

PUBLIC SELECTION FOR ONE TENURE-TRACK – PROBATIONARY, ASSISTANT PROFESSOR (RICERCATORE A TEMPO DETERMINATO) WITH FULL TIME TEMPORARY CONTRACT PURSUANT TO ITALIAN LAW NO. 240/2010, ART. 24 PARAGRAPH 3 LETTER B, AT THE ACADEMIC CLASS OF EXPERIMENTAL AND APPLIED SCIENCES, IN THE ACADEMIC RECRUITMENT FIELD 09/A2 APPLIED MECHANICS – ACADEMIC DISCIPLINE ING-IND/13 APPLIED MECHANICS, ISSUED BY RECTOR’S DECREE NO. 330 DATED 23/05/22/2022

MINUTE OF THE THIRD MEETING

The Evaluation Committee for the selection of one tenure-track – probationary, assistant professor (ricercatore a tempo determinato) for the Academic Recruitment Field 09/A2 Applied Mechanics – Academic Discipline ING-IND/13 Applied Mechanics, at the Academic Class of Experimental and Applied Sciences – Institute of Mechanical Intelligence of the Sant’ Anna School of Advanced Studies - Pisa pursuant to Italian Law No. 240/2010, Art. 24 paragraph 3 letter B, appointed by decree No. 300 dated May, 23, 2022 by the Rector, consists of:

- Prof. Massimo Callegari, Full Professor of the Academic Recruitment Field 09/A2 “Applied Mechanics” at the Università Politecnica delle Marche;
- Prof. Jan Van Erp, Full Professor at the University of Twente;
- Prof. Marco Fontana, Associate Professor of the Academic Recruitment Field 09/A2 “Applied Mechanics” at Scuola Superiore Sant’ Anna;
- Prof. Monica Malvezzi, Associate Professor of the Academic Recruitment Field 09/A2 “Applied Mechanics” at the University of Siena;
- Prof. Giulio Rosati, Full Professor of the Academic Recruitment Field 09/A2

The Committee convened for the third time, on July, 13, 2022, at 10.00 a.m. Prof. Fontana, Malvezzi and Callegari were in the Yellow Room of TeCIP Institute, Via Moruzi, 1; Prof. Rosati and Prof. Van Erp convened on teleconference, as authorized by the Rector, via Webex (<https://sssup.webex.com/sssup/j.php?MTID=m2deb80a7553c5b0f24a3769656f30e87>).

The President ascertained that all the members of the Committee were present or connected and he declared the session open.

Each member of the Committee declared to have accessed online and examined the documents submitted by the candidates.

The Commission then carried out a collegial examination of the documentation and drew up a brief summary of the qualifications, curriculum and scientific production of the candidates.

The named assessments are annexed to and form an integral part of the present minute (Annex No. 1).

At 10.30 the Committee completed the examination of the documents supplied by the candidates and ascertained that no 2 candidates were present.

The President informed the candidates that the interview would be held on alphabetic order and identified the candidates (identification form is Annex 2 to these minutes).

The Committee noted that in addition to the candidates, other interested parties are not present.

The President started the interview with **ID 725995**
In the interview the Committee assessed the level of knowledge of the English language too.

The President started the interview with Dr. Daniele Leonardis
In the interview the Committee assessed the level of knowledge of the English language too.

At the end of the interviews the Committee invited the candidates to leave the meeting room and continue the meeting.

Then, after a thorough debate, the Committee assigned the scores to the qualifications, to each publication submitted by the candidate and to the overall consistency of the scientific production, on the basis of the criteria defined in the preliminary meeting. The scores assigned are listed in Annex No. 3.

Thereafter the Committee summarised the scores assigned to the candidates.

Name and surname	Qualifications	Publications	Overall consistency of the scientific production and research project	Final score
ID 725995) --	33	33.3	9	75.3
Daniele Leonardis	29.5	35.7	13.5	78.7

On the basis of the scores obtained, the Committee declared **Dr. Daniele Leonardis** winner of the selection.

Therefore, the Committee declared the work finished and decided that the Secretary will give a signed copy of these minutes to Staff Office together with the declarations of approval by the members of the Committee connected by teleconference. These declarations form an integral part of these agreed minutes.

