

ALL. B1- CV ai fini della pubblicazione

Decreto Rettore Università di Roma “La Sapienza” n. 2865/2020 del 13/11/2020 - codice concorso 2020POR036

## FRANCESCO MASSI Curriculum Vitae

Place ROME

Date 20/11/2020

### Part I – General Information

Full Name	Francesco MASSI
Date of Birth	
Place of Birth	
Citizenship	
Permanent Address	
Mobile Phone Number	
E-mail	
Spoken Languages	

### Part II – Education

Type	Year	Institution	Notes (Degree, Experience,...)
PhD	2006	Sapienza University of Rome (cotutelle)	Joint PhD between Sapienza and INSA-Lyon on “Meccanica Teorica ed Applicata”.
PhD	2006	INSA (Institut National des Sciences Appliquées) of Lyon (cotutelle)	Joint PhD between Sapienza and INSA-Lyon on “spécialité Mécanique”.
University graduation	2003	Sapienza University of Rome	Master degree in Mechanical Engineering, 110/110 cum laude.

### Part III – Appointments

#### IIIA – Academic Appointments

Start	End	Institution	Position
2018	2024	Miur - ASN	National Scientific Qualification as “Professore di I fascia (Abilitazione Scientifica Nazionale, Bando D.D. 1532/2016)”
2014	2023	Miur - ASN	National Scientific Qualification as “Professore di I fascia (Abilitazione Scientifica Nazionale, Bando DD n.161/2013)”
27/12/2012	...	Sapienza University of Rome	Professore di II fascia
01/09/2008	26/12/2012	INSA of Lyon, France	Maître de Conférences

01/09/2007	01/09/2008	INSA of Lyon, France	Maître de Conférences stagiaire
09/02/2007		Ministère de l'Enseignement Supérieur et de la Recherche Scientifique, France	Qualification aux fonctions de Maître de Conférences (Abilitazione alle funzioni di Maître de Conférences)
01/11/2006	31/08/2007	INSA of Lyon, France	Researcher, under research contract

### IIIB – Other Appointments

Start	End	Institution	Position
2014	2019	<b>Advances in Mechanical Engineering</b> (SAGE)	Member of the <b>Editorial Board</b>
2015	...	<b>Mechanics &amp; Industry</b> -Cambridge Journals (EDP Sciences)	Member of the <b>Editorial Board</b>
2019	2019	<b>Lubricants</b> (MDPI)	<b>Guest Editor</b>
2013	2013	<b>Tribology International</b> (Ed. Elsevier)	<b>Guest Editor</b>
2003	2003	CMU - Carnegie Mellon University, Pittsburgh, US	<b>Research activities</b> on the subject of the Master thesis (5 months).
2013	...	Sapienza University of Rome	<b>Member</b> of the “ <b>Collegio dei Docenti</b> ” of the PhD program “Dottorato in Meccanica Teorica e Applicata”.
2014	...	Sapienza University of Rome	<b>Agreement Promoter</b> for the <b>Erasmus+</b> inter-institutional agreement between the <b>Sapienza University</b> and the <b>INSA-Lyon</b>
2017	...	Sapienza University of Rome	<b>Member</b> of the “ <b>Commissione Qualità</b> ” of the “Consiglio d’Area di Ingegneria Meccanica”.
2014	2017	Sapienza University of Rome	<b>Junior Research Fellow</b> of the <b>SSAS</b> “Scuola Superiore di Studi Avanzati Sapienza”
2009	2012	INSA-Lyon	<b>Member</b> of the “ <b>Conseil des études</b> ” (Department Board) of the department “ <b>Génie Mécanique Développement</b> ”

### Part IV – Teaching experience

Teaching 2007-2012 at the **INSA of Lyon\***; 2013-2019 at the **Sapienza University of Rome**

\* *The teaching at the INSA of Lyon is counted in hours (h eqTD), instead of CFU.*

2007 – 2008: 207h eqTD (71h in English language, 136h in French language)

- **Mécanique Générale** (Kinetics and dynamics of mechanical systems) 2<sup>nd</sup> year (102h)
- **Recherche et Développement en Tribologie** (Tribology) 5<sup>th</sup> year (5h)
- **Analyse Numérique des Eléments Finis** (Numerical Analysis and FE methods) 3<sup>rd</sup> year (20h)
- **Vibrations** (Exercitations in Vibrations) 3<sup>rd</sup> year (24h)
- **Mesure et Méthode Expérimentale** (Exercitations in measurement) 3<sup>rd</sup> year (40h)
- **Mathématique** (Introduction to algorithmic and MatLab) 3<sup>rd</sup> year (16h)

