



PUBLIC SELECTION ESTABLISHED WITH DIRECTOR'S DECREE NO. 2018/PRO_CHIM15 OF 18/01/2018 PURSUANT TO THE NOTICE PUBLISHED IN THE OFFICIAL GAZETTE NO. 13/02/2018, n.13 FOR 1 POSITION AS FULL PROFESSOR FOR THE COMPETITION SECTOR 03/B2 - PRINCIPLES OF CHEMISTRY FOR APPLIED TECHNOLOGIES - SDS CHIM/07 - PRINCIPLES OF CHEMISTRY FOR APPLIED TECHNOLOGIES, PURSUANT TO ART. 18 - LAW 240/2010, AT THE POLITECNICO DI MILANO - DEPARTMENT OF CHEMISTRY, MATERIALS AND CHEMICAL ENGINEERING "GIULIO NATTA" (PROCEDURE CODE 2018/PRO_CHIM15).

FINAL REPORT

The Selection Board, appointed with RD Index No. 1932 ref. No. 28428 of 20 March 2018, composed by the following Professors:

Prof. MELE Andrea - Politecnico di Milano;
Prof. BARTIK Kristin - Université libre de Bruxelles;
Prof. PADUA Agilio - Université Blaise Pascal,

met on May 11, 2018 at 2 pm, for the first teleconference meeting.
Each Board member was connected from his/her workstation.

At the start of the session the members of the Selection Board named the Chairman and the Secretary of the Board:

BARTIK Kristin, professor at the Université libre de Bruxelles, Chairman;
MELE Andrea, professor at Politecnico di Milano, Secretary.

Each member of the Board declared not to have conjugal nor family relationship or other degree of kinship or affinity up to the fourth degree, not to be in same-sex civil union (as per art. 1 of Law No. 76 of 20.05.2016) and not to form a cohabiting couple (as per art. 1, paragraphs 37 et seq. of Law No. 76 of 20.05.2016) with the other members of this Board and that there were no reasons for abstention pursuant to arts. 51 and 52 of the Civil Procedure Code.

The members of the Selection Board and the Secretary declared, pursuant to art. 35-bis of Legislative Decree 165/2001, not to have criminal convictions, even with non-definitive sentences, for offences provided for in Chapter I, Title II of the second book of the Criminal Code.

The Board fixed the criteria and the parameters according to which the assessment was carried out, and established the minimum score below which the candidate shall not be included on the ranking of candidates.

On May 26, 2018 the Secretary Prof. Andrea Mele made available the documentation submitted by the candidates to the Board members by web transfer.

On July 2, 2018 at 8,30 am, the Selection Board met for a teleconference meeting, each Board member connected from his/her workstation, to inspect the list of applicants, who were:

- 1) BRENNA MARIA ELISABETTA
- 2) CONOCI SABRINA
- 3) GALIMBERTI MAURIZIO STEFANO
- 4) PUNTA CARLO
- 5) RAOS GUIDO
- 6) VOLONTERIO ALESSANDRO

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Each member of the Board declared not to have conjugal nor family relationship or other degree of kinship or affinity up to the fourth degree, not to be in same-sex civil union (as per art. 1 of Law No. 76 of 20.05.2016) and not to form a cohabiting couple (as per art. 1, paragraphs 37 et seq. of Law No. 76 of 20.05.2016) with the candidates and stated that there were no reasons for abstention pursuant to arts. 51 and 52 of the Civil Procedure Code.

Pursuant to the examination and after adequate evaluation, the Board assigned a score to each of the established criteria and a judgment to each publication submitted by the candidate; furthermore, the Board evaluated the knowledge of the foreign language.

Therefore the Board, considering the sum of the scores given, expressed a collective judgment in relation to the quantity and the quality of publications, evaluating the overall productivity of the applicant, also with regard to his/her period of activity.

The above-mentioned judgments are attached to this report and they are an integral part of it (Attachment No. 1 to this final report).

The Board drew up, according to the majority of its members, a ranking of candidates selected to carry out the scientific/teaching functions for which the selection was called, in a number equal to a maximum of five times the number of positions available in the competition (Attachment No. 2 to this final report).

