Curriculum Vitae

Antonio Papangelo, Ph.D.

Date of Birth: 21/07/1989 Nationality: Italian Address: Via Lama di Cervo 107, 70022 Altamura, Bari, Italy **Email**: <u>antonio.papangelo@poliba.it</u> **Mobile**: +39 3803418061

Education



Research Experience

Apr 2022 – present	Associate Professor in machine design (SSD ING-IND/14)
	Direct call from the Ministry of University and Research for having been awarded an
	ERC - Starting Grant, for the project SURFACE (ERC-2021-STG).
	Polytechnic University of Bari, Department of Mechanics, Mathematics and
	Management, Bari, Italy
	Research themes: adhesion, contact mechanics, viscoelasticity, friction, adhesion,
	nonlinear dynamics, spatial localization of vibrations.
May 2018 – present	Scientific board of Doctorate Programme
	Member of the Scientific board of the Doctorate in Mechanical and Management
	Engineering. Research themes: adhesion, soft contact mechanics, viscoelasticity,
	friction, micropatterned interfaces, nonlinear response of dynamical systems.
Feb 2018 – present	Visiting Researcher
	Hamburg University of Technology, Department of Mechanical Engineering,



	Dynamics Group (<u>https://cgi.tu-harburg.de/~dynwww</u>), Hamburg, Germany Research themes: dynamic response of nonlinear mechanical structures, data driven methodologies for the study of nonlinear mechanical systems.
Aug 2019 – Mar 2022 (2 years and 8 months)	Assistant Professor Polytechnic University of Bari, Department of Mechanics, Mathematics and Management, Bari, Italy Research themes: contact mechanics, viscoelasticity, friction, adhesion, nonlinear dynamics, spatial localization of vibrations.
Nov 2018 – Lug 2019 (9 months)	Research Fellow (DFG project, PA 3303/1-1) Hamburg University of Technology, Department of Mechanical Engineering, Dynamics Group (<u>https://cgi.tu-harburg.de/~dynwww</u>), Hamburg, Germany Research themes: dynamic instability of nonlinear mechanical structures.
Jan 2018 – Oct 2018 (10 months)	Post-Doctoral researcher Polytechnic University of Bari, Department of Mechanics, Mathematics and Management, Bari, Italy Research themes: adhesion, contact mechanics, dynamical behaviour of friction-excited mechanical systems.
<i>Oct</i> 2016 – <i>Jan</i> 2018 (1 year and 4 months)	Research Fellow (DFG project HO 3852/11-1.) Hamburg University of Technology, Department of Mechanical Engineering, Structural dynamics Group (<u>https://cgi.tu-harburg.de/~dynwww</u>), Hamburg, Germany Research themes: dynamical behaviour of friction-excited mechanical systems.
Nov 2015 – Mar 2016 (5 months)	Visiting PhD student Imperial College London, Department of Mechanical Engineering, London, United Kingdom Research themes: vibration localization in mechanical systems.
Jun 2015 – Jul 2015 (1.5 months)	Visiting PhD Student Sandia National Laboratories, Nonlinear Mechanics and Dynamics Summer Research Institute 2015, Albuquerque, New Mexico, USA Research themes: optimal positioning of dampers in mechanical structures.
May 2013 – Aug 2013 (4 months)	Trainer (Erasmus placement) Topic: transition from sticking to sliding, friction, contact mechanics Hamburg University of Technology, Germany Research themes: stick-slip transition.