<p>2008 – 2009: 233h <i>eqTD</i> (85h in English language, 148h in French language)</p> <ul style="list-style-type: none"> <li>• <b>Mécanique Générale</b> (Kinetics and dynamics of mechanical systems) 2<sup>nd</sup> year (127h)</li> <li>• <b>Recherche et Développement en Tribologie</b> (Tribology) 5<sup>th</sup> year (7h)</li> <li>• <b>Analyse Numérique des Eléments Finis</b> (Numerical Analysis and FE methods) 3<sup>rd</sup> year (19h)</li> <li>• <b>Mathematical tools for French engineers</b> (Mathematics) 3<sup>rd</sup> year (13h)</li> <li>• <b>Mesure et Méthode Expérimentale</b> (Exercitations in measurement) 3<sup>rd</sup> year (32h)</li> <li>• <b>Bases informatiques pour l'ingénieur</b> (Introduction to algorithmic and MatLab) 3<sup>rd</sup> year (19h)</li> <li>• <b>Utilisation de logiciels d'éléments finis pour des applications non linéaires : contact, frottement, plasticité</b> (nonlinear FE methods and applications) master course for PhDs and industrials (16h)</li> </ul>
<p>2009 – 2010: 217h <i>eqTD</i> (82 in English language, 135 in French language)</p> <ul style="list-style-type: none"> <li>• <b>Mécanique Générale</b> (Kinetics and dynamics of mechanical systems) 2<sup>nd</sup> year (103h)</li> <li>• <b>Recherche et Développement en Tribologie</b> (Tribology) 5<sup>th</sup> year (3h)</li> <li>• <b>Analyse Numérique des Eléments Finis</b> (Numerical Analysis and FE methods) 3<sup>rd</sup> year (16h)</li> <li>• <b>Mathematical tools for French engineers</b> (Mathematics) 3<sup>rd</sup> year (17h)</li> <li>• <b>Mesure et Méthode Expérimentale</b> (Exercitations in measurement) 3<sup>rd</sup> year (48h)</li> <li>• <b>Bases informatiques pour l'ingénieur</b> (Introduction to algorithmic and MatLab) 3<sup>rd</sup> year (15h)</li> <li>• <b>Computational Mechanics</b> – classes for American students (15h)</li> </ul>
<p>2010 – 2011: 242h <i>eqTD</i> (88 in English language, 154 in French language)</p> <ul style="list-style-type: none"> <li>• <b>Mécanique Générale</b> (Kinetics and dynamics of mechanical systems) 2<sup>nd</sup> year (99h)</li> <li>• <b>Recherche et Développement en Tribologie</b> (Tribology) 5<sup>th</sup> year (3h)</li> <li>• <b>Analyse Numérique des Eléments Finis</b> (Numerical Analysis and FE methods) 3<sup>rd</sup> year (16h)</li> <li>• <b>Mathematical tools for French engineers</b> (Mathematics) 3<sup>rd</sup> year (15h)</li> <li>• <b>Vibrations</b> (Exercitations in Vibrations) 3<sup>rd</sup> year (24h)</li> <li>• <b>Mesure et Méthode Expérimentale</b> (Exercitations in measurement) 3<sup>rd</sup> year (41h)</li> <li>• <b>Bases informatiques pour l'ingénieur</b> (Introduction to algorithmic and MatLab) 3<sup>rd</sup> year (13h)</li> <li>• <b>Computational Mechanics</b> – classes for American students (22h)</li> <li>• <b>Dynamique des systemes mecaniques</b> (Dynamics of mechanical systems) on-going professional training courses for Ph.D. and industrials (9h)</li> </ul>
<p>2011 – 2012: 192h <i>eqTD</i> (84 in English language, 108 in French language)</p> <ul style="list-style-type: none"> <li>• <b>Mécanique Générale</b> (Kinetics and dynamics of mechanical systems) 2<sup>nd</sup> year (93h)</li> <li>• <b>Recherche et Développement en Tribologie</b> (Tribology) 5<sup>th</sup> year (3h)</li> <li>• <b>Analyse Numérique des Eléments Finis</b> (Numerical Analysis and FE methods) 3<sup>rd</sup> year (16h)</li> <li>• <b>Mathematical tools for French engineers</b> (Mathematics) 3<sup>rd</sup> year (13h)</li> <li>• <b>Mesure et Méthode Expérimentale</b> (Exercitations in measurement) 3<sup>rd</sup> year (32h)</li> <li>• <b>Bases informatiques pour l'ingénieur</b> (Introduction to algorithmic and MatLab) 3<sup>rd</sup> year (13h)</li> <li>• <b>Computational Mechanics</b> – classes for American students (22h)</li> </ul>
<p>2012 – 2013:</p> <ul style="list-style-type: none"> <li>• <b>Meccanica Applicata</b> (Applied mechanics) 6CFU – 3th year Bachelor Degree in Civil Engineering</li> </ul>
<p>2013 – 2014:</p> <ul style="list-style-type: none"> <li>• <b>Meccanica Applicata</b> (Applied mechanics) 6 CFU – 3th year Bachelor Degree in Civil Engineering</li> <li>• <b>Meccanica Applicata</b> (Applied mechanics) 3 CFU - 3th year Bachelor Degree in Electrotechnical Engineering</li> </ul>
<p>2014 – 2015:</p> <ul style="list-style-type: none"> <li>• <b>Meccanica Applicata</b> (Applied mechanics) 6 CFU - 3th year Bachelor Degree in Civil Engineering</li> <li>• <b>Meccanica Applicata</b> (Applied mechanics) 3 CFU - 3th year Bachelor Degree in Electrotechnical Engineering</li> </ul>

<p>2015– 2016:</p> <ul style="list-style-type: none"> <li>• <b>Meccanica Applicata</b> (Applied mechanics) 6 CFU - 3th year Bachelor Degree in Civil Engineering</li> <li>• <b>Meccanica Applicata</b> (Applied mechanics) 3 CFU - 3th year Bachelor Degree in Electrotechnical Engineering</li> <li>• <b>Laboratory characterization of micro-nano mechanical devices</b> 3 CFU – 1st year Master Degree in Nanotechnology Engineering</li> </ul>
<p>2016– 2017:</p> <ul style="list-style-type: none"> <li>• <b>Engineering Tribology</b> 6 CFU – 2nd year Master Degree in Mechanical Engineering</li> <li>• <b>Meccanica Applicata</b> (Applied mechanics) 3 CFU - 3th year Bachelor Degree in Electrotechnical Engineering</li> <li>• <b>Laboratory characterization of micro-nano mechanical devices</b> 3 CFU – 1st year Master Degree in Nanotechnology Engineering</li> <li>• <b>Laboratorio di meccanica applicata</b> 3 CFU - 2nd year Bachelor Degree in Energy Engineering</li> <li>• <b>Laboratorio di meccanica delle vibrazioni</b> 3 CFU - 3th year Bachelor Degree in Energy Engineering</li> </ul>
<p>2017– 2018:</p> <ul style="list-style-type: none"> <li>• <b>Engineering Tribology</b> 6 CFU – 2nd year Master Degree in Mechanical Engineering</li> <li>• <b>Meccanica Applicata</b> (Applied mechanics) 3 CFU - 3th year Bachelor Degree in Electrotechnical Engineering</li> <li>• <b>Laboratory characterization of micro-nano mechanical devices</b> 3 CFU - 1st year Master Degree in Nanotechnology Engineering</li> <li>• <b>Laboratorio di meccanica applicata</b> 3 CFU - 2nd year Bachelor Degree in Energy Engineering</li> <li>• <b>Laboratorio di meccanica delle vibrazioni</b> 3 CFU - 3th year Bachelor Degree in Energy Engineering</li> </ul>
<p>2018– 2019:</p> <ul style="list-style-type: none"> <li>• <b>Engineering Tribology</b> 6 CFU – 2nd year Master Degree in Mechanical Engineering</li> <li>• <b>Meccanica Applicata</b> (Applied mechanics) 3 CFU - 3th year Bachelor Degree in Electrotechnical Engineering</li> <li>• <b>Laboratorio di meccanica applicata</b> 3 CFU - 2nd year Bachelor Degree in Energy Engineering</li> <li>• <b>Laboratorio di meccanica delle vibrazioni</b> 3 CFU - 3th year Bachelor Degree in Energy Engineering</li> </ul>
<p>2019– 2020:</p> <ul style="list-style-type: none"> <li>• <b>Engineering Tribology</b> 6 CFU – 2nd year Master Degree in Mechanical Engineering</li> <li>• <b>Laboratorio di meccanica applicata</b> 3 CFU - 2nd year Bachelor Degree in Energy Engineering</li> <li>• <b>Laboratorio di meccanica delle vibrazioni</b> 3 CFU - 3th year Bachelor Degree in Energy Engineering</li> </ul>
<p>2020– 2021 (forecasted):</p> <ul style="list-style-type: none"> <li>• <b>Engineering Tribology</b> 6 CFU – 2nd year Master Degree in Mechanical Engineering</li> <li>• <b>Fondamenti di Meccanica</b> (Fundamentals on Mechanics) 6 CFU - 2th year Bachelor Degree in Electrotechnical Engineering</li> <li>• <b>Meccanica Applicata</b> (Applied mechanics) 3 CFU - 3th year Bachelor Degree in Electrotechnical Engineering</li> <li>• <b>Laboratorio di meccanica applicata</b> 3 CFU - 2nd year Bachelor Degree in Energy Engineering</li> </ul>

### PhD supervising and committees

Since 2013 Member of the “Collegio dei Docenti” of the PhD program “Dottorato in Meccanica Teorica e Applicata”, at the Sapienza University of Rome.

