

**SELECTION OF ONE ASSOCIATE PROFESSORS FOR THE ACADEMIC RECRUITMENT FIELD 09/G2 "BIOENGINEERING" AT THE ACADEMIC CLASS OF EXPERIMENTAL AND APPLIED SCIENCES - BIROBOTICS INSTITUTE, PURSUANT TO ART. 24, SUBSECTION 5, OF ITALIAN LAW 240/2010, ISSUED BY RECTOR DECREE NO. 694 DATED 10/10/2022.**

The Committee for the evaluation of Dr. Matteo Cianchetti, tenure-track – probationary, assistant professor, in the third year of his temporary contract pursuant to Italian Law no. 240/2010, art. 24 paragraph 3 letter B, in order to promote her to Associate Professor in the Academic Recruitment Field 09/G2 "Bioengineering" at the Academic Class of Experimental and Applied Sciences and BioRobotics Institute, nominated by the Rector by decree No. 762 dated 08/11/2022, consists of:

- Prof. Alberto Di Minin, Professor of the Academic Recruitment Field 13/B2 "Management" at the School member of the Recruitment Committee;
- Prof. Gianluca Ciardelli, Professor of Academic Recruitment Field 09/G2 "Bioengineering" at the Politecnico di Torino;
- Prof. Elena De Momi, Professor of Academic Recruitment Field 09/G2 "Bioengineering" at the Politecnico di Milano;
- Prof. Kyujin Cho, Professor at the SNU of Seoul, designated expert by the BioRobotics Institute;
- Prof. Francesco Migliavacca, Professor of Academic Recruitment Field 09/G2 "Bioengineering" at the Politecnico di Milano;
- Prof. Herbert Shea, Professor at the EPFL of Losanna, Switzerland.

The Committee convened on February 24<sup>th</sup>, 2023 at 9.00 via teleconference. Prof. Gianluca Ciardelli participated from Pisa, prof. Kyujin Cho from Seoul, prof. Elena De Momi from Milano, prof. Alberto Di Minin from Rome, prof. Francesco Migliavacca from Milano, prof. Herbert Shea from Losanna, as authorized by the Rector.

Pursuant to art. 5 paragraph 2 of Legislative Decree no. 1172/1948, each member declared that they have no kinship or affinity up to the fourth grade with any of the other members and the candidate, that there are no reasons for abstention in relation to art. 51 of c.p.c. and that he is not in any situation, actual or potential, of conflict of interests with the candidate (as per art. 6 bis of the Legislative Decree No 241/1990).

Prof. Gianluca Ciardelli was nominated President and Prof. Alberto Di Minin Secretary.

The Committee then reviewed the Call and especially his article 4 and agreed that the candidate shall be assessed according to the parameters established by Ministerial Decree 344/2011, in relation to the compliance of the scientific profile with the "general criteria of qualification for teaching and research required for access to professoral positions at the School" established by the School's Commission for Recruitment and set out in article 1 of the Call.

The members of the Committee stated that the Personnel Office of the School has provided them with an electronic copy of the documentation submitted by the candidate containing: application, curriculum, publications with a declaration in lieu of an affidavit certifying compliance with the original, and a list of all the documents accompanying the application and that they have examined it and made their individual assessments, which are reported in Annex 1 of these minutes.

The Committee then collectively examined the publications, curriculum and teaching activities of the candidate, confronted their individual assessments and reviewed the collegiate assessment annex sub 2 attached to the minutes of which it is an integral part.

Then after a full discussion, unanimously the Committee declared that Dr. Cianchetti:  
is qualified to be appointed as associate professor.

Prof. Di Minin (Member of the Recruitment Committee) testified that the evaluation of the candidate, the presentation of the individual assessments, the ensuing discussion and, in general, the whole procedure occurred in full compliance with the rules established by Scuola Sant'Anna and its recruitment committee.

