

SELECTION OF TWO ASSOCIATE PROFESSORS FOR THE ACADEMIC RECRUITMENT FIELD 09/G2 "BIOENGINEERING" AT THE BIOROBOTICS INSTITUTE - ACADEMIC CLASS OF EXPERIMENTAL AND APPLIED SCIENCES, PURSUANT TO ART. 24, SUBSECTION 5, OF ITALIAN LAW 240/2010, ISSUED BY RECTOR DECREE NO. 294 DATED 22/05/2019.

The Committee for the evaluation of Dr. Gastone Ciuti and Dr. Calogero Oddo, tenure-track – probationary, assistant professors, in the third year of their temporary contracts pursuant to Italian Law no. 240/2010, art. 24 paragraph 3 letter B, in order to promote them to Associate Professors in the Academic Recruitment Field "Bioengineering" at the BioRobotics Institute, nominated by the Rector by decree No. 462 dated 10/07/2019, consists of:

- Prof. Cesare Stefanini, Professor of the Academic Recruitment Field 09/G2 - Bioengineering at the Scuola Superiore Sant'Anna (School), designated expert by the BioRobotics Institute;
- Prof. Giulio Bottazzi, Professor of the Academic Recruitment Field 13/A2 Economic Policy at the Scuola Superiore Sant'Anna, member of the Recruitment Committee;
- Prof. Riccardo Bellazzi, Professor of the Academic Recruitment Field 09/G2 - Bioengineering at the University of Pavia, Italy;
- Prof. Dario Farina, Full Professor and Chair of Neurorehabilitation Engineering, Department of Bioengineering at the Imperial College of London, United Kingdom;
- Prof. Eugenio Guglielmelli, Professor of the Academic Recruitment Field 09/G2 - Bioengineering at the Università Campus Bio-Medico di Roma, Italy;
- Prof. Pietro Valdastri Full Professor and Chair in Robotics and Autonomous Systems, School of Electronic and Electrical Engineering at the University of Leeds, United Kingdom;

The Committee convened on July 29, 2019, at 10 am: Prof. Cesare Stefanini was in his office at the BioRobotics Institute of Scuola Superiore Sant'Anna, Prof. Giulio Bottazzi, Prof. Riccardo Bellazzi, Prof. Dario Farina, Prof. Eugenio Guglielmelli and Prof. Pietro Valdastri participated to the meeting via teleconference, from the following locations:

Prof. Giulio Bottazzi, located in his residence, connected via Skype, with ID: *giuliobottazzi*

Prof. Riccardo Bellazzi, located in his office, connected via Skype, with ID: *riccardo_bellazzi*

Prof. Dario Farina, located in his office, connected via Skype, with ID: *dario.farina1973*

Prof. Eugenio Guglielmelli, located in his office, connected via Skype, with ID: *eugenioгу*

Prof. Pietro Valdastri, located in his office, connected via Skype, with ID: *pietro_valdastri*



The draft of the minutes that follows, was agreed on and approved by the members of the Committee.

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 candidates, that there are no reasons for abstention in relation to art. 51 of c.p.c. and that they are not in any situation, actual or potential, of conflict of interests with the candidates (as per art. 6 bis of the Legislative Decree No 241/1990).

Prof. Eugenio Guglielmelli was nominated as President and Prof. Cesare Stefanini as Secretary.

The Committee then reviewed the Call and especially its 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 professorial 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 candidates 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 candidates, confronted their individual assessments and reviewed the collegiate assessment as in the Annex attached to the minutes, of which it is an integral part.

Then after a full discussion, on the basis of a majority vote (where necessary the President casts the deciding vote), the Committee unanimously declared that: **Dr. Gastone Ciuti and Dr. Calogero Oddo are qualified to be appointed as tenured Associate Professors.**

Prof. Bottazzi (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 two positions of Associate Professor, at the Institute of BioRobotics in the Academic Class of Experimental and Applied Sciences, for the Academic Recruitment "Bioengineering", pursuant to art. 24, subsection 5 of Italian law 240/2010,



the President declared the work closed.

These minutes, drawn up and signed by the President and the attached declarations of the Committee's members will be sent the Personnel Office in order for these proceedings to be verified, with a decree by the Rector.

The session closed at 12 pm.

Read, approved and signed,

The President

A handwritten signature in blue ink, appearing to read 'E. Guglielmelli', written over a horizontal line.

Prof. Eugenio Guglielmelli

ANNEX 1: INDIVIDUAL ASSESSMENTS

Assessment of Dr. Gastone Ciuti by Prof. DARIO FARINA

The scientific output for the candidate is very good, and the trend of his academic profile is very positive. He authored a notable number of review articles, demonstrating deep knowledge of his research field, and it is noteworthy that one of the reviews is in Nature Reviews series. Publications are of high level, typically multidisciplinary and resulting from qualified international collaborations.