**Member of 22 PhD committees** in several Italian and foreign Institutions (INSA of Lyon, Sapienza University, Université de Poitiers, University of Lille, University of Mondragon, University POLITEHNICA of Bucharest, University of Mulhouse – Haute Alsace, University of Bordeaux).

**Reviewer of 9 PhD theses** (France, Italy, Spain, Romania, Morocco).

**Co-director of 11 PhD theses** (9 in cotutelle, 4 financed by industrial partners), listed below:

Co-director of a Ph.D. thesis in ‘cotutelle’ (November 2018 – ...)

‘*Surface vibratory propensity/capacity of C / C materials in the presence of a "3/1" layer*’. (Ph.D. student: Alessandro Lazzari – 2018-..., INSA / ‘La Sapienza’).

Co-director of a Ph.D. thesis (November 2018 – ...)

‘*Physical and numerical tribological simulations of aeronautical oscillating bearings to model their life evolution*’. (Ph.D. student: Lucas Frache – 2018-..., INSA Lyon).

Co-director of a Ph.D. thesis in ‘cotutelle’ (November 2017 – ...)

‘*Study of the vibro-acoustic and tribological behavior of a spring brake for tubular electric motors*’. (Ph.D. student: Ilaria Ghezzi – 2017-..., INSA / ‘La Sapienza’).

Co-director of a Ph.D. thesis in ‘cotutelle’ (November 2017 – ...)

‘*Non-linear interactions between ultrasound acoustic waves and contact interfaces for imaging and characterization of interfaces*’. (Ph.D. student: Dorra Nouira – 2017-..., University of Bordeaux / ‘La Sapienza’).

Co-director of a Ph.D. thesis in ‘cotutelle’ (November 2015 – December 2018)

‘*Development of multiscale analysis for hip bone remodeling*’. (Ph.D. student: Eléonore Perrin – 2015-2018, INSA / ‘La Sapienza’).

Co-director of a Ph.D. thesis in ‘cotutelle’ (November 2014 – December 2017)

‘*Energy and phenomenological analysis of friction induced vibrations: energy transfer between acoustic fields by frictional nonlinearities*’. (Ph.D. student: Giovanna LACERRA – 2014-2017, INSA / ‘La Sapienza’).

Co-director of a Ph.D. thesis financed by SKF Aerospace (November 2013 – Mars 2017)

‘*Physical, numerical and tribological simulations of oscillating rolling bearings subjected to vibrational fields to increase their lifetime and improve their mounting conditions*’. (Ph.D. student: Eymard HOUARA KOMBA – 2013-2017 INSA).

Co-tutor of a Ph.D. thesis in ‘cotutelle’ (November 2012 – December 2015)

‘*Energy balance between frictional contact and material deformation, from surface to solid energy dissipation... towards wear and friction control*’. (Ph.D. student: Jacopo Brunetti – 2012-2015, INSA / Univerità degli studi dell’ Aquila).

Co-director of a Ph.D. thesis in ‘cotutelle’ (November 2011 – November 2014)

‘*Analysis of the coupling between global and local dynamics at the contact*’. (Ph.D. student: Davide Tonazzi – 2011-2014, INSA / ‘La Sapienza’).

Co-director of a Ph.D. thesis in ‘cotutelle’ (November 2008 – December 2011)

‘*Tribological activation of tactile receptors by vibrations induced at the finger contact surface*’. (Ph.D. student: Ramona Fagiani – 2008-2011, INSA / ‘La Sapienza’)

Co-director of a Ph.D. thesis in ‘cotutelle’ (November 2008 – December 2011)

‘*Wave generation and propagation at tribological interfaces*’. (Ph.D. student: Mariano Di Bartolomeo – 2008-2011, INSA / ‘La Sapienza’). This thesis obtained the support of the VINCI program of the “Université Franco-Italienne”.

## Part V - Society memberships, Awards and Honors

Year	Title (Academic Awards)
2013-2024	<b>Abilitazione Scientifica Nazionale</b> alle funzioni di <b>Professore di I fascia</b> nel settore concorsuale 09/A2 - Meccanica Applicata Alle Macchine
2019	<b>Invited professor</b> at the Tribology Research Institute of the <b>Southwest Jiaotong University</b> , Chengdu, China
2014-2017	<b>Junior Research Fellow</b> of the <b>SSAS</b> “Scuola Superiore di Studi Avanzati Sapienza”
2009	<b>PES</b> (Prime d’Excellence Scientifique), Education and Research Ministry, France

Year	Title (Editorial positions)
2015-...	Member of the <b>Editorial Board</b> of <b>Mechanics &amp; Industry</b> -Cambridge Journals (EDP Sciences)
2014-2019	Member of the <b>Editorial Board</b> of <b>Advances in Mechanical Engineering</b> (SAGE)
2019	<b>Guest Editor</b> for a special issue in <b>Lubricants</b> (MDPI)
2013	<b>Guest Editor</b> for a special issue in <b>Tribology International</b> (Ed. Elsevier)
2009-...	<b>Reviewer</b> for <b>international journals</b> : Journal of Sound and Vibrations (Ed. Elsevier), Mechanical Systems and Signal Processing (Ed. Elsevier), Tribology International (Ed. Elsevier) ; Noise Control Engineering Journal (Ed. INCE/USA); International Journal of Vehicle Design (Ed. Inderscience Publishers); Tribology Letters, (Ed. Springer), Wear of Materials, Journal of Bionic Engineering (Ed. Elsevier), International Journal of Mechanical Sciences (Ed. Elsevier), Meccanica (Ed. Springer), International Journal of Solids and Structures (Ed. Elsevier), Journal of Bionic Engineering (Ed. Elsevier), Journal of Engineering Tribology (Sage), Mechanism and Machine Theory (Ed. Elsevier), Noise Control Engineering Journal (INCE-USA), Shock and Vibrations (Hindawi), Journal of Vibration and Acoustics -Transactions of the ASME, ... Reviewer for several International congresses.

Year	Title (Conference organization and scientific committees)
2013-2019	<b>Member</b> of the <b>Organizing Committee</b> of the following congresses: <b>Leeds-Lyon 2013, ACT2014, ACT2017, EURODYN2017, LAC-TC 2019, AIMETA2019</b>
2009-2015	<b>Member</b> of the <b>Scientific Committee</b> of the following congresses: <b>USD2009, Leeds-Lyon 2011, ECOTRIB2015</b>



2018-...	<b>Member of the Steering Committee of the Friction Forum.</b>
2014	<b>Co-organizer</b> of the « <b>Friction Induced Vibrations</b> » special session, at the <b>ISMA 2014</b> Conference, Leuven, Belgium.
2013	<b>Track chair</b> of the track " <b>Thermal effects in tribology</b> " at the <b>Tribo-Lyon2013</b> conference, Lyon, France.
2011	<b>Track chair</b> of the track "Tribological issues in the sensitive parts of the human body" at the <b>38th Leeds-Lyon Symposium on Tribology</b> , Energy and Health, Lyon, France.
2010	<b>Co-organization</b> of the « <b>GAMM Young Researchers' Minisymposium</b> » " <i>Dynamics of mechanical systems with tribological contacts</i> ", at the " <b>GAAM</b> (Society of Applied Mathematics and Mechanics) Annual Meeting 2010", Karlsruhe, Germany.