Given the conclusion of the selection procedure for one position of Associate Professor in the Academic Recruitment 09/G2 "Bioengineering" at the Academic Class of Experimental and Applied Sciences and BioRobotics Institute pursuant to art. 24, subsection 5 of Italian law 240/2010, the President declared the work closed.

These minutes, and the attached declarations of the Committee's members connected via teleconference will be given to the Personnel Office in order for these proceedings to be verified, with a decree by the Rector.

The session closed at 9.45 AM

Read, approved and signed,

The President

Prof. Gianluca Ciardelli

## ATTACHMENT 1

### INDIVIDUAL ASSESSMENTS

#### **Prof. Gianluca Ciardelli's assessment**

Dr. Matteo Cianchetti performs research in the field of soft robotics with biomedical applications. He is already a recognized expert in the field as it is demonstrated by the rich track-record which counts a significant number of publications in about 15 years of career, the presence as invited speaker in several national and international conference in robotics, a few international awards, the role covered as principal investigator in national and international research projects.

More specifically, his research activity skills are reported in an important scholarly output, counting over 100 documents, more than half of them being journal articles. Papers have been published with a very good temporal coverage, and their authors' list testifies the increasing independence and leadership role acquired, with time, by the candidate.

The Field-Weighted Citation Impact, Citation count, Citation per Publication, the h-index values are very well-positioned in both the international and national scenario when compared to peers in the reference academic field.

It is also worth noting that the number of outputs in Top Citation Percentiles, Top Journal Percentiles and international collaborations testified by the authors list is around 1/3 of the total production, which is also a significant performance indicator, and for what concerns the first parameter, the candidate is well-above the average when compared to peers. The academic corporate collaboration is limited, but this is an aspect which is so far mostly underdeveloped, in general, all over the reference academic community. Some patenting activity at national level is also reported. The Curriculum Vitae does not provide clear evidence of activities of public engagement.

Overall, in terms of research activity skills, Matteo Cianchetti demonstrates to have an outstanding ranking in the biomedical engineering field, in terms of quantity and quality of scientific production. The candidate presents also a well structured record in terms of teaching and mentoring activities, as it is testified by the chairing of courses for both the Master and Ph.D degree at the University of Pisa and Scuola Superiore S.Anna, the tutoring of Ph.D and Master Students and international internees.

The Curriculum Vitae reports also important experience as Principal Investigator in international and national programs which is very notable, in consideration of the academic age. Overall, the

participation in research projects, also with responsibility roles is fully satisfactory and there is a measurable indication of capacity of attracting funding both at national and international level.

Editorial activities are also well represented in the applicant's CV, since he is Editor-in-chief of one Journal and serves or has served as associate/guest editor to a handful of other journals of recognized impact in the biomedical sector.

Overall, basing on what stated above, my personal judgement is that there are convincing indications that Matteo Cianchetti fully deserves to be qualified for promotion to Associate Professor.

#### **Prof Kyujin Cho assessment**

Dr. Cianchetti's publication list is extensive and varied, showcasing his expertise in developing innovative soft robotics technologies that are specifically designed for use in challenging environments, such as deep-sea exploration and medical applications. His research has been groundbreaking, and his contributions to the field have been recognized with high citations to his papers.

In addition to his research excellence, Dr. Cianchetti is an exceptional researcher who creates a sustainable community for soft robotics researchers. He has shown great dedication to the field of soft robotics as a conference organizer, associate editor for the conference, and workshop organizer.

Dr. Cianchetti's work has been widely cited and has had a significant impact on the field of soft robotics. His contributions have led to the development of new technologies that have the potential to revolutionize various industries.

I fully support Dr. Cianchetti's promotion to Associate Professor.

#### **Prof. Elena De Momi's assessment**

Matteo Cianchetti has an outstanding scientific production, with a total number of publications indexed in Scopus is 103, with 56 journal articles and 40 conference papers. The scientific production has had an impact in the field, the citations are 6517 with h-index equal to 36 (according to the Scopus database). The scientific production also testifies the numerous international collaborations and worldwide recognition.