THE BOARD

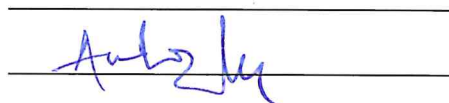
Prof. BARTIK Kristin

(Presidente)



Prof. PÁDUA Agilio

(Componente)



Prof. MELE Andrea

(Segretario)



PUBLIC SELECTION ESTABLISHED WITH DIRECTOR'S DECREE NO. 2018/PRO_CHIM15 OF 18/01/2018 PURSUANT TO THE NOTICE PUBLISHED IN THE OFFICIAL GAZETTE NO. 13/02/2018, n.13 FOR 1 POSITION AS FULL PROFESSOR FOR THE COMPETITION SECTOR 03/B2 - PRINCIPLES OF CHEMISTRY FOR APPLIED TECHNOLOGIES - SDS CHIM/07 - PRINCIPLES OF CHEMISTRY FOR APPLIED TECHNOLOGIES, PURSUANT TO ART. 18 - LAW 240/2010, AT THE POLITECNICO DI MILANO - DEPARTMENT OF CHEMISTRY, MATERIALS AND CHEMICAL ENGINEERING "GIULIO NATTA" (PROCEDURE CODE 2018/PRO_CHIM15).

ATTACHMENT No. 1 to the FINAL REPORT

CRITERIA	Quality of scientific production (0-40)/100	Teaching activity at the university level in Italy or abroad (0-30)/100	Scientific responsibility for funded research projects (0-20)/100	Consistency with the requested profile (0-10)/100	Total/100
BRENNA MARIA ELISABETTA	32	26	16	10	84
CONOCI SABRINA	28	11	15	8	62
GALIMBERTI MAURIZIO STEFANO	29	23	14	10	76
PUNTA CARLO	33	24	13	10	80
RAOS GUIDO	35	27	14	10	86
VOLONTERIO ALESSANDRO	31	24	12	10	77

CANDIDATE: BRENNA Maria Elisabetta

CURRICULUM:

Born in 1965, she graduated in Chemistry from the Università degli Studi di Milano in 1989 magna cum laude under the supervision of Prof. F. Sannicolò. In 1993 she obtained the PhD in Chemistry at the Università degli Studi di Milano defending the thesis "Conformational effects on the electric and spectroscopic properties of organic conducting materials" (supervisor Prof. F. Sannicolò). In 1993-95 she attended the Specialization School in Polymer Science at Politecnico di Milano working on a project on conducting polymers (advisor Prof. G. Zerbi). She continued the study of conducting polymers as post-doc at the Università degli Studi di Milano in 1995-96.

She started the academic career in 1996 as Assistant Professor at the Department of Chemistry, Materials and Chemical Engineering (CMIC) "G. Natta". She was then promoted to Associate Professor in 2006. In 2014 she obtained the habilitation to full professorship (Abilitazione Scientifica Nazionale, ASN) in the Academic Recruitment Field 03/B2 (Principles of Chemistry for Applied Technologies). Since 2011 she is a member of the Professors' Committee of the PhD Programme in Industrial Chemistry and Chemical Engineering at Politecnico di Milano. From 2012 - to present: she is member of the CMIC Dep. Didactic Commission, appointed by the Head of Department to assist him in the assignment of the teaching loads to the faculty of the Department.

Her scientific expertise and activity are mainly related to organic synthesis of several classes of compounds: heteroaromatic monomers for the synthesis of functionalized conducting organic polymers, chiral ligands for stereoselective homogeneous catalysis, chiral biologically active molecules, such as active pharmaceutical ingredients, flavors and fragrances. In the last years, she has gained great expertise in the application of biocatalysis to the optimisation of sustainable manufacturing procedures for chiral compounds, investigation of the mechanism of enzyme-catalysed transformations, and on the discovery of new enzymatic activities to replace toxic chemical reagents with high environmental impact. She has several international collaborations, among them the Univ Florida, ETH, Univ Manchester, Universidade Federal do Ceará (Brazil), Givaudan Schweiz AG, Dübendorf, Switzerland. She was invited speaker in many international symposia. She declares 136 ISI indexed papers, 4 book chapters, H-index= 29 (WoS). She is editor of the book "Synthetic Methods for Biologically Active Molecules – Exploiting the Potential of Bioreductions", 2014 - Wiley-VCH, Weinheim (Germany), pp. 1-387".

