029077 |
| [A56] | Ramírez-Torres, A., Penta, R., Rodríguez-Ramos, R., **Grillo, A.**: "Effective properties of hierarchical fiber-reinforced composites via a three-scale asymptotic homogenization approach." *Mathematics and Mechanics of Solids*, 2019; **24(11)**, pp. 3554-3574.<br>DOI: https://doi.org/10.1177/1081286519847687<br>Disponibile in rete: 2019-05-25 |
| [A55] | **Grillo, A.**, Di Stefano, S., Ramírez-Torres, A., Loverre, M.: "A study of growth and remodeling in isotropic tissues, based on the Anand-Aslan-Chester theory of strain-gradient plasticity." *GAMM-Mitteilungen*, 2019; **42(4)**, e201900015 (30 pagine).<br>DOI: https://doi.org/10.1002/gamm.201900015<br>Disponibile in rete: 2019-05-22 |
| [A54] | **Grillo, A.**, Di Stefano, S., Federico, S.: "Growth and remodelling from the perspective of Noether's Theorem." *Mechanics Research Communications*, 2019; **97**, pp. 89-95.<br>DOI: https://doi.org/10.1016/j.mechrescom.2019.04.012<br>Disponibile in rete: 2019-04-24 |
| [A53] | Hamedzadeh, A., **Grillo, A.**, Epstein, M., Federico, S.: "Remodelling of biological tissues with fibre recruitment and reorientation in the light of the theory of material uniformity." *Mechanics Research Communications*, 2019; **92**, pp. 56-61.<br>DOI: https://doi.org/10.1016/j.mechrescom.2019.02.001<br>Disponibile in rete: 2019-02-13 |
| [A52] | Knodel, M. M., Targett-Adams, P., **Grillo, A.**, Herrmann, E., Wittum, G.: "Advanced hepatitis C virus replication PDE models within a realistic intracellular geometric environment." *International Journal of Environmental Research and Public Health*, 2019; **16(3)**, p. 513 (53 pagine).<br>DOI: https://doi.org/10.3390/ijerph16030513<br>Disponibile in rete: 2019-02-12 |
| **Year 2018** | |
| [A51] | Ramírez-Torres, A., Penta, R., Rodríguez-Ramos, R., **Grillo, A.**, Preziosi, L., Merodio, J., Guinovart-Díaz, R., Bravo-Castillero, J.: "Homogenized out-of-plane shear response of three-scale fiber-reinforced composites." *Computing and Visualization in Science*, 2019; **20(3-6)**, pp. 85-93.<br>DOI: https://doi.org/10.1007/s00791-018-0301-6<br>Disponibile in rete: 2018-06-29 |
| [A50] | Crevacore, E., Di Stefano, S., **Grillo, A.**: "Coupling among deformation, fluid flow, structural reorganisation and fibre reorientation in fibre-reinforced, transversely isotropic biological tissues." *International Journal of Non-Linear Mechanics*, 2019; **111**, pp. 1-13.<br>DOI: https://doi.org/10.1016/j.ijnonlinmec.2018.08.022<br>Disponibile in rete: 2018-11-14 |

| [A49] | Di Stefano, S., Ramírez-Torres, A., Penta, R., **Grillo, A.**: "Self-influenced growth through evolving material inhomogeneities." *International Journal of Non-Linear Mechanics*, 2018; **106**, pp. 174-187. <br> DOI: https://doi.org/10.1016/j.ijnonlinmec.2018.08.003 <br> Disponibile in rete: 2018-08-10 |
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| [A48] | Ramírez-Torres, A., Di Stefano, S., **Grillo, A.**, Rodríguez-Ramos, R., Merodio, J., Penta, R.: "An asymptotic homogenization approach to the microstructural evolution of heterogeneous media." *International Journal of Non-Linear Mechanics*, 2018; **106**, 245-257. <br> DOI: https://doi.org/10.1016/j.ijnonlinmec.2018.06.012 <br> Disponibile in rete: 2018-07-02 |
| **Year 2017** | |
| [A47] | Ramírez-Torres, A., Penta, R., Rodríguez-Ramos, R., Merodio, J., Sabina, F. J., Bravo-Castillero, J., Guinovart-Díaz, R., Preziosi, L., **Grillo, A.**: "Three scales asymptotic homogenization and its application to layered hierarchical hard tissues." *International Journal of Solids and Structures*, 2018; **130-131**, pp. 190-198. <br> DOI: https://doi.org/10.1016/j.ijsolstr.2017.09.035 <br> Disponibile in rete: 2017-10-12 |
| [A46] | Knodel, M. M., Reiter, S., Targett-Adams, P., **Grillo, A.**, Hermann, E., Wittum, G.: "3D spatially resolved models of the intracellular dynamics of the hepatitis c genome replication cycle." *Viruses*, 2017; **9(10)**, p. 282 (36 pagine). <br> DOI: https://doi.org/10.3390/v9100282 <br> Disponibile in rete: 2017-09-30 |
| [A45] | **Grillo, A.**, Carfagna, M., Federico, S.: "An Allen-Cahn approach to the remodelling of fibre-reinforced anisotropic materials." *Journal of Engineering Mathematics*, 2018; **109(1)**, pp. 139-172. <br> DOI: https://doi.org/10.1007/s10665-017-9940-8 <br> Disponibile in rete: 2017-09-27 |
| [A44] | Crevacore, E., Boccardo, G., **Grillo, A.**, Marchisio, D., Sethi, R.: "Pore-scale simulations of particle transport for groundwater remediation: The effect of gravitational settling." *Chemical Engineering Transactions*, 2017; **60**, pp. 193-198. <br> DOI: 10.3303/CET1760033 |
| [A43] | Mascheroni, P., Carfagna, M., **Grillo, A.**, Boso, D. P., Schrefler, B. A.: "An avascular tumor growth model based on porous media mechanics and evolving natural states." *Mathematics and Mechanics of Solids*, 2018; **23(4)**, pp. 686-712. <br> DOI: https://doi.org/10.1177/1081286517711217 <br> Disponibile in rete: 2017-06-20 |
| [A42] | **Grillo, A.**, Carfagna, M., Federico, S.: "Non-Darcian flow in fibre-reinforced biological tissues." *Meccanica*, 2017; **52(14)**, pp. 3299-3320. <br> DOI: https://doi.org/10.1007/s11012-017-0679-0 <br> Disponibile in rete: 2017-05-17 |
| [A41] | Carfagna, M., **Grillo, A.**: "The spherical design algorithm in the numerical simulation of biological tissues with statistical fibre-reinforcement." *Computing and Visualization in Science*, 2017; **18(4-5)**, pp. 157-184. <br> DOI: https://doi.org/10.1007/s00791-017-0278-6 <br> Disponibile in rete: 2017-04-21 |

| [A40] | Carfagna, M., Destrade, M., Gower, A. L., **Grillo, A.**: "Oblique wrinkles." *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Science*, 2017; **375(2093)**, pp. 20160158 (12 pagine).<br>DOI: https://doi.org/10.1098/rsta.2016.0158<br>Disponibile in rete: 2017-04-03 |
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**Year 2016**

| [A39] | Hashlamoun, K., **Grillo, A.**, Federico, S.: "Efficient evaluation of the material response of tissues reinforced by statistically oriented fibres." *Zeitschrift für angewandte Mathematik und Physik ZAMP*, 2016; **67(5)**, p. 113 (32 pagine).<br>DOI: https://doi.org/10.1007/s00033-016-0704-5<br>Disponibile in rete: 2016-08-25 |
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| **Year 2012** | |
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| [A08] | **Grillo, A.**, Jinha, A., Federico, S., Ait-Haddou, R., Herzog, W., Giaquinta, G.: "Directed transport of Brownian particles in a changing temperature field." *Journal of Physics A: Mathematical and Theoretical*, 2008; **41**, p. 015002 (26 pagine).<br>DOI: https://doi.org/10.1088/1751-8113/41/1/015002<br>Disponibile in rete: 2007-12-12 |
| [A07] | **Grillo, A.**, Zingali, G., Borrello, D., Giaquinta, G.: "Transport phenomena in living systems and continuum physics." *Rivista del Nuovo Cimento*, 2007; **30(11)**, pp 485-562.<br>DOI: https://doi.org/10.1393/ncr/i2007-10026-6<br>Disponibile in rete: 2008-04-02 |
| [A06] | **Grillo, A.**, Zingali, G., Borrello, D., Federico, S., Herzog, W., Giaquinta, G.: "A multiscale description of growth and transport in biological tissues." *Theoretical and Applied Mechanics*, 2007; **34(1)**, pp. 51-87.<br>DOI: 10.2298/TAM0701051G |

