



DELIBERA

Organo	COMITATO PER IL RECLUTAMENTO E LO SVILUPPO DELLE CARRIERE
Data seduta	11 settembre 2018
Sede	Via Calepina, 14 - Trento
Oggetto	Valutazione di ricercatore di cui all'art. 24, comma 3, lett. b), L. 240/2010 ai fini della chiamata nel ruolo di professore associato: dott. Paolo BETTOTTI, Dipartimento di Fisica

Sono presenti alla deliberazione:

VALENTINA NIDER	Presidente	P
ALBERTO BELLIN	Componente	P
YURI BOZZI	Componente con funzioni di segretario	P
LUCA NOGLER	Componente	P
RAUL PAOLO SERAPIONI	Componente	P

Visto lo Statuto dell'Università degli Studi di Trento emanato con D.R. 167 del 23.04.2012;

Vista la legge 30 dicembre 2010 n. 240 "Norme in materia di organizzazione delle Università, di personale accademico e reclutamento, nonché delega al Governo per incentivare la qualità e l'efficienza del sistema universitario" e in particolare l'art. 24, comma 5;

Visto il Regolamento per il Reclutamento e la progressione di carriera di professori e ricercatori, emanato con D.R. n. 563 del 29 ottobre 2013 e in particolare l'art. 32 "Valutazione dei titolari dei contratti di cui all'art. 20, comma 1, lettera b) del presente Regolamento ai fini della chiamata nel ruolo di professore associato";

Visti i "Criteri per la valutazione dei ricercatori a tempo indeterminato con contratto di cui al comma 3, lettera b), dell'art. 24 della Legge 240/2010, ai fini della chiamata nel ruolo di professore associato", approvati dal Comitato per il Reclutamento e lo Sviluppo delle Carriere nella seduta del 21 luglio 2015;

Vista la delibera del Consiglio del Dipartimento di Fisica del 18 aprile 2018, con la quale si esprime parere favorevole all'inquadramento del dott. **Paolo BETTOTTI** nel ruolo di professore associato per il settore concorsuale 02/B1 (Fisica sperimentale della materia) – settore scientifico disciplinare FIS/01 (Fisica sperimentale);

Vista la propria delibera del 8 giugno 2018, con la quale sono stati individuati i referee esterni chiamati a valutare la maturità scientifica e didattica del dott. **Paolo BETTOTTI** nel ruolo di professore associato per il settore concorsuale 02/B1 (Fisica sperimentale della materia) – settore scientifico disciplinare FIS/01 (Fisica sperimentale);

Viste le valutazioni espresse dai tre referee sul profilo del dott. **Paolo BETTOTTI**, di cui sono riportati di seguito alcuni estratti:

Referee 1:

The research of Dr Paolo Bettotti covers a broad range of topics including photonics, material science and biophysics. The quality of his contribution to research at the international level can easily be inferred from his remarkably extended list of publications in international journals, which includes both applied and fundamental research articles. Starting essentially from a purely physics research activity (silicon photonics) Dr Bettotti has later pursued additional research topics more leaning towards material science and chemistry with specific applications in sensing, in particular in the biological context. For the above reason, his overall research activity seems to me perfectly adequate for a position in a physics department and demonstrate his capacity to evolve as a researcher, opening new fields of research based on a solid applied physics background.

In particular, during the last three years, Dr Paolo Bettotti has contributed to seventeen research papers in peer reviewed international journal, which is outstanding and even more so if one considers that several of these contributions were in high impact journals. Overall, the citations received by the work of Dr Bettotti are in the 1000-1500 range depending on the scientific indexer but in any case these are very good numbers in this area of research. The scientific activity of Dr Bettotti also includes editorial activity, in particular as referee of eighteen different research journals, some of which are among the ten worldwide most prestigious journals. He has also served as editor for two monographs in 2016 and 2017, which is testament to the extensivity of his scientific expertise and international recognition.

The international character of his research activity is also demonstrated by his numerous participations to international conferences and european research projects, both as PI and as coauthor.

His leadership capability appears clearly from his role in several highly funded research projects, including



workpackage leader in european projects and coordinator for national research projects, including the recent FIRB project NEMATIC, whose development included the organization of an international workshop held at the University of Trento. In addition, his capacity to develop collaborations is illustrated by the different groups with which he published his research during the last three years which include several teams from Italy but also Spain, Turkey and the United States of America. It is notable that his network of collaborators has been steadily evolving in the course of time, often keeping longstanding collaborations but also clearly showing complete independence in his scientific activity.

In addition to his research activity, Dr Bettotti has also worked on student supervision and teaching. He has supervised 14 master students and 2 PhD students, which in this specific scientific area is certainly remarkable in the position of Dr Bettotti. He started teaching very early in his career, first as teaching assistant at the Engineering faculty, where he taught "mechanics" in the general physics course during the preparation of his PhD. During the following post-doctoral internships Dr. Bettotti logically had no teaching activity but this activity resumed in 2010 and has been sustained until this day. He has taught different topics in several contexts and levels. This includes lectures from Bachelor to Master level in several areas related to his research interests including photonics, nanoscience, general chemistry and photovoltaics. Furthermore, he has been teaching to a variety of audiences including researchers in the framework of a European Project or Physics master students as well as less "physical science" oriented students, for instance in biomolecular sciences or biotechnology. Thus, Dr. Bettotti, as a researcher, appears to have an extensive experience in teaching, that he is able to connect to research through the supervision of master and PhD students.