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SUBMITTED PUBLICATIONS:

No. of publications	Type/Title of Publication	Judgment
1	The first "charm bracelet" conjugated polymer: an electroconducting polythiophene with covalently bound fullerene moieties. Benincori, Tiziana; Brenna, Elisabetta; Sannicolò, Franco; Trimarco, Licia; Zotti, Gianni; Sozzani, Piero. <i>Angewandte Chemie, International Edition in English</i> (1996), 35(6), 648-651	Excellent
2	Enantioselective synthesis of p-substituted butyric acid derivatives via orthoester Claisen rearrangement of enzymically resolved allylic alcohols: application to the synthesis of (R)-(-)-baclofen. Brenna, Elisabetta; Caraccia, Nicola; Fuganti, Claudio; Fuganti, Daniela; Grasselli, Piero. <i>Tetrahedron: Asymmetry</i> (1997), 8(22), 3801-3805	Good
3	Optically active ionones and derivatives: preparation and olfactory properties. Brenna, Elisabetta; Fuganti, Claudio; Serra, Stefano; Kraft, Philip. <i>European Journal of Organic Chemistry</i> (2002), (6), 967-978. (REVIEW)	Good
4	A novel general route for the synthesis of C-glycosyl tyrosine analogues. Brenna, Elisabetta; Fuganti, Claudio; Grasselli, Piero; Serra, Stefano; Zambotti, Sabrina. <i>Chemistry--A European Journal</i> (2002), 8(8), 1872-1878	Good
5	Enantioselective perception of chiral odorants. Brenna, Elisabetta; Fuganti, Claudio; Serra, Stefano. <i>Tetrahedron: Asymmetry</i> (2003), 14(1), 1-42. (REVIEW)	Very good
6	Determination of the synthetic origin of methamphetamine samples by 2 H NMR spectroscopy. Armellini, Silvia; Brenna, Elisabetta; Frigoli, Samuele; Fronza, Giovanni; Fuganti, Claudio; Mussida, Daniele. <i>Analytical Chemistry</i> (2006), 78(9), 3113-3117	Very good
7	Biocatalytic methods for the synthesis of enantioenriched odor active compounds. Brenna, Elisabetta; Fuganti, Claudio; Gatti, Francesco G.; Serra, Stefano. <i>Chemical Reviews</i> (2011), 111 (7), 4036-4072. (REVIEW)	Excellent
8	Biocatalyzed enantioselective reduction of activated C=C bonds: Synthesis of enantiomerically enriched α -halo- β -arylpropionic acids. Brenna, Elisabetta; Gatti, Francesco G.; Manfredi, Alessia; Monti, Daniela; Parmeggiani, Fabio. <i>European Journal of Organic Chemistry</i> (2011), (20-21), 4015-4022	Very good
9	Steric effects on the stereochemistry of old yellow enzyme-mediated reductions of unsaturated diesters: Flipping of the substrate within the enzyme active site induced by structural modifications. Brenna, Elisabetta; Gatti, Francesco G.; Manfredi, Alessia; Monti, Daniela; Parmeggiani, Fabio. <i>Advanced Synthesis and Catalysis</i> (2012), 354(14-15), 2859-2864	Very good
10	Old Yellow Enzyme-mediated reduction of β -cyano- α,β -unsaturated esters for the synthesis of chiral building blocks: Stereochemical analysis of the reaction. Brenna, Elisabetta; Gatti, Francesco G.; Manfredi, Alessia; Monti, Daniela; Parmeggiani, Fabio. <i>Catalysis Science and Technology</i> (2013), 3(4), 1136-1146	Very good
11	Opposite enantioselectivity in the bioreduction of (Z)-aryl-cyanoacrylates mediated by the tryptophan 116 mutants of old yellow enzyme 1: Synthetic approach to (R)- and (S)-aryl-lactams. Brenna, Elisabetta; Cretti, Michele; Gatti, Francesco G.; Monti, Daniela; Parmeggiani, Fabio; Powell, Robert W.; Santangelo, Sara; Stewart, Jon D. <i>Advanced Synthesis and Catalysis</i> (2015), 357(8), 1849-1860	Very good
12	Biocatalyzed reduction of carboxylic acids to primary alcohols in aqueous medium: A novel synthetic capability of the zygomycete fungus <i>Syncephalastrum racemosum</i> . Brenna, Elisabetta; Cannavale, Flavia; Crotti, Michele; Parmeggiani, Fabio; Romagnolo, Alice; Spina, Federica; Varese, Giovanna C. <i>Journal of Molecular Catalysis B: Enzymatic</i> (2015), 116, 83-88	Good
13	Synthesis of Enantiomerically Enriched 2-Hydroxymethylalkanoic Acids by Oxidative Asymmetrisation of Achiral 1,3-Diols Mediated by Acetobacter acetii. Brenna, Elisabetta; Cannavale, Flavia; Cretti, Michele; De Vitis, Valerio; Gatti, Francesco G.; Migliazza, Gaia; Molinari, Francesco; Parmeggiani, Fabio; Romano, Diego; Santangelo, Sara. <i>ChemCatChem</i> (2016), 8(24), 3796-3803	Good
14	Asymmetric Bioreduction of α -Acylaminonitroalkenes: Easy Access to Chiral Building Blocks with Two Vicinal Nitrogen-Containing Functional Groups. Brenna, Elisabetta; Crotti, Michele; Gatti, Francesco G.; Monti, Daniela; Parmeggiani, Fabio; Santangelo, Sara. <i>ChemCatChem</i> (2017), 9(13), 2480-2487	Good
15	Biocatalytic synthesis of chiral cyclic gamma-oxoesters by sequential C-H hydroxylation, alcohol oxidation and alkene reduction. Brenna, Elisabetta; Cretti, Michele; Gatti, Francesco G.; Monti, Daniela; Parmeggiani, Fabio; Pugliese, Andrea; Tentori, Francesca. <i>Green Chemistry</i> (2017), 19 (21), 5122-5130	Very good
Overall evaluation: almost "very good"		