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| **Year 2004** | |
| [A03] | Federico, S., **Grillo, A.**, La Rosa, G., Giaquinta, G., Herzog, W.: "A transversely isotropic, transversely homogeneous microstructural-statistical model of articular cartilage." *Journal of Biomechanics*, 2005; **38(10)**, pp. 2008-2018.<br>DOI: https://doi.org/10.1016/j.jbiomech.2004.09.020<br>Disponibile in rete: 2004-12-09 |
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| **Year 2019** |
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| **Year 2017** |
| [BC03] Federico, S., **Grillo, A.**: "Linear Elastic Composites with Statistically Oriented Spheroidal Inclusions." In: Meguid S., Weng G. (eds.) *Micromechanics and Nanomechanics of Composite Solids*, pp. 307-346. Springer, Cham. (2018).<br>DOI: https://doi.org/10.1007/978-3-319-52794-9_11<br>Disponibile in rete: 2017-07-20 |
| **Year 2012** |

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| [BC02] | **Grillo, A.**, Giverso, C., Favino, M., Krause, R., Lampe, M., Wittum, G.: "Mass transport in porous media with variable mass." In: Delgado, J., de Lima, A., da Silva, M. (eds.) Numerical Analysis of Heat and Mass Transfer<br>in Porous Media, pages 27-61. Advanced Structural Materials, vol. 27, pp. 27-61. Springer, Berlin, Heidelberg (2012).<br>DOI: <br>Disponibile in rete: 2012-06-26 |

| **Year 2011** |
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| [BC01] | Stichel, S., Logashenko, D., **Grillo, A.**, Reiter, S., Lampe, M., Wittum, G.: "Numerical Methods for Flow in Fractured Porous Media." In: Delgado J. (eds) Heat and Mass Transfer in Porous Media. Advanced Structured Materials, vol 13, pp. 83-113. Springer, Berlin, Heidelberg (2012).<br>DOI: <br>Disponibile in rete: 2011-10-08 |

| **III. Conference Papers** |
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| **Year 2020** |
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| [CP18] | Mascheroni, P., **Grillo, A.**, Boso, D. P.: "Poro-Mechanical Analysis of a Biomimetic Scaffold for Osteochondral Defects." In: Carcaterra A., Paolone A., Graziani G. (eds.) Proceedings of XXIV AIMETA Conference 2019, pp. 744-754. AIMETA 2019. Lecture Notes in Mechanical Engineering. Springer, Cham.<br>DOI: <br>Disponibile in rete: 2020-03-31 |

| **Year 2017** |
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| [CP17] | Ramírez-Torres, A., **Grillo, A.**, Preziosi, L., Rodríguez-Ramos, R., Bravo-Castillero, J., Guinovart-Díaz, R., Sabina, F. J.: "Thermal distribution in cancerous breast with anisotropic properties via a semi-analytical homogenization approach." AIMETA 2017 - Proceedings of the 23rd Conference of the Italian Association of Theoretical and Applied Mechanics, Volume 4, Pages 704 - 717, 2017. 23rd Conference of the Italian Association of Theoretical and Applied Mechanics, AIMETA 2017, Salerno, 4 September 2017 - 7 September 2017, 133541.<br>ISBN: 978-889424847-0 |
| [CP16] | Di Stefano, S., Hashlamoun, K., Federico, S., **Grillo, A.**: "Irreversible strains and evolution of fibre pattern in hydrated, fibre-reinforced soft tissues." of the 26th CANCAM, Victoria, British Columbia, Canada, 29 May – 1 June 2017. |

| **Year 2015** |
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| [CP15] | Tomic, A., **Grillo, A.**, Federico, S.: "Microstructural computational modelling of soft tissues." AIP Conference Proceedings 1648(1), 460002 (2015). 12th International Conference of Numerical Analysis and Applied Mathematics 2014 (ICNAAM 2014), 22-28 September 2014,<br>Rhodes, Greece.<br>DOI: <br>Disponibile in rete: 2015-04-01 |

| **Anno 2014** |
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| [CP14] | Reiter, S., Logashenko, D., Stichel, S., Wittum, G., **Grillo, A.**: "Models and simulations of |

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| | variable-density flow in fractured porous media." *International Journal of Computational Science and Engineering*, 2014; **9(5/6)**, pp. 416-432.<br>DOI: 10.1504/IJCSE.2014.064527<br>Disponibile in rete: 2014-08-24 |
| [CP13] | Carfagna, M., Iorizzo, F., **Grillo, A.**: "Mathematical Characterisation of a heat pipe by means of the non-isothermal Cahn-Hilliard model." In: Russo G., Capasso V., Nicosia G., Romano V. (eds.) Progress in Industrial Mathematics at ECMI 2014. Proceedings of the 8th European Conference on Mathematics For Industry - ECMI 2014, Taormina ME, Italy, 9-13 June 2014.<br>ISBN: 978-3-319-23412-0, Electronic ISBN: 978-3-319-23413-7 |
| [CP12] | **Grillo, A.**, Zorica, D.: "Space-time fractional Jeffrey-type heat equation." International Conference on Fractional Differentiation and its Applications (FDA2014), Catania, Italy, 23-25 June 2014. |
| **Year 2013** | |
| [CP11] | Favino, M., **Grillo, A.**, Krause, R.: "A Stability Condition for the Numerical Simulation of Poroelastic Systems." Poromechanics V: Proceedings of the fifth Biot conference on poromechanics, pp. 919-928.<br>DOI: https://doi.org/10.1061/9780784412992.110<br>Disponibile in rete: 2013-06-21 |
| [CP10] | Federico, S., **Grillo, A.**, Imatani, S.: "The linear elasticity tensor of incompressible materials." *Proceedings of CANCAM 2013, the 24th Canadian Conference of Applied Mechanics. SM18-SM21, Saskatoon, Canada, 3-6 June 2013.* |
| [CP09] | Federico, S., **Grillo, A.**, Segev, R: "Material counterpart of Darcy's law in terms of Differential Forms." *Proceedings of CanCNSM 2013, 4th Canadian Conference on Nonlinear Solid Mechanics, abstract 748, Montreal, Canada, 23-26 June 2013.* |
| **Year 2011** | |
| [CP08] | Lampe, M., **Grillo, A.**, Wittum, G.: "Software Framework UG: Parallel Simulation of a Three-Dimensional Benchmark Problem for Thermohaline-Driven Flow." In: Nagel W., Kröner D., Resch M. (eds) High Performance Computing in Science and Engineering '10, pp. 553-560. Springer, Berlin, Heidelberg.<br>DOI: https://doi.org/10.1007/978-3-642-15748-6_40 |
| **Year 2010** | |
| [CP07] | Federico, S., **Grillo, A.**: "Porous Materials Reinforced by Statistically Oriented Fibres." AIP Conference Proceedings 1281(1), pp. 351-354 (2010). ICNAAM-Numerical Analysis and Applied Mathematics, International Conference 2010, Vol. 1, Edited by T.E. Simos, G. Psihoyos, and Ch. Tsitouras.<br>DOI: https://doi.org/10.1063/1.3498473 |
| [CP06] | **Grillo, A.**, Wittum, G.: "Growth and mass transfer in multi-constituent biological materials." AIP Conference Proceedings 1281(1), pp. 355-359 (2010). ICNAAM-Numerical Analysis and Applied Mathematics, International Conference 2010, Vol. 1, Edited by T.E. Simos, G. Psihoyos, and Ch. Tsitouras.<br>DOI: https://doi.org/10.1063/1.3498474 |
| [CP05] | Atanackovic, T., **Grillo, A.**, Wittum, G., Zorica, D.: "An application of Fractional Calculus to |

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| | growth mechanics." *Proceedings of the 4th IFAC Workshop on Fractional Differentiation and its Applications (FDA2010), Badajoz, Spain, 18-20 October 2010.* |
| [CP04] | Atanackovic, T., **Grillo, A.**, Wittum, G., Zorica, D.: "Fractional Jeffrey-type diffusion equation." *Proceedings of the 4th IFAC Workshop on Fractional Differentiation and its Applications (FDA2010), Badajoz, Spain, 18-20 October 2010.* |
| **Year 2007** | |
| [CP03] | **Grillo, A.**, Zingali, G., Borrello, D., Federico, S., Herzog, W., Giaquinta, G.: "A multiscale description of growth and transport in biological tissues." First Serbian (2th YU) Congress on Theoretical and Applied Mechanics, Kopaonik, Serbia, April 10-13, 2007.<br>ISBN: 978-86-909973-0-5 |
| [CP02] | **Grillo, A.**, Zingali, G., Borrello, D., Federico, S., Herzog, W., Giaquinta, G.: "Interaction between growth and transport phenomena in living mixtures." *Journal of Physics: Conference Series*, 2007; **62(1)**, pp. 43-71.<br>DOI: https://doi.org/10.1088/1742-6596/62/1/004<br>Disponibile in rete: 2007-04-04 |
| [CP01] | Federico, S., **Grillo, A.**, Herzog, W., Giaquinta, G., Imatani, S.: "Possible Approaches in Modelling Rearrangement in a Microstructured Material." *Key Engineering Materials*, 2007; **340-341**, pp. 137-142.<br>DOI: https://doi.org/10.4028/www.scientific.net/KEM.340-341.137<br>Disponibile in rete: 2007-06-15 |