Dr. Ciuti is, or has been involved with primary role in many international research projects including one ERC grant proposal that successfully past the first evaluation stage, corresponding to a top 3% amongst international peers, that is well above the European average performance of ERC starting grant applicants.

The topics taught in teaching activity are well in line with his research activity. The quantity of mentored PhD students is outstanding compared to international standards.

The overall evaluation for the candidate is very positive, fully fitting in my opinion the target profile of an Associate Professor of Scuola Superiore Sant'Anna at the BioRobotics Institute.

Assessment of Dr. Calogero Oddo by Prof. DARIO FARINA

The scientific output for the candidate, as demonstrated by the set of publications submitted in the application dossier, is very solid from both the engineering and the neuroscience viewpoints. He indeed published on both first class neuroscience and engineering journals, always demonstrating independent thinking and original approach. Citations to his work are much above the typical level for a researcher with similar level of seniority and the growth trend is also strongly positive.

Dr. Oddo performs excellent academic research, often distributed on a large number of small size, high quality projects, well focused around a common, clear scientific theme and often characterised by a solid network of international collaborations he established. Some of his research outputs also resulted in international patent applications.

Dr. Oddo's teaching is well in line with his field of activity, and his mentorship of PhD students is remarkable.

I believe that Dr. Oddo is an all-round excellent researcher, ready to demonstrate academic leadership as Associate Professor of Scuola Superiore Sant'Anna at the BioRobotics Institute.



Assessment of Dr. Gastone Ciuti by Prof. EUGENIO GUGLIELMELLI

My overall assessment is very positive. Dr. Ciuti has a profile with a clear evidence of a strong positive trend regarding publications, scientific responsibility of research projects and international visibility and leadership.

The candidate level of international collaborations is excellent, including two visiting research periods at Sorbonne and various participations to editorial committees of journals highly specialized in his research area. His research activity is well focused on Medical Robotics and his contribution is always clearly recognizable in terms of original design and translational applications of advanced devices for robot-assisted endoscopic diagnostic and surgical procedures. The quantity of his articles authored as first, second, or last name is notable, as well as their citational impact and the quality of the journals where such papers have been published.

Dr. Ciuti is emerging as a significant player in the field. So far, the candidate has had a co-investigator role in most of the research projects and he has now a solid reputation fully enabling the direct scientific responsibility in new projects in the near future.

The comparative analysis with a wide cohort of international faculty members serving as Associate Professors and focused on the same research area, as provided by the candidate, is clearly positive. The teaching activity of Dr. Ciuti is fully pertinent to the Bioengineering area, tightly related to his research interests, and it has been performed with continuity over the years.

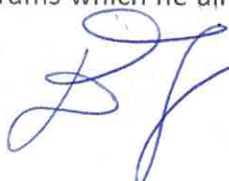
Finally, Dr. Ciuti is also very active in technology transfer activities, though with a clear priority to academic activities. This is demonstrated by his role as co-inventor of several patent applications and by the achievement of the first prize in a local "Start-Cup" competition.

In conclusion, I express my full agreement for the promotion of Dr. Ciuti to Associate Professor at the Institute of BioRobotics of the Scuola Superiore Sant'Anna.

Assessment of Dr. Calogero Oddo by Prof. EUGENIO GUGLIELMELLI

The scientific profile of Dr. Oddo is extremely solid, as substantiated by an undisputable comparative analysis. His publication track record includes products appeared on top-level journals with a clear bioengineering focus, as well as on multidisciplinary publications demonstrating openness towards other scientific communities.

The impact of Dr. Oddo's research is very strong, ranging from enabling sensing and active perception technologies to integrated prosthetic systems, and including unique methodologies, such as neuromorphic signal processing and encoding. Results are then applied to medical devices, and in some cases to non-medical applications too. His international visibility is very high and his leadership is steadily and robustly growing. His solid reputation will surely enable the role as PI in larger scale research and/or innovation initiatives in the short term, as the various EU research project or National programs which he already contributed to conceive and lead as co-PI. Dr. Oddo



is very active within scientific societies, in particular inside the IEEE, where he is also involved in Technical Committees.

Dr. Oddo is also significantly contributing to Third Mission activities, as co-inventor of several international patents or patents applications, and also with a direct involvement in projects to establish joint research centers with industry and the Italian National ARTES4.0 Competence Center (as part of the Industry 4.0 National Plan of the Ministry for Industry and Economic Development).

Dr. Oddo's teaching is focused on very interesting contemporary topics, taught by adopting innovative and interactive teaching methodologies. He received very good evaluations by students.

In conclusion, I wholeheartedly recommend Dr. Oddo for the position of Associate Professor at Scuola Superiore Sant'Anna as he clearly achieved excellent results in all assessment categories.