Year Title (Publication Awards)

2006	<b>D. J. DeMichele Scholarship Award</b> , obtained for the publication: <i>Experimental analysis on squeal modal instability</i> , at the <b>IMAC XXV</b> , St Louis, <b>USA</b> .
2014	<b>HIFRATH 2014 Award</b> , obtained for the publication: "COSTaM: vers la Conception d'Outils pour une Stimulation Tactile Maîtrisée", at the Conference <b>HANDICAP 2014</b> , Paris, <b>France</b> .

Year Title (Society memberships)

2018-...	<b>Board member</b> of the <b>AIT (Associazione Italiana di Tribologia)</b> society.
2012-...	<b>Member</b> of the <b>AIT (Associazione Italiana di Tribologia)</b> society.
2011-2013	<b>Member of the scientific committee</b> of the <b>Labex</b> (Laboratoire d'excellence) <b>SISE</b> (Science & Ingénierie des Surfaces et Interfaces), France
2009-...	<b>Member</b> of the <b>ATM (Association de TriboMecanique)</b> society, France.

Year Title (Invited talks)

2019	<b>Invited Speaker</b> at the conference <b>46th Leeds-Lyon symposium on Tribology Conference</b> Lyon, France, 2-4 September 2019.
2019	<b>Invited Speaker</b> at the <b>Tribology Workshop XI'AN</b> , Xi'an, <b>China</b> , 3-4 July 2019.
2017	<b>Invited Panel Speaker</b> at <b>Asia Brake Conference</b> at the "Panel on Latest Academic Research", Delhi, <b>India</b> .

2017	<b>Invited Panel Speaker</b> at <b>EUROBRAKE 2017</b> strategy panel on “advanced modelling for brake squeal prediction”, Dresden, <b>Germany</b> .
2008	<b>Panelist</b> at the ‘ <b>final panel discussion</b> ’ of the session “ <b>Friction-Induced Vibrations</b> ” at the 26th <b>Brake Colloquium (SAE international)</b> , San Antonio, Texas <b>USA</b> .

**Part VI - Funding Information [grants as PI-principal investigator or I-investigator]**

Year	Title	Role
2019- ...	<b>Local Coordinator</b> for the <b>Sapienza Partner</b> of the <b>EU project AUDACITY</b> , in the framework of the call <b>CLEANSKY2, Horizon 2020 –Framework Programme for Research and Innovation</b> .	Local PI Sapienza
2018- ...	<b>Coordinator of research projects</b> between <b>SAFRAN LANDING SYSTEM – DIMA- LaMCoS</b> for the tribological and dynamic analysis of aircraft brake CC materials.	PI
2018- ...	<b>Coordinator of the research project SOMFY – DIMA- LaMCoS</b> for the analysis of stick-slip noise from spring brakes.	PI
2018- ...	<b>Coordinator of research projects/contracts on the lubricated contact between seals and pistons</b> , between the <b>DIMA</b> of the University of Rome La Sapienza and <b>BREMBO S.p.a.</b>	PI
2016- ...	<b>Coordinator of research projects/contracts on numerical and experimental brake squeal analysis</b> , between the <b>DIMA</b> of the University of Rome La Sapienza and <b>BREMBO S.p.a.</b>	PI
2013- ...	<b>Coordinator of research projects</b> between <b>SKF Aerospace – LaMCoS - DIMA</b> for the analysis of the surface degradations on high loaded oscillating bearings.	PI
2019- 2020	<b>Coordinator</b> of the Sapienza project <b>Ateneo 2019</b> “Dynamic and tribological analysis of Friction-Induced Vibrations for new frictional brake generation in Electric Vehicles”.	PI
2016 -2017	<b>Coordinator</b> of the Sapienza project <b>Ateneo 2016</b> “Analysis of the signals at the origins of tactile perception: friction induced vibrations and contact forces. Towards the understanding and reproduction of touch”.	PI
2013- 2014	<b>Coordinator</b> of the Sapienza project <b>Ateneo 2013</b> “Energy transfer between different acoustic fields by frictional contact nonlinearities”.	PI
2013- 2018	<b>Responsible of</b> collaboration projects between <b>DIMA</b> and <b>LaMCoS</b> : i) on the numerical simulation of ball-race bearing contact; ii) on the simulation of acoustic energy transfer by frictional contact.	PI
2012- 2013	<b>Coordinator LaMCoS</b> of the <b>project LaMCoS – TORNIER R&amp;D</b> for the analysis of the squeaking of hip endoprostheses.	PI
2011- 2013	<b>INSA Local coordinator</b> of the work group 4 " <i>Secondary passive acoustic source: energy transfer between acoustic fields by sliding contact</i> " of the <b>ANR</b> (Agence nationale de la Recherche) project <b>PASNI</b> " <i>Passive Acoustic Sensing Network and Imaging</i> ".	Local PI INSA



2008-2010	<b>Coordinator</b> of the <b>BQR</b> (Bonus Qualité Recherche) <b>project</b> « <i>Activation tribologique des capteurs sensoriels par les vibrations induites par le contact frottant doigt – surface</i> ».		PI
2009-2011	<b>Responsible</b> of the work group 2 « <b>GT2 : Modélisation à l'échelle des premiers corps</b> » in the framework of the <b>ANR</b> project <b>DiNEET</b> ( <i>Dialogues Numériques Entre Échelles Tribologiques</i> ).		I
2007-2009	<b>Investigator</b> for the <b>LaMCoS - INSA</b> in the <b>WP2</b> (Work Package 2: <i>Modelling and computation to define loads and stresses at mechanisms and contacts levels</i> ) of the <b>European project BEARINGS</b> (New generation of aeronautical bearings for extreme environmental constraints).		I
2008	<b>Investigator</b> for the <b>LaMCoS</b> in the <b>project LaMCoS - PSA Peugeot-Citroën</b> for the analysis of the squeal emission on a PSA brake system (Report: MAST 05_CC_043), <b>2008</b> .		I

## Part VII – Research Activities

The research activities reported below are developed within the framework of both fundamental and applied projects, with either public funding (Sapienza University, French Research Ministry (ANRT), EU (HORIZON2020)) and collaborations with companies (BREMBO, SAFRAN LANDYNG SYSTEMS, SKF AEROSPACE, SOMFY, MASERATI, TORNIER). In general, experimental tests are accompanied by modelling and simulations, in order to provide an overall analysis of the investigated issues.

Keywords	Brief Description
<b>Contact instabilities</b>	Phenomena rising when two solids are in frictional contact, as stick-slip and self-excited vibrations, are a substantial subject of interest in different domains, such as nonlinear dynamics, tribology, biomechanics and geophysics. The overall frictional scenarios occurring when friction forces excite the mechanical systems, during the relative motion, are investigated; the analysis of the coupling between the local interface response at the contact and the dynamic response of the system brings to an overall understanding of their origin.
<b>Tactile perception</b>	The information on object surface features is contained in the mechanical stimuli originated at the finger/surface contact. The mechanoreceptors, mechanical receptors into the skin, have the key role of transducing the stress state transient variation into electrical impulses conveyed to the brain. Investigations are developed to link the tribological and dynamic signals with the perception of surfaces. Collaborations with several laboratories in different disciplines (neurology, psychology, microbiology, medicine, physics, ...) are promoted to account for the multidisciplinary of the issue.
<b>Wave propagation at contact interfaces</b>	Friction is a stiff phenomenon, depending on several parameters and affecting the system behaviour. At the contact, the relative motion gives rise to local ruptures and waves, which propagate at the interface. An understanding of wave propagation and generation at the contact is fundamental for understanding friction-induced vibrations and the macroscopic tribological response (average friction forces, wear, ...) at the origin of several phenomena such as earthquakes or surface machining damages. Interface/waves interaction is investigated by both tribological and acoustic points of view.