Overall collective judgement

QUALITY OF SCIENTIFIC PRODUCTION, ASSESSED ON THE BASIS OF CRITERIA AND PARAMETERS RECOGNIZED BY THE INTERNATIONAL SCIENTIFIC COMMUNITY OF REFERENCE:

The 15 submitted scientific papers are all within the 1996-2017 span. The author presents 12 research papers and 3 review articles, all of them on ISI indexed journals. The presented papers cover a wide range of fields, from stereoselective transformations to analytical methods, chemistry of flavours and fragrances and finally biocatalysis. In consideration of the sector average, the impact factors of the presented research publications are generally high, in some cases very high, in one case excellent. This panel has considered, as the main descriptors of the candidate's production quality, the journal, the number of citations, the candidate's contribution, the regularity of the candidate's publications and their relevance for the chemistry for engineering scientific community. The latter for the present candidate is very good. The candidate is 13 times corresponding or first author and 1 time shares the corresponding author role. Accordingly, and having considered the coherence between CV and publications, the personal contribution appears very good. The panel's evaluation of the 15 submitted papers is almost very good.

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This panel evaluates as very high the candidate's scientific production and regularity. The overall impact of her research on the reference scientific community, evaluated also considering the H-index, the number of publications and the overall citations, is also high. The assigned score is 32 (out of 40).

DIDACTIC ACTIVITIES CARRIED OUT IN ITALIAN OR FOREIGN UNIVERSITIES OR BODIES:

Teaching Activity as Tutor (exercises and tutoring): Academic Years 1996-97 and 1997-1998, Laboratory Exercises for the course of Organic Chemistry (chair of the course Prof. C. Fuganti) for Chemical Engineering students. Academic Year 1999-2000, Laboratory Exercises for the course of Chemistry 2 (chair of the course Prof. A. Citterio) for Chemical Engineering students.
Teaching Activity as Professor: Academic Years from 1999/2000 to 2002/03, General Chemistry for BSc (5CFU). Academic Years from 2003/04 to 2005/06, course of Organic Chemistry (5 CFU). Academic Years 2006-2007 and 2007-2008, 1st semester: Course of Chemistry A (5 CFU); 2nd semester: course of Organic Chemistry (5 CFU) for BSc in Biomedical Engineering. From Academic Year 2008-2009 to present, 1st semester: course of Fundamentals of Chemistry and Organic Chemistry (10 CFU) for BSc in Biomedical Engineering.
She was supervisor or co-supervisor of 4 PhD theses and several MS theses.
From academic year 2011/12 to present: she shares with Prof. Attilio Citterio the teaching of the course "Chemical Development and Scale-Up of Fine Chemicals" (5 CFU) for the PhD Programme in Industrial Chemistry and Chemical Engineering at Politecnico di Milano.
The teaching activity reported by the candidate are intense and fully consistent with the requirements. The teaching within the PhD programme in Industrial Chemistry and Chemical Engineering is also worth mentioning. Overall score 26 (over 30).

