

Allegato E

Decreto Rettore dell'Università di Roma "La Sapienza" n. 3115/2021 del 24/11/2021

PAOLA NARDINOCCHI

Curriculum Vitae

(ai fini della pubblicazione)

Part I - General Information

full name	Paola Nardinocchi
spoken languages	italian (mother tongue), english

Part II - Education

Ph.D. (1992)	Università di Bologna	Dottorato in Ingegneria delle Strutture
Master's Degree (1987)	Università di Ancona	Laurea in Ingegneria Civile (110/110)

Part III - Academic Appointments

2005-today	Sapienza Università di Roma	Associate professor
1992-2004	Sapienza Università di Roma	Assistant Professor
1989-1992	Università di Bologna	Ph.D. Student
1987-1989	Università di Ancona	Research Associate

Part IV - Management and service activities

IV-A: Service activities at Academic Council of Aerospace Engineering (CAD)

2019-today	Head of the Teaching Committee (undergraduate programs) of the Academic Council of Aerospace Engineering (CAD)
2013-today	Member of the Teaching Committee (undergraduate programs) of the Academic Council of Aerospace Engineering (CAD)
2013-today	Member of the Academic Observatory Committee of the CAD
2016-2019	Head of the Academic Observatory Committee of the CAD
2010-2019	Member of the Quality Assessment Committee (GCAQ) of the CAD
2014-today	Manager of the Agreement between the CAD and ENAC (Ente Nazionale Aviazione Civile)
2014-2016	Manager of the Working Team EUR-ACE for the ENAEE accreditation of the Degrees of the CAD

IV-B: Service activities at School of Engineering and at Sapienza Università di Roma

2017-today	Local Head of the network PEGASUS (Partnership of a European Group of Aeronautics and Space Universities) as Sapienza Representative
2015-today	Scientific Manager of the Executive Protocol between Dipartimento di Ingegneria strutturale e geotecnica (DISG) at Sapienza Università di Roma and Department of Biomedical Engineering and Mechanics (BEAM) at Virginia Polytechnic Institute and State University at Blacksburg (Virginia Tech), USA
2005-today	Member of the Academic Council of Aerospace Engineering of Sapienza - Università di Roma
2000-today	Member of the Academic Council of Electrical Engineering of Sapienza - Università di Roma
2010-today	Member of the Board of the Ph.D. Program in Theoretical and Applied Mechanics of Sapienza - Università di Roma
2019-today	Member of the Scientific Board of the Centro di Ricerca Saperi&Co di Sapienza Università di Roma
2002-2005	Member of the Scientific Board of Sapienza Università di Roma
2002-2005	Member of the Scientific Board of Facoltà di Ingegneria

IV-C: : Management at Sapienza Università di Roma

2013-today	Member of the Steering Committee of the Centro di Ricerca per le Nanotecnologie applicate all'ingegneria (Cnis) https://web.uniroma1.it/cnis/en/steering-committee/steering-committee
2011-2016	Member of the Executive Board of Facoltà di Ingegneria civile e industriale
2000-2002 2013-2015	Member of the Executive Board of Dipartimento di Ingegneria strutturale e geotecnica

IV-D: Service activities outside Sapienza Università di Roma

2013-today	Member of the PEGASUS Council (https://www.pegasus-europe.org/)
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IV-E: Professional activities

2018-today	Member of the Selection Committee of the Society for Natural Philosophy
2018-today	Member of the Editorial Board of <i>Mechanics of Soft Materials</i> (Springer)
2014-today	Member of the Editorial Board of <i>Applied and Computational Mechanics</i> (ACM Publication)
2014-today	Member of the Review Editorial Board of <i>Frontiers in Materials</i> (mechanics of Materials Group)
2005-today	Reviewer for Biomech.Model.Mechanobiol., Biomed.Eng., Comput.Methods Biomech, Eur.J.Mech.A Solids, Eur. Phys. J. E, Int.J.Numer.Meth.Bio., Int. J. Solids Struct., J.Appl.Phys., J. Elasticity, J.Intell.Mater.Syst.Struct., J.Mech.Eng.Sci., Macromolecules, Math.Mech.Solids, Mech.Mater., J.Mech.Phys.Solids, Mechanics of Soft Materials, Mech.Res.Comm., Prog.Polym.Sci., Sci.Rep., Smart Mater.Struct., Soft Matter, IEEE. Trans.Biomed.Eng., Eur.J.Mech.A Solids, Mech.Res.Comm., Biomech.Model.Mechanobiol., Prog.Polym.Sci., Math.Mech.Solids, Comput.Methods Biomech., Biomed.Eng., Int.J.Numer.Meth.Bio., J.Appl.Phys., J.Mech.Eng.Sci., Smart Mater.Struct., J.Intell.Mater.Syst.Struct., Mech.Mater., J. Elasticity, J.Mech.Phys.Solids
2018-today	Panel proposal reviewer for Programma per Giovani Ricercatori "Rita Levi Montalcini" and Member of REPRISE list of scientific experts (section: Basic research)
2013-2016	Partner of the Research Training Group 1865 Hydrogel-Based Microsystems based at Technische Universität Dresden, Germany
2021	Chair of the 18th Pegasus Student Conference at University of Pisa (Pisa, Italy, 2022)
2020	Co-chair of the Session S14: Mechanics of soft materials and structures at the European Mechanics of Materials Conference - EMMC18 (Oxford, UK, 2022)
2020	Chair of the Webinar series <i>Mechanical morphing of active gels</i> , a scientific weekly meeting with national and international researchers supported by the Ph.D. program in Theoretical and Applied Mechanics of Sapienza Università di Roma
2020	Co-chair of the Webinar series <i>Mechanics and remodeling in anisotropic inelastic materials</i> , a scientific weekly meeting with national and international researchers supported by the Ph.D. programs in Theoretical and Applied Mechanics and in Structural and Geotechnical Engineering of Sapienza Università di Roma
2019	Committe Member for the final PhD defense at KTH Royal Institute of Technology (Stockholm, Sweden) of the Doctoral Thesis in Medical Technology and Medical Science "Non-invasive imaging for improved cardiovascular diagnostics"
2019	Committe Member for the final PhD examination at XXXI Ph.D. program in Ingegneria civile e architettura at Università di Parma

2018	Member of the Organizing Committee for AIMETA 2019 (Roma, Italy)
2018	Co-chair of the Minisymposium <i>Mechano-chemistry active materials</i> at Society of Engineering Science (SES) Technical Meeting (Madrid, Spain, 2018)
2018	Committe Member for Ph.D. students selection (Meccanica Teorica e Applicata) at Sapienza Università di Roma
2017	Scientific Committe Member for the VI ECCOMAS Thematic Conference VipIMAGE2017 (Porto, Portugal)
2015-2016	Co-chair of the Seminar series <i>Mechanics and Mathematics of (soft) Materials and Structure @ DISG</i> , a scientific monthly meeting with national and international researchers at Dipartimento di Ingegneria strutturale e geotecnica
2015	Chair of the short course <i>Elastic Instabilities for Form and Function: Buckling, Wrinkling, Folding, and Snapping</i> given by D.P. Holmes (Boston University) at DISG
2014	Committe Member for Ph.D. students selection (Meccanica Teorica e Applicata) at Sapienza Università di Roma
2013	Chair of the Round Table on <i>Medical imaging and computational tools: how modelling and simulations support the clinics</i> at DISG
2013	Chair of the short course <i>Topics in Fluid Mechanics</i> given by H.A. Stone (Princeton University) at DISG
2012	Committe Member for the final PhD examination at XXIV Scuola in Scienza e Tecnica "B. Telesio" (Universita della Calabria) in Computational Mechanics
2003	Committe Member for Assistant Professor selection (SSD ICAR/o8) at Facoltà di Ingegneria dell'Università degli Studi "Mediterranea" di Reggio Calabria
2001	Committe Member for Assistant Professor selection (SSD ICAR/o8) at Facoltà di Ingegneria dell'Università degli Studi di Udine

IV-F: Third Mission activities

Year	Role
2015-today	Chair of <i>INgegneria INcontra</i> , a series of open scientific conferences at Facoltà di Ingegneria civile e industriale, consisting of seminars based on the research activities carried on in Facoltà, thought for for the general public and aimed to promote and divulgate scientific knowledge
2018	Co-chair of <i>Tecniche Sapiienti. Ingegneria: una storia al femminile</i> , a one day seminars about female stories at Facoltà di Ingegneria civile e industriale
2017	Co-chair of <i>Bicentenario Day</i> of the Facoltà di Ingegneria

Part V - Society memberships, Awards and Achievements

<p>Member of the Italian Society of Meccanica Teorica e Applicata (AIMETA), Gruppo Nazionale di Fisica Matematica (GNFM), European Mechanics Society (EUROMECH), Society for Natural Philosophy (SPN), Società Italiana di Scienza delle Costruzioni (SISCO), Society of Engineering Science (SES)</p>
<p>Italian qualification to Full Professorship (Abilitazione Scientifica Nazionale: Professore di Prima Fascia nel settore o8/B2 Scienza delle Costruzioni, Tornata 2013 and Tornata 2018)</p>
<p>Highlighting Commentary for the paper <i>Non-invasive prediction of Genotype-positive/Phenotype negative in Hypertrophic Cardiomyopathy by 3D Modern Shape Analysis</i> published on <i>Experimental Physiology</i> 104, 1688-1700, 2019 (https://physoc.onlinelibrary.wiley.com/doi/epdf/10.1113/EP088102)</p>
<p>Selection as Featured Article of the paper <i>Analysis of the tracheal structure in the american cockroach and its effect on collapse</i> published on <i>Bioinspiration & Biomimetics</i> 10, 066011, 2015</p>
<p>Selection for the Soft Matter's inside cover of the paper <i>Morphing of Geometric Composites via Residual Swelling</i> published on <i>Soft Matter</i> 11, 5812, 2015</p>
<p>Best Paper Award for the paper <i>On the strain line patterns in a real human left ventricle</i> presented at the VipIMAGE 2013 - IV ECCOMAS Thematic Conference on Computational Vision and Medical Image Processing, Madeira, Portugal, October 2013</p>
<p>Signer of the Memorandum of Agreement with the Royal Society of Chemistry concerning a book to be ended before April 1, 2024, provisionally entitled <i>Mechanics of swelling</i> (March 2021)</p>