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| **IV. Prefaces of special issues of scientific journals** |
| **Year 2021** |
| [Pr04]   Saccomandi, G, Giverso, C., **Grillo, A.**: "Preface to the Special Issue «Non-linear mechanics: the driving force of modern applied and industrial mathematics (in honour of Luigi Preziosi)»." *International Journal of Non-Linear Mechanics*, 2021; In press.<br>Disponibile in rete: 2021-09-20<br>https://www.sciencedirect.com/journal/international-journal-of-non-linear-mechanics/special-issue/10MM0FD4THS |
| **Year 2019** |
| [Pr03]   **Grillo, A.**, Krause, R., Lemke, B., Nägel, A., Queisser, G.: "Editorial to the Special Issue: International Multigrid Conference, 2016." *Computing and Visualization in Science*, 2019; **20(3-6)**, p. 47.<br>DOI: https://doi.org/10.1007/s00791-019-00318-w<br>Disponibile in rete: 2019-08-08 |
| **Year 2018** |
| [Pr02]   **Grillo, A.**, Federico, S.: "Preface: A biographical note on prof. Gaetano giaquinta, a mentor and a friend." *AAPP Atti della Accademia Peloritana dei Pericolanti, Classe di Scienze Fisiche, Matematiche e Naturali*, 2018; **96**, E2 – E211.<br>DOI: https://doi.org/10.1478/AAPP.96S1E2<br>Disponibile in rete: 2018-08-13 |

| [Pr01] | Federico, S., **Grillo, A.**: "Preface to the Special Issue in Memory of Prof. Gaetano Giaquinta (1945-2016)." *Mathematics and Mechanics of Solids*, 2020; **25(5)**, pp. 1042-1045. <br> DOI: https://doi.org/10.1177/1081286518766746 <br> Disponibile in rete: 2018-05-11 |
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| **V. Errata-Corrige** |
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| **Year 2019** |
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| [EC06] | **Grillo, A.**, Krause, R., Lemke, B., Nägel, A., Queisser, G.: "Correction to: Editorial. Comput. Visual Sci. 20, 49 (2019)." *Computing and Visualization in Science*, 2019; <br> DOI: https://doi.org/10.1007/s00791-019-00319-9 <br> Disponibile in rete: 2019-09-06 |
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| **Year 2018** |
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| [EC05] | Federico, S., **Grillo, A.**, Segev. R.: "Correction to: Material description of fluxes in terms of differential forms." *Continuum Mechanics and Thermodynamics*, 2019; **31(1)**, pp. 361-362. <br> DOI: https://doi.org/10.1007/s00161-018-0699-6 <br> Disponibile in rete: 2018-08-01 |
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| [EC04] | Federico, S., **Grillo, A.**: "Erratum to: "Elasticity and permeability of porous fibre-reinforced materials under large deformations [*Mech. Mater.*, 44, 58–71, 2012]."" *Mechanics of Materials*, 2018; **126**, pp. 86-87. <br> DOI: https://doi.org/10.1016/j.mechmat.2018.07.015 <br> Disponibile in rete: 2018-07-29 |

| **Year 2016** |
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| [EC03] | **Grillo, A.**, Prohl, R., Wittum, G.: "Erratum to: A poroplastic model of structural reorganisation in porous media of biomechanical interest." *Continuum Mechanics and Thermodynamics*, 2016; **28(3)**, pp. 919-920. <br> DOI: https://doi.org/10.1007/s00161-015-0489-3 <br> Disponibile in rete: 2016-01-14 |
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| **Year 2014** |
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| [EC02] | Federico, S., **Grillo, A.**: "Erratum: Poroelastic materials reinforced by statistically oriented fibres - Numerical implementation and application to articular cartilage (IMA Journal of Applied Mathematics (Institute of Mathematics and Its Applications) (2014) 79:5 (1027-1059) DOI: 10.1093/imamat/hxu039)." *IMA Journal of Applied Mathematics*, 2015; **80(1)**, pp. 233-234. <br> DOI: https://doi.org/10.1093/imamat/hxu059 <br> Disponibile in rete: 2014-12-26 |
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| **Year 2010** |
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| [EC01] | **Grillo, A.**, Jinha, A., Federico, S., Ait-Haddou, R., Herzog, W., Giaquinta, G.: "Erratum: Directed transport of Brownian particles in a changing temperature field (*Journal of Physics A: Mathematical and Theoretical* (2008) 41 015002 (26pp) DOI:10.1088/1751-8113/41/1/015002)." *Journal of Physics A: Mathematical and Theoretical*, 2010; **43(22)**, p. 229801 <br> DOI: https://doi.org/10.1088/1751-8121/43/22/229801 |
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| **VI. Participation in conferences as speaker or author and/or co-author of presentations and/or posters and/or abstracts** | |
| **Year 2022** | |
| [C155] | Giammarini, A., Di Stefano, S., Giverso, C., **Grillo, A.**: "A biphasic elasto-plastic model for the compression-release test of multicellular aggregates." GIMC-SIMAI YOUNG 2022, September 29-30, 2022, Pavia, Italy. **[To be held]** |
| [C154] | Di Stefano, S., Giammarini, A., Giverso, C., **Grillo, A.**: "Remodelling under compression of a biphasic multicellular aggregate." International Workshop on The Evolving Nonlinear Continuum Panorama, Castro Urdiales, Spain, July 11-15, 2022. |
| [C153] | Ramírez-Torres, A., Di Stefano, S., **Grillo, A.**: "A model of tumor growth with spatially non-local diffusion of fractional type." International Workshop on The Evolving Nonlinear Continuum Panorama, Castro Urdiales, Spain, July 11-15, 2022. |
| [C152] | Ramírez-Torres, A., Penta, R., **Grillo, A.**: "Non-local diffusion in multiscale heterogeneous media" International Workshop on The Evolving Nonlinear Continuum Panorama, Castro Urdiales, Spain, July 11-15, 2022. |
| [C151] | Di Stefano, S., Giammarini, A., Giverso, C., **Grillo, A.**: "Coupling between remodelling and interstitial fluid flow in multicellular aggregates." ICoNSoM2022, International Conference on Nonlinear Solid Mechanics, Alghero, Sardinia, Italy, 13-16 June 2022. |
| [C150] | **Grillo, A.**, Di Stefano, S.: "Towards a constrained theory of growth mechanics." ICoNSoM2022, International Conference on Nonlinear Solid Mechanics, Alghero, Sardinia, Italy, 13-16 June 2022. |
| [C149] | Ramírez-Torres, A., Di Stefano, S., **Grillo, A.**: "The multi-scale role of remodelling in homogenized heterogeneous media." ICoNSoM2022, International Conference on Nonlinear Solid Mechanics, Alghero, Sardinia, Italy, 13-16 June 2022. |
| [C148] | **Grillo, A.**: "Thoughts on the mechanics of growth: some remarks on how the inhomogeneity and heterogeneity of tissues may impact their evolution." A symposium on continuum questions, School of Mathematics and Statistics, University of Glasgow, Glasgow, Scotland, UK, 12-13 of May 2022. |
| [C147] | Di Stefano, S., Giammarini, A., Giverso, C., **Grillo, A.**: "Influence of remodelling in a biphasic multicellular aggregate: stress relaxation and shape recovery." BAMC22, British Applied Mathematics Colloquium, Loughborough, England, UK, 11-13 April 2022 |
| [C146] | Ramírez-Torres, A., Di Stefano, S., **Grillo, A.**: "Towards a fractional model of growth mechanics." IV KAUST CEMSE MaS Workshop on Modelling and Simulation, KAUST, Saudi Arabia, 20-27 March 2022. |
| **Year 2021** | |
| [C145] | Ramírez-Torres, A., Di Stefano, S., **Grillo, A.**: "Fractional Diffusion in the Mechanics of Tumor Growth." Active materials: from mechanobiology to smart device. Cortona, Italy, September 19-24, 2021. |