<b>Wear in high loaded oscillating bearings</b>	The degradation mechanisms of oscillating ball bearings, subjected to high loads, is a tribological issue present in several industrial applications. These bearings can reach extreme contact pressures at low velocities. Numerical models and experimental tribological analyses are developed to understand the degradation scenarios and to prevent/predict the bearing failure. The development of a tribological transformed layer at the interface, generated by the interaction of grease and steel, is investigated because of its key role in protecting the contact surfaces.
<b>Hip endoprosthesis biomechanics</b>	Issues related to hip endoprostheses (human joint replacements) are investigated: by one side, numerical models are developed for predicting the squeaking noise emission; on the other side, modelling of bone material is investigated to provide knowledge in how the prosthesis interact the bone structure for the short and long term stability.
<b>Brake Squeal Noise and Vibrations</b>	Between the NVH issues, brake squeal is an acoustic emission caused by vibration induced by friction forces, occurring on the frequency range between 1 and 20 KHz. The research projects approach the problem by coupling tribological and dynamic analyses, by both experimental and numerical investigations. Effects of system parameters such as damping and passive solutions, e.g. structural modifications, have been investigated too.
<b>Contact stiffness</b>	Experimental techniques are developed in order to characterize one of the most unknown and tricky parameters in contact mechanics, i.e. the contact stiffness of a frictional interface, both in static and sliding contacts.
<b>Energy balance of a contact</b>	<p>The vibration damping by frictional contact is addressed by a more general approach, accounting for the overall energy transfer between surface and solid dynamics, to identify the energy effectively dissipated at the contact and the energy reintroduced in the system as acoustic energy. To allow this distinction, a main attention is addressed to the energy balance and energy flows between bulk and surface.</p> <p>The friction nonlinearity between sliding surfaces has been used as well to transfer vibrational energy between acoustic fields. The energy transfer can be useful for several applications such as passive health monitoring and diagnostic, recovering of environmental vibrational energy, ... A device able to transfer energy between the wished acoustic fields is developed.</p>
<b>False Brinelling in bearings</b>	Numerical analyses are developed to reproduce the behaviour of the local contact stresses between rollers and races of a rolling bearings mounted on aircrafts components and subjected to an external vibrational environment. The scenario leading to false Brinelling degradation of the race surfaces is investigated.
<b>Greased contacts</b>	The rheological response of a grease and the contributions of its components (thickener, base oil and additives) is an extremely complex issue. By one side, the response of the grease under high loaded conditions and its interaction with the metallic surfaces is investigated. On the other side the rheology of the grease is analysed for reproducing and understanding its frictional characteristic with respect to contact velocity, load and temperature.

## Part VIII – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Journal Papers [international]	50	Scopus	2006	2020
Conference Papers [international]	38	Scopus	2004	2019

Total Impact factor (**)	118
Average Impact factor (47 Papers with IF)	2,51
Total Citations	1421 (Scopus)
Average Citations per Product	16,15
Hirsch (H) index	20

\*\*The total and average impact factors have been evaluated by disregarding publications without an official IF factor (“Lubricants” is a recent journal and the official IF is not still available). For publications in 2020 and 2021, for which the IF is still not available at the corresponding year of publication, the last IF in 2019 has been used.

## Part IX– Selected Publications

### List of publications selected for the evaluation (also provided in a separate list)

Year	Publication	Cts Scopus	IF WoS
1	2020 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, DOI: 10.1007/s11071-020-05983-y, DOCUMENT TYPE: Article, SOURCE: Scopus	\	4,867* (2019)
2	2020 Cavacece, F., Frache, L., Tonazzi, D., Bouscharain, N., Philippon, D., Le Jeune, G., Maheo, Y., Massi, F., Roller bearing under high loaded oscillations: Life evolution and accommodation mechanisms, (2020) Tribology International, 147, art. no. 106278. DOI: 10.1016/j.triboint.2020.106278, DOCUMENT TYPE: Article, SOURCE: Scopus	\	4,271* (2019)
3	2020 Massimiani, V., Weiland, B., Chatelet, E., Cornuault, P.-H., Faucheu, J., Massi, F., The role of mechanical stimuli on hedonistic and topographical discrimination of textures, (2020) Tribology International, 143, art. no. 106082, DOI: 10.1016/j.triboint.2019.106082, DOCUMENT TYPE: Article, SOURCE: Scopus	\	4,271* (2019)
4	2019 Stender, M., Di Bartolomeo, M., Massi, F., Hoffmann, N., Revealing transitions in friction-excited vibrations by nonlinear time-series analysis, (2019) Nonlinear Dynamics, 98 (4), pp. 2613-2630, DOI: 10.1007/s11071-019-04987-7, DOCUMENT TYPE: Article, SOURCE: Scopus	5	4,867
5	2019 Lazzari, A., Tonazzi, D., Massi, F., Squeal propensity characterization of brake lining materials through friction noise measurements, (2019) Mechanical Systems and Signal Processing, 128, pp. 216-228, DOI: 10.1016/j.ymssp.2019.03.034, DOCUMENT TYPE: Article, SOURCE: Scopus	13	6,471