Metrics (28/04/2022)

N° documents indexed	Citations	H-index
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Scopus	76	1046	17
Google Scholar	87	1334	20

Awards/Funding

Funding Responsibility -	Title: "Optimal navigation for self-driving vehicles in industrial environments"
	Principal Investigator. Project granted by Regione Puglia (avviso pubblico n. 3/FSE/2021 – RIPARTI). The project carried out in collaboration with Code Architects Automation s.r.l. has a duration of 18 months.
	Grant: 35.679,83 € (May 2022)
-	Title: "Towards future interfaces with tuneable adhesion by dynamic excitation" (SURFACE - 101039198) ERC-2021- Starting Grant
	Principal Investigator. SURFACE aims to study micro-structured adhesive surfaces whose adhesive properties are tuneable through the use of micro- vibrations. SURFACE has been awarded 1.5 M€. It aims at establishing a research group of 6 members at PhD and Post-Doc level for 5 years and a tribo-dynamics laboratory at the Department of Mechanics, Mathematics and Management at the Polytechnic of Bari. SURFACE is the very first ERC research project hosted at Polytechnic of Bari.
	Grant: 1.499.750 € (December 2021)
-	Title: "Dynamic instabilities in viscoelastic sliding contacts"
	Principal Investigator. Project granted by Polytechnic University of Bari, Grant: 1.986 € (October 2021)
-	Title: "exploiting nonlinearities for friction-induced vibrations mitigation (ENOVIM)"
	Principal Investigator. Project granted by Regione Puglia (Progetti di ricerca scientifica innovativi di elevato standard internazionale, art. 22 della legge regionale 30 novembre 2019, n. 52).
	Grant: 38.149,21 € (June 2021)
-	Title: "Nonlinear Vibration Localization in Cyclic Structures"
	Joint responsibility together with Prof. N. Hoffmann of the project granted by the German Research Foundation (DFG) project HO 3852/19-1.
	Grant: 252.675 € (October 2020)
-	Title: "Advanced modelling of soft adhesive contacts subjected to tangential loads"
	Principal Investigator. Project granted by Polytechnic University of Bari, Grant: 1.540 € (August 2020)
-	Title: "Vibration localization in nonlinear aeroelastic mechanical systems"

Principal Investigator. Project granted by TuTech Innovation GmbH (DE). Grant: 4.880 € (January 2020)

- Title: "Exploring and exploiting complex nonlinear dynamical states in friction-excited mechanical systems".

Principal Investigator. Project granted by the DFG (German Research Foundation) project PA 3303/1-1.

Grant: 180.200 € (April 2018)

Participation in-"Risposta dinamica di strutture a simmetria ciclica eccitate esternamente con
applicazione ai motori aeronautici di tipo Turbofan", funded by PON "Ricerca
e Innovazione" 2014-2020 Azione I.2 "Mobilità dei Ricercatori" – bando AIM,
Referente Prof. Gregorio Andria

- "Simulation of transient processes in wear between sliding elastic bodies of different properties", funded by Polytechnic University of Bari, PI: Prof. M. Ciavarella (2019).
- "Nonlinear Dynamical behavior of friction excited systems", funded by the Italian Ministry of University and Research, within the grant for the Centre of Excellence in Computational Mechanics. PI: Prof. M. Ciavarella (2018).
- "Interface dynamics in bolted joint connections", funded by German Research Foundation, Hamburg University of Technology, project HO 3852/11-1. PI: Prof. N. Hoffmann (2017).
- Awards In the list "40 under 40 2022" by Fortune Italia. The list includes 40 among managers, researchers, content creators, athletes who are less than 40 years old and are significantly contributing to Italy innovation. In the same list, in 2019 has been included Alessio Figalli, winner of the Fields Medal in Mathematics.
 - The paper "Genovese, A., Farroni, F., Papangelo, A., & Ciavarella, M. (2019).
 Lubricants, 7(10), 85" received the 2021 best paper award from the Lubricants editorial team (July 2021)
 - The paper "Papangelo, A., Ciavarella, M., Lubricants 2020, 8(9), 90" was selected for the **cover story of Lubricants**, Volume 8, Issue 9 (September 2020)
 - Winner of the DMMM researcher award, for the year 2020, provided within the "Department of Excellence" project, to the professors and researchers of the DMMM (Polytechnic University of Bari) who have distinguished themselves for the quality of their research, Award: 4.000 €. (August 2020)
 - **Best Presentation for Academic Impact** from the Institute of Physics (London) during the "Workshop on Recent Advances in Damping Modelling and Experiments" (November 2019)
 - Seal of Excellence: The research proposal entitled "Exploiting nonlinearities for friction-induced vibrations mitigation" received from the European Commission the "seal of excellence". The Seal of Excellence is a quality label awarded to project proposals submitted to Horizon 2020, which pass the three quality threshold (mark equal or greater than 85/100) for impact, excellence, quality and efficiency of implementation. (March 2018)