Part VI - Funding Information

VI-A: Funding of Basic Science Research (as PI-principal investigator)

Year	Grant title & value	Research program
2020	MAECI Grant DR.15/12/2020 (euro 100.000)	Microencapsulation based on intelligent actively-remodeling bio polymer gels for controlled drug release
2020	Sapienza Grant N. RM120172A77FB346 (euro 14.000)	The mechanical background underlying a morphometric atlas of the left heart
2019	Sapienza Grant N. RM11916B7065E02C (euro 13.950)	Assessing heart mechanics by modeling and comparing the pathological landscape: simulated versus real conditions
2018	Sapienza Grant N. RM1181642B2FDE85 (euro 15.000)	Mechanical insights into volume overloaded left heart: two-chamber diastolic-systolic functional diseases
2018	Grant from DAAD and Graduate Academy, Aw: great!lipid4all (co-PI)	Numerical investigation on the electro-chemo-mechanical model for thin Nafion membranes employed in batteries and fuel cells
2017	Grant from DAAD and Graduate Academy, Aw: great!lipid4all (co-PI)	Numerical investigations on the interaction between the mechanical and the electrochemical field within an electrochemical cell.
2017	Sapienza Grant N. G11715C7CE2C1C4 (euro 40.000)	Mechanics of soft fibered active materials.
2016	Sapienza Grant N. RM116154C8A44723 (euro 11.000)	Mechanics of the atrio-ventricular coupling in physiological conditions and in presence of diastolic dysfunction.
2015	Sapienza Grant N. C26A15JZ7K (euro 32.450)	Mechanical and clinical tools for detecting heart diseases in humans.
2014	Sapienza Grant N. C26A14BR2J (euro 13.000)	Following up left ventricular hypertrophy: experimental analysis and computational modeling.
2013	Sapienza Grant N. C26A13NTJY (euro 35.000)	Reconstruction of human ventricular mechanics in parallel by integrating left and right pumps and morphometrics.
2012	Sapienza Grant N. C26A12F4A2 (euro 15.000)	Left ventricular motion in clinical studies and theoretical modeling: assessment of new indicators of cardiac function.
2011	Sapienza Grant N. C26A11STT5 (euro 12.000)	Torsion and Contraction in the Left Human Ventricle: from Theoretical Analysis to Clinical Studies.

2007	Ateneo Federato della Scienza e della Tecnologia Grant (euro 1.400)				Analisi delle vibrazioni di nanotubi di carbonio via modelli continui monodimensionali
2006	Facoltà di Ingegneria Grant (euro 1.800)				Analisi delle vibrazioni di nanotubi di carbonio via modelli continui monodimensionali
2005	Facoltà di Ingegneria Grant (euro 1.700)				Sulla modellazione di continui con struttura capace di adattarsi alle azioni meccaniche
2004	Facoltà di Ingegneria Grant (euro 2.500)				Leggi di bilancio nei fenomeni di crescita
2003	Facoltà di Ingegneria Grant (euro 2.500)				Leggi di bilancio nei fenomeni di crescita
2001	Facoltà di Ingegneria Grant (euro 3.357)				Interazione fluido-struttura nei condotti arteriosi.
2000	Facoltà di Ingegneria Grant (euro 1.630)				Modellazione di giunzioni nella meccanica delle strutture.
1999	Facoltà di Ingegneria Grant (euro 2.000)				Modelli costitutivi intrinseci per continui generalizzati.
1998	Facoltà di Ingegneria Grant (euro 2.293)				Metodi misti agli elementi finiti per l'analisi della dinamica non lineare di continui con struttura: travi e gusci.
	Tot. euro 320.580				

VI-B: Funding of Applied Research (as PI-principal investigator)

Year	Grant title & value	Research program
12/2018	Banca d'Italia (BdI) Grant (disposable on December 2021, euro 292.911)	Studio dell'adeguatezza sismica degli edifici di proprietà della Banca d'Italia
	Tot. euro 292.911	

VI-C: Funding of Basic Science Research (as I-investigator)

Year	Grant title	Research program
2018	Grant from National Science Foundation, Aw: 1804432	Active Mechanical Properties of the Uterosacral Ligament: A New Micro-to-Macro Characterization for Prolapse Treatment
2017	Grant for Italian Minister for Education, Research, and University (MIUR) N. 2017KL4EF3-004	Mathematics of active materials: From mechanobiology to smart devices
2015	Grant from National Science Foundation, Aw: 1300860 2015	Swelling-Induced Origami
2009	Grant for Italian Minister for Education, Research, and University (MIUR) N. 200959L72B-003	Mathematics and Mechanics of Biological Assemblies and Soft Tissues
2005	Grant for Italian Minister for Education, Research, and University (MIUR) N. 2005082902-001	Analisi, sperimentazione e identificazione di modelli, prototipi e strutture reali
2003	Grant for Italian Minister for Education, Research, and University (MIUR) N. 2003080575-001	Analisi, sperimentazione, identificazione e controllo di modelli, prototipi e strutture reali
2001	Grant for Italian Minister for Education, Research, and University (MIUR) N. 2001087318-001	Analisi, sperimentazione, identificazione e controllo di strutture convenzionali ed innovative in dinamica
1999	Grant for Italian Minister for Education, Research, and University (MIUR) N. 9908262899-001	Dinamica di strutture con nonlinearità geometriche e meccaniche: analisi e controllo
1997	Grant for Italian Minister for Education, Research, and University (MIUR) N. 9708268675-004	Dinamica di strutture flessibili in presenza di nonlinearità geometriche e meccaniche: analisi e controllo

VI-D: Funding of EU and extra-EU mobility

Year	Grant title	Research program
2021	Sapienza Grant for visiting professor (euro 5.000)	Elasto-active instabilities
2021	GNFM Grant for visiting professor (euro 2.800)	Inelastic deformations in anisotropic bodies
2018	Sapienza Grant for visiting professor (euro 5.000)	Bio-inspired engineering
2017	Sapienza Grant for mobility extra-EU, N. AI26159JNW (euro 5.000)	Mathematical modeling of the material response of active biological tissues-Part II.
2015	Sapienza Grant for visiting professor (euro 5.000)	Bio-inspired engineering
2015	Sapienza Grant for mobility extra EU, N. AI2617PT9LE (euro 5.000)	Mathematical modeling of the material response of active biological tissues-Part I.
	Tot. euro 27.800	

Part VII - Outgoing and incoming visiting

VII-A: Outgoing visiting

Period	Institution	Host
Fall 2021	Ecole Centrale de Nantes, FRANCE	G. Sciarra
Summer 2021	University of California at Santa Barbara, USA (to be re-scheduled)	A. Kosmrlj (Princeton University)
Fall 2020	Banff International Research Station for Mathematical Innovation and Discovery, CANADA (to be re-scheduled)	L. Dorfmann (Tuft University)
Fall 2019	Virginia Polytechnic Institute and State University (Virginia Tech), USA	R. De Vita (Dept. of Biomedical Engineering and Mechanics - BEAM)
Fall 2018	Virginia Tech, USA	R. De Vita - BEAM Department
Fall 2018	TUDresden, Technische Universität Dresden, GERMANY	T. Wallmersperger - Institute of Solid Mechanics
Winter 2018	Virginia Tech, USA	R. De Vita - BEAM Department
Fall 2017	TUDresden, Technische Universität Dresden, GERMANY	T. Wallmersperger - Institute of Solid Mechanics
Fall 2016	Virginia Tech, USA	R. De Vita - BEAM Department
Fall 2016	BU, Boston University, USA	D.P. Holmes - MoSS Lab
Fall 2015	Virginia Tech, USA	R. De Vita - BEAM Department
Spring 2014	Virginia Tech, USA	R. De Vita - BEAM Department
Summer 2014	UMass, University of Massachusetts at Amherst, USA	R. Hayward - Department of Polymer Science and Engineering
Summer 2012	Princeton University, USA	H.A. Stone - Mechanical & Aerospace Engineering Department

VII-B: Incoming visiting

Period	Researcher	From
Spring 2022	D.P. Holmes	BU, Boston University, USA
Winter 2022	M. Rubin	Technion - Israel Institute of Technology, ISRAEL
Summer 2019	J. McGuire	Virginia Tech, USA
Fall 2018	A. Bernheim	Ben Gurion University of the Negev Beer-Sheva, ISRAEL
Spring 2018	R. De Vita	Virginia Tech, USA
Spring 2017	E. Sharon	The Hebrew University of Jerusalem, ISRAEL
Spring 2016	R. De Vita	Virginia Tech, USA
Fall 2015	R. De Vita	Virginia Tech, USA
Spring 2015	D.P. Holmes	BU, Boston University, USA
Fall 2013	Eduardo Soudah	CIMNE, Barcellona, SPAIN
Spring 2013	H.A. Stone	Mechanical & Aerospace Engineering Department, Princeton University, USA

Part VIII - Teaching and mentoring experience**VIII-A: Undergraduate and master courses**

Year	Institution	Course
2014/15-today	Bachelor Degree in Aerospace Engineering - Sapienza Università di Roma	Meccanica dei solidi e delle strutture (6 CFU)
2008/09-today	Bachelor Degree in Electrical Engineering - Sapienza Università di Roma	Scienza delle costruzioni (6 CFU)
2004/05-2013/14	Bachelor Degree in Aerospace Engineering - Sapienza Università di Roma	Scienza delle costruzioni ¹ (6 CFU)
2000/01-2006/07	Bachelor Degree in Electrical Engineering - Sapienza Università di Roma	Scienza e Tecnica delle costruzioni (6 CFU)
2002/03	Bachelor Degree in Civil Engineering at Università Roma Tre	Meccanica della Trave (6 CFU)
2009/10 & 2020/21	Master Science Degree in Electrical Engineering	Scienza delle costruzioni (3 CFU)
1994/95-1999/00	Master Science Degree in Electrical Engineering	Scienza delle costruzioni (12 CFU)

¹ Congedo per maternità da aprile ad agosto 2008.