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| **Year 2020** | |
| [C144] | **Grillo, A.**: "Structural inhomogeneities and anomalous diffusion in tumour growth." Mini-workshop "Mathematical Models in Continuum Mechanics", Politecnico di Torino, Torino, Italy, January 20, 2020. |
| **Year 2019** | |
| [C143] | Ramírez-Torres, A., Di Stefano, S., **Grillo, A.**: "Non-local transport of nutrient substances in growing tumours." RRNR2019 - International conference on non-integer order calculus and its applications, Częstochowa, Poland, 12-13 September 2019. |
| [C142] | **Grillo, A.**: "Theories of growth and structural evolution of biological materials: a review of existing literature and an outlook on new methodologies." 16th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering and 4th Conference onImaging and Visualization (CMBBE2019), New York City, The United States (USA), 14-16 August 2019. |
| [C141] | Di Stefano, S., **Grillo, A.**: "Remodelling and fibre re-orientation in fibre-reinforced living tissues." EMI International Conference, INSA, Lyon, France, 3-5 July 2019. |
| [C140] | **Grillo, A.**, Di Stefano, S., Ramírez-Torres, A., Penta, R.: "Influence of material inhomogeneities on tumour growth*." International Workshop on The Multiscale Spectrum of Constitutive Modeling in Solid Mechanics, Castro Urdiales, Spain, 1-5 July 2019. <br> *This title corresponds to the contribution that was actually presented at the conference, in substitution of the contribution «Growing media and "internal time"», authored by A. Grillo, S. Di Stefano and S. Federico.* |
| [C139] | Ramírez-Torres, A., Di Stefano, S., **Grillo, A.**, Rodríguez-Ramos, R., Merodio, J., Penta, R.: "An asymptotic homogenization approach for modelling the microscopic evolution of heterogeneous media." International Workshop on The Multiscale Spectrum of Constitutive Modeling in Solid Mechanics, Castro Urdiales, Spain, 1-5 July 2019. |
| [C138] | **Grillo, A.**, Di Stefano, S.: "Mechanical and flow properties of fibre-reinforced, hydrated biological tissues undergoing remodelling." 15th International Conference on Diffusion in Solids and Liquids - DSL2019, Athens, Greece, 24-28 June 2019. |
| [C137] | Di Stefano, S., **Grillo, A.**: "Remodelling of fibre reinforced biological tissues." 15th International Conference on Diffusion in Solids and Liquids - DSL2019, Athens, Greece, 24-28 June 2019. |
| [C136] | Federico, S., **Grillo, A.**, Imatani, S., Epstein, M.: "Convected stress and balance equations." ICoNSoM2019 - International Conference on Nonlinear Solid Mechanics. Rome, Italy, 16-19 June 2019. |
| [C135] | Di Stefano, S., Ramírez-Torres, A., Penta, R., **Grillo, A.**: "Two manifestations of the BKL decomposition: growth and multiscale remodelling." Maths from the body II, Venice, Italy, 6-8 June, 2019. |
| [C134] | Ramírez-Torres, A., Di Stefano, S., **Grillo, A.**, Rodríguez-Ramos, R., Merodio, J., Penta, R.: "A multi-scale asymptotic homogenization technique to the material remodeling of heterogeneous media." InterPore 2019, 11th annual meeting of the International Society for Porous Media, Valencia, Spain, 6-10 May 2019. |
| [C133] | Di Stefano, S., Hashlamoun, K., Federico, S., **Grillo, A.**: "Structural adaptation of biological tissues." InterPore 2019, 11th annual meeting of the International Society for Porous Media, Valencia, Spain, 6-10 May 2019. |

| [C132] | Knodel, M., Targett-Adams, P., **Grillo, A.**, Herrmann, E., Wittum, G.: "Hepatitis C virus replication within the porous medium of the endoplasmatic reticulum." InterPore 2019, 11th annual meeting of the International Society for Porous Media, Valencia, Spain, 6-10 May 2019. |
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| [C131] | **Grillo, A.**: "Structural reorganisation and fibre reorientation in fibre-reinforced biological tissues." International CMALS Workshop on Mathematical modelling in Biomechanics, School of Mathematics and Statistics, University of Glasgow, UK, 19 March 2019. |
| [C130] | **Grillo, A.**, Federico, S.: "Generalization of non-Darcian flow law in deformable, anisotropic porous media." Modeling and Simulation in Science, King Abdullah University of Science and Technology (KAUST), Saudi Arabia, 24-28 February 2019. |

**Year 2018**

| [C129] | Hamedzadeh, A., Epstein, M., **Grillo, A.**, Federico, S.: "Remodelling of collagenous soft tissues in the light of material implant theory." CSB 2018, the 20th Biennial Meeting of the Canadian Society for Biomechanics, Halifax, NS, Canada, 14-17 August 2018. |
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| [C128] | Di Stefano, S., Ramírez-Torres, A., Penta, R., **Grillo, A.**: "Incompatible Distortions, Curvature, and Tumour Growth." Mathematics for BioMedicine, *Accademia Nazionale dei Lincei* and *Consiglio Nazionale delle Ricerche*, Rome, Italy, 8-11 October 2018. |
| [C127] | **Grillo, A.**: "Thermal behaviour of the energy spectrum of "self-trapped" bosons in 1D harmonic lattices", Trails in Quantum Mechanics and Surroundings, Politecnico di Torino, Torino, Italy, 27-29 September 2018. |
| [C126] | Di Stefano, S., Penta, R., Ramírez-Torres, A., **Grillo, A.**: "Homogenized governing equations for evolving tissues." 10th European Solid Mechanics Conference, Bologna, Italy, 2-6 July 2018. |
| [C125] | **Grillo, A.**, Di Stefano, S., Ramírez-Torres, A., Penta, R.: "Spatially resolved distortions in growing media." 10th European Solid Mechanics Conference, Bologna, Italy, 2-6 July 2018. |
| [C124] | Ramírez-Torres, A., Penta, R., **Grillo, A.**, Rodríguez-Ramos, R., Merodio, J.: "Multiscale homogenization of active nonlinear elastic composites." 10th European Solid Mechanics Conference, Bologna, Italy, 2-6 July 2018. |

**Year 2017**

| [C123] | Crevacore, E., **Grillo, A.**: "Challenges in flow and transport simulations in porous media." ICS 2017, Monte Verità, Ascona, Canton Ticino, Switzerland, 23-27 October 2017. |
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| [C122] | Di Stefano, S., Knodel, M.M., Hashlamoun, K., Federico, S., **Grillo, A.**: "COMSOL Used for Simulating Biological Remodelling." COMSOL Conference 2017, Rotterdam, The Netherlands, 18-20 October 2017. |
| [C121] | **Grillo, A.**: "Salinity-driven flow in fractured porous media: Full-dimensional versus low-dimensional models." AMATH 2017 – Advances in Mathematics for Technology, Villa Citelli, University of Catania, Catania, Italy, 9-11 October 2017. |
| [C120] | Ramírez-Torres, A., **Grillo, A.**, Preziosi, L., Rodríguez-Ramos, R., Bravo-Castillero, J., Guinovart-Díaz, R., Sabina, F. J.: "Thermal distribution in cancerous breast with anisotropic properties via a semi-analytical homogenization approach." AIMETA 2017, XXIII Conference of the Italian Association of Theoretical and Applied Mechanics, Università degli Studi di Salerno, Salerno, Italy, 4-7 September 2017. |