- Award sponsored by **Autostrade per l'Italia spa** for my academic studies, within the programme "Autostrade per la conoscenza". **Award amount: 8.000 €.** (July 2012)

Supervision

Head of Research Group	 Head of the TriboDynamics Lab at the Department of Mechanics Mathematics and Management of the Polytechnic University of Bari. The activities of the "TriboDynamics Lab" focus on adhesion of micropatterned interfaces with particular interest on the influence of loading rate, material properties, topography and interfacial patterning. Major equipment in the Lab: micro-fabrication system able to 3D print polymers down to precision of 200 nm (about 400 k€), optoelectronic microscopy which is able to record images and video in 4K definition up to magnification of 2000x (about 100 k€), shaker, linear stages, load cell, optical table, DAQ system.
Supervision	 Supervisor of two post-doctoral researchers: (i) Ph.D. Marzia Romano, working on numerical modelling of adhesive soft contacts, using the technique of Boundary Element Method for viscoelastic contacts; (ii) Ph.D. Goffredo Giordano working on experimental contact mechanics, polymer synthesis, contact mechanics testing, rapid prototyping. Co-supervision of 3 PhD students at the Hamburg University of Technology, Dynamics Group: (i) M.Sc. Jakob Ohlsen, is working on GPU based accelerated numerical scheme for adhesive soft contact mechanics. My supervision activity focuses on supporting the development of the numerical code for contact mechanics numerical simulations. (ii) M.Sc. Bjoern Niedergesäß is working on the development of a test bench for the experimental measurement of vibrations in nonlinear systems, with a focus on spatial and temporal localization. The first experimental results were published in "Niedergesäß et al., Journal of Sound and Vibration, 2021, 497: 115952". My activity has focused on supporting the design of the test bench and interpreting the experimental measurements. (iii) DR. Merten Stender, obtained the title of PhD in October 2020. My supervision activity focused on supporting the development of "data-driven" methodologies for the study of the dynamic response of nonlinear mechanical systems, both in self-excited and forced externally. The results obtained have been published in 5 scientific articles that see me as co-author.
	 Supervisor of 5 bachelor theses in Aerospace Systems Engineering on the themes of fracture and contact mechanics; Co-supervisor of 13 master degree theses in Mechanical Engineering and 7 bachelor degree theses on: mechanical design, fracture mechanics, soft contact mechanics, nonlinear dynamics;