VIII-B: PhD courses

Year	Institution	Course
12/2018	<i>Technische Universität Dresden</i>	Soft active gels. Stress-diffusion modeling: not homogeneous solutions
10/2018	Sapienza Università di Roma	Mechanics of Soft Tissues and Instabilities
03/2017	Università della Calabria	Actuation and sensing via hydrogels
12/2017	<i>Technische Universität Dresden</i>	Mechanics of Anisotropic Hydrogels

VIII-C: Mentoring

She supervised about 50 theses for the Bachelor Degree in Aerospace Engineering since 2008 on topics borrowed by the mechanics of solids and structures inspired by the aerospace structures and materials. She also tutored a few Bachelor students selected for Honours Programmes.

Supervision of Master theses

- October 2010. Modellistica non-lineare di polimeri elettroattivi: aspetti teorici ed applicativi, student: Alessandro Lucantonio, Master Degree in Aeronautic Engineering.
AL got Ph.D. @ Meccanica Teorica e Applicata, Sapienza Università di Roma; then, post-doc @ SISSA (Trieste).
He is currently RTDB ICARo8 at Scuola Sant'Anna (Pisa, Italy).
- October 2011. Meccanica non-lineare della flessione indotta da interazioni elettrochimiche nei compositi metallo-polimero ionico, student: Savino Galante, Master Degree in Aeronautic Engineering.
The thesis has been published as a scientific paper in the International Journal of Nonlinear Mechanics [50].
- November 2012. Complex Elastic Curves in IPMC-based Structures, student: Vincenzino Pugliese, Master Degree in Space Engineering.
- November 2012. On the control of the large deformations occurring in IPMCs, student: Matteo Pezzulla, Master Degree in Space Engineering.
The thesis has been published as a scientific paper in Journal of Applied Physics [47].
MP got Ph.D. @ Meccanica Teorica e Applicata, Sapienza Università di Roma; then, post-doc @ UB (Boston University) and post-doc @EPFL (Losanna).
He is currently Assistant Professor in Mechanical Engineering @ Aarhus University (Aarhus, Denmark).
- December 2013. Energy storage devices: IPMCs and Li-Ion Batteries in space applications, student: Consuelo Rosato, Master Degree in Aeronautic Engineering.
- July 2017. Numerical, Analytical and Experimental investigation on Ionic Polymer Metal Composites (IPMCs), student: Marco Rossi, Master Degree in Space Engineering.
MR got Ph.D. @ Technische Universität Dresden (Germany).
- July 2017. Analisi numerica per l'ottimizzazione di processi di formatura, student: Daniele Battista, Master Degree in Mechanical Engineering.

DB is going to get Ph.D. @ Meccanica Teorica e Applicata, Sapienza Università di Roma; he is currently under research contract @ Joint Research Center of the European Community.

- March 2018. Ion conducting membranes for rechargeable batteries and fuel cells, student: Jorge Alejandro Ramirez, Master Degree in Space Engineering.
- October 2018. Theoretical and experimental study of thermo-responsive Poly (N-isopropylacrylamide) hydrogels for biomedical applications, student: Cinzia De Leonibus, Master Degree in Biomedical Engineering (co-tutor).
- October December 2020. Applicazioni di materiali innovativi ai sistemi frenanti di velivoli leggeri, student: Claudia Neri, Master Degree in Space Engineering.

Supervision of PhD theses

- Alessandro Lucantonio, Ph.D. in Meccanica Teorica e Applicata, Sapienza Università di Roma; dissertation defended in winter 2013.
- Matteo Pezzulla, Ph.D. in Meccanica Teorica e Applicata, Sapienza Università di Roma; dissertation defended in winter 2015.
- Michele Curatolo, Ph.D. in Ingegneria, Università degli Studi Roma Tre; dissertation defended in winter 2018 (co-advisor).
- Marco Rossi, Ph.D. at Technische Universität Dresden; dissertation defended in winter 2019 (co-advisor).
- Daniele Battista, Ph.D. in Meccanica Teorica e Applicata, Sapienza Università di Roma; dissertation to be defended in Winter 2021.

VIII-D: Teaching enhancement and innovative contribution to teaching activity

The ongoing work towards making innovative contribution to teaching is listed below:

- **Member of the Working Group "Engineering Aerospace Education"** (framework: PEGASUS network; coordinator: ISAE-SUPAERO (Toulouse)).
Goal: inspiring and stimulating the educational leaders and teachers of the universities in the PEGASUS network to improve and innovate their curricula by an active sharing of best practices in aerospace engineering education from within and outside the network and disseminate this further.
In this capacity, PN contributed to the following seminars:

Year	Activity	Title
October 2020	on-line Workshop <i>Best Practices in Education</i> @ PEGASUS 45th Council Meeting (organizer)	(Re)Designing and Administering Remote Assessments (chair)
October 2017	Workshop <i>Best Practices in Education</i> @ PEGASUS 39th Council Meeting (ISAE-SUPAERO, Toulouse, Francia) (co-organizer)	Introduction to conceive–design–implement–operate (CDIO) Concept & Discussion (speaker)
September 2017	Train the Trainers - Visit to Rome, FSAMP Flight safety and airworthiness - a masters programme (Facoltà di Ingegneria civile e industriale, Roma, Italia)	New approaches in learning methods: PERSEUS excellence in PEGASUS network (speaker)

and to the following publication:

- F. Bernelli-Zazzera, G. Guglieri, S. Marcucci, F. Marulo, **P. Nardinocchi**, P. Tortora. Evolution of the (Aero)Space Engineering Studies in Italy in the past 20 years. Proceedings of the AerospaceEurope Conference 2021, CEAS 2021, Warsaw, Poland, November 2021.
- **Teacher with Opening Learning Initiative's** "Engineering Statics" at the Bachelor Degree in Electrical Engineering (a.a. 2015/16–2018/19).
- **Selected Member** of the Academic Council of Aerospace Engineering to attend the ELIXIR-EXCELERATE *Train the Trainer* Course within the ELIXIR-IIB Training Platform, based on the perceived utility of the course for PN's work and level of expertise in the topic of the course.
Topics: learning principles and how they apply to training and teaching; teaching techniques that can be used to enhance learner engagement and participation; assessment and feedback in training and teaching (September 2018).
- **Co-chair** (alongside students from the *Academic Observatory Committee*) of *Assaggi di magistrali nella triennale: orientare in itinere*.
Goal: to guide undergraduate students towards Master courses giving them the opportunity to better known key topics of Master courses through appropriate seminars (May 2018 - today).

Part IX - Research Activity

IX-A: Supervision of research activities

Supervision of Post-doc activities on Basic Science Research

- Ricostruzione della dinamica ventricolare cardiaca per mezzo della Meccanica del Continuo e della Morfometria Geometrica. DISG (P. Piras, ottobre 2014 - settembre 2015, funded on Grant N. C26A15JZ7K).
- La meccanica come mezzo clinico per l'individuazione di patologie cardiache nell'uomo.

DISG

(P. Piras, marzo 2016- febbraio 2017, funded on Grant N. G11715C7CE2C1C4).

- Morphing of soft elastic anisotropic thin structures. DISG
(M. Curatolo, marzo 2019-marzo 2020, funded on Grant N. RM1181642B2FDE85).
- Morphing of soft elastic anisotropic thin structures. DISG
(M. Curatolo, marzo 2020-ottobre 2020, funded on Grant N. RM11916B7065E02C).

Supervision of other research activities on Basic Science and Applied Industrial Research

- Analisi di vulnerabilità sismica dell'edificio in via xxiv maggio - Isernia, di proprietà della banca d'Italia. DISG
(G. Silvano, 9 mesi, 2019, funded on BdI Grant).
- Prove dinamiche su sistemi di travi in scala. DISG
(G. Marino, 6 mesi, 2019, funded on BdI Grant).
- Analisi di vulnerabilità sismica dell'edificio in via xxiv maggio - Isernia, di proprietà della banca d'Italia. DISG
(A. Mizzoni, 5 mesi, 2019, funded on BdI Grant).
- Propagazione di onde in piastre: studio di discontinuità. DISG
(D. Salamone, 6 mesi, 2019, funded on BdI Grant).
- Studio di mitigazione delle vibrazioni di una struttura snella. DISG
(M. Basili, 12 mesi, 2019, funded on BdI Grant).
- Analisi di vulnerabilità sismica, sulla base dell'analisi sismica semplificata precedentemente svolta, dell'edificio in via Dante 3 - Genova, di proprietà della Banca d'Italia. DISG
(P. Zamboni, 6 mesi, 2019, funded on BdI Grant).
- Analisi di vulnerabilità sismica dell'edificio in Frosinone, di proprietà della Banca d'Italia. DISG
(G. Marta, 5 mesi, 2019, funded on BdI Grant).
- Classificazione dei risultati di vulnerabilità sismica degli edifici della Banca d'Italia (12 mesi, 2020, funded on BdI Grant). DISG
(C.D. De Sortis, 9 mesi, 2020, funded on BdI Grant).
- Classificazione dei risultati di vulnerabilità sismica degli edifici della Banca d'Italia. DISG
(E. Cappelli, 9 mesi, 2020, funded on BdI Grant).
- Elaborazioni di dati numerici e sperimentali delle deformazioni di una trave con un intaglio. DISG
(D. Salamone, 9 mesi, 2020, funded on BdI Grant).
- Analisi di vulnerabilità sismica della filiale di Viterbo di proprietà della Banca d'Italia secondo l'attuale normativa NTC 2018 e relativa intensità sismica. DISG
(P. Zamboni, 8 mesi, 2020, funded on BdI Grant).
- Elaborazione e processamento dati accelerometrici registrati su strutture esistenti. DISG
(M. Ruggeri, 9 mesi, 2020, funded on BdI Grant).
- Valutazione sperimentale dinamica di variazioni di curvature dovute a danneggiamenti. DISG

(G. Marino, 6 mesi, 2020, funded on BdI Grant).