For the reasons outlined above, I believe that Dr. Bettotti has reached an outstanding maturity in his research activity, demonstrated by a very strong publication track record based on an extensive national and international collaboration network. His set of rich and evolving research interests is sustained by a very successful fund seeking work and the outcome of his research is adequately disseminated towards students via a sustained teaching and internship supervision effort.

Referee 2:

Dr. Bettotti graduated in Physics in 2005 and was for several years Post-Doctoral Fellowship and Laboratory Technician at the Department of Physics of the University of Trento and in the last three years Assistant Professor (RTDB). In my opinion Dr. Bettotti performed since the beginning of his career a high-level scientific research activity. The analysis of ISI Web of Science reveals at today, starting from 2002, the presence of 77 publications (an impressive 25 in the last five years) with about 1000 citations and an H-Index of 17, a quite good result for a researcher of his age. Moreover these data show a strong research activity with a good echo and allowed Dr. Bettotti to obtain the Abilitazione Scientifica Nazionale, II fascia, concerning the sector Experimental Physics of Matter.

In the first decade of his work he performed an intense activity within the group of Prof. Lorenzo Pavesi regarding, in particular, the characterization and the use of silicon nanostructures for photonics. Several results in this case were of high importance for the field. In the last years Dr. Bettotti became fully independent performing very interesting researches concerning, in particular, porous materials and bionanostructures, with a good number of publications in High Quality Journals with High Impact Factor.

His ability to perform independent research is witnessed also by the number of funded research projects charged by him and the very high number of presentations (several in the form of invited talks) held at conferences and workshops. Some time I had the possibility to attend presentations of scientific results at Conferences given by Dr. Bettotti and every time he has clearly demonstrated his ability in presenting the obtained results. Moreover in the last years he has been the editor of two monographs regarding nanomaterials and nanodevices.

For all these reasons and due to the highly important results that Dr. Paolo Bettotti obtained during his career and in particular in the last three years, I believe that he fits very well the position of Associate Professor, hence I strongly recommend his candidature

Referee 3:

I have known the candidate since many years and had the occasion to work together in the past on research projects concerning porous Silicon photonic structures. In these collaborations, Dr. Bettotti has always played a crucial role in getting the system working and understanding the physics involved. I have found him to be an extremely pleasant, honest, and positively thinking [...] with high level scientific and organizational skills.

[...] Dr. Bettotti has grown into an independent researcher proposing new ideas and concepts. He has set up and brought to success a series of new projects. His list of approved projects is very good and includes the prestigious FIRB-futuro in ricerca grant, as well as an FP7-ICT-POSITIVE project.

He is furthermore very active in teaching and has supervised the impressive number of 16 students, of which 2 PhD students. He has a good list of invited talks and is active for the community, for instance as referee to a large series of journals.

Very important for the evaluation of his tenure track is of course the amount and quality of research results



that he obtained during his career so far, and the corresponding list of publications which is impressive. His publications are all very robust and of high quality, there is a large number of publications, and some of them are in high impact factor journals. Moreover, his excellent scientific reputation guarantees the high quality of these papers.

Overall my evaluation is very positive and I can recommend Paolo Bettotti for tenure as assistant professor in physics.

Visto il *curriculum vitae* del dott. **Paolo BETTOTTI**;

Con voto unanime;

Delibera

1. di formulare la seguente valutazione del dott. **Paolo BETTOTTI**, ai fini della chiamata ai sensi dell'art. 24 comma 5, L. 240/2010 nel ruolo di professore associato per il settore concorsuale 02/B1 (Fisica sperimentale della materia) – settore scientifico disciplinare FIS/01 (Fisica sperimentale):

*I giudizi espressi dai referee esterni sul contributo scientifico, la qualità dell'attività di ricerca e l'esperienza professionale del dott. **Paolo BETTOTTI**, nonché sulla coerenza del suo profilo con i requisiti attesi per il ruolo di professore di seconda fascia, sono molto positivi.*

*A seguito di attenta valutazione del curriculum e delle pubblicazioni, e sulla base dei giudizi formulati dai referee, il Comitato ritiene il profilo scientifico del candidato pienamente adeguato al ruolo ed esprime parere favorevole alla chiamata del dott. **Paolo BETTOTTI** nel ruolo di professore associato per il settore concorsuale **02/B1** (Fisica sperimentale della materia) – settore scientifico disciplinare **FIS/01** (Fisica sperimentale).*

F.to Il Presidente
Prof.ssa Valentina Nider

F.to Il Segretario
Prof. Yuri Bozzi