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| [C119] | **Grillo, A.**: "Structural evolution of fibre-reinforced biological tissues." INdAM Meeting "Mathematical Physics of Living Systems", Cortona, Italy, 27 August - 2 September 2017. |
| [C118] | Di Stefano, S., **Grillo, A.**: "The Principle of *G*-Covariance in modelling biological tissues." ISDMM 2017, International Symposium on Defects and Material Mechanics, Lyon, France, 26-29 June, 2017. |
| [C117] | Crevacore, E., Di Stefano, S., **Grillo, A.**: "Darcy-Brinkman equation in the description of flow in hydrated, fibre-reinforced biological tissues undergoing remodelling." International Conference on "Modelling of Nonlinear Continua", La Residencia, Castro Urdiales, Cantabria, Spain, 26-30 June 2017. |
| [C116] | Ramírez-Torres, A., Penta, R., Rodríguez-Ramos, R., Merodio, J., Sabina, F., Bravo-Castillero, J., Guinovart-Díaz, R., Preziosi, L., **Grillo, A.**: "Multi-scales asymptotic homogenization on hierarchical composites." International Conference on "Modelling of Nonlinear Continua", La Residencia, Castro Urdiales, Cantabria, Spain, 26-30 June 2017. |
| [C115] | **Grillo, A.**, Carfagna, M., Federico, S.: "An Allen-Cahn theory of remodelling in fibre-reinforced biological tissues." Maths from the body, Brescia, Italy, 29-31 May 20017. |
| [C114] | Di Stefano, S., Hashlamoun, K., Federico, S., **Grillo, A.**: "Irreversible strains and evolution of fibre pattern in hydrated, fibre-reinforced soft tissues." CANCAM 2017, 26th Canadian Congress of Applied Mechanics, University of Victoria, British Columbia, Canada, 29 May - 1 June 2017. |
| [C113] | **Grillo, A.**, Carfagna, M., Federico, S.: "A theory of remodelling in fibre-reinforced anisotropic media based on the Ginzburg-Landau free energy density." EUROMECH Colloquium 579. Generalized and microstructured continua: [new ideas in modeling] and/or [applications to structures with (nearly)inextensible fibers], Arpino, Italy, 3-8 April 2017. |
| [C112] | Di Stefano, S., Carfagna, M., Knodel, M., **Grillo, A.**: "Plasticity and remodelling in fibre-reinforced tissues." EUROMECH Colloquium 579. Generalized and microstructured continua: [new ideas in modeling] and/or [applications to structures with (nearly)inextensible fibers], Arpino, Italy, 3-8 April 2017. |
| [C111] | Crevacore, E., **Grillo, A.**: "Preliminary results on the use of the Darcy-Brinkman equation in fibre-reinforced porous media of biological interest." EUROMECH Colloquium 579. Generalized and microstructured continua: [new ideas in modeling] and/or [applications to structures with (nearly)inextensible fibers], Arpino, Italy, 3-8 April 2017. |
| [C110] | **Grillo, A.**, Carfagna, M., Federico, S.: "Deviation from Darcian behaviour of the fluid flow in biological tissues with statistical fibre-reinforcement." EUROMECH Colloquium 585: Advanced experimental methods in tissue biomechanics, Burg Warberg, Germany, 12-16 February 2017. |
| **Year 2016** | |
| [C109] | **Grillo, A.**: "Structural Reorganisation of Biological Tissues Modelled with the Aid of Poroplasticity." Simulation in Technology Workshop, CEMSE and Extreme Computing Research Center, KAUST, King Abdullah University of Science and Technology (KAUST), 3-6 October 2016. |
| [C108] | **Grillo, A.**, Carfagna, M., Di Stefano, S., Knodel, M.: "A Poroplastic Approach to the Structural Reorganisation of Fibre-Reinforced Porous Media*." International Conference on "Multigrid and Multiscale Methods in Computational Sciences," IMG2016, Bruchsal, Germany, 6-9 December 2016. |

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| | *The title reported in the collection of abstracts is "The Darcy-Forchheimer Law for Modelling Density-Driven Flow in Fractured Porous Media".* |
| [C107] | Carfagna, M., **Grillo, A.**: "A Cahn-Hilliard Approach to Thermodiffusion in Porous Media." Mini-symposium "MS 10: Computational Models and Methods in Interdisciplinary Problems: Biomechanics, Electromagnetism, and Hydrogeology," International Conference on "Multigrid and Multiscale Methods in Computational Sciences," IMG2016, Bruchsal, Germany, 6-9 December 2016. |
| [C106] | Carfagna, M., **Grillo, A.**: "The Spherical Design Algorithm in the Numerical Simulation of Fiber-Reinforced Biological Tissues." COMSOL Conference 2016, Munich, Germany, 12-14 October 2016. |
| **Year 2015** | |
| [C105] | Logashenko, D., **Grillo, A.**, Stichel, S., Wittum, G.: "On the validity of models of density-driven flows in porous media with low-dimensional fractures." X-DMS 2015 eXtended Discretization MethodS, Ferrara, Italy, 9-11 September 2015. |
| [C104] | **Grillo, A.**: "Fluid flow in biological porous media: constitutive issues and coupling with inelastic phenomena." Mechanics through Mathematical Modelling - Symposium in the honour of 70th birthday of Academician Teodor Atanacković, 6-11 September 2015. |
| [C103] | Prohl, R., **Grillo, A.**, Wittum, G.: "A generalised algorithm for inelastic processes in construction materials and biological tissues." InterPore 2015, 7th annual meeting of the International Society for Porous Media, Padova, Italy, 18-21 May 2015. |
| [C102] | Carfagna, M., **Grillo, A.**: "A critical review of the use of Darcy's Law in modeling articular cartilage." InterPore 2015, 7th annual meeting of the International Society for Porous Media, Padova, Italy, 18-21 May 2015. |
| [C101] | **Grillo, A.**: "Remodelling in fibre-reinforced soft biological tissues." Workshop on "Computational Mechanics of Generalized Continua and Applications to Materials with Microstructure." Scuola Superiore di Catania, Università degli Studi di Catania, Catania, Italy, 29-31 October 2015. |
| [C100] | **Grillo, A.**: "Structural reorganisation of soft tissues." Mathematical Physiology of Cardiac, Skeletal and Smooth Muscles (partially supported by GNFM-INdAM), Centro di Ricerca Matematica Ennio De Giorgi, Pisa, Italy, 5-9 October 2015. |
| [C99] | **Grillo, A.**: "Mechanical and Transport Properties of Biological Systems: Microstructural-Based Constitutive Models and Inelastic Phenomena." Workshop M3TB, "Multiscale models in mechano and tumor biology modeling, homogenization and applications", Technische Universität Darmstadt, Darmstadt, Germany, 28-30 September 2015. |
| [C98] | Carfagna, M., Stracuzzi, A., **Grillo, A.**: "Remodeling in Fibre-Reinforced Multiphasic Biological Materials." Workshop M3TB, "Multiscale models in mechano and tumor biology modeling, homogenization and applications", Technische Universität Darmstadt, Darmstadt, Germany, 28-30 September 2015. |
| [C97] | Prohl, R., **Grillo, A.**, Wittum, G.: "A generalised algorithm for inelastic processes at finite strains with an application to biological tissues." Workshop on Modeling the Barrier Function of Human Skin, Bad Wildbad, Germany, 29 September - 1 October 2015. |

| [C96] | **Grillo, A.**, Logashenko, D., Stichel, S., Wittum, G.: "The Darcy-Forchheimer Law for Modelling Density-Driven Flow in Fractured Porous Media." Workshop on Modeling Storage in Deep Layers, Bad Wildbad, Germany, 28 September 2015. |
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| [C95] | Federico, S., **Grillo, A.**: "Fung-type hyperelastic potentials in biomechanics: a review on theory and applications." AIMETA 2015, XXII Conference of the Italian Association of Theoretical and Applied Mechanics, Università degli Studi di Genova, Genova, Italy, 14-17 September 2015. |
| [C94] | **Grillo, A.**, Carfagna, M., Stracuzzi, A., Federico, S.: "A comparison of permeability models for articular cartilage." AIMETA 2015, XXII Conference of the Italian Association of Theoretical and Applied Mechanics, Università degli Studi di Genova, Genova, Italy, 14-17 September 2015. |
| [C93] | **Grillo, A.**, Carfagna, M., Federico, S.: "A Study of Permeability Models and Fluid Flow in Articular Cartilage." International Conference "Modelling across the Biology-Mechanics Interface", La Residencia, Castro Urdiales, Cantabria, Spain, 1-4 September 2015. |
| [C92] | Carfagna, M., **Grillo, A.**: "The Forchheimer's Correction in Modelling Inhomogeneous and Anisotropic Soft Tissues." International Conference "Modelling across the Biology-Mechanics Interface", La Residencia, Castro Urdiales, Cantabria, Spain, 1-4 September 2015. |
| [C91] | **Grillo, A.**, Carfagna, M., Federico, S.: "Forchheimer's Correction in Modelling Flow in Poroelastic Materials with Statistical Fibre-Reinforcement." 86th Annual Meeting of the International Association of Applied Mathematics and Mechanics, Lecce, Italy, 23-27 March 2015. |
| [C90] | Carfagna, M., **Grillo, A.**: "A Numerical Study of Fluid Flow in Articular Cartilage Based on the Darcy-Forchheimer Law." 86th Annual Meeting of the International Association of Applied Mathematics and Mechanics, Lecce, Italy, 23-27 March 2015. |
| **Year 2014** | |
| [C89] | Tomic, A., **Grillo, A.**, Federico, S.: "Microstructural Computational Modelling of Soft Tissues." ICNAAM 2014, International Conference on Numerical Analysis and Applied Mathematics, Rhodes, Greece, 22-28 September 2014. |
| [C88] | Logashenko, D., **Grillo, A.**, Reiter, S., Stichel, S., Wittum, G.: "A simulation technique for density-driven flow in porous media with complicated fracture networks." 2014 European Multigrid Conference, 9-12 September 2014. |
| [C87] | Stichel, S., Logashenko, D., **Grillo, A.**, Wittum, G.: "Adaptive fracture approximation." 2014 European Multigrid Conference, 9-12 September 2014. |
| [C86] | Carfagna, M., **Grillo, A.**: "Numerical simulations of self-induced thermodiffusion in porous media." SIMAI, Società Italiana di Meccanica Applicata e Industriale, Hotel Villa Diodoro, Taormina (ME) - Sicily, Italy, 7-10 July 2014. |
| [C85] | **Grillo, A.**, Carfagna, M.: "Considerations on thermodiffusion in higher order binary fluids." SIMAI, Società Italiana di Meccanica Applicata e Industriale, Hotel Villa Diodoro, Taormina (ME) - Sicily, Italy, 7-10 July 2014. |
| [C84] | **Grillo, A.**, Zorica, D.: "Space-time fractional Jeffreys-type heat equation." ICFDA 20014, 2014 International Conference on Fractional Differentiation and Its Applications, Università degli Studi di Catania, Catania, Italy, 23-25 June 2014. |
| [C83] | **Grillo, A.**, Wittum, G., Tomic, A., Federico, S.: "Remodelling in Fibre-Reinforced Materials with |