Teaching activities has been continuous: Dr. Cianchetti has been chair of courses for MSc students and PhD students and has supervised 8 PhD students and 9 MSc students.

The scientific responsibilities in national and international competitive projects is exceptional.

Dr. Cianchetti technology transfer activity is testified by the ownership of 1 patent. He has also been invited speaker to national and international events.

Dr. Cianchetti has also numerous editorial roles: he is Section Editor-in-Chief for the MDPI Actuators journal since 2020 and Associate Editor the IEEE Robotics and Automation Letters since 2018 and of the international journal Frontiers in Robotics and AI (specialty section on Soft Robotics) since 2016.

My overall judgement for the activities of Dr. Cianchetti is highly positive and I think he has reached a high level of maturity to be appointed as associate professor.

#### **Prof. Francesco Migliavacca's assessment**

From an analysis of the curriculum vitae presented by Dr. Cianchetti, I can find a remarkable scientific and teaching activity, which is well framed in the context of the Academic Recruitment field 09/G2 'Bioengineering'. In the specific, the scientific activity is mainly concentrated to the field of soft mechatronics for biorobotics.

The research activity is conducted in a highly multidisciplinary context, which sees the candidate in a role of coordination of some specific areas, thus demonstrating a high level of independence.

The quality of his results is demonstrated also by the 56 publications in international journals (of which 10 made in the period such as fixed-term researcher pursuant to art. 24, paragraph 3, letter b), of Law 240/10, from the high number of citations received, from the consequent h-index equal to 36, from the numerous participations to congresses, these also by invitation. The totality of publications demonstrates originality and innovativeness of the contents, as well as temporal continuity. From the activity of the candidate is also clear the role of the candidate in the editorial field, the activity as reviewer of publications and research projects.

With reference to the 12 publications selected by the candidate for evaluation by part of the commission, these are all consistent with the Academic Recruitment field 09/G2. The candidate assumes the role of first author in 5 publications, role of last author in 6 publications. The quality of the contents reported within the publications and the rigor methodology of the approach adopted are excellent and original, as well as the editorial quality.

The candidate carried out a balanced teaching activity, within the Master program in Bionics Engineering and the PhD program in Biorobotics. The teaching activity was carried out achieving a good evaluation by the students, as well as following, in quality of supervisor, eight graduate

students in the last three years. The candidate has also acted as supervisor or co-supervisor of MSc students.

My overall judgement for the activities of Dr. Cianchetti is highly positive and I think he has reached a high level of maturity to be appointed as associate professor.

**Prof. Herbert Shea's assessment**

Dr. Cianchetti is a highly cited and impactful researcher in the field of soft robotics. Although citation metrics should be treated with some care, his Google h-index of 43 and Scopus h-index of 36 show indisputably that his work is important for the field, as it is widely cited. His numerous invitations to speak at international conferences are further proof of the international recognition of the importance of his research in both soft robotics (grippers, artificial vocal cords, additive manufacturing methods). His publications include both review articles and research articles on elastomer-based actuators operating on several principles.

While most of his publications in the highest impact journal predate his assistant professor position, he has successfully made shift from first to last author, and has demonstrated the ability to raise funds from a variety of sources for his projects. He has grown his lab, and supervised an impressively large number of PhD students. In my opinion, Dr. Cianchetti would readily get tenure (promotion to Associate Professor) at leading institutions internationally given his track record.

## ATTACHMENT 2

### COLLEGIATE ASSESSMENTS

Collegiately, the Commission fully appreciated Dr. Matteo Cianchetti's outstanding ranking in the field of biomedical engineering. His standing is confirmed by solid bibliometric data. The Commission emphasized the remarkable research and teaching achievements and his ability to raise research funds.

Dr. Cianchetti has accumulated relevant editorial experience, he supervised a large number of PhD Students, he had been extremely active in the international scientific community. The Committee encourages the Candidate to pursue opportunities for public outreach. In conclusion, the Committee unanimously recommends Scuola Sant'Anna to promote Dr. Matteo Cianchetti as Associate Professor.