Assessment of Dr. Gastone Ciuti by Prof. PIETRO VALDASTRI

My knowledge of the candidate dates back to many years ago, as I have been serving as co-Advisor for his PhD thesis. My field of scientific activity is also close to the one of the candidate, which is biorobotic endoscopy of the human body.

All performance indicators for the candidate are in my opinion highly positive: a very good publication output and citation track, a very intense involvement with scientific responsibility role in international research projects, a very effective management of research activities, and extensive, continuous teaching activities at undergraduate and graduate level.

The candidate is collaborating at European level with highly reputed research partners, with whom he has a rich number of joint publications. His articles published at the beginning of his career have now a very good number of citations, demonstrating the original approach and contribution to the field. A recent work on intestinal endoscopy, even if reporting early stage results, is innovative and promising.

My overall assessment regarding his suitability to Associate Professorship is very positive, and I look forward to seeing Gastone covering high-visibility PI roles in world-class research projects.

Assessment of Dr. Calogero Oddo by Prof. PIETRO VALDASTRI

Several years ago, I had the opportunity to supervise Dr. Oddo's thesis for his BSc degree. I clearly remember the scientific potential demonstrated by him in those early days, and I am not surprised to witness today his level of excellence in academic research and teaching.

Dr. Oddo's scientific publications are of outstanding quality, regarding both article contribution and journal standing. His scientific output is nicely balanced, combining fundamental and applied research. He has a good number of international patents or patents applications, exceeding expectations for his level of seniority.



Dr. Oddo is PI of several research grants. His research is highly focused on the bioengineering understanding of the sense of touch, also addressing related technologies and applications. He is today a recognised expert in his field of activity, often being the senior author of his publications, and stands out of the international cohort of associate professors.

The candidate also delivered extended and continuous teaching activities at undergraduate and graduate level, well integrated with his scientific knowledge. He mentored already a significant number of PhD students.

To conclude, I express my full agreement on the academic recruitment of Dr. Oddo for the position of Associate Professor at Scuola Superiore Sant'Anna.

Assessment of Dr. Gastone Ciuti by Prof. RICCARDO BELLAZZI

The quality of quantity of scientific publications by the candidate is very good, with a good number of Q1 journal research products, and of high-quality international conference papers. I appreciate also the attention given by the candidate to technological aspects that nicely complements clinical applications.

The research activity in collaborative research projects is remarkable, well above national and international standards. Patenting activity is also significant and the participation to Third Mission activities of Scuola Superiore Sant'Anna is excellent.

Teaching activity is very good, and his involvement as mentor for graduate students is quantitatively and qualitatively excellent.

My overall evaluation of the candidate for his promotion to the rank of Associate Professor at Scuola Superiore Sant'Anna is highly positive.

Assessment of Dr. Calogero Oddo by Prof. RICCARDO BELLAZZI

The quality of quantity of scientific publications by the candidate is characterised by very solid performance indicators, demonstrating that his research activity is having high impact within the scientific community.

Dr. Oddo is involved in several research projects, often of small size, but always with a key role (i.e. Principal Investigator). His contribution is always well recognisable, since his research is clearly focused, coupled with a high level of scientific autonomy and leadership potential.

Dr. Oddo's undergraduate teaching activity is quite extensive and of very good quality, as confirmed by very good students' evaluations. Postgraduate teaching and mentorship are also substantial, as also shown by the noteworthy number of collaborators hired in his lab.

Dr. Oddo is also highly contributing to third mission activities of SSSA.



In conclusion, the candidate emerges as an accomplished researcher ready for a position of Associate Professor, thanks to a clear and distinctive academic development, fully in line with excellence standards of Scuola Superiore Sant'Anna.

Assessment of Dr. Gastone Ciuti by Prof. CESARE STEFANINI

Dr. Gastone Ciuti performed a continuous and intense teaching activity over the past years, mostly delivered at graduate level (Master and PhD). He is supervising and he supervised a large cohort of graduate students, mostly PhD.

The publications presented by the candidate for the selection procedure and more in general all his publications are of high scientific level and published in very good scientific journals. His bibliometrics performance is excellent, and it is worth noting that his h-index is fully resulting from peer citations (self-citations have negligible effect).

The scientific research of the candidate is wide and of very high level and so it is his involvement in national and international projects. He has been deeply involved in collaborations with companies and private partners, showing a great ability to translate research results and methodologies in industrial exploitation.

Dr. Ciuti ability to raise funding is outstanding and nicely includes both private and public sources. Therefore, I express my full agreement on the academic recruitment of Dr. Gastone Ciuti for the position of Associate Professor at Scuola Superiore Sant'Anna.

Assessment of Dr. Calogero Oddo by Prof. CESARE STEFANINI

Dr. Calogero Oddo has been very active in teaching, with courses at all levels: BSc, MSc and doctoral. Notably, he has been also supervising a large number of undergraduate and graduate students, with excellent feedback and results.