Other Activities

07/11/2018 - 07/11/2024 Italian Habilitation as Associate Professor (Machine design, SSD ING-IND/14) In 2014 passed the government exam and licensed as Industrial Engineer Engineering license Mark: 340/360 (This was the highest mark in that session. About 100 applicants) - "Elements of mechanics of materials", 6 CFU (60 h), A.A. 2021/2022 – II semester, Teaching within the Bachelor Degree in "Management Engineering" at Polytechnic of Bari; - "Dynamical behavior of nonlinear structures", 2 CFU (20 h) A.A. 2021/2022, PhD course at Scuola di Dottorato del Politecnico di Bari - Invited lectures within the course of "Advanced Vibrations", 1 CFU (10 h), A.A. 2019/2020, within the Master Degree in "Mechanical Engineering" at Hamburg University of Technology (Germany); - Invited lectures within the course of "Advanced Vibrations", 1 CFU (10 h), A.A. 2020/2021, within the Master Degree in "Mechanical Engineering" at Hamburg University of Technology (Germany); - "Mechanics of materials for aerospace", 6 CFU (60 h), A.A. 2019/2020 - I semester A.A. 2020/2021 – I semester A.A. 2021/2022 - I semester, A.A. 2022/2023 – I semester, within the Bachelor Degree in "Aerospace Systems Engineering" at Polytechnic of Bari: - "Dynamical systems and chaos: applications", 2 CFU (20 h) A.A. 2018/2019, PhD course at Scuola di Dottorato del Politecnico di Bari - Peer Tutoring at Polytechnic of Bari. (150 hours); - Teaching Assistant: Smart Materials (20 hours), Hands on Ansys (10 hours), Optimization Methods (20 hours), Mechanics of Materials (10 hours) Nature Communications (IF: 14.9), Journal of Mechanics and Physics of Solids (IF: Journal Referee 5.47), Nonlinear Dynamics (IF: 4.60), International Journal of Mechanical Science (IF: 4,13), Journal of Sound and Vibrations (IF: 3,12), Mechanical Systems and Signal Processing (IF: 5,01), International Journal of Bifurcation and Chaos (IF: 2.15), Journal of Tribology ASME (IF: 1.79), Applied Sciences Vibrations (IF: 1,32), Applied Sciences Lubricants (IF: 1,32), Proceedings of the Institution of Mechanical Engineers, Part J-L-C (IF: 1,32), Facta Universitatis, Series: Mechanical Engineering, Shock and Vibrations Journal Editorial Board - Member of the Editorial Board of "Lubricants" (MDPI) (since 2020) - Guest Editor for the Special Issue "Interfacial Dissipative Phenomena in Tribomechanical Systems", published in Lubricants (MDPI), (since April 2020). - Member of the Editorial Board of "Frontiers in mechanical Engineering", section "Tribology" (since 2019) - Member of the Editorial Board of "Frontiers in mechanical Engineering", section "Vibration Systems" (since 2021) - Editor for the Research Topic "Fingerpad Contact Mechanics and Friction under Electroadhesion", in "Frontiers in Mechanical Engineering", section "Tribology" (2022)

	- Member of the Editorial Board of "Frontiers in Materials", section "Biomaterials and Bio-inspired Materials" (2022)
Languages	English (B2), mother tongue: Italian
Scientific Memberships	Euromech, AIAS, AIMETA, GADeS
Scientific/Organizing Committee	 Organizer and coordinator of the Mini-Simposium "Nonlinear Response of Mechanical Systems Subjected to Contact Nonlinearities", at the "42nd Ibero-Latin- American Congress on Computational Methods in Engineering" (XLII CILAMCE) and at the "3rd Pan American Congress on Computational Mechanics" (III PANACM), 9-12 November 2021, Rio de Janeiro (Brazil). Member of the Scientific Committee and of the Organizing Committee for the workshop on "Irregular Engineering Oscillations and Signal Processing", held from September 10 to 12, 2018 at Hamburg University of Technology.
Chair in international conferences	 Chair of the symposium "Contact Mechanics (Session 3)", within the "European Solid Mechanics Conference - ESMC 2022", 4-8 July, Galway, Ireland. Chair of the symposium "Fluid-Structure Interaction IV", within the "NODYCON 2021" conference, hosted by La Sapienza University, Rome. Chair of the symposium "Nonlinear Dynamics in Engineering Systems", within the "9th European Nonlinear Dynamics Conference" (ENOC 2017), held from June 25 to 30, 2017 at Budapest University of Technology and Economics, Hungary. Chair of the symposium "MS-027 - Computational methods for sound and vibration", within the "7th International Conference on Computational Methods" (ICCM2016), held from August 1 to 4, 2016 at University of California at Berkeley, California (USA).
Tutoring	Tutoring activity and guidance in Secondary School.
	"Engineering inspired by Nature", Scuola Secondaria 1° Padre Pio, Altamura. Meeting 26/03/2022.
URL	https://cgi.tu-harburg.de/~dynwww/cgi-bin/home/
	https://scholar.google.it/citations?user=kUaZTJYAAAAJ&hl=it
	https://www.researchgate.net/profile/Antonio_Papangelo
	https://www.scopus.com/authid/detail.uri?authorId=56426970600
Other activities	Engineering consultant for TuTech Innovation GmbH