The meeting was adjourned at 16.40

THE COMMITTEE

Prof. Marco Fontana - Secretary
Prof. Monica Malvezzi - Member
Prof. Massimo Callegari - President

ANNEX 1

PUBLIC SELECTION FOR ONE TENURE-TRACK – PROBATIONARY, ASSISTANT PROFESSOR (RICERCATORE A TEMPO DETERMINATO) WITH FULL TIME TEMPORARY CONTRACT PURSUANT TO ITALIAN LAW NO. 240/2010, ART. 24 PARAGRAPH 3 LETTER B, AT THE ACADEMIC CLASS OF EXPERIMENTAL AND APPLIED SCIENCES, IN THE ACADEMIC RECRUITMENT FIELD 09/A2 APPLIED MECHANICS – ACADEMIC DISCIPLINE ING-IND/13 APPLIED MECHANICS, ISSUED BY RECTOR'S DECREE NO. 330 DATED 23/05/22/2022

CANDIDATE

ID 725995

Qualifications

ID 725995 received his Master degree in Mechanical Engineering from Univ. of Pisa (cum Laude) with the thesis "Kinematic analysis of a novel pin wheel joint". In 2012 he was awarded a PhD (cum Laude) at Scuola Superiore Sant'Anna with a PhD thesis on the mechatronic design and testing of an innovative rowing simulator. During his PhD he spent a secondment period at the German Research Center for Artificial Intelligence in Kaiserslautern (Germany).

In the following years, he has been employed as Post-Doc and as Researcher at Scuola Superiore Sant'Anna where he has carried out research in the fields of wearable motion tracking systems, haptics and robotic exoskeletons. He has been also consultant for high tech Spin-Off Company and currently he is a technician at Scuola Sant'Anna.

The candidate holds the national qualification for Associate Professor in recruitment field 09/A2.

ID 725995 has been very active in collaborative projects that are mostly relevant for the academic recruitment field and shows a good track of project activities as the primary investigator and as collaborator. He is co-founder of the Spin Off company Wearable Robotics.

He participated as a speaker to several international conferences and received awards for research and third mission activities. ID 725995 is inventor of 3 patents that shows clear relevance with the academic recruitment field.

The candidate shows a quite continuous and relevant teaching activities at university level with several appointments in courses in Engineering. He has been supervisor of 10 MS student and co-supervisor of several PhD students.

Publications

Originality, degree of innovation, methodological rigour, and relevance of the presented publications are very good. Consistency of publications with the ING-IND/13 Academic Discipline topics is very good. Scientific relevance, editorial position and the diffusion of publications within the scientific community is good. Individual contribution of the candidate to collaborative researches is good.

Overall consistency of the scientific production and research project

The overall scientific production of the candidate is mostly relevant to topics of the Academic Discipline of ING-IND/13 and is good in terms of consistency, intensity and continuity.

The candidate presented a research project titled "Wearable technologies for safety and health of humans" that is consistent with the ING-IND/13 Academic Discipline research topics. The ambition of the project and the quality of the ideas are very good. The level of novelty of the proposed ideas with respect to the state of the art is good. The impact of the prospected outcomes on scientific community and society is relevant. The project implementation is described very briefly but shows a reasonable feasibility.

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CANDIDATE

DANIELE LEONARDIS

Dr. Leonardis received his Master degree in Automation Engineering (cum Laude) from Univ. of Bari in 2010 with the thesis “Prototipazione rapida di un sistema di monitoraggio strutturale real-time mediante UEI-Sim”. In 2015 he was awarded a PhD (cum Laude) at Scuola Superiore Sant’Anna with a PhD thesis on the design and integration of novel kinesthetic haptic interfaces. He spent a secondment period at Northwestern University of Evanston in Chicago (USA).

In the following years, he has been employed as Post-Doc and as Researcher at Scuola Superiore Sant’Anna where he has carried out research in the fields of haptics, rehabilitation robotics and field robotics.

The candidate holds the national qualification for Associate Professor in recruitment field 09/A2.

Dr. Leonardis has been very active in collaborative projects that are relevant for the academic recruitment field and shows a very good track of project activities as the primary investigator and as collaborator.

Leonardis is inventor of 2 patents that show clear relevance with the academic recruitment field.

He participated as a speaker to several international conferences and received awards for research and third mission activities.

The candidate shows several teaching activities at university level with some appointments in courses in Engineering. He has been supervisor of 4 master students and co-tutor of 1 PhD student.

Publications

Originality, degree of innovation, methodological rigour, and relevance of the presented publications are excellent. Consistency of publications with the ING-IND/13 Academic Discipline topics is very good. Scientific relevance, editorial position and the diffusion of publications within the scientific community are very good. Individual contribution of the candidate to collaborative researches is good.