- Analysis of 3dSTE data on pathological and control left ventricle group. risultato atteso: determination of patient specific strain-lines pattern. DISG (2 mesi, 2021, funded on Grant N. RM11916B7065E02C).
- Studio analitico e sperimentale di dispositivi dissipativi (M. Basili, 12 mesi, 2021, funded on BdI Grant).

IX-B: A short description of the main topics

The following short description of the main topics refers to both current and past research activities. Citations refer to the selected publications listed in Part XIV. When it is the case, the coordination of the research group and the total support got for carrying on the research activity is also evidenced (see also <https://paolanardinocchi.site.uniroma1.it>).

Mechanics and swelling of passive and active polymer gels (on-going)

date	coordinator of	support
2011-today	research activity @ DISG with external collaborations	
2020-today	joint research activity with the Ben Gurion University at the Negev (Israel)	Ministry of Foreign Affairs and International Cooperation: euro 200.000

– Main collaborations:

- D. Battista, M. Curatolo (Sapienza, Università di Roma),
- A. Lucantonio (now at Scuola Superiore Sant'Anna, Pisa), M. Pezzulla (now at Aarhus University, Denmark)
- L. Teresi (Università Roma Tre), E. Puntel (Università di Udine)
- A. Bernheim (Ben Gurion University of the Negev, Israel), D.P. Holmes (Boston University, USA), V. Luchnikov (CNRS, Mulhouse, France), H.A. Stone (Princeton University)

– Keywords:

- stress-diffusion models, geometric composites under swelling, morphing and stability, shape morphing of active gels

– Impact on scientific enhancement:

- original and easily implementable form of the key highly nonlinear chemical boundary conditions;
- extension of the 1943 Flory-Rehner free energy to hydrogels with fibers;
- stability analysis of geometric composites based on structure models;
- continuum models of swelling and growth in active gels.

- **Short description** Since 2011, the research activity has been following different branches with different junior and senior collaborators. We started with the elaboration of a physics-based stress-diffusion theoretical and computational model [11] which has still been having a great impact on scientific community due to the original and easily implementable form of the key chemical boundary conditions as well as to the robustness of the mathematical model

as well as of the corresponding finite element model. Therein, a first thermodynamically consistent continuum model of swelling polymers has been studied and tested against many experimental evidences carried on at the Mechanical and Aerospace Engineering Department, Princeton University (USA) and at the Mechanics of Slender Structures Lab, Boston University (USA). A great impact has been got by the successive original developments such as: the reduced analysis of swelling beams [10,13], the exploration of intriguing morphing and shape-shifting problems got combining layers of different gel in a structure [4,5,7,8], the deep insight into huge volume transition due to temperature effects [9]. Finally, shape morphing of active bio-hybrid gels has been investigating [2,3], with the goal to produce pneumatic actuation via liquid migration, a topic which has been recently receiving more and more attention by the scientific community.

– Ongoing works:

- J.I. Colorado Cervantes, M. Curatolo, P. Nardinocchi, L. Teresi. Morphing of soft structures driven by active swelling: a numerical study (submitted to International Journal of Non-Linear Mechanics, October 2021).
- P. Nardinocchi: A reduced thermodynamically consistent model to measure liquid exchanged volumes in passive and active gels (manuscript in preparation, 2021);
- A. Bernheim, P. Nardinocchi: Towards a control of liquid flux in active gels (manuscript in preparation, 2021).

Elastic metrics in finite elasticity with active strains (on-going)

– Main collaborations:

- L. Teresi, V. Varano (Università Roma Tre)
- J. Hanna (University of Nevada, US)

– Keywords:

- strain compatibility, Eshelbian mechanics, growth and remodeling

– Impact on scientific enhancement:

- explicit description of compatible and quasi-compatible active deformations in nonlinear elasticity.

– Short description

The activity started more than 20 years ago with basic issues concerning the balance and constitutive equations of elastic bodies with affine micro-structure, and has since continued to investigate balance and constitutive equations in the presence of remodeling and growth processes. Those old analyses contributed to: (i) forming the idea that the active response of soft tissues, such as muscle tissues, can be described in terms of the remodeling notion through the active strain notion as opposed to the common notion of active stress [15]; (ii) understanding that compatible active strains can have a main role in manufacturing devices, as they have in Nature [12,14].

– Ongoing works:

- D. Battista, P. Nardinocchi: Elastic metrics in soft beams and shells (manuscript in preparation, 2021).

Fiber reorientation in anisotropic viscoelastic bodies (on-going)

– Main collaborations:

- J. Ciambella (Sapienza Università di Roma)

– Keywords:

- Remodeling fibers, nonlinear elasticity, anisotropic viscoelasticity

– Impact on scientific enhancement:

- formulation of a rational evolution law for fiber reorientation in anisotropic elastic materials within the framework of nonlinear elasticity with remodeling.

– Short description

We started studying reorientation of material fibers under passive conditions as well as under magnetic and electric fields in polymeric materials by combining our skills in remodeling theory in continuum mechanics and in experimental analyses of fibred elastomers. As a first step, we investigated the passive torque-induced reorientation of fibers in elastomeric materials. Secondly, we considered the effect of a magnetic field on fiber reorientation [6]. These effects can be better studied if a viscoelastic material response is considered. We worked on it and our last paper recently published on JMPS deals with our viscoelastic anisotropic model [1]. This last work forced us to ask a few questions and find a few answers, as it will be described in the manuscripts in preparation, and as it has been discussed in the short series of seminars titled *Mechanics and remodeling in anisotropic inelastic materials*, which we chaired on ZOOM in April 2021.

– Ongoing works:

- J. Ciambella, G. Lucci, P. Nardinocchi, L. Preziosi. Passive and active fibre reorientation in anisotropic materials. The case of a cell layer under stretch. (submitted to International Journal of Mechanical Sciences, November 2021).
- J. Ciambella, P. Nardinocchi: Some remarks on finite anisotropic elasticity with remodeling (manuscript in preparation, 2021);
- J. Ciambella, P. Nardinocchi: Fiber reorientation in viscoelastic anisotropic materials (manuscript in preparation, 2021).

Mechanics of the heart (ongoing)

date	coordinator of	support
2011-today	Multidisciplinary Research Group in Sapienza (SRG)	Sapienza: euro 201.400 Toshiba-Europe: Toshiba device (PST-25SXArtida, Toshiba Medical Systems Corp., Tokyo, Japan) for free to Sapienza until 2018.

– Main collaborations:

- P. Piras, P.E. Puddu, M. Schiariti, C. Torromeo (Sapienza Università di Roma and University of Caen, France)
- A. Evangelista (Ospedale San Giovanni Calibita Fatebenefratelli Isola Tiberina, Roma)
- G. Esposito (Università di Napoli Federico II)
- I. Colorado-Cervantes, L. Teresi, V. Varano (Università Roma Tre)

– Keywords:

- myocardial principal strains, anisotropic active contraction, geometric morphometrics

– Impact on scientific enhancement:

- definition of an automatic procedure to be used within the three-dimensional Speckle Tracking Echocardiographic devices (PST-25SX Artida, Toshiba Medical Systems Corp., Tokyo, Japan) by clinicians to identify principal strain lines in human left ventricles;

- introduction of a novel approach in the analysis of the echocardiographic imaging based on Modern Shape Analysis (see the Commentary on *Experimental Physiology* 104, 1688-1700, 2019: <https://physoc.onlinelibrary.wiley.com/doi/10.1113/EP088102>).

– Short description

We started with the analysis of the deformation patterns in a human left ventricle (LV), developing a finite element model of the left ventricle (LV) based on echocardiographic images and finite elasticity theory with active distortions [13]. The model was based on the active strain approach, in contrast with the common active stress approach, firstly introduced by PN and coauthors to describe muscle contraction [14, 15].

Later, we developed a mechanics-based analysis of LV data from three-dimensional speckle tracking echocardiography and investigated shape and function of distinct strain lines corresponding to the principal strain lines of the cardiac tissues.

After that, we coupled the mechanics-based analysis with an original methodology based on Modern Shape Analysis (MSA) and, by using MSA, we extracted from the echocardiographic images taken by the Clinicians of our group a few mathematically and mechanically quantifiable key global features of the heart motion. Notably, we did it by extending MSA, already used in many disciplines where objects can be compared using geometrical features, to heart mechanics by solving some original problems, such as the definition of the notion of homologous times. We presented and discussed our analyses in different papers.