Selected journal publications

- 1. Papangelo, A., Ciavarella, M. The effect of wear on ThermoElastic Instabilities (TEI) in bimaterial interfaces (2020) **Tribology International**, 142, art. no. 105977. (**IF: 4.27**)
- 2. Papangelo, A., Putignano, C., & Hoffmann, N. (2020). Self-excited vibrations due to viscoelastic interactions. **Mechanical Systems and Signal Processing**, 144, 106894. (**IF: 6.47**)

- Sahli, R., Pallares, G., Papangelo, A., Ciavarella, M., Ducottet, C., Ponthus, N., Scheibert, J. Shear-Induced Anisotropy in Rough Elastomer Contact (2019) Physical Review Letters, 122 (21), art. no. 214301. (IF=9,23)
- 4. Papangelo, A., Scheibert, J., Sahli, R., Pallares, G., Ciavarella, M., Shear-induced contact area anisotropy explained by a fracture mechanics model, (2019) **Physical Review E**, 99 (5), art. no. 053005. (**IF: 2.28**)
- Papangelo, A., Ciavarella, M. On mixed-mode fracture mechanics models for contact area reduction under shear load in soft materials (2019) Journal of the Mechanics and Physics of Solids, 124, pp. 159-171. (IF=5)
- Papangelo, A., Hoffmann, N., Grolet, A., Stender, M., Ciavarella, M. Multiple spatially localized dynamical states in friction-excited oscillator chains (2018) Journal of Sound and Vibration, 417, pp. 56-64. (IF=3,12)
- Vakis, A.I., Yastrebov, V.A., Scheibert, J., Nicola, L., Dini, D., Minfray, C., Almqvist, A., Paggi, M., Lee, S., Limbert, G., Molinari, J.F., Anciaux, G., Aghababaei, R., Echeverri Restrepo, S., Papangelo, A., Cammarata, A., Nicolini, P., Putignano, C., Carbone, G., Stupkiewicz, S., Lengiewicz, J., Costagliola, G., Bosia, F., Guarino, R., Pugno, N.M., Müser, M.H., Ciavarella, M. Modeling and simulation in tribology across scales: An overview (2018) Tribology International, 125, pp. 169-199. (IF: 4.27)
- 8. Papangelo, A., Hoffmann, N., Ciavarella, M. Load-separation curves for the contact of self-affine rough surfaces (2017) Scientific Reports, 7 (1), art. no. 6900. (IF=4,12)
- Ciavarella, M., Papangelo, A. Discussion of "measuring and Understanding Contact Area at the Nanoscale: A Review" (Jacobs, T. D. B., and Ashlie Martini, A., 2017, ASME Appl. Mech. Rev., 69(6), p. 061101) (2017) Applied Mechanics Reviews, 69 (6), art. no. 065502. (IF: 7.85)
- 10. Papangelo, A., Ciavarella, M., Hoffmann, N. Subcritical bifurcation in a self-excited single-degree-of freedom system with velocity weakening-strengthening friction law: analytical results and comparison with experiments (2017) **Nonlinear Dynamics**, 90 (3), pp. 2037-2046. (**IF=3,46**)