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| | Statistical Fibre Orientation." 17th U.S. National Congress on Theoretical and Applied Mechanics, Michigan State University, 15-20 June 2014. |
| [C82] | **Grillo, A.**, Prohl, R., Wittum, G., Federico, S.: "A model of structural reorganisation in statistically oriented fibre-reinforced biological materials." ECMI 2014, European Consortium for Mathematics in Industry, Taormina ME, Italy, 9-13 June 2014. |
| [C81] | Carfagna, M., Iorizzo, F., **Grillo, A.**: "Mathematical characterization of a heat pipe by means of the non-isothermal Cahn-Hilliard model." ECMI 2014, European Consortium for Mathematics in Industry, Taormina ME, Italy, 9-13 June 2014. |
| [C80] | **Grillo A.**, Prohl, R., Wittum, G.: "Models and numerical strategies for inelastic processes in industrial and biological problems." *Schnelle Löser für Partielle Differentialgleichungen* (Fast Solvers for Partial Differential Equations), Mathematisches Forschungsinstitut Oberwolfach (MFO), Oberwolfach, Germany, 11-17 May 2014. |
| [C79] | Gaudenzi, F., Missanelli, M.T., **Grillo, A.**, Avolio, A.P.: "Remodelling in statistically oriented fibre-reinforced materials in the arterial wall and its surrounding tissue." EUROMECH Colloquium 563 "Generalized Continua and Their Application to the Design of Composites and Metamaterials", Cisterna di Latina, Italy, 17-21 March 2014. |
| [C78] | **Grillo, A.**, Prohl, R., Wittum, G.: "Development of generalized numerical algorithms for inelastic models." EUROMECH Colloquium 563 "Generalized Continua and Their Application to the Design of Composites and Metamaterials", Cisterna di Latina, Italy, 17-21 March 2014. |
| [C77] | **Grillo, A.**, Wittum, G., Tomic, A., Federico, S.: "Growth and remodelling in statistically oriented fibre-reinforced biological tissues." EUROMECH Colloquium 563 "Generalized Continua and Their Application to the Design of Composites and Metamaterials", Cisterna di Latina, Italy, 17-21 March 2014. |
| **Year 2013** | |
| [C76] | **Grillo, A.**, Logashenko, D., Stichel, S., Wittum, G.: "A comparative study of Darcy and Forchheimer's laws in modelling density-driven flow in fractured porous media." AIMETA 2013, XXI Congress of the Italian Association of Theoretical and Applied Mechanics, Politecnico di Torino, Torino, Italy, 17-20 September 2013. |
| [C75] | Stichel, S., **Grillo, A.**, Logashenko, D., Vogel, A., Wittum, G.: "Modelling and computation of thermohaline groundwater flows." AIMETA 2013, XXI Congress of the Italian Association of Theoretical and Applied Mechanics, Politecnico di Torino, Torino, Italy, 17-20 September 2013. |
| [C74] | Federico, S., **Grillo, A.**: "A model of porous fibre-reinforced materials." AIMETA 2013, XXI Congress of the Italian Association of Theoretical and Applied Mechanics, Politecnico di Torino, Torino, Italy, 17-20 September 2013. |
| [C73] | Federico, S., **Grillo, A.**, Herzog, W.: "Transversely isotropic composites with statistically oriented inclusions." 50th Annual Technical Meeting of Society of Engineering Science, Brown University, Providence, USA, 28-31 July 2013. |
| [C72] | Federico, S., **Grillo, A.**, Imatani, S.: "The linear elasticity tensor of incompressible materials." 50th Annual Technical Meeting of Society of Engineering Science, Brown University, Providence, USA, 28-31 July 2013. |
| [C71] | Federico, S., **Grillo, A.**, Segev, R.: "Material counterpart of Darcy's law in terms of differential |

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| | forms." CanCNSM 2013, 4th Canadian Conference on Nonlinear Solid Mechanics, Montreal, Canada, 23-26 July 2013. |
| [C70] | Knodel, M.M., Bucher, D., Geiger, R., Lihao, G., **Grillo, A.**, Wittum, G., Schster, C., Queisser, G.: "Synaptic boutons sizes are tuned to best fit their physiological performances." Twenty Second Annual Computational Neuroscience Meeting: CNS*2013, Paris, France, 13-18 July 2013. |
| [C69] | **Grillo, A.**, Wittum, G., Tomic, A., Federico, S.: "Remodelling in statistically oriented fibre-reinforced composite materials." International Conference on "New Trends in Solid Mechanics: Coupled Fields and Multiscale Modelling." La Residencia, Castro Urdiales, Cantabria, Spain, 24-28 June 2013. |
| [C68] | **Grillo, A.**, Logashenko, D., Stichel, S., Wittum, G.: "Modelling and Computation of Thermohaline Groundwater Flows*." SIAM Conference on Mathematical & Computational Issues in the Geosciences. Department of Mathematics, University of Padua, Padua, Italy, 17-20 June 2013. *The title of the talk presented at the conference was changed into "Forchheimer's correction in problems of density-driven flow in fractured porous media."* |
| [C67] | Federico, S., **Grillo, A.**: "Porous materials with statistical fibre-reinforcement." Workshop on Advances in Applied Mathematics and Mechanics, Manchester, UK, 5-7 June 2013. |
| [C66] | Federico, S., **Grillo, A.**, Imatani, S.: "The Linear Elasticity Tensor of Incompressible Materials." CANCAM 2013, the 24th Canadian Conference of Applied Mechanics, SM18-SM21, Saskatoon, Canada, 2-6 June 2013. |
| **Year 2012** | |
| [C65] | **Grillo, A.**, Wittum, G., Tomic, A., Federico, S.: "Remodelling in statistical fibre-reinforced composites." ECCOMAS 2012, the 6th European Congress on Computational Methods in Applied Sciences and Engineering, Vienna, Austria, 10-14 September 2012. |
| [C64] | **Grillo, A.**, Giverso, C., Favino, M., Krause, R., Lampe, M., Wittum, G.: "Mechanics of multiphasic materials with applications to biological problems." EMG 2012 - European Multigrid Conference 2012, Schwetzingen Castle, Schwetzingen, Germany, 13-16 August 2012. |
| [C63] | Stichel, S., Logashenko, D., **Grillo, A.**, Wittum, G.: "Dimension-Adaptive Approaches for Flow in Fractured Porous Media." EMG 2012 - European Multigrid Conference 2012, Schwetzingen Castle, Schwetzingen, Germany, 13-16 August 2012. |
| [C62] | Federico, S., **Grillo, A.**: "Large deformation model of elasticity and permeability of articular cartilage." ESMC 2012, the 8th European Solid Mechanics Conference, Graz, Austria, 9-13 July 2012. |
| [C61] | Giverso, C., **Grillo, A.**, Preziosi, L.: "Mass transport in cell aggregates with variable mass." 8th International Conference on Diffusion in Solids and Liquids - DSL-2012, Istanbul, Turkey, 25-29 June, 2012. |
| [C60] | Giverso, C., **Grillo, A.**: "Modelling the mechanical response of growing cellular aggregates." Congresso Nazionale SIMAI 2012, Politecnico di Torino, Torino, Italy, 25-28 June 2012. |
| [C59] | Prohl, R., **Grillo, A.**, Wittum, G.: "Models & Robust Algorithms in Crash Simulations." The First International Conference on DAMAGE MECHANICS - ICDM 1, Belgrade, Serbia, 25-27 June 2012. |