6	2018	Lacerra, G., Di Bartolomeo, M., Milana, S., Baillet, L., Chatelet, E., Massi, F., Validation of a new frictional law for simulating friction-induced vibrations of rough surfaces, (2018) Tribology International, 121, pp. 468-480, DOI: 10.1016/j.triboint.2018.01.052, DOCUMENT TYPE: Article, SOURCE: Scopus	14	3,517
7	2017	Ndengue, J.D., Cesini, I., Faucheu, J., Chatelet, E., Zahouani, H., Delafosse, D., Massi, F., Tactile Perception and Friction-Induced Vibrations: Discrimination of Similarly Patterned Wood-Like Surfaces, (2017) IEEE Transactions on Haptics, 10 (3), art. no. 7795197, pp. 409-417, DOI: 10.1109/TOH.2016.2643662, DOCUMENT TYPE: Article, SOURCE: Scopus	13	1,869
8	2017	Chehami, L., Moulin, E., de Rosny, J., Prada, C., Chatelet, E., Lacerra, G., Gryllias, K., Massi, F., Nonlinear secondary noise sources for passive defect detection using ultrasound sensors, (2017) Journal of Sound and Vibration, 386, pp. 283-294, DOI: 10.1016/j.jsv.2016.10.006, DOCUMENT TYPE: Article, SOURCE: Scopus	7	2,618
9	2015	Ouenzerfi, G., Massi, F., Renault, E., Berthier, Y., Squeaking friction phenomena in ceramic hip endoprosthesis: Modeling and experimental validation, (2015) Mechanical Systems and Signal Processing, 58, pp. 87-100, DOI: 10.1016/j.ymsp.2014.09.012, DOCUMENT TYPE: Article, SOURCE: Scopus	20	2,771
10	2014	Massi, F., Bouscharain, N., Milana, S., Le Jeune, G., Maheo, Y., Berthier, Y., Degradation of high loaded oscillating bearings: Numerical analysis and comparison with experimental observations, (2014) Wear, 317 (1-2), pp. 141-152, DOI: 10.1016/j.wear.2014.06.004, DOCUMENT TYPE: Article, SOURCE: Scopus	16	1,913
11	2013	Tonazzi, D., Massi, F., Culla, A., Baillet, L., Fregolent, A., Berthier, Y., Instability scenarios between elastic media under frictional contact, (2013) Mechanical Systems and Signal Processing, 40 (2), pp. 754-766, DOI: 10.1016/j.ymsp.2013.05.022, DOCUMENT TYPE: Article, SOURCE: Scopus	49	2,465
12	2012	Di Bartolomeo, M., Massi, F., Baillet, L., Culla, A., Fregolent, A., Berthier, Y., Wave and rupture propagation at frictional bimaterial sliding interfaces: From local to global dynamics, from stick-slip to continuous sliding, (2012) Tribology International, 52, pp. 117-131, DOI: 10.1016/j.triboint.2012.03.008, DOCUMENT TYPE: Article, SOURCE: Scopus	42	1,536
13	2011	Fagiani, R., Massi, F., Chatelet, E., Berthier, Y., Akay, A., Tactile perception by friction induced vibrations, (2011) Tribology International, 44 (10), pp. 1100-1110, DOI: 10.1016/j.triboint.2011.03.019, DOCUMENT TYPE: Article, SOURCE: Scopus	91	1,553
14	2010	Massi, F., Rocchi, J., Culla, A., Berthier, Y., Coupling system dynamics and contact behaviour: Modelling bearings subjected to environmental induced vibrations and 'false brinelling' degradation, (2010) Mechanical Systems and Signal Processing, 24 (4), pp. 1068-1080, DOI: 10.1016/j.ymsp.2009.09.004, DOCUMENT TYPE: Article, SOURCE: Scopus	38	1,762
15	2008	Massi, F., Berthier, Y., Baillet, L., Contact surface topography and system dynamics of brake squeal, (2008) Wear, 265 (11-12), pp. 1784-1792, DOI: 10.1016/j.wear.2008.04.049, DOCUMENT TYPE: Article, SOURCE: Scopus	91	1,509
16	2007	Massi, F., Baillet, L., Giannini, O., Sestieri, A., Brake squeal: Linear and nonlinear numerical approaches, (2007) Mechanical Systems and Signal Processing, 21 (6), pp. 2374-2393, DOI: 10.1016/j.ymsp.2006.12.008, DOCUMENT TYPE: Article, SOURCE: Scopus	176	1,333

\* The IF for publications in 2020 is not available. The IF in 2019 has been reported.

## Complete list of publications

### Journal papers reported in Scopus database

	Year	Publication	Cts Scopus	IF WoS
1	2021 online 2020	Di Bartolomeo, M., Lazzari, A., Stender, M., Berthier, Y., Saulot, A., Massi, F., Experimental observation of thermally-driven frictional instabilities on C/C materials, (2021) Tribology International, 154, art. no. 106724, DOI: 10.1016/j.triboint.2020.106724, DOCUMENT TYPE: Article, SOURCE: Scopus	\	4,271* (2019)
2	2020	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, DOI: 10.1007/s11071-020-05983-y, DOCUMENT TYPE: Article, SOURCE: Scopus	\	4,867* (2019)
3	2020	Xiang, Z.Y., Mo, J.L., Ouyang, H., Massi, F., Tang, B., Zhou, Z.R., Contact behaviour and vibrational response of a high-speed train brake friction block, (2020) Tribology International, 152, art. no. 106540. DOI: 10.1016/j.triboint.2020.106540, DOCUMENT TYPE: Article, SOURCE: Scopus	\	4,271* (2019)
4	2020	Cavacece, F., Frache, L., Tonazzi, D., Bouscharain, N., Philippon, D., Le Jeune, G., Maheo, Y., Massi, F., Roller bearing under high loaded oscillations: Life evolution and accommodation mechanisms, (2020) Tribology International, 147, art. no. 106278. DOI: 10.1016/j.triboint.2020.106278, DOCUMENT TYPE: Article, SOURCE: Scopus	\	4,271* (2019)
5	2020	Nouira, D., Tonazzi, D., Meziane, A., Baillet, L., Massi, F., Numerical and experimental analysis of nonlinear vibrational response due to pressure-dependent interface stiffness, (2020) Lubricants, 8 (7), art. no. 73, DOI: 10.3390/lubricants8070073, DOCUMENT TYPE: Article, SOURCE: Scopus	\	
6	2020	Ghezzi, I., Tonazzi, D., Rovere, M., Le Coeur, C., Berthier, Y., Massi, F., Tribological investigation of a greased contact subjected to contact dynamic instability, (2020) Tribology International, 143, art. no. 106085. DOI: 10.1016/j.triboint.2019.106085, DOCUMENT TYPE: Article, SOURCE: Scopus	1	4,271* (2019)
7	2020	Massimiani, V., Weiland, B., Chatelet, E., Cornuault, P.-H., Faucheu, J., Massi, F., The role of mechanical stimuli on hedonistic and topographical discrimination of textures, (2020) Tribology International, 143, art. no. 106082, DOI: 10.1016/j.triboint.2019.106082, DOCUMENT TYPE: Article, SOURCE: Scopus	\	4,271* (2019)
8	2019	Terrien, S., Frache, L., Chatelet, E., Massi, F., Energy transfer by a secondary acoustic source through Friction-Induced Vibrations: A power flow analysis, (2019) Journal of Sound and Vibration, 463, art. no. 114962, DOI: 10.1016/j.jsv.2019.114962, DOCUMENT TYPE: Article, SOURCE: Scopus	\	3,429
9	2019	Stender, M., Di Bartolomeo, M., Massi, F., Hoffmann, N., Revealing transitions in friction-excited vibrations by nonlinear time-series analysis, (2019) Nonlinear Dynamics, 98 (4), pp. 2613-2630, DOI: 10.1007/s11071-019-04987-7, DOCUMENT TYPE: Article, SOURCE: Scopus	5	4,867
10	2019	Lazzari, A., Tonazzi, D., Massi, F., Squeal propensity characterization of brake lining materials through friction noise measurements, (2019) Mechanical Systems and Signal Processing, 128, pp. 216-228, DOI: 10.1016/j.ymsp.2019.03.034, DOCUMENT TYPE: Article, SOURCE: Scopus	13	6,471