Invited Presentation

- 1. Seminar "Rate effects in soft adhesive contacts: current understanding and beyond" at the Alma Mater Studiorum Università di Bologna, 06/09/2022. Invited by Prof. C. Righi.
- Speaker at congress "TIS-Apulia", as a young researchers winner of an ERC Starting-Grant, 30/05/2022. Among the other speakers: Prof. A. Uricchio - head of ANVUR, Prof. F. Cupertino – rector PoliBa, Prof. L. Biferale - ERC-Italy, Prof. G. Metta – director IIT Geneva, Prof. E. Di Sciascio – former rector at PoliBa and deputy-major of Bari.
- 3. Seminar "How loading rate affects the contact behaviour of adhesive soft contacts" **Gruppo Aimeta di Tribologia**, 12/04/2022.
- 4. Seminar "Modelling soft adhesive contact under shear loads" at the **IMT Scuola Alti studi Lucca**, 09/04/2021. Invited by Prof. M. Paggi.
- 5. 9th International Forum on Fundamentals of Sliding Friction and Vibration, 8-9 July 2019, **Applus**+ **IDIADA**, Spain
- 6. Seminar on adhesive friction and fracture mechanics models, **Università Federico II**, 8 February 2019, Napoli
- 7. Seminar at **Pprime Institute (a research unit affiliated to CNRS) Poitiers** on frictional contacts and nonlinear dynamics, July, 2018. Prof. M. Arghir

- 8. Seminar for the Department of Aerospace and Mechanical Engineering, at the La Sapienza University (Rome) on frictional contacts, February, 2018. Prof. F. Massi
- 9. Seminar for the Department of Aerospace and Mechanical Engineering, at the **University of Liège** (**Belgium**), on frictional contacts, December 19, 2017. Prof. G. Kerschen
- 10. Seminar for the Department of Aerospace and Mechanical Engineering, at **Polytechnic of Turin (Italy**), vibration localization in friction affected systems, December, 2017. Prof. S. Zucca
- 11. GADeS Summer School on Stability and Bifurction of Dynamical Systems: Theoretical Aspects and Applications, July 3-7, 2017, **Savona, Italy**
- 12. Lorentz Center Workshop, Micro/Nanoscale Models for Tribology, Jan 30 Feb 3, 2017, Leiden, The Netherland

Oral Presentation at National and International Conferences and Workshops

- 1. **2022 International Workshop on Multiscale Innovative Materials and Structures'' (MIMS22),** September 29-30, 2022, Virtual Conference, Italy
- 2. 51° National Congress AIAS 2022, September 7-9, 2022, Università di Padova, Italy
- 3. World Tribology Conference, July 10-15, 2022, Lyon (France)
- 4. European Solid Mechanics Conference ESMC 2022, 4-8 July, Galway, Ireland.
- 5. NordTrib 2022, June 14-17, 2022, NTNU, Trondheim, Norway
- 6. CMIS2022 Contact Mechanics International Symposium, May 23-25, 2022, Chexbres, Switzerland
- 7. Workshop, Wear Particle Transport and Emission, Feb 24-25, 2021, TU-Berlin
- 8. NODYCON 2021, February 16-19, 2021, Virtual Conference, Italy
- 9. 49° National Congress AIAS 2020, September 2-4, 2020, Virtual Conference, Italy
- 10. Workshop on Recent Advances in Damping Modelling and Experiments, 11 November 2019, Institute of Physics, London
- 11. XXIV Conference AIMETA 2019, September 15-19, 2019, Rome, Italy
- 5th International Conference on Structural Adhesive Bonding (AB2019), 11-12 July 2019, Porto, Portugal
- First International Nonlinear Dynamics Conference Program (NODYCON 2019), 17-20 February 2019, Roma
- 14. **Colloquium on Irregular Engineering Oscillations and Signal Processing**, September 10-12, 2018, Hamburg, Germany
- 15. 47° National Congress AIAS 2018, September 5-8, 2020, Villa San Giovanni, Italy
- 16. 4th International Conference on vibro-impact systems (**ICOVIS 2018**) and systems with contact and friction, 30 July 3 August 2018, Kessel, Germania
- 17. 10th European Solid Mechanics Conference (ESMC 2018), 2-6 July 2018, Bologna, Italia
- 18. Contact Mechanics International Symposium (CMIS 2018), May 16-18, 2018, Oropa (BI), Italy
- 19. International Workshop on Adhesion and Friction: Simulation, Experiment, Applications, November 13-16, 2017, Berlin
- 20. Sixth World Tribology Congress (WTC 2017), September 17-22, 2017, Beijing, China
- 21. XXIII National Congress AIMETA 2017, September 4-7, 2017, Salerno, Italy
- 22. 9th European Nonlinear Dynamics Conference (ENOC 2017), June 25-30, 2017, Budapest, Hungary
- 7th International Conference on Computational Methods (ICCM 2016), 1-4 August 2016, Berkeley, CA, USA
- 24. 8th Contact Mechanics International Symposium 2016 (CMIS 2016), 11-13 May, 2016, Warsaw, Poland
- 25. 45° National Congress AIAS 2016, September 7-10, 2016, Trieste, Italy
- 26. 42nd Leeds-Lyon Symposium on Tribology (Leeds-Lyon 2015), September 7-9, 2015, Lyon, France