SCIENTIFIC RESPONSIBILITY FOR FUNDED RESEARCH PROJECTS:

The candidate was PI of two projects funded by Cariplo Banking Foundation: INBOX (Innovative Biocatalytic Oxidations, grant 2014-0568) 2015-2017 span, and SOAVE (Seed and vegetable Oils Active Valorization through Enzymes), assigned on 19th December 2017 for 24 months (grant 2017-1015). Both fundings were obtained after competitive call.
Elisabetta Brenna was also WP leader and member of the steering committee of the EU project INTENANT (INTEgrated synthesis and purification of single ENANTIomers, FP7 -NMP2- SL-2008-214129; June 2008 – May 2011), coordinated by Prof. Andreas Seidel-Morgenstern (Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg).
She participates the project VIPCAT (highly Value added Innovative Protocols for Catalytic Transformations) of Lombardy Region, duration 30 months (POR-2016-D-PSD-6-1_ED_1, CUP E46D17000110009) after competitive call. She was also member of the Politecnico di Milano research unit (RU) in three national projects (Programmi di Ricerca scientifica di Interesse nazionale, PRIN, competitive calls) funded by the Italian Ministry for Education, University and Research (MIUR): 2000/02, 2002/04, 2004/06 (PI Prof. Claudio Fuganti).
She was also in charge of important research projects funded by large companies or SME in the field of flavours and fragrances or identification of pharmaceutical impurities.
The attributed score is 16 out of 20.

CONSISTENCY WITH THE REQUIRED PROFILE:

Given the experience of the candidate in the field of chemistry for engineering, the panel considers the scientific profile and the teaching experience totally coherent with the required profile. The score for consistency with the required profile is 10 points out of 10.

SCRUTINY OF THE DEGREE OF KNOWLEDGE OF THE ENGLISH LANGUAGE:

All the submitted documents and the scientific publications testify a good command of the English language.

CANDIDATE: CONOCI Sabrina

CURRICULUM:

Born in 1971. The candidate obtained the Master (Laurea) in Industrial Chemistry magna cum laude in 1995 at the Università di Bologna under the supervision of Prof Busetto. In 1996 she was awarded a 26 months scholarship within the National Program on Advanced Innovative Materials financed by the Ministry of University and Scientific and Technological Research (MURST) and coordinated by Enitecnologie. In 1997, she was admitted to the Specialization Course in Chemistry and Technology of Inorganic Materials at the Università di Bologna. Afterwards she entered a PhD programme in Material Engineering at the Università di Lecce, obtaining the degree in 2001. Part of the PhD thesis (7 months) was done at the University of Ottawa. In 2016 she received the habilitation to full professorship in the sectors 03/B2 (Chemical foundations of technology), 03/B1 (Foundations of Chemical Sciences and Inorganic Systems), 03/A2 (Models and Methodologies in Chemistry), 02/B1 (Experimental Physics of Matter).
In 1997 she started her career at ST Microelectronics where she had different roles: Product Marketing Engineer, R&D Group Manager, Bioware R&D Manager, Advanced Device and Sensors R&D Manager. Her research activity has mainly focused on sensors, lab-on-a-chip technologies, design and characterization of advanced ceramic and multifunctional nanostructured materials.
The candidate declares 73 papers in ISI indexed journals, book chapters, several communications to international symposia and conference proceedings. She declared H-index = 22 and 1167 citation (Scopus, March 2018). She was invited speaker to several conferences. She is inventor or co-inventor of 14 patents or patent applications.

SUBMITTED PUBLICATIONS:

No. of publications	Type/Title of Publication	Judgment
1	Salvatore Petralia*, Emanuele L. Sciuto, Maria Anna Messina, Antonino Scandurra, Salvatore Mirabella, Francesco Priolo and Sabrina Conoci*, Miniaturized and multi-purpose electrochemical sensing device based on thin Ni oxides, Sensor and Actuator B, 2018, 263 10–19	Good
2	Marino N, Petralia S, Perez-Lloret M, Mosinger J, Conoci S*, Sortino S* (2016). Graphene oxide nanohybrid that photoreleases nitric oxide. JOURNAL OF MATERIALS CHEMISTRY. B, vol. 4, p. 5825-5830	Very good
3	Salvatore Petralia* and Sabrina Conoci*, PCR Technologies for Point of Care Testing: Progress and Perspectives, ACS Sensors, 2017, 2, 876-891	Very good
4	N. Giambianco* S.Petralia, S. Conoci *, C. Messineo a and G. Marletta, KRAS Single DNA base Mutation Discrimination by Surface Plasmon Resonance, Colloids and Surfaces B: Biointerfaces, 2017, 158, 41–46	Good