11	2019	Tonazzi, D., Massi, F., Salipante, M., Baillet, L., Berthier, Y., Estimation of the normal contact stiffness for frictional interface in sticking and sliding conditions, (2019) Lubricants, 7 (7), art. no. 56, DOI: 10.3390/lubricants7070056, DOCUMENT TYPE: Article, SOURCE: Scopus	6	
12	2019	Perrin, E., Bou-Saïd, B., Massi, F., Numerical modeling of bone as a multiscale poroelastic material by the homogenization technique, (2019) Journal of the Mechanical Behavior of Biomedical Materials, 91, pp. 373-382, DOI: 10.1016/j.jmbbm.2018.12.015, DOCUMENT TYPE: Article, SOURCE: Scopus	3	3,372
13	2018	Lazzari, A., Tonazzi, D., Conidi, G., Malmassari, C., Cerutti, A., Massi, F., Experimental evaluation of brake pad material propensity to stick-slip and groan noise emission, (2018) Lubricants, 6 (4), art. no. 107, DOI: 10.3390/lubricants6040107, DOCUMENT TYPE: Article, SOURCE: Scopus	11	
14	2018	Tonazzi, D., Massi, F., Baillet, L., Brunetti, J., Berthier, Y., Interaction between contact behaviour and vibrational response for dry contact system, (2018) Mechanical Systems and Signal Processing, 110, pp. 110-121, DOI: 10.1016/j.ymsp.2018.03.020, DOCUMENT TYPE: Article, SOURCE: Scopus	23	5,005
15	2018	Ghezzi, I., Houara Komba, E.W., Tonazzi, D., Bouscharain, N., Jeune, G.L., Coudert, J.-B., Massi, F., Damage evolution and contact surfaces analysis of high-loaded oscillating hybrid bearings, (2018) Wear, 406-407, pp. 1-12, DOI: 10.1016/j.wear.2018.03.016, DOCUMENT TYPE: Article, SOURCE: Scopus	8	2,95
16	2018	Massi, F., Vittecoq, E., Chatelet, E., Saulot, A., Berthier, Y., Design of a tribometer for investigating tactile perception, (2018) Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 232 (6), pp. 773-784, DOI: 10.1177/1350650118518906, DOCUMENT TYPE: Article, SOURCE: Scopus	5	1,137
17	2018	Lacerra, G., Di Bartolomeo, M., Milana, S., Baillet, L., Chatelet, E., Massi, F., Validation of a new frictional law for simulating friction-induced vibrations of rough surfaces, (2018) Tribology International, 121, pp. 468-480, DOI: 10.1016/j.triboint.2018.01.052, DOCUMENT TYPE: Article, SOURCE: Scopus	14	3,517
18	2018	Cesini, I., Ndengue, J.D., Chatelet, E., Faucheu, J., Massi, F., Correlation between friction-induced vibrations and tactile perception during exploration tasks of isotropic and periodic textures, (2018) Tribology International, 120, pp. 330-339, DOI: 10.1016/j.triboint.2017.12.041, DOCUMENT TYPE: Article, SOURCE: Scopus	11	3,517
19	2017	Ndengue, J.D., Cesini, I., Faucheu, J., Chatelet, E., Zahouani, H., Delafosse, D., Massi, F., Tactile Perception and Friction-Induced Vibrations: Discrimination of Similarly Patterned Wood-Like Surfaces, (2017) IEEE Transactions on Haptics, 10 (3), art. no. 7795197, pp. 409-417, DOI: 10.1109/TOH.2016.2643662, DOCUMENT TYPE: Article, SOURCE: Scopus	13	1,869
20	2017	Chehami, L., Moulin, E., de Rosny, J., Prada, C., Chatelet, E., Lacerra, G., Gryllias, K., Massi, F., Nonlinear secondary noise sources for passive defect detection using ultrasound sensors, (2017) Journal of Sound and Vibration, 386, pp. 283-294, DOI: 10.1016/j.jsv.2016.10.006, DOCUMENT TYPE: Article, SOURCE: Scopus	7	2,618
21	2017	Di Bartolomeo, M., Morelli, F., Tonazzi, D., Massi, F., Berthier, Y., Investigation of the role of contact-induced vibrations in tactile discrimination of textures, (2017) Mechanics and Industry, 18 (4), art. no. 404, DOI: 10.1051/meca/2017027, DOCUMENT TYPE: Article, SOURCE: Scopus	5	0,659



22	2017	Di Bartolomeo, M., Lacerra, G., Baillet, L., Chatelet, E., Massi, F., Parametrical experimental and numerical analysis on friction-induced vibrations by a simple frictional system, (2017) Tribology International, 112, pp. 47-57, DOI: 10.1016/j.triboint.2017.03.032, DOCUMENT TYPE: Article, SOURCE: Scopus	19	3,246
23	2017	Tonazzi, D., Komba, E.H., Massi, F., Le Jeune, G., Coudert, J.B., Maheo, Y., Berthier, Y., Numerical analysis of contact stress and strain distributions for greased and ungreased high loaded oscillating bearings, (2017) Wear, 376-377, pp. 1164-1175, DOI: 10.1016/j.wear.2016.11.037, DOCUMENT TYPE: Article, SOURCE: Scopus	10	2,96
24	2016	Komba, E.H., Massi, F., Bouscharain, N., Le Jeune, G., Berthier, Y., Maheo, Y., Experimental damage analysis in high loaded oscillating bearings, (2016) Tribology International, 102, pp. 507-515, DOI: 10.1016/j.triboint.2016.06.008, DOCUMENT TYPE: Article, SOURCE: Scopus	10	2,903
25	2016	Brunetti, J., Massi, F., D'Ambrogio, W., Berthier, Y., A new instability index for unstable mode selection in squeal prediction by complex eigenvalue analysis, (2016) Journal of Sound and Vibration, 377, pp. 106-122, DOI: 10.1016/j.jsv.2016.05.002, DOCUMENT TYPE: Article, SOURCE: Scopus	19	2,593
26	2016	Piriou, P., Ouenzerfi, G., Migaud, H., Renault, E., Massi, F., Serrault, M., A numerical model to reproduce squeaking of ceramic-on-ceramic total hip arthroplasty. Influence of design and material, (2016) Orthopaedics and Traumatology: Surgery and Research, 102 (4), pp. S229-S234, DOI: 10.1016/j.otsr.2016.03.005, DOCUMENT TYPE: Article, SOURCE: Scopus	5	1,468
27	2015	Brunetti, J., Massi, F., Saulot, A., Renouf, M., D'Ambrogio, W., System dynamic instabilities induced by sliding contact: A numerical analysis with experimental validation, (2015) Mechanical Systems and Signal Processing, 58, pp. 70-86, DOI: 10.1016/j.ymsp.2015.01.006, DOCUMENT TYPE: Article, SOURCE: Scopus	12	2,771
28	2015	Brunetti, J., Massi, F., D'Ambrogio, W., Berthier, Y., Dynamic and energy analysis of frictional contact instabilities on a lumped system, (2015) Meccanica, 50 (3), pp. 633-647, DOI: 10.1007/s11012-014-0020-0, DOCUMENT TYPE: Article, SOURCE: Scopus	10	1,828
29	2015	Tonazzi, D., Massi, F., Baillet, L., Culla, A., Di Bartolomeo, M., Berthier, Y., Experimental and numerical analysis of frictional contact scenarios: from macro stick-slip to continuous sliding, (2015) Meccanica, 50 (3), pp. 649-664, DOI: 10.1007/s11012-014-0010-2, DOCUMENT TYPE: Article, SOURCE: Scopus	33	1,828
30	2015	Ouenzerfi, G., Massi, F., Renault, E., Berthier, Y., Squeaking friction phenomena in ceramic hip endoprosthesis: Modeling and experimental validation, (2015) Mechanical Systems and Signal Processing, 58, pp. 87-100, DOI: 10.1016/j.ymsp.2014.09.012, DOCUMENT TYPE: Article, SOURCE: Scopus	20	2,771
31	2014	Massi, F., Bouscharain, N., Milana, S., Le Jeune, G., Maheo, Y., Berthier, Y., Degradation of high loaded oscillating bearings: Numerical analysis and comparison with experimental observations, (2014) Wear, 317 (1-2), pp. 141-152, DOI: 10.1016/j.wear.2014.06.004, DOCUMENT TYPE: Article, SOURCE: Scopus	16	1,913
32	2014	Renouf, M., Nhu, V.-H., Saulot, A., Massi, F., First-body versus third-body: Dialogue between an experiment and a combined discrete and finite element approach, (2014) Journal of Tribology, 136 (2), art. no. 021104, DOI: 10.1115/1.4026062, DOCUMENT TYPE: Article, SOURCE: Scopus	3	1,101