 Contact Mechanics And Coupled Problems In Surface Phenomena, Euromech Colloquium 575 – 2015, March 30 – April 2, 2015, IMT, Lucca, Italy

Elenco delle pubblicazioni scientifiche indicizzate nella banca dati Scopus al 17/12/2021

Scopus Author Identifier: 56426970600

URL: https://www.scopus.com/authid/detail.uri?authorId=56426970600

- [1] Papangelo, A., Ciavarella, M. Viscoelastic dissipation in repeated normal indentation of an Hertzian profile (2022) International Journal of Solids and Structures, 236-237, art. no. 111362.
- [2] Papangelo, A., Ciavarella, M. Viscoelastic normal indentation of nominally flat randomly rough contacts (2021) International Journal of Mechanical Sciences, 211, art. no. 106783.
- [3] Ciavarella, M., Papangelo, A. On the Interaction of Viscoelasticity and Waviness in Enhancing the Pull-Off Force in Sphere/Flat Contacts (2021) Tribology Letters, 69 (4), art. no. 127.
- [4] Ciavarella, M., Papangelo, A., McMeeking, R. Crack propagation at the interface between viscoelastic and elastic materials (2021) Engineering Fracture Mechanics, 257, art. no. 108009.
- [5] Papangelo, A. Interfacial dissipative phenomena in tribomechanical systems (2021) Lubricants, 9 (10), art. no. 104.
- [6] Violano, G., Papangelo, A., Ciavarella, M. Stickiness of randomly rough surfaces with high fractal dimension: is there a fractal limit? (2021) Tribology International, 159, art. no. 106971.
- [7] Papangelo, A., Putignano, C., Hoffmann, N. Critical thresholds for mode-coupling instability in viscoelastic sliding contacts (2021) Nonlinear Dynamics, 104 (4), pp. 2995-3011.
- [8] Papangelo, A. On the Effect of Shear Loading Rate on Contact Area Shrinking in Adhesive Soft Contacts (2021) Tribology Letters, 69 (2), art. no. 48.
- [9] Ciavarella, M., Papangelo, A. Effects of finite thickness on crack propagation in viscoelastic materials (2021) Engineering Fracture Mechanics, 248, art. no. 107703.
- [10] Niedergesäß, B., Papangelo, A., Grolet, A., Vizzaccaro, A., Fontanela, F., Salles, L., Sievers, A.J., Hoffmann, N. Experimental observations of nonlinear vibration localization in a cyclic chain of weakly coupled nonlinear oscillators (2021) Journal of Sound and Vibration, 497, art. no. 115952.
- [11] Papangelo, A. On the effect of a rate-dependent work of adhesion in the detachment of a dimpled surface (2021) Applied Sciences (Switzerland), 11 (7), art. no. 3107.
- [12] Papangelo, A., Ciavarella, M. A Criterion for the Effective Work of Adhesion in Loading and Unloading of Adhesive Soft Solids from Rough Surfaces (2021) Tribology Letters, 69 (1), art. no. 9.
- [13] Nitti, A., Stender, M., Hoffmann, N., Papangelo, A. Spatially localized vibrations in a rotor subjected to flutter (2021) Nonlinear Dynamics, 103 (1), pp. 309-325.
- [14] Argatov, I., Papangelo, A. Axisymmetric JKR-type adhesive contact under equibiaxial stretching (2021) Journal of Adhesion, 97 (2), pp. 140-154.
- [15] Violano, G., Afferrante, L., Papangelo, A., Ciavarella, M. On stickiness of multiscale randomly rough surfaces (2021) Journal of Adhesion, 97 (6), pp. 509-527.
- [16] Stender, M., Hoffmann, N., Papangelo, A. The basin stability of bi-stable friction-excited oscillators (2020) Lubricants, 8 (12), art. no. 105, pp. 1-12.