Dr. Calogero Oddo has an excellent publication record in top bioengineering journals and conferences. Furthermore, he has managed to publish in excellent journals in other fields (e.g. medicine, basic sciences, and electronics), demonstrating his capability of performing interdisciplinary research. His citation record is remarkably strong, e.g. with a Scopus h-index of 19 and a steadily growing trend.

Dr. Oddo has been extremely active in terms of research activities and has become a highly visible researcher in neuro-engineering and biorobotics at large. Finally, he is strongly active in editorial work in journal and in the organisation of conferences and workshops, showing his stature in the scientific community.

Therefore, I express my full agreement on the academic recruitment of Dr. Calogero Oddo for the position of Associate Professor at Scuola Superiore Sant'Anna.



ANNEX 2: COLLEGIATE ASSESSMENT

Collegiate Assessment of Dr. Gastone Ciuti

This collegiate assessment has been made in accordance with the Italian Ministerial Decree 344/2011 and with the teaching and research qualification criteria specifically requested by Scuola Superiore Sant'Anna as decided by the Recruitment Committee.

Regarding research performance and publication output of the candidate, the overall scientific production is of high quality and continuous over time. The scientific relevance of the journals he published on is generally excellent, with very good impact on the scientific community. Dr. Ciuti has a Scopus Field Weighted Citation Impact (FWCI) significantly above the world average, and his yearly publication output is also well above the average figure for Associate Professors in the same academic recruitment field. His contribution to the field of computer-integrated technologies for targeted diagnosis and therapy in minimally invasive endoscopic surgical procedures is at the frontier of international State of the Art and he is emerging as a significant player in the field.

With respect to teaching, the activity of the candidate is very good and sustained. He taught several courses, and supervised an extraordinarily high number of PhD and master students. His teaching methodology and approach are original and effective. He actively participated in Committees for final exams and for periodic review of student progress. He also taught courses in the framework of international collaboration, in particular as Visiting Professor at the Beijing Advanced Innovation Center for Intelligent Robots and Systems, Beijing Institute of Technology, China.

Concerning research projects, Dr. Ciuti has been involved in many EU projects covering high responsibility roles, in many cases as key proponent. He also successfully applied to the first stage of an ERC grant, passing to the second stage (3% success rate). He also managed to get funded by the private sector, demonstrating high capability of translating research into real-world usable results.

Regarding editorial activity, he is Associate Editor of one high quality Springer publication and has been also Associate Editor for a major IEEE conference, with 4000+ international attendees. He is editorial board member of one ISI journal publication and Editor-in-Chief of a new international journal in the field of Minimally-invasive Endoscopy.

Overall, the profile of the candidate is excellent with respect to all the criteria listed above. Therefore, the Committee fully agrees on the academic recruitment of the candidate Dr. Gastone Ciuti to the position of Associate Professor.



Collegiate Assessment of Dr. Calogero Oddo

This collegiate assessment has been made in accordance with the Italian Ministerial Decree 344/2011 and with the teaching and research qualification criteria specifically requested by Scuola Superiore Sant'Anna as decided by the Recruitment Committee.

Concerning research performance and publication output of the candidate, the overall scientific production is at world-class level and continuous over time. The scientific relevance of the journals he published on is excellent, with high impact on the scientific community. Dr. Oddo has a Scopus Field Weighted Citation Impact (FWCI) well above the world average, and his yearly publication output is also much more than the average figure for Associate Professors in the same academic recruitment field. His scientific contribution at the interface of neuroscience and robotics is becoming a major reference for researchers in the field and Dr. Oddo is achieving tangible international leadership.

Regarding teaching, the activity of the candidate is characterized by high quality and noteworthy quantity. He taught many courses and supervised several PhD and master students. His teaching methodology and approach are very inclusive and solid at the same time. He actively participated in Committees for final exams and for periodic review of student progress. He also taught internationally as invited lecturer in leading universities, including EPFL in Lausanne, Switzerland, Lund University in Sweden and UPMC in Paris, France.

Regarding international research projects, Dr. Oddo has been involved in two EU FP7 grants, one EU H2020 project and other smaller grants. The research team Dr. Oddo managed to create is highly international, further demonstrating his scientific reputation and talent attraction capability. At National level he has been very active in several competitive calls, contributing to the achievement of significant funding either as PI or by a commendable service activity to the Institute.

With respect to editorial activity, he has a remarkable number of editorial responsibilities in international peer review journals and conferences, including membership in the editorial board of the Journal of Sensors, service as Guest Editor in four *Frontiers* journal publications and as Associate editor in many international conferences.

Overall, the profile of the candidate is excellent with respect to all the criteria listed above. Therefore, the Committee fully agrees on the academic recruitment of the candidate Dr. Calogero Oddo to the position of Associate Professor.