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| [C58] | **Grillo, A.**: "Mechanics of multiphasic materials with applications to biological problems." Conference on Contemporary Problems in Mathematics, Mechanics and Informatics (CPMMI 2012), State University of Novi Pazar, Serbia, 17-19 of June 2012. |
| **Year 2011** | |
| [C57] | **Grillo, A.**, Lampe, M., Logashenko, D., Reiter, S., Stichel, S., Wittum, G.: "An overview of models on variable-density flow in fractured porous media." Conference on Modelling Storage in Deep Layers (MSDL2011). Schwetzingen Castle, Schwetzingen, Germany, 11-13 October 2011. |
| [C56] | Stichel, S., Logashenko, D., **Grillo, A.**, Wittum, G.: "Numerical methods for flow in fractured porous media." Conference on Modelling Storage in Deep Layers (MSDL2011). Schwetzingen Castle, Schwetzingen, Germany, 11-13 October 2011. |
| [C55] | Reiter, S., Logashenko, D., **Grillo, A.**, Lampe, M., Stichel, S., Wittum, G.: "Topological expansion of low dimensional fractures in porous media." Conference on Modelling Storage in Deep Layers (MSDL2011). Schwetzingen Castle, Schwetzingen, Germany, 11-13 October 2011. |
| [C54] | **Grillo, A.**, Lampe, M., Logashenko, D., Reiter, S., Stichel, S., Wittum, G.: "Models and Simulations of Variable-Density Flow in Fractured Porous Media." ICCE2011 2nd International Conference on Computational Engineering. Technische Universität Darmstadt, Germany, 4-6 October 2011. |
| [C53] | **Grillo, A.**, Federico, S., Wittum, G.: "A study of growth and remodelling via Noether's Theorem." XX Congresso dell'Associazione Italiana di Meccanica Teorica e Applicata - AIMETA 2011, Bologna, 12-15 settembre 2011. |
| [C52] | Federico, S., **Grillo, A.**: "Fibre-Reinforced Hydrated Soft Tissues*." EUROMAT 2011, Montpellier, France, 12-15 September 2011. <br> *Participation canceled for personal reasons of the Authors.* |
| [C51] | Federico, S., **Grillo, A.**: "Porous materials with statistical fibre-reinforcement: Elasticity and permeability." ICMM2, Second International Conference on Material Modelling, Paris, France, 31 August - 2 September 2011. |
| [C50] | **Grillo, A.**, Federico, S., Wittum, G.: "Growth, Remodelling and Noether's Theorem." ICMM2, Second International Conference on Material Modelling, Paris, France, 31 August - 2 September 2011. |
| [C49] | **Grillo, A.**, Lampe, M., Wittum, G.: "Mass transport in growing porous media." 7th International Conference on Diffusion in Solids and Liquids - DSL-2011, Algarve, Portugal, 26-30 June, 2011. |
| [C48] | **Grillo, A.**, Lampe, M., Logashenko, D., Reiter, S., Stichel, S., Wittum, G.: "Models and Simulations of Variable-Density Flow." *Schnelle Löser für Partielle Differentialgleichungen*, Mathematisches Forschungsinstitut Oberwolfach (MFO), Oberwolfach, Germany, 22-28 May 2011. |
| **Year 2010** | |
| [C47] | Atanackovic, A., **Grillo, A.**, Wittum, G., Zorica, D.: "Fractional Jeffrey-type diffusion equation." FDA'10 - The 4th IFAC Workshop on Fractional Differentiation and Its Applications, Badajoz, Spain, 18-20 October 2010. |
| [C46] | Atanackovic, A., **Grillo, A.**, Wittum, G., Zorica, D.: "An application of fractional calculus to |

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| | growth mechanics." FDA'10 - The 4th IFAC Workshop on Fractional Differentiation and Its Applications, Badajoz, Spain, 18-20 October 2010. |
| [C45] | **Grillo, A.**, Lampe, M., Wittum, G.: "A model of growth and mass transfer in biphasic, multi-constituent materials*." 47th Annual Technical Meeting of the Society of the Engineering Science (SES 2010). Conference in honour of Prof. Ray Ogden, recipient of the Prager Medal 2010. Iowa State University, Iowa, USA, 4-6 October 2010. *Participation canceled for family reasons.* |
| [C44] | Federico, S., **Grillo, A.**: "Porous materials reinforced by statistically oriented fibres." 47th Annual Technical Meeting of the Society of the Engineering Science (SES 2010). Conference in honour of Prof. Ray Ogden, recipient of the Prager Medal 2010. Iowa State University, Iowa, USA, 4-6 October 2010. |
| [C43] | Federico, S., **Grillo, A.**: "Porous materials reinforced by statistically oriented fibres." ICNAAM 2010, International Conference on Numerical Analysis and Applied Mathematics, Rhodes, Greece, 19-25 September 2010. |
| [C42] | **Grillo, A.**, Federico, S.: "Growth and mass transfer in multi-constituent biological materials." ICNAAM 2010, International Conference on Numerical Analysis and Applied Mathematics, Rhodes, Greece, 19-25 September 2010. |
| [C41] | Federico, S., **Grillo, A.**, Guaily, A.: "Non-Linear model for compression tests on articular cartilage." 6th World Congress of Biomechanics, Singapore, 1-6 August 2010. |
| [C40] | Federico, S., Wittum, G., **Grillo, A.**: "Large strain permeability of articular cartilage." 6th World Congress of Biomechanics, Singapore, 1-6 August 2010. |
| [C39] | Lampe, M., **Grillo, A.**, Wittum, G.: "Three-Dimensional Simulation of the Thermohaline-Driven Buoyancy of a Brine Parcel." Diffusion in Solids and Liquids 2010 (DSL 2010), Paris, France, 5-7 July 2010. |
| [C38] | Stichel, S., Logashenko, D., **Grillo, A.**, Wittum, G.: "Numerical methods for flow in fractured porous media." Diffusion in Solids and Liquids 2010 (DSL 2010), Paris, France, 5-7 July 2010. |
| [C37] | **Grillo, A.**, Logashenko, D., Stichel, S., Wittum, G.: "Simulation of density-driven flow in fractured porous media." Diffusion in Solids and Liquids 2010 (DSL 2010), Paris, France, 5-7 July 2010. |
| [C36] | Lampe, M., **Grillo, A.**, Wittum, G.: "Three-dimensional simulation of the thermohaline-driven buoyancy of a brine parcel." CiHPC Conference, Schwetzingen Castle, Schwetzingen, Germany, 22-24 June 2010. |
| [C35] | **Grillo, A.**, Wittum, G.: "Growth, mass transfer, and remodelling in multiphasic biological materials." MPS27 Symposium "Mechanics in Biology", SIMAI 2010, 10th Congress of the Italian Society of Applied Mathematics and Applications of Mathematics to Industry, Cagliari, Italy, 21-25 June 2010. |
| [C34] | Federico, S., **Grillo, A.**, Guaily, A.: "Non-linear model for compression tests on articular cartilage." CSB 2010, the 16th Biennial Meeting of the Canadian Society for Biomechanics, Kingston, Canada, 9-12 June 2010. |
| [C33] | Mićunović, M.V., **Grillo, A.**, Muha, I., Wittum, G.: "Two-dimensional plastic waves in quasi-rate independent viscoplastic materials." ECCM 2010 - IV European Conference on Computational |