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5	S. Petralia, T. Cosentino, F. Sinatra, M.Favetta, P. Fiorenza, C. Bongiorno, E.L. Sciuto, S. Conoci* and S. Libertino*, Silicon Nitride Surfaces as Active Substrate for Electrical DNA Biosensors, Sensors and Actuators B: Chemical, 2017, 252, 492–502,	Very good
6	S. Petralia* E. L. Sciuto, M. L. Di Pietro, M.Zimbone, M G Grimaldi and S.Conoci*, Innovative Chemical Strategy for PCR-free Genetic Detection of Pathogens by an Integrated Electrochemical Biosensor, Analyst, 2017, 142, 2090–2093,	Good
7	S Petralia, E L Sciuto, Conoci S* (2016). A Novel Miniaturized Biofilter based on Silicon Micropillars for Nucleic Acid Extraction Analyst, 2017,142, 140-146	Very good
8	Giambianco N*, Conoci S*, Russo D, Marletta G (2015). Single-step label-free hepatitis B virus detection by a piezoelectric biosensor. RSC ADVANCES, vol. 5, p. 38152-38158, ISSN: 2046-2069, doi: 10.1039/c5ra03467	Good
9	Conoci S*, Mascali A, Pappalardo F (2014). Synthesis, DNA binding properties and electrochemistry towards an electrode-bound DNA of a novel anthracene-viologen conjugate. RSC ADVANCES, vol. 4, p. 2845-2850, ISSN: 2046-2069, doi: 10.1039/c3ra45247f	Good
10	Sgobba V, Giancane G, Conoci S, Casilli S, Ricciardi G, Guldi DM, Prato M, Valli L (2007). Growth and characterization of films containing fullerenes and water soluble porphyrins for solar energy conversion applications. JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, vol. 129, p. 3148-3156, ISSN: 0002-7863, doi: 10.1021/ja0655789	Very good
11	Conoci S*, Petralia S, Samori P, Raymo FM*, Di Bella S*, Sortino S* (2006). Optically transparent, ultrathin Pt films as versatile metal substrates for molecular optoelectronics. ADVANCED FUNCTIONAL MATERIALS, vol. 16, p. 1425-1432, ISSN: 1616-301X, doi: 10.1002/adfm.200500893	Very good
12	Tanese MC, Farinola GM, Pignataro B, Valli L, Giotta L, Conoci S, Lang P, Colangiuli D, Babudri F, Naso F, Sabbatini L, Zambonin PG, Torsi L (2006). Poly(alkoxyphenylene-thienylene) Langmuir- Schaefer thin films for advanced performance transistors. CHEMISTRY OF MATERIALS, vol. 18, p. 778-784, ISSN: 0897-4756, doi: 10.1021/cm0524291	Very good
13	Sortino S, Conoci S*, Yildiz I, Tomasulo M, Raymo FM* (2006). Self-assembling and electrochromic films of bipyridinium building blocks. JOURNAL OF MATERIALS CHEMISTRY, vol. 16, p. 3171-3173, ISSN: 0959-9428, doi: 10.1039/b608356k	Good
14	Sortino S*, Di Bella S, Conoci S*, Petralia S, Tomasulo M, Paesial EJ, Raymo FM* (2005). Electrochemical switching of chromogenic monolayers self-assembled on transparent platinum electrodes. ADVANCED MATERIALS, vol. 17, p. 1390+, ISSN: 0935-9648, doi: 10.1002/adma.200500200	Excellent
15	Sortino S, Petralia S, Compagnini G, Conoci S, Condorelli G (2002). Light-controlled nitric oxide generation from a novel self-assembled monolayer on a gold surface. ANGEWANDTE CHEMIE. INTERNATIONAL, EDITION, vol. 41, p. 1914	Very good
Overall evaluation: almost "very good"		

Overall collective judgement

QUALITY OF SCIENTIFIC PRODUCTION, ASSESSED ON THE BASIS OF CRITERIA AND PARAMETERS RECOGNIZED BY THE INTERNATIONAL SCIENTIFIC COMMUNITY OF REFERENCE:

The candidate submitted 15 scientific research papers covering the time span 2002-2018. All the papers are published on ISI indexed journals. The research deals with materials for sensors and biosensors, surface chemistry and thin films and self-assembly phenomena. In consideration of the sector average, the impact factors of the presented research publications is generally high, in some cases very high or excellent. This panel has considered, as the main descriptors of the candidate's production quality, the journal, the number of citations, the candidate's contribution, and its relevance for the chemistry for engineering scientific community. The latter for the present candidate is partially consistent. The candidate