Overall consistency of the scientific production

The candidate presented a research project titled "Advancing wearable robotics usability and effectiveness through innovative rendering strategies, novel actuator designs and soft interfaces" that is consistent with the ING-IND/13 Academic Discipline research topics. The ambition of the project and the quality of the ideas are excellent. The level of novelty of the proposed ideas with respect to the state of the art is excellent. The impact of the prospected outcomes on scientific community and society is very relevant. The implementation is well organized and methodology is scientifically sound.

ANNEX 3

PUBLIC SELECTION FOR ONE TENURE-TRACK – PROBATIONARY, ASSISTANT PROFESSOR (RICERCATORE A TEMPO DETERMINATO) WITH FULL TIME TEMPORARY CONTRACT PURSUANT TO ITALIAN LAW NO. 240/2010, ART. 24 PARAGRAPH 3 LETTER B, AT THE ACADEMIC CLASS OF EXPERIMENTAL AND APPLIED SCIENCES, IN THE ACADEMIC RECRUITMENT FIELD 09/A2 APPLIED MECHANICS – ACADEMIC DISCIPLINE ING-IND/13 APPLIED MECHANICS, ISSUED BY RECTOR’S DECREE NO. 330 DATED 23/05/22/2022

Detailed scores

			Id 725995	Leonardis
Qualification		MAX		
	a) PhD or equivalent, awarded in Italy or abroad,	4	4	4
	b) teaching activities at university level in Italy or abroad	3	2	1
	c) documented training or research activities carried out in qualified institutes in Italy or abroad:	4	3	3
	d) project activities as regards the academic recruitment fields where applicable	7	6	5
	e) organization, management and coordination – or participation – in national and international research groups, including PhD and student tutoring	10	7	6
	f) ownership of patents as regards the academic recruitment fields where applicable	4	3	2.5
	g) participation as a speaker in national and international conferences	6	5	5
	h) national and international awards for research activities	6	3	3
Publications	(see detailed evaluation tables)	42	33.3	35.7
Research Project	Scientific quality: quality of the overall scientific ideas and of the proposed methodology; - Originality: level of novelties of the proposed ideas with respect to the state of the art; - Impact: impact of the prospected outcomes on scientific community and society; - Feasibility: feasibility of the proposed activities; - Consistency with the ING-IND/13 Academic Field research topics.	8	5	7.5
OVERALL SCIENTIFIC PRODUCTION	consistency, intensity and continuity	6	4	6
		TOTAL	75.3	78.7