33	2013	Tonazzi, D., Massi, F., Culla, A., Baillet, L., Fregolent, A., Berthier, Y., Instability scenarios between elastic media under frictional contact, (2013) Mechanical Systems and Signal Processing, 40 (2), pp. 754-766, DOI: 10.1016/j.ymsp.2013.05.022, DOCUMENT TYPE: Article, SOURCE: Scopus	49	2,465
34	2012	Fagiani, R., Massi, F., Chatelet, E., Costes, J.P., Berthier, Y., Contact of a finger on rigid surfaces and textiles: Friction coefficient and induced vibrations, (2012) Tribology Letters, 48 (2), pp. 145-158, DOI: 10.1007/s11249-012-0010-0, DOCUMENT TYPE: Article, SOURCE: Scopus	41	1,743
35	2012	Di Bartolomeo, M., Massi, F., Baillet, L., Culla, A., Fregolent, A., Berthier, Y., Wave and rupture propagation at frictional bimaterial sliding interfaces: From local to global dynamics, from stick-slip to continuous sliding, (2012) Tribology International, 52, pp. 117-131, DOI: 10.1016/j.triboint.2012.03.008, DOCUMENT TYPE: Article, SOURCE: Scopus	42	1,536
36	2011	Cantone, F., Massi, F., A numerical investigation into the squeal instability: Effect of damping, (2011) Mechanical Systems and Signal Processing, 25 (5), pp. 1727-1737, DOI: 10.1016/j.ymsp.2010.12.005, DOCUMENT TYPE: Article, SOURCE: Scopus	25	1,824
37	2011	Renouf, M., Massi, F., Fillot, N., Saulot, A., Numerical tribology of a dry contact, (2011) Tribology International, 44 (7-8), pp. 834-844, DOI: 10.1016/j.triboint.2011.02.008, DOCUMENT TYPE: Article, SOURCE: Scopus	93	1,553
38	2011	Fagiani, R., Massi, F., Chatelet, E., Berthier, Y., Akay, A., Tactile perception by friction induced vibrations, (2011) Tribology International, 44 (10), pp. 1100-1110, DOI: 10.1016/j.triboint.2011.03.019, DOCUMENT TYPE: Article, SOURCE: Scopus	91	1,553
39	2010	Di Bartolomeo, M., Meziane, A., Massi, F., Baillet, L., Fregolent, A., Dynamic rupture at a frictional interface between dissimilar materials with asperities, (2010) Tribology International, 43 (9), pp. 1620-1630, DOI: 10.1016/j.triboint.2010.03.008, DOCUMENT TYPE: Article, SOURCE: Scopus	26	1,56
40	2010	Massi, F., Rocchi, J., Culla, A., Berthier, Y., Coupling system dynamics and contact behaviour: Modelling bearings subjected to environmental induced vibrations and 'false brinelling' degradation, (2010) Mechanical Systems and Signal Processing, 24 (4), pp. 1068-1080, DOI: 10.1016/j.ymsp.2009.09.004, DOCUMENT TYPE: Article, SOURCE: Scopus	38	1,762
41	2010	Fagiani, R., Massi, F., Chatelet, E., Berthier, Y., Sestieri, A., Experimental analysis of friction-induced vibrations at the finger contact surface, (2010) Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, 224 (9), pp. 1027-1035, DOI: 10.1243/13506501JET722, DOCUMENT TYPE: Article, SOURCE: Scopus	23	0,721
42	2009	Culla, A., Massi, F., Uncertainty model for contact instability prediction, (2009) Journal of the Acoustical Society of America, 126 (3), pp. 1111-1119, DOI: 10.1121/1.3183376, DOCUMENT TYPE: Article, SOURCE: Scopus	25	1,523
43	2009	Massi, F., Baillet, L., Culla, A., Structural modifications for squeal noise reduction: Numerical and experimental validation, (2009) International Journal of Vehicle Design, 51 (1-2), pp. 168-189, DOI: 10.1504/ijvd.2009.027120, DOCUMENT TYPE: Article, SOURCE: Scopus	23	0,48

44	2009	Akay, A., Giannini, O., Massi, F., Sestieri, A., Disc brake squeal characterization through simplified test rigs, (2009) <i>Mechanical Systems and Signal Processing</i> , 23 (8), pp. 2590-2607, DOI: 10.1016/j.ymsp.2009.03.017, DOCUMENT TYPE: Article, SOURCE: Scopus	66	2,075
45	2008	Massi, F., Berthier, Y., Baillet, L., Contact surface topography and system dynamics of brake squeal, (2008) <i>Wear</i> , 265 (11-12), pp. 1784-1792, DOI: 10.1016/j.wear.2008.04.049, DOCUMENT TYPE: Article, SOURCE: Scopus	91	1,509
46	2008	Massi, F., Giannini, O., Effect of damping on the propensity of squeal instability: An experimental investigation, (2008) <i>Journal of the Acoustical Society of America</i> , 123 (4), pp. 2017-2023, DOI: 10.1121/1.2875628, DOCUMENT TYPE: Article, SOURCE: Scopus	34	1,717
47	2008	Giannini, O., Massi, F., Characterization of the high-frequency squeal on a laboratory brake setup, (2008) <i>Journal of Sound and Vibration</i> , 310 (1-2), pp. 394-408, DOI: 10.1016/j.jsv.2007.08.009, DOCUMENT TYPE: Article, SOURCE: Scopus	47	1,364
48	2007	Massi, F., Baillet, L., Giannini, O., Sestieri, A., Brake squeal: Linear and nonlinear numerical approaches, (2007) <i>Mechanical Systems and Signal Processing</i> , 21 (6), pp. 2374-2393, DOI: 10.1016/j.ymsp.2006.12.008, DOCUMENT TYPE: Article, SOURCE: Scopus	176	1,333
49	2006	Massi, F., Giannini, O., Baillet, L., Brake squeal as dynamic instability: An experimental investigation, (2006) <i>Journal of the Acoustical Society of America</i> , 120 (3), pp. 1388-1398, DOI: 10.1121/1.2228745, DOCUMENT TYPE: Article, SOURCE: Scopus	76	1,433
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