See also the dedicated web page: <https://paolanardinocchi.site.uniroma1.it/research/heart-mechanics>

– Ongoing works:

J.I. Colorado-Cervantes, P. Nardinocchi, P. Piras, V. Sansalone, L. Teresi, C. Torromeo, P.E. Puddu.
Patient-specific modeling of left ventricle mechanics.
In press on *Acta Mechanica Sinica*, 2021.

- J.I. Colorado Cervantes, L. Teresi, P. Piras, P. Nardinocchi, V. Sansalone, C. Torromeo, G. Esposito, V. Varano, and P.E. Puddu: Assessment of strain lines patterns in the human left ventricle (under review, 2021).

Mechanics of soft biological tissues (on-going)

date	coordinator of	support
2015-today	Executive Protocol between DISG and BEAM (Dept. of Biomedical Engineering and Mechanics) at Virginia Tech	Sapienza: euro 19.000 (by Mobility and Visiting professor grants)

– Main collaborations:

- R. De Vita (Department of Biomedical Engineering and Mechanics at Virginia Tech, VA, USA)
- L. Teresi (Università Roma Tre)

– Keywords:

- mechanics in biology, muscle modeling, active strain approach

– Scientific goals:

- comprehension of the mechano-chemical behaviour of the active and passive elasto-viscous biological tissues evidenced in the biaxial mechanical tests conducted at Virginia Tech;
- reproducing the outcomes of the biaxial tests within a mathematical model of a prototype material sample with appropriate stimuli-responsive characteristics.

– Short description

The joint activity originates from experimental investigations conducted at BEAM Department at Virginia Tech by prof. De Vita and her collaborators on the structure of tracheae in the American cockroach, which are studied for their similarities with some parts of our circulatory system and, due to it, could allow an implementation in synthetic organs. They evidenced that tracheal structures exhibited localized instabilities. So, we started studying the functional implications for collapse in those biological structures through a mechanical model of the thin tubes whose implementation within a FE code allowed to carry on many tests.

After that, we studied the active and passive mechanics of muscles and, based on some experimental observations on murine extensor digitorum muscle, we proved how our model, based on the active strain approach firstly introduced by PN and coauthors for cardiac muscles [15], can capture experimental observations with only a few scalar parameters.

The same approach, based on the notion of active strains, has been implemented to investigate the passive and active mechanics of vaginal tissue, now under study; in this case, experiments evidenced that the interactions between the mechano-chemistry and the passive-active material properties of the tissue are key issues which can't be neglected in the modeling.

Mechano-electro-chemical behaviour of ionic polymer structures

date	coordinator of	support
2011-2019	joint research activity with <i>Technische Universität Dresden</i>	DAAD and Graduate Academy (by Mobility and Visiting grants)

– Main collaborations:

- Matteo Pezzulla (now at Aarhus University, Denmark), Marco Rossi (now at MatLab company)
- Thomas Wallmersperger (Institute of Solid Mechanics at Technische Universität Dresden, Germany)

– Keywords:

- continuum-based mechano-electro-chemistry, finite elasticity with distortions, Maxwell and Cauchy stresses

– Impact on scientific enhancement:

- the thermodynamically consistent active strain-based model of ionic polymers has represented a step forward in describing mechano-electro-chemistry coupling in ionic polymers.

– Short description

The study of the mechanics of polymeric stimuli-responsive materials contributed to forming the idea that the fast response of these soft active materials to external stimuli of different nature can be excellently described in terms of active strains. Starting from a linear analysis [12], we developed a thermodynamically consistent multiphysics model of ionic polymeric membrane which has been extended to comprehend large displacements and incremental analysis. The nonlinear model allowed to catch the role of Maxwell stress in the dynamics of ionic polymeric membrane and, once implemented into a finite element code, to describe huge displacements and curled shapes of polymeric strips.

Mechanics of bodies with structure

– Main collaborations:

- A. Di Carlo (Università Roma Tre), P. Podio-Guidugli (Università di Roma Tor Vergata), L. Teresi (Università Roma Tre), A. Tiero (Università di Roma Tor Vergata),

– Keywords:

- bodies with affine microstructure, plates, rods with deformable cross-sections

– Impact on scientific enhancement:

- an original point of view on the constitutive principles underlying the theory of affine bodies has been presented and discussed for different kind of bodies.

– Short description

The study of the mechanics of bodies with structure started at the end of Ph.D years and involved deep studies on differential geometry and nonlinear field theories of mechanics. We started focusing on the constitutive principles underlying the theory of affine bodies and rods, and on the role of the group of invariance of the theory. Those studies greatly contributed to form the basis of the successive research activity, mainly conducted beyond the limits of the standard finite theory of elasticity.

Part X - Summary of Scientific Achievements

Publication record			
product type	number of items	items with index	database
Journal papers	71	68	Scopus
Contribution to books and conference papers	29	15	Scopus

Publication record	100
Journal papers with IF	64
Total impact factor*	170,73
Average impact factor*	2.66 (=170,73/64)
Total citations	1076
Average citations per product	12.96 (=1076/83)
Hirsch H-index	17
Normalised H-index per academic age ⁺	0.63(=17/(2021-1994))

* The total and average impact factors (IF) have been computed by evaluating the IF of each journal paper (with IF) at the year of publication by means of the InCites Journal Citation Reports. To the journal papers whose publication year is 2021 (2) and to the journal papers whose publication year is before 1994 (1), the last IF has been accounted.

⁺H index divided by the academic seniority.

Part XI - Papers in International Journals

1. M. Curatolo, G. Napoli, P. Nardinocchi, S. Turzi.
Dehydration-induced mechanical instabilities in active elastic spherical shells.

- Proc. R. Soc. A*, 477,2254, 2021.
<https://doi.org/10.1098/rspa.2021.0243>
(IF at pub. year:—, last IF: 2.74, N. cit: 0)
2. **P. Nardinocchi**, L. Teresi.
Morphing of soft tubes by anisotropic growth.
Acta Mechanica, 232(11), 2021.
<https://doi.org/10.1007/s00707-021-03065-7>
(IF at pub. year:—, last IF: 2.698, N. cit: 0)
 3. J. Ciambella, **P. Nardinocchi**.
A structurally frame-indifferent model for anisotropic visco-hyperelastic materials.
Journal of the Mechanics and Physics of Solids 147, 104247, 2021.
<https://www.sciencedirect.com/science/article/abs/pii/S0022509620304580>
(IF at pub. year:—, last IF: 5.00, N. cit: 1)
 4. M. Curatolo, **P. Nardinocchi**, L. Teresi.
Mechanics of active gel spheres under bulk contraction.
International Journal of Mechanical Sciences 193, 106147, 2021.
<https://www.sciencedirect.com/science/article/pii/S0020740320342521>
(IF at pub. year: —, last IF: 4.631, N. cit: 1)
 5. M. Curatolo, **P. Nardinocchi**, L. Teresi.
Modeling solvent dynamics in polymers with solvent-filled cavities.
Mechanics of soft materials 2(13), 2020.
<https://doi.org/10.1007/s42558-020-00029-0>
 6. D. Battista*, V. Luchnikov, **P. Nardinocchi**.
Shape-shifting of polymer beams and shells due to oil extraction.
Extreme Mechanics Letters 36, 1006552020, 2020.
<https://doi.org/10.1016/j.eml.2020.100655>
(IF at pub. year: 4.806, last IF: 4.806, N. cit: 1)
 7. M. Curatolo, **P. Nardinocchi**, L. Teresi.
Dynamics of active swelling in contractile polymer gels.
Journal of the Mechanics and Physics of Solids 135, 1038072019, 2020.
<https://doi.org/10.1016/j.jmps.2019.103807>
(IF at pub. year: 5.00, last IF: 5.00, N. cit: 3)
 8. M. Rossi*, **P. Nardinocchi**, T. Wallmersperger.
Swelling and shrinking in prestressed polymer gels: an incremental stress-diffusion analysis.
Proc. R. Soc. A, 475 20190174, 2019.
<https://doi.org/10.1098/rspa.2019.0174>
(IF at pub. year: 2.741, current IF: 2.741, N. cit: 3)
 9. D. Battista*, M. Curatolo, **P. Nardinocchi**.
Enforcing shaping of thin gel sheets by anisotropic swelling.
Mechanics of Materials 139, 103199, 2019.
<https://doi.org/10.1016/j.mechmat.2019.103199>
(IF at pub. year: 2.993, current IF: 2.993, N. cit: 4)
 10. P. Piras, C. Torromeo, A. Evangelista, S. Gabriele, G. Esposito, **P. Nardinocchi**, L. Teresi, A. Madeo, F. Re, C. Chialastri, M. Schiariti, V. Varano, and P.E. Puddu.
Non-invasive prediction of Genotype-positive/Phenotype negative in Hypertrophic Cardiomyopathy by 3D Modern Shape Analysis.
Experimental Physiology 104, 1688-1700, 2019.
<https://doi.org/10.1113/EP087551>
(IF at pub. year: 2.431, current IF: 2.431, N. cit: 3)
 11. V. Varano, P. Piras, S. Gabriele, L. Teresi, **P. Nardinocchi**, I.L. Dryden, C. Torromeo, M. Schiariti, and P.E. Puddu.
Local and Global Energies for Shape Analysis in Medical Imaging.
International Journal for Numerical Methods in Biomedical Engineering 36(2), 2019.