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	Publication	c1 (1.25)	c2 (1.00)	c3 (0.75)	c4 (0.5)	Tot
1	Alessandro Filippeschi, Emanuele Ruffaldi, Lorenzo Peppoloni, Carlo Alberto Avizzano (2019). Online Calibration Procedure for Motion Tracking with Wearable Sensors using Kalman Filtering. In: Springer Proceedings in Advanced Robotics. vol. 8, p. 440-448, Berlin:Springer Science and Business Media B.V., Bologna, July, 2019 doi: 10.1007/978-3-319-93188-3_50	0.7	0.8	0.2	0.3	2
2	Bassani, Giulia, Filippeschi, Alessandro, Ruffaldi, Emanuele (2018). Nonresonant Kinetic Energy Harvesting Using Macrofiber Composite Patch. IEEE SENSORS JOURNAL, vol. 18, p. 2068-2076, ISSN: 1530-437X, doi: 10.1109/ISEN.2017.2788423	1.25	1	0.75	0.4	3.4
3	RUFFALDI, EMANUELE, PEPPOLONI, LORENZO, FILIPPESCHI, Alessandro (2015). Sensor fusion for complex articulated body tracking applied in rowing. PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS. PART P, JOURNAL OF SPORTS ENGINEERING AND TECHNOLOGY, vol. 229, p. 92-102	1	0.75	0.6	0.4	2.75
4	FILIPPESCHI, Alessandro, BRIZZI, FILIPPO, RUFFALDI, EMANUELE, JACINTO, JUAN MANUEL, AVIZZANO, Carlo Alberto (2015). Encountered-type haptic interface for virtual interaction with real objects based on implicit surface haptic rendering for remote palpation. In: IEEE IROS Proceedings.	0.7	1	0.2	0.3	2.2
5	Jacinto Villegas, Juan Manuel, SATLER, MASSIMO, FILIPPESCHI, Alessandro, BERGAMASCO, Massimo, Ragaglia, Matteo, ARGOLAS, ALFREDO, NICCOLINI, Marta, AVIZZANO, Carlo Alberto (2017). A Novel Wearable Haptic Controller for Teleoperating Robotic Platforms. IEEE ROBOTICS AND AUTOMATION LETTERS, vol. 2, p. 2072-2079	1.25	1	0.75	0.2	3.2
6	FILIPPESCHI, Alessandro, Schmitz, Norbert, Miezal, Markus, Bleser, Gabriele, RUFFALDI, EMANUELE, Stricker, Didier (2017). Survey of Motion Tracking Methods Based on Inertial Sensors: A Focus on Upper Limb Human Motion. SENSORS, vol. 17, ISSN: 1424-8220, doi: 10.3390/s17061257	0.75	1	0.75	0.3	2.8
7	Filippeschi, Alessandro, Jacinto Villegas, Juan Manuel, Satler, Massimo, Avizzano, Carlo Alberto (2018). A novel Diagnostician Haptic Interface for Tele-palpation. In: IEEE Proc. of Robot and Human Interactive Communication Symposium. p. 328-335, US:IEEE, ISBN: 978-1-5386-7980-7, Nanjing, China, 27 - 31 Agosto, doi: 10.1109/ROMAN.2018.8525667	0.6	1	0.15	0.3	2.05
8	FILIPPESCHI, Alessandro, RUFFALDI, EMANUELE (2013). Boat Dynamics and Force Rendering Models for the SPRINT System. IEEE TRANSACTIONS ON HUMAN-MACHINE SYSTEMS, vol. 43, p. 631-642, ISSN: 2168-2291, doi: 10.1109/TSMC.2013.2284495	1.25	1	0.75	0.4	3.4
9	Avizzano, Carlo Alberto, Tripicchio, Paolo, Ruffaldi, Emanuele, Filippeschi, Alessandro, Jacinto-Villegas, Juan Manuel (2021). Real-Time Embedded Vision System for the Watchfulness Analysis of Train Drivers. IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS, vol. 22, p. 208-218, ISSN: 1524-9050, doi: 10.1109/TITS.2019.2955787	0.8	0.5	0.75	0.3	2.35
10	Camardella C., Porcini F., Filippeschi A., Marcheschi S., Solazzi M., Frisoli A. (2021). Gait Phases Blended Control for Enhancing Transparency on Lower-Limb Exoskeletons. IEEE ROBOTICS AND AUTOMATION LETTERS, vol. 6, p. 5453-5460, ISSN: 2377-3766, doi: 10.1109/LRA.2021.3075368	1.25	0.8	0.75	0.3	3.1
11	Filippeschi A., Griffa P., Avizzano C. A. (2021). Kinematic optimization for the design of a collaborative robot end-effector for tele-echography. ROBOTICS, vol. 10, p. 1-17, ISSN: 2218-6581, doi: 10.3390/robotics10010008	1	1	0.75	0.4	3.15
12	Bagnoli, Leonardo, Fantoni, Gualtiero, FILIPPESCHI, Alessandro, Guiggiani, Massimo (2007). Kinematic analysis of a novel pin-wheel joint. MECCANICA, vol. 42, p. 495-502, ISSN: 0025-6455, doi: 10.1007/s11012-007-9075-5	1	1	0.6	0.3	2.9
					TOT	33.3