- [17] Papangelo, A., Lovino, R., Ciavarella, M. Electroadhesive sphere-flat contact problem: A comparison between DMT and full iterative finite element solutions (2020) Tribology International, 152, art. no. 106542, .
- [18] Tonazzi, D., Passafiume, M., Papangelo, A., Hoffmann, N., Massi, F. Numerical and experimental analysis of the bi-stable state for frictional continuous system (2020) Nonlinear Dynamics, 102 (3), pp. 1361-1374.
- [19] Papangelo, A., Cricrì, G., Ciavarella, M. On the effect of the loading apparatus stiffness on the equilibrium and stability of soft adhesive contacts under shear loads (2020) Journal of the Mechanics and Physics of Solids, 144, art. no. 104099.
- [20] Papangelo, A., Putignano, C., Hoffmann, N. Self-excited vibrations due to viscoelastic interactions (2020) Mechanical Systems and Signal Processing, 144, art. no. 106894.
- [21] Papangelo, A., Ciavarella, M. A numerical study on roughness-induced adhesion enhancement in a sphere with an axisymmetric sinusoidal waviness using Lennard-Jones interaction law (2020) Lubricants, 8 (9), art. no. 90.
- [22] Ciavarella, M., Papangelo, A. On the Degree of Irreversibility of Friction in Sheared Soft Adhesive Contacts (2020) Tribology Letters, 68 (3), art. no. 81.
- [23] Papangelo, A., Ciavarella, M. Discussion: "The Effect of Anisotropy on the Percolation Threshold of Sealing Surfaces" (Yang, Z., Liu, J., Ding, X., and Zhang, F., 2019, ASME J. Tribol., 141(2), p. 022203) (2020) Journal of Tribology, 142 (6), art. no. 065501.
- [24] Papangelo, A., Ciavarella, M. Can Wear Completely Suppress Thermoelastic Instabilities? (2020) Journal of Tribology, 142 (5), art. no. 051501.
- [25] Aleshin, V.V., Papangelo, A. Friction-induced energy losses in mechanical contacts subject to random vibrations (2020) International Journal of Solids and Structures, 190, pp. 148-155.
- [26] Ciavarella, M., Papangelo, A., Barber, J.R. Effect of Wear on the Evolution of Contact Pressure at a Bimaterial Sliding Interface (2020) Tribology Letters, 68 (1), art. no. 27.
- [27] Papangelo, A., Ciavarella, M. The effect of wear on ThermoElastic Instabilities (TEI) in bimaterial interfaces (2020) Tribology International, 142, art. no. 105977.
- [28] Ciavarella, M., Papangelo, A. A simplified theory of electroadhesion for rough interfaces (2020) Frontiers in Mechanical Engineering, 6, art. no. 27, pp. 1-9.
- [29] Genovese, A., Carputo, F., Ciavarella, M., Farroni, F., Papangelo, A., Sakhnevych, A. Analysis of multiscale theories for viscoelastic rubber friction (2020) Lecture Notes in Mechanical Engineering, pp. 1125-1135.
- [30] Argatov, I., Papangelo, A., Ciavarella, M. Elliptical adhesive contact under biaxial stretching (2020) Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 476 (2233), art. no. 20190507.
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Tutto quanto dichiarato corrisponde a verità ai sensi degli articoli 46 e 47 del D.P.R. n. 445/2000.

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Firma

Autorio figuelo