- <https://doi.org/10.1002/cnm.3252>
(IF at pub. year: 2.097, current IF: 2.097, N. cit: 1)
12. D. Battista*, M. Curatolo, **P. Nardinocchi**.
Swelling-induced eversion and flattening in naturally curved gel beams.
International Journal of Mechanical Sciences 161-162, 105071, 2019.
<https://doi.org/10.1016/j.ijmecsci.2019.105071>
(IF at pub. year: 4.631, current IF: 4.631, N. cit: 3)
 13. J. Ciambella and **P. Nardinocchi**.
Magneto-induced remodelling of fibre-reinforced elastomers.
International Journal of Non-Linear Mechanics 117, 103230, 2019.
<https://doi.org/10.1016/j.ijnonlinmec.2019.07.015>
(IF at pub. year: 2.313, current IF: 2.313, N. cit: 4)
 14. G. Esposito, P. Piras, A. Evangelista, V. Nuzzi, **P. Nardinocchi**, G. Pannarale, C. Torromeo, P.E. Puddu.
Improving performance values of 3D speckle tracking in arterial hypertension and paroxysmal atrial fibrillation by using novel strain parameters.
Scientific Report 9, 7382, 2019.
<https://www.nature.com/articles/s41598-019-43855-7>
(IF at pub. year: 3.998, current IF: 3.998, N. cit: 2)
 15. R. De Vita, **P. Nardinocchi**, L. Teresi.
Diffusion-driven stress relaxation of gels under incremental planar extensions.
Mechanics of Materials 134, 106-114, 2019.
<https://www.sciencedirect.com/science/article/pii/S0167663619300900>
(IF at pub. year: 2.993, current IF: 2.993, N. cit: 0)
 16. M. Curatolo, **P. Nardinocchi**, L. Teresi, D.P. Holmes.
Swelling effects on localized adhesion of an elastic ribbon.
Proc. R. Soc. A 475, 20190067, 2019.
<http://dx.doi.org/10.1098/rspa.2019.0067>
(IF at pub. year: 2.741, current IF: 2.741, N. cit: 1)
 17. J. Ciambella, **P. Nardinocchi**
Torque-induced reorientation in active fibre-reinforced materials.
Soft Matter, 15, 2081, 2019.
<https://pubs.rsc.org/en/content/articlelanding/2019/sm/c8sm02346h#!divAbstract>
(IF at pub. year: 3.14, current IF: 3.14, N. cit: 5)
 18. M. Curatolo*, **P. Nardinocchi**
Swelling-induced bending and pumping in homogeneous thin sheets.
Journal of Applied Physics 124, 085108, 2018.
<https://aip.scitation.org/doi/10.1063/1.5043580>
(IF at pub. year: 2.328, current IF: 2.328, N. cit: 6)
 19. V. Varano, P. Piras, S. Gabriele, L. Teresi, **P. Nardinocchi**, I.L. Dryden, C. Torromeo, P.E. Puddu.
The Decomposition of Deformation: new metrics to enhance shape analysis in medical imaging.
Medical Image Analysis 46, 35-56, 2018.
<https://doi.org/10.1016/j.media.2018.02.005>
(IF at pub. year: 8.88, current IF: 11.148, N. cit: 4)
 20. M. Curatolo*, **P. Nardinocchi**, L. Teresi.
Driving water cavitation into a hydrogel cavity.
Soft Matter 14, 2310, 2018.
<https://pubs.rsc.org/en/content/articlelanding/2018/sm/c8sm00100f>
(IF at pub. year: 3.399, current IF: 3.14, N. cit: 6)
 21. M. Curatolo*, **P. Nardinocchi**, E. Puntel, L. Teresi.
Transient instabilities in swelling dynamics.
Journal of Applied Physics 122(14), 2017.
<https://doi.org/10.1063/1.5007229>
(IF at pub. year: 2.176, current IF: 2.286, N. cit: 17)

22. **P. Nardinocchi**, E. Puntel.
Swelling-induced wrinkling in layered gel beams.
Proc. R. Soc. A 473: 20170454, 2017.
<http://rspa.royalsocietypublishing.org/content/473/2207/20170454>
(IF at pub. year: 2.410, current IF: 2.741, N. cit: 11)
23. P. Piras, C. Torromeo, A. Evangelista, S. Gabriele, G. Esposito, **P. Nardinocchi**, L. Teresi, A. Madeo, M. Schiariti, V. Varano, P.E. Puddu.
Homeostatic Left Heart integration and disintegration links atrio-ventricular covariation's dyshomeostasis in Hypertrophic Cardiomyopathy.
Scientific Reports 7, 6257, 2017.
<https://www.nature.com/articles/s41598-017-06189-w>
(IF at pub. year: 4.122, current IF: 3.998, N. cit: 10)
24. R. De Vita, R.W. Grange, **P. Nardinocchi**, L. Teresi.
Mathematical model for isometric and isotonic muscle contractions.
Journal of Theoretical Biology 425, 1–10, 2017.
<https://doi.org/10.1016/j.jtbi.2017.05.007>
(IF at pub. year: 1.833, current IF: 2.327, N. cit: 9)
25. **P. Nardinocchi**, E. Puntel.
Unexpected hardening effects in bilayered gel beams.
Meccanica 52, 3471–3480, 2017.
<https://link.springer.com/article/10.1007/s11012-017-0635-z>
(IF at pub. year: 2.211, current IF: 2.153, N. cit: 8)
26. V. Varano, P. Piras, L. Teresi, S. Gabriele, I.L. Dryden, **P. Nardinocchi**, A. Evangelista, C. Torromeo, P.E. Puddu.
A Threefold Deformation Decomposition in Shape Analysis for Medical Imaging: Spherical, Deviatoric and Non Affine Components.
Lecture Notes in Computational Vision and Biomechanics 27, 1125–1134, 2017.
https://link.springer.com/chapter/10.1007/978-3-319-68195-5_124
27. M. Minozzi, **P. Nardinocchi**, L. Teresi, V. Varano.
Growth-induced Compatible Strains.
Mathematics and Mechanics of Solids 22910, 62–71, 2017.
<https://doi.org/10.1177/1081286515570510>
(IF at pub. year: 2.545, current IF: 2.040, N. cit: 9)
28. **P. Nardinocchi**, L. Teresi.
Actuation performances of anisotropic gels.
Journal of Applied Physics 120, 215107, 2016.
<https://doi.org/10.1063/1.4969046>
(IF at pub. year: 2.068, current IF: 2.286, N. cit: 12)
29. P. Piras, C. Torromeo, F. Re, A. Evangelista, S. Gabriele, G. Esposito, **P. Nardinocchi**, L. Teresi, A. Madeo, C. Chialastri, M. Schiariti, V. Varano, M. Uguccioni, P.E. Puddu.
Left Atrial trajectory impairment in Hypertrophic Cardiomyopathy disclosed by Geometric Morphometrics and Parallel Transport.
Scientific Reports 6, 34906, 2016.
<https://www.nature.com/articles/srep34906>
(IF at pub. year: 4.259, current IF: 3.998, N. cit: 11)
30. A. Evangelista, S. Gabriele, **P. Nardinocchi**, P. Piras, P.E. Puddu, L. Teresi, C. Torromeo, V. Varano.
A comparative analysis of the strain-line pattern in the human left ventricle: experiments vs modeling.
Computer Methods in Biomechanics and Biomedical Engineering/ Imaging & Visualization 4(3–4), 164–173, 2016.
<https://doi.org/10.1080/21681163.2014.927741>
(N. cit: 5)
31. M. Pezzulla*, S.A. Shillig, **P. Nardinocchi**, D.P. Holmes.
Geometry and mechanics of thin growing bilayers.
Soft Matter 12, 4435, 2016.

- <https://pubs.rsc.org/en/content/articlelanding/2016/sm/c6sm00246c>
(IF at pub. year: 3.889, current IF: 3.14, N. cit: 48)
32. **P. Nardinocchi**, E. Puntel.
Finite bending solutions for layered gel beams.
International Journal of Solids and Structures 90, 228–235, 2016.
<https://doi.org/10.1016/j.ijsolstr.2016.02.026>
(IF at pub. year: 2.760, current IF: 3.213, N. cit: 11)
33. E.M. Cirillo, **P. Nardinocchi**, G. Sciarra.
Temperature-driven volume transition in hydrogels: Phase-coexistence and interface localization.
International Journal of Non-Linear Mechanics 81, 115–121, 2016.
<https://doi.org/10.1016/j.ijnonlinmec.2016.01.005>
(IF at pub. year: 2.074, current IF: 2.313, N. cit: 2)
34. **P. Nardinocchi**, M. Pezzulla*, L. Teresi.
Steady and transient analysis of anisotropic swelling in fibered gels.
Journal of Applied Physics 118, 24, 244904, 2015.
<https://doi.org/10.1063/1.4938737>
(IF at pub. year: 2.101, current IF: 2.286, N. cit: 16)
35. Webster, M.R., Socha, J.J., Teresi, L., **P. Nardinocchi**, De Vita, R.
Structure of tracheae and the functional implications for collapse in the American cockroach.
Bioinspiration & Biomimetics 10, 066011, 2015.
Selected as a Featured Article
<http://iopscience.iop.org/article/10.1088/1748-3190/10/6/066011/meta>
(IF at pub. year: 2.891, current IF: 3.062, N. cit: 8)
36. M. Pezzulla*, S.A. Shillig, A. Pandey, **P. Nardinocchi**, and D.P. Holmes.
Morphing of Geometric Composites via Residual Swelling.
Soft Matter 11, 5812, 2015.
Selected for the Soft Matter's inside cover.
<https://pubs.rsc.org/-/content/articlelanding/2015/sm/c5sm00863h>
(IF at pub. year: 3.798, current IF: 3.14, N. cit: 57)
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Part XII - Contribution to Books and Conference Proceedings

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Stress Driven Remodeling of Living Tissues.
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Equazioni di bilancio e identificazione delle costanti elastiche per un continuo monodimensionale con struttura affine.
Proceedings of the XII Congresso Nazionale dell'Associazione Italiana di Meccanica Teorica ed Applicata AIMETA '95, Francesco Giannini & Figli (ed.), 5, 263–268, 1995.

XIII - International Seminars, Conference Presentations and Invited Talks

1. *Diffusion-induced instabilities in soft solid sheets*
@ Ecole Centrale de Nantes - Nantes, France, November 2021.
2. *A nonlinear description of fiber reorientation in active materials*
@ Department of Biomedical Engineering and Mechanics, Virginia Tech (VT), US, October 2020.
3. *Swelling in isotropic and fibered gels: from dynamics to steady states*
@ Oxford Centre for Industrial and Applied Mathematics (OCIAM) of the OXFORD UNIVERSITY, Great Britain, June 2017.
4. *Bending and Twisting– biomechanical inspiration from the plant world*
@ Amerimech2014: Mechanics in Biology at Virginia Tech, VIRGINIA TECH, Blacksburg, US, May 2014.
5. *On the modeling of giant displacements in IPMCs*
@ Bowen Hall Auditorium, PRINCETON UNIVERSITY, Princeton, US, July 2012.

Contributions & Participations to Conferences

1. SES2021, Virtual Technical Meeting, October 2021:
Cell orientation under stretch as a remodeling problem for a biological orthotropic material.
2. Waiting for the BioToMath Conference - Mathematics Challenges in Biology and Medicine, Torino, October 2021:
Torque-induced reorientation in active orthotropic materials.
(invited talk)
3. INdAM Meeting "Active materials: from mechanobiology to smart device", Cortona, September 2021: A study of microencapsulation based on actively remodeling bio-polymer gels: work done and open issues.
(invited talk)
4. ICTAM 2020+1, Milano, August 2021:
Diffusion induced instabilities in soft solid sheets.

5. SES2020, Virtual Technical Meeting, October 2020:
Instabilities driven by controlled release in spherical microcapsules.
6. SES2019, St. Louis, October 2019:
Contraction-induced solvent release in active polymer gels.
(invited talk)
7. AIMETA 2019, Roma, September 2019:
Elastic metrics in soft beams and shells.*
(invited talk)
8. APS March Meeting 2019, Boston, MA, March 2019:
Modeling bio-inspired morphing mechanisms in hydrogel micro capsules.*
(invited talk)
9. EUROECHO-IMAGING 2018, Milano, Italy, December 2018:
Left heart study based on LA and LV three-dimensional speckle tracking deformation in HCM and HCMG+P-.
10. SES 2018 - 55th Annual Technical Meeting of the Society of Engineering Science, Madrid, Spain, October 2018:
Swelling-induced snap-buckling of multilayered anisotropic shells.
(invited talk)
11. ICAST 2018 - 29th International Conference on Adaptive Structures and Technologies, Seoul, Korea, September 2018:
Investigation on the electro-chemo-mechanical behavior of hydrated Nafion membranes: model development and numerical simulations.
12. GIMC XXII - GMA IX, Ferrara, Italy, September 2018:
Shrinking/swelling induced instabilities in multilayered elastic bodies.
(invited talk)
13. SOLVAY WORKSHOP - Mechanics of slender structures in physics, biology and engineering: From failure to functionality, Bruxelles, Belgium, August 2018:
Adhesion and swelling of elastic solids.
14. ESMC 2018 - 10th European Solid Mechanics Conference, Bologna, Italy, July 2018:
High-power mechanics in gel structures driven by physics
(invited talk)
15. ICMAMS 2018 - First International Conference on Mechanics of Advanced Materials and Structures, Torino, Italy, June 2018:
Electro-chemo-mechanical model for polymer-electrolyte membranes.
(invited talk)
16. GEOMETRY OF SOFT MATTER WORKSHOP, International Institute of Physics (IIP), Natal, Brazil, May 2018.
Swelling induced morphing of thin soft sheets.
(invited talk)
17. SPIE Smart Structures and Materials + Nondestructive Evaluation and Health Monitoring, Denver, United States, March 2018:
Thermodynamically consistent electro-chemo-mechanical model for polymer membranes.
(invited talk)
18. EUROECHO-IMAGING 2017, Lisbona, Portugal, December 2017:
High predictive values of 3D speckle tracking speed deformation to detect impaired left atrial function and paroxysmal atrial fibrillation.
19. VI ECCOMAS Thematic Conference on Computational Vision and Medical Image Processing, Porto, Portugal, October 2017:
A Threefold Deformation Decomposition in Shape Analysis for Medical Imaging: Spherical, Deviatoric and Non Affine Components.
(invited talk)

20. WORKSHOP on Mathematical Physics of Living Systems, Cortona, Italy, September 2017:
Compatibility issues in layered soft structures inspired by heart mechanics.
(invited talk)
21. EURODYN2017, Roma, Italy, September 2017:
Dynamics of hydrogel structures.
22. AIMETA2017 – XXIII Congresso dell’ Associazione Italiana di Meccanica Teorica e Applicata, Salerno, Italy, September 2017:
Compatibility issues in layered soft structures inspired by heart mechanics.
(invited talk)
23. DeMEASS 2017 - Design Modelling and Experiments of Advanced Structures and Systems, Moscow, Russia, May 2017:
Flexure and buckling actuation in bilayer gel beams.
(invited talk)
24. ICTAM 2016, Montreal, Quebec, Canada, August 2016:
On the effects of cavitation in hydrogel-based structures.
25. Biomedical Engineering Society (BMES) Annual Meeting, Tampa, Florida, October 2015:
The Insect Respiratory System: A Source of Bio-inspiration for Tissue Vascularization.
26. WORKSHOP on Mathematical Physiology of Cardiac, Skeletal and Smooth Muscles, SCUOLA NORMALE DI PISA, Pisa, Italy, October 2015:
Muscle modeling: an unique framework for multiple applications.*
(invited talk)
27. DeMEASS VII - Design Modelling and Experiments of Advanced Structures and Systems, Radebeul, Germany, October 2015:
Electro-chemo-mechanical couplings in IPMCs.
(invited talk)
28. IV ECCOMAS thematic conference on computational vision and medical image processing, Porto, Portugal, October 2015:
Mechanics-based analysis of the left atrium via echocardiographic imaging.
(invited talk)
29. ICCB2015 – VI International Conference on Computational Bioengineering, Barcelona, Spain, Settembre 2015:
Computational tools for measuring heart strains.
(invited talk)
30. AIMETA2015 – XXII Congresso dell’ Associazione Italiana di Meccanica Teorica e Applicata, Genova, Italy, September 2015:
Thin-gel swelling.
(invited talk)
31. ESMC 2015 - 9th European Solid Mechanics Conference, Madrid, Spain, July 2015:
Swelling-driven deformations in fibrous gels.
(invited talk)
32. APS March Meeting 2015, San Antonio, Texas, March 2015:
Morphing and Snapping of Plates and Shells via Swelling.
33. ESC 2014 - Congress of the European Society of Cardiology, Barcellona, Spain, September 2014:
Unveiling Hypertrophic Cardiomyopathy Mechanics by means of Left Ventricular morphological trajectories in 4D.
34. 7th World Congress of Biomechanics, Boston, Massachusetts, July 2014:
Electromechanics of Cardiac Tissues in Bio-hybrid Systems.
(invited talk)
35. WORKSHOP on Hydrogels in applied science, *Sächsische Schweiz*, Lohmen, Germany, October 2014:
Bending and twisting of polymer gels: biomechanical inspiration from the plant world.
(invited talk)

36. USNCTAM 2014, Lansing, Michigan, June 2014:
Anisotropic swelling in fibrous materials.*
(invited talk)
37. IUTAM Symposium on Mechanics of Soft Active Materials, Technion–Israel Institute of Technology, Haifa, Israel, May 2014:
Mechanics of bio–hybrid systems.*
(invited talk)
38. SPIE Smart Structures and Materials + Nondestructive Evaluation and Health Monitoring, Denver, United States, March 2014:
Actuation and buckling effects in IPMCs.
(invited talk)
39. EUROECHO-IMAGING 2013, Istanbul, Turkey, December 2013:
Left ventricular torsional deformation helps explaining resting contractile state in adult healthy subjects.
40. VipIMAGE 2013 - IV ECCOMAS Thematic Conference on Computational Vision and Medical Image Processing, Madeira, Portugal, October 2013:
On the strain-line patterns in a real human left ventricle.
(invited talk)
41. 8th International Symposium on Image and Signal Processing and Analysis (ISPA2013), Trieste, Italy, September 2013:
Strain analysis of cardiac tissues from 3D ultrasound images through speckle tracking.
42. VI Ecomas Thematic Conference on Smart Structures and Materials (SMART'13), Torino, Italy, June 2013:
Describing the giant displacements of IPMCs through a 1D nonlinear and nonstandard beam model.
(keynote invited talk)
43. XXIII Dynamics Days Europe, Madrid, Spain, June 2013:
Modeling Anisotropic Myocardial Contractions.
(invited talk)
44. SMART2013, Torino, Italy, May 2013:
Giant displacements in IPMC-based structures: a preliminary study.
45. European COMSOL Conference 2012, Milan, Italy, November 2012:
Multiphysics Modeling of Swelling Gels.
(invited talk)
46. ESB 2012 - 18th European Society of Biomechanics Congress, Lisbon, Portugal, July 2012:
Left Ventricle Motion in Clinical Studies and Theoretical Modeling.
47. SIAM 2012 - Annual Conference, Minneapolis, Minnesota, July 2012:
Anisotropic Diffusion in Swelling Polymer Gels.
(invited talk)
48. CIMTEC 2012 - 4th Conference on Smart Materials Systems Structures, Montecatini, Italy, June 2012:
Theoretical modeling and numerical simulation of IPMC multiphysics.
49. 4th International Workshop on Cardiac Mechano–Electric Feedback and Arrhythmias, Oxford, UK, September 2010:
Mechano-electric coupling effects in reentrant arrhythmia.
50. SIMAI 2010 - 4th Conference of the Società Italiana di Matematica Applicata e Industriale, Cagliari, Italy, June 2010:
Modeling Left Ventricle Torsion and Function.
(invited talk)
51. ECCM 2010 - IV European Conference on Computational Mechanics Palais des Congrès, Paris, May 2010:
Simulation of Deformation Processes in Left Ventricle during Cardiac Cycle.
52. European COMSOL Conference 2009, Milan, Italy, October 2009:
Passive and Active Deformation Processes of 3D Fibre-Reinforced Caricatures of Cardiovascular Tissues.
(invited talk)

53. ESMC 2009 - 7th Euromech Solid Mechanics Conference, Lisbona, Portogallo, September 2009:
Modelling the active response of excitable tissues: a fibred caricature of the left ventricle.
54. AIMETA2009 – XXII Congresso dell’ Associazione Italiana di Meccanica Teorica e Applicata, Ancona, Italy, September 2009:
A mechanical modeling of pressure–volume loop.
55. AIMETA2007 – XVIII Congresso dell’ Associazione Italiana di Meccanica Teorica e Applicata, Brescia, Italy, September 2007:
Un modello di tipo multifisica di tessuti elastici eccitabili.
56. CCM 2007 - 9th Congress of Computational Mechanics, San Francisco, California, July 2007:
Growth and Remodeling of Arterial Walls: Theoretical Analysis and Finite Element Modeling.
57. 4th International Workshop on Cardiac Mechano–Electric Feedback and Arrhythmias, Oxford, UK, April 2007:
Electromechanical model of excitable tissues.
58. 5th World Congress of Biomechanics, Munich, Germany, August 2006:
Stress-driven vascular remodelling.
59. Symposium on Multiscale Mechanical Modelling of Complex Materials and Engineering Applications, Vancouver, Canada, July 2006:
On Biomechanics of Growth.
(invited talk)
60. Workshop on “Driven States in Soft and Biological Matter”, ICTP, Trieste, Italy, April 2006:
Stress Driven Growth of Soft Tissues.
61. FemLab Conference 2005, Stockholm, Sweden, October 2005:
Stress Driven Remodeling of Living Tissues.
(invited talk)
62. II ECCOMAS Thematic Conference on Smart Structures and Materials, Lisbon Portugal, July 2005:
Motor muscles as smart systems: coarse identification of the biochemical control of muscular exercise.
63. BIOMECHANICS of MAN 2004 - Congress of the Czech Society of Biomechanics, Špičák, Czech Republic, November 2004:
Adaptive remodeling of arterial walls.
(invited talk)
64. SIMAI 2004 - VII Congresso of the Società Italiana di Matematica Applicata e Industriale, Venezia, Italy, September 2004:
Models for striated muscles.
(invited talk)
65. PACAMVIII - VIII PanAmerican Congress of Applied Mechanics, L’Havana, Cuba, January 2004:
Creep as passive growth.
66. 2^{ème} Colloque Franco-Italien sur la Micromecanique des Materiaux, Dijon, France, November 2003:
Micro relaxation kinetics mimicked by macro remodeling.
(invited talk)
67. 12th International Conference on Mechanics in Medicine and Biology Lemnos, Greece, September 2002:
The influence of initial stresses on blood vessel mechanics.
68. AIMETA ’01 - XV Congresso Nazionale dell’Associazione Italiana di Meccanica Teorica ed Applicata, Taormina Italy, September 2001:
Identificazione dei parametri costitutivi di travi affini.
69. Third International Conference on Engineering Aero–Hydroelasticity, Prague, Czech Republic, September 1999:
How to model blood flow in distensible vessels.
70. STAMM98 - Symposium on Trends in Applications of Mathematics to Mechanics, Nice, France, May 1998:
On the torsion of soft cylindrical shells.

71. AIMETA '97 - XIII Congresso Nazionale dell'Associazione Italiana di Meccanica Teorica ed Applicata, Siena, Italy, September 1997:
Torsione e Ovalizzazione.
72. AIMETA '95 - XII Congresso Nazionale dell'Associazione Italiana di Meccanica Teorica ed Applicata, Napoli, Italy, September 1995:
Equazioni di bilancio e identificazione delle costanti elastiche per un continuo monodimensionale con struttura affine.

Part XIV - Selected Publications

1. J. Ciambella, P. Nardinocchi.
A structurally frame-indifferent model for anisotropic visco-hyperelastic materials.
Journal of the Mechanics and Physics of Solids 147, 104247, 2021.
<https://www.sciencedirect.com/science/article/abs/pii/S0022509620304580>
(IF at pub. year:—, last IF: 5.00, N. cit: 1)
2. M. Curatolo, P. Nardinocchi, L. Teresi.
Mechanics of active gel spheres under bulk contraction.
International Journal of Mechanical Sciences 193, 106147, 2021.
<https://www.sciencedirect.com/science/article/pii/S0020740320342521>
(IF at pub. year: —, last IF: 4.631, N. cit: 1)
3. M. Curatolo, P. Nardinocchi, L. Teresi.
Dynamics of active swelling in contractile polymer gels.
Journal of the Mechanics and Physics of Solids 135, 1038072019, 2020.
<https://doi.org/10.1016/j.jmps.2019.103807>
(IF at pub. year:—, last IF: 5.00, N. cit: 3)
4. D. Battista, V. Luchnikov, P. Nardinocchi.
Shape-shifting of polymer beams and shells due to oil extraction.
Extreme Mechanics Letters 36, 1006552020, 2020.
<https://doi.org/10.1016/j.eml.2020.100655>
(IF at pub. year: —, last IF: 4.806, N. cit: 1)
5. D. Battista, M. Curatolo, P. Nardinocchi.
Swelling-induced eversion and flattening in naturally curved gel beams.
International Journal of Mechanical Sciences 161-162, 105071, 2019.
<https://doi.org/10.1016/j.ijmecsci.2019.105071>
(IF at pub. year: 4.631, current IF: 4.631, N. cit: 3)
6. J. Ciambella and P. Nardinocchi.
Magneto-induced remodelling of fibre-reinforced elastomers.
International Journal of Non-Linear Mechanics 117, 103230, 2019.
<https://doi.org/10.1016/j.ijnonlinmec.2019.07.015>
(IF at pub. year: 2.313, current IF: 2.313, N. cit: 4)
7. P. Nardinocchi, E. Puntel.
Swelling-induced wrinkling in layered gel beams.
Proceeding of the Royal Society A 473: 20170454, 2017.

- <http://rspa.royalsocietypublishing.org/content/473/2207/20170454>
(IF at pub. year: 2.410, current IF: 2.741, N. cit: 11)
8. P. Nardinocchi, E. Puntel.
Finite bending solutions for layered gel beams.
International Journal of Solids and Structures 90, 228–235, 2016.
<https://doi.org/10.1016/j.ijsolstr.2016.02.026>
(IF at pub. year: 2.760, current IF: 3.213, N. cit: 11)
 9. E.M. Cirillo, P. Nardinocchi, G. Sciarra.
Temperature-driven volume transition in hydrogels: Phase-coexistence and interface localization.
International Journal of Non-Linear Mechanics 81, 115–121, 2016.
<https://doi.org/10.1016/j.ijnonlinmec.2016.01.005>
(IF at pub. year: 2.074, current IF: 2.313, N. cit: 2)
 10. A. Lucantonio, P. Nardinocchi, M. Pezzulla.
Swelling-induced and controlled curving in layered gel beams.
Proceeding of the Royal Society A 470, 271, 2014.
<http://rspa.royalsocietypublishing.org/content/470/2171/20140467>
(IF at pub. year: 2.192, current IF: 2.741, N. cit: 37)
 11. A. Lucantonio, P. Nardinocchi, L. Teresi.
Transient analysis of the swelling-induced large deformations in polymer gels.
Journal of the Mechanics and Physics of Solids 61, 205–218, 2013.
<https://doi.org/10.1016/j.jmps.2012.07.010>
(IF at pub. year: 4.289, current IF: 5.00, N. cit: 129)
 12. P. Nardinocchi, L. Teresi, V. Varano.
The Elastic Metric: a Review of Elasticity with Large Distortions.
International Journal of Nonlinear Mechanics 56, 34–42, 2013.
<https://doi.org/10.1016/j.ijnonlinmec.2013.05.002>
(IF at pub. year: 1.463, current IF: 2.313, N. cit: 18)
 13. A. Lucantonio, P. Nardinocchi.
Reduced models of swelling-induced bending of gel bars.
International Journal of Solids and Structures, 49, 1399–1405, 2012.
<https://doi.org/10.1016/j.ijsolstr.2012.02.025>
(IF at pub. year: 1.871, current IF: 3.213, N. cit: 29)
 14. P. Nardinocchi, L. Teresi, V. Varano.
Strain Induced Shape Formation in Cylindrical Tubes.
Journal of the Mechanics and Physics of Solids, 60, 1420–1431, 2012.
<https://doi.org/10.1016/j.jmps.2012.04.010>
(IF at pub. year: 3.406, current IF: 5.00, N. cit: 13)
 15. P. Nardinocchi, L. Teresi.
On the Active Response of Soft Living Tissues.
J. Elasticity 88, 27–39, 2007.
<https://link.springer.com/article/10.1007/s10659-007-9111-7>
(IF at pub. year: 0.743, current IF: 2.372, N. cit: 88)

Roma, 6 dicembre 2021

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