Publications Leonardis

	Publication	c1 (1.25)	c2 (1.00)	c3 (0.75)	c4 (0.5)	Tot
1	Leonardis D., Santamato G., Gabardi M., Solazzi M., Frisoli A. (2022). A parallel-elastic actuation approach for wide bandwidth fingertip haptic devices. MECCANICA, vol. 57, p. 739-749, ISSN: 1572-9648, doi: 10.1007/s11012-022-01478-9	1.25	1	0.5	0.3	3.05
2	Leonardis D, Gabardi M, Barsotti M, Frisoli A (2022). Discrete Cutaneous Feedback for Reducing Dimensions of Wearable Haptic Devices. FRONTIERS IN VIRTUAL REALITY, ISSN: 2673-4192, doi: 10.3389/frvir.2022.820266	0.8	0.8	0.25	0.3	2.15
3	Leonardis Daniele, Tiseni Luca, Chiaradia Domenico, Frisoli Antonio (2021). A Twisted String, Flexure Hinges Approach for Design of a Wearable Haptic Thimble. ACTUATORS, vol. 10, ISSN: 2076-0825	0.9	0.8	0.5	0.3	2.5
4	Tiseni, luca, chiaradia, domenico, gabardi, massimiliano, solazzi, massimiliano, leonardis, danielle, frisoli, antonio (2021). UV-C Mobile Robots with Optimized Path Planning. IEEE ROBOTICS AND AUTOMATION MAGAZINE, vol. Marzo, ISSN: 1070-9932	1.25	0.8	0.75	0.2	3
5	Daniele Leonardis, Claudio Loconsole, Antonio Frisoli (2020). A passive and scalable magnetic mechanism for braille cursor, an innovative refreshable braille display. MECCANICA, ISSN: 1572-9648, doi: 10.1007/s11012-020-01190-6	1.25	1	0.5	0.4	3.15
6	Leonardis Daniele, Antonio Frisoli (2020). CORA hand: a 3D printed robotic hand designed for robustness and compliance. MECCANICA, ISSN: 1572-9648, doi: 10.1007/S11012-020-01188-0	1.25	1	0.5	0.4	3.15
7	Gabardi, Massimiliano, Solazzi, Massimiliano, Leonardis, Daniele, Frisoli, Antonio (2018). Design and Evaluation of a Novel 5 DoF Underactuated Thumb-Exoskeleton. IEEE ROBOTICS AND AUTOMATION LETTERS, vol. 3, p. 2322-2329, ISSN: 2377-3766, doi: 10.1109/LRA.2018.2807580	1.25	1	0.75	0.3	3.3
8	Bortone, Iliaria, Leonardis, Daniele, Mastronicola, Nicola, Crecchi, Alessandra, Bonfiglio, Luca, Procopio, Caterina, Solazzi, Massimiliano, Frisoli, Antonio (2018). Wearable Haptics and Immersive Virtual Reality Rehabilitation Training in Children with Neuromotor Impairments. IEEE TRANSACTIONS ON NEURAL SYSTEMS AND REHABILITATION ENGINEERING, vol. 26, p. 1469-1478, ISSN: 1534-4320, doi: 10.1109/TNSRE.2018.2846814	1.25	0.8	0.75	0.2	3
9	Buongiorno, Domenico, Sotgiu, Edoardo, Leonardis, Daniele, Marcheschi, Simone, Solazzi, Massimiliano, Frisoli, Antonio (2018). WRES: a novel 3DoF WRist ExoSkeleton with tendon-driven differential transmission for neuro-rehabilitation and teleoperation. IEEE ROBOTICS AND AUTOMATION LETTERS, vol. 3, p. 2152- 2159, ISSN: 2377-3766, doi: 10.1109/LRA.2018.2810943	1.25	1	0.75	0.2	3.2
10	LEONARDIS, DANIELE, SOLAZZI, Massimiliano, Bortone, Iliaria, FRISOLI, Antonio (2017). A 3-RSR Haptic Wearable Device for Rendering Fingertip Contact Forces. IEEE TRANSACTIONS ON HAPTICS, vol. 10, p. 305-316, ISSN: 1939-1412, doi: 10.1109/TOH.2016.2640291	1.25	1	0.75	0.3	3.3
11	LEONARDIS, DANIELE, BARSOTTI, MICHELE, LOCONSOLE, CLAUDIO, SOLAZZI, Massimiliano, Troncossi, Marco, Mazzotti, Claudio, Castelli, Vincenzo Parenti, Procopio, Caterina, Lamola, Giuseppe, Chisari, Carmelo, BERGAMASCO, Massimo, FRISOLI, Antonio (2015). An EMG-Controlled Robotic Hand Exoskeleton for Bilateral Rehabilitation. IEEE TRANSACTIONS ON HAPTICS, vol. 8, p. 140-51-151, ISSN: 1939-1412, doi: 10.1109/TOH.2015.2417570	1.25	0.8	0.75	0.1	2.9
12	FRISOLI, Antonio, LOCONSOLE, CLAUDIO, Leonardis, Daniele, Banno, Filippo, BARSOTTI, MICHELE, Chisari, Carmelo, BERGAMASCO, Massimo (2012). A New Gaze-BCI-Driven Control of an Upper Limb Exoskeleton for Rehabilitation in Real-World Tasks. IEEE TRANSACTIONS ON SYSTEMS, MAN, AND CYBERNETICS. PART C. APPLICATIONS AND REVIEWS, vol. 42, p. 1169-1179, ISSN: 1094-6977, doi: 10.1109/TSMCC.2012.2226444	1.25	0.8	0.75	0.2	3
					TOT	35.7