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| | Mechanics, Palais des Congrès, Paris, France, 16-21 May 2010. |
| [C32] | **Grillo, A.**, Wittum, G.: "Considerations on growth and transfer processes in multiphasic materials." ECCM 2010 - IV European Conference on Computational Mechanics, Palais des Congrès, Paris, France, 16-21 May 2010. |
| **Year 2009** | |
| [C31] | Mićunović, M.V., **Grillo, A.**, Muha, I., Wittum, G.: "Two dimensional plastic waves in quasi rate independent viscoplastic materials." ESMC2009 - 7th EUROMECH Solid Mechanics Conference, Lisbon, Portugal, 7-11 September 2009. |
| [C30] | Grillo, A., Logashenko, D., Wittum, G.: "Study of a transport problem in a two-dimensional porous medium." Cosserat + 100. International Conference on the legacy of *"Théorie des Corps Déformables"*, Paris, France, 15-17 July 2009. |
| [C29] | **Grillo, A.**, Lampe, M., Wittum, G.: "Modelling and simulation of thermodiffusion in porous media -with density- and temperature-driven flow." Diffusion in Solids and Liquids 2009 (DSL 2009), Rome, Italy, 24-26 June 2009. |
| [C28] | Logashenko, D., **Grillo, A.**, Lampe, M.: "Simulation of density and temperature driven flow and contaminant transport in fractured porous media using d3f and r3t." 2009 SIAM Conference on Mathematical & Computational Issues in the Geosciences, Leipzig, Germany, 15-18 June 2009. |
| [C27] | **Grillo, A.**, Lampe, M., Mićunović, M.V., Wittum, G.: "Modelling and simulation of thermodiffusion in porous media." 2nd Congress of the Serbian Society of Mechanics, Palić, Serbia, 1-6 June 2009. |
| [C26] | **Grillo, A.**, Logashenko, D., Mićunović, M.V., Wittum, G.: "Study of a transport problem in a two-dimensional porous medium." 2nd Congress of the Serbian Society of Mechanics, Palić, Serbia, 1-6 June 2009. |
| [C25] | **Grillo, A.**, Wittum, G.: "Considerations on the application of the Cahn-Hilliard model in neurobiology." 3rd Workshop on Detailed Modelling and Simulation of Signal Processing in Neurons (DMSN 2009), Frankfurt am Main, Germany, 25-26 May 2009. |
| [C24] | **Grillo, A.**, Logashenko, D., Wittum, G.: "Mathematical Modelling of Fractured Porous Media." Mini-Workshop: Numerical Upscaling for Flow Problems: Theory and Applications. Mathematisches Forschungsinstitut Oberwolfach (MFO), Oberwolfach, Germany, 1-7 March 2009. |
| **Year 2008** | |
| [C23] | Federico, S., **Grillo, A.**: "Considerations on incompressibility in linear elasticity." 8th international seminar on Geometry, Continua and Microstructure - GCM 8, Università degli Studi di Catania, Catania, 10-12 October 2008. |
| [C22] | **Grillo, A.**, Wittum, G., Giaquinta, G., Mićunović, M.V.: "A thermodynamically consistent growth law including Eshelby tensor and chemical potential." 8th international seminar on Geometry, Continua and Microstructure - GCM 8, Università degli Studi di Catania, Catania, 10-12 October 2008. |
| [C21] | **Grillo, A.**, Wittum, G., Giaquinta, G., Mićunović, M.V.: "Analysis of growth and diffusion dynamics in biological materials." Mini-Workshop: The mathematics of growth & remodelling of |

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| | soft biological tissues. Mathematisches Forschungsinstitut Oberwolfach (MFO), Oberwolfach, Germany, 31 August - 6 September 2008. |
| [C20] | **Grillo, A.**, Wittum, G., Giaquinta, G., Mićunović, M.V.: "A multiscale analysis of growth and diffusion dynamics in biological materials." ISSEC – Irish Mechanics Society Joint Symposium, To celebrate the 60th birthday of Professor Philippe Boulanger, University College Dublin, EIRE, 15-16 May 2008. |
| **Year 2007** | |
| [C19] | Federico, S., **Grillo, A.**, Giaquinta, G., Herzog, W.: "A semi-discrete approach to the confined compression of biphasic mixtures." XVIII Congresso di Meccanica Teorica ed Applicata (18th Congress on Theoretical and Applied Mechanics) - AIMETA 2007, Brescia, Italy, 11-14 September 2007. |
| [C18] | Federico, S., **Grillo, A.**, Giaquinta, G., Herzog, W.: "Considerations on Fung's elastic potentials for soft tissues." VIII Giornata di Studio su Biomateriali e Biomeccanica (8th Workshop on Biomaterials and Biomechanics), Catania, Italy, 13 July 2007. |
| [C17] | **Grillo, A.**, Zingali, G., Borrello, D., Federico, S., Herzog, W., Giaquinta, G.: "A multiscale approach to modelling transport phenomena in growing living systems." VIII Giornata di Studio su Biomateriali e Biomeccanica (8th Workshop on Biomaterials and Biomechanics), Catania, Italy, 13 July 2007. |
| [C16] | Federico, S., **Grillo, A.**, Giaquinta, G., Herzog, W.: "On the convexity of Fung's potentials." International Society of Biomechanics, 21st Congress, Journal of Biomechanics, 40 (Supplement 2), S738, Taipei, Taiwan, 1-5 July 2007. |
| [C15] | **Grillo, A.**, Zingali, G., Borrello, D., Federico, S., Herzog, W., Giaquinta, G.: "A description of biological growth involving different scales of observation." International Workshop on the Interplay between Mechanics and Biology on multiple length scales. La Residencia, Castro Urdiales, Cantabria, Spain, 1-4 July 2007. |
| [C14] | **Grillo, A.**, Jinha, A., Ait-Haddou, R., Federico, S., Giaquinta, G., Herzog, W.: "Directed transport of Brownian particles in a changing temperature field." Workshop on data-driven modelling and simulation of signal processing in neurons, Hohenwart, Germany, 14-17 May 2007. |
| [C13] | **Grillo, A.**, Zingali, G., Borrello, D., Federico, S., Herzog, W., Giaquinta, G.: "A multiscale description of growth and transport in biological tissues." 1st International Congress of Serbian Society of Mechanics, Kopaonk, Serbia, 10-13 April 2007. |
| **Year 2006** | |
| [C12] | Federico, S., **Grillo, A.**, Herzog, W., Giaquinta, G., Imatani, S.: "Possible approaches in modelling rearrangement in a microstructured material." AEPA 2006 - The 8th Asia-Pacific Symposium on Engineering Plasticity and Its Applications. Nagoya, Japan, 25-29 September 2006. |
| [C11] | **Grillo, A.**, Zingali, G., Borrello, D., Federico, S., Herzog, W., Giaquinta, G.: "Interaction between growth and transport phenomena in living mixtures." 7th Seminar on Geometry, Continua, and Microstructure - GCM7, Lancaster, UK, 25-27 September 2006. |
| [C10] | **Grillo, A.**, Federico, S., Ait-Haddou, R., Giaquinta, G., Herzog, W.: "Reversible ratchets in the presence of thermal fluctuations." World Congress on Medical Physics and Biomedical Engineering, Seoul, South Korea, 27 August - 1 September 2006. |

| [C9] | **Grillo, A.**, Federico, S., Ait-Haddou, R., Giaquinta, G., Herzog, W.: "Reversible ratchets in closed systems." Fifth World Congress of Biomechanics, Journal of Biomechanics, 39 (Supplement 1), S235, Munich, Germany, 29 July - 4 August 2006. |
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| [C8] | Federico, S., **Grillo, A.**, Giaquinta, G., Herzog, W.: "Anisotropy, inhomogeneity, and non-linearity of articular cartilage." 24th Annual Meeting of the Canadian Biomaterials Society, Calgary, Canada, 26-28 May 2006. |
| **Year 2005** | |
| [C7] | Han, S.-K., Federico, S., **Grillo, A.**, Herzog, W.: "Chondrocyte modelling in the pericellular microenvironment." 6th Alberta Biomedical Engineering Conference, 26, Banff, Canada, 21-23 October 2005. |
| [C6] | Han, S.-K., Federico, S., **Grillo, A.**, Herzog, W.: "Influence of the pericellular microenvironment on chondrocyte modelling." 20th Congress and 29th Annual Meeting of the American Society of Biomechanics, CD-ROM, Cleveland, USA, 31 July - 5 August 2005. |
| [C5] | Federico, S., **Grillo, A.**, Giaquinta, G., Herzog, W.: "A non-linear, anisotropic, inhomogeneous model of articular cartilage." 20th Congress and 29th Annual Meeting of the American Society of Biomechanics, CD-ROM, Cleveland, USA, 31 July - 5 August 2005. |
| **Year 2004** | |
| [C4] | Han, S.-K., Federico, S., **Grillo, A.**, Musumeci, F., Giaquinta, G., Herzog, W.: "The mechanical behavior of chondrocytes using a micro-structural FE Model." 5th Alberta Biomedical Engineering Conference, 24, Banff, Canada, 22-24 October 2004. |
| [C3] | Han, S.-K., Federico, S., **Grillo, A.**, Giaquinta, G., Musumeci, F., Herzog, W.: "Micro-structural model of the mechanical environment of chondrocytes." 5th Combined Meeting of the Orthopaedic Research Societies of the USA, Canada, Japan and Europe, 111, Banff, Canada, 10-13 October 2004. |
| [C2] | Han, S.-K., Federico, S., **Grillo, A.**, Giaquinta, G., Musumeci, F., Herzog, W.: "FE analysis of the mechanical behavior of chondrocytes." 28th Annual Meeting of the American Society of Biomechanics, CD-ROM, poster 123, Portland, USA, 8-11 September 2004. |
| **Year 2003** | |
| [C1] | Federico, S., **Grillo, A.**, Herzog, W., La Rosa, G., Giaquinta, G.: "Microstructural-statistical approach to articular cartilage." VI Giornata di Studio - Materiali Innovativi in Biomeccanica (6th Workshop on innovative materials in Biomechanics), CD-ROM, Catania, Italy, 12 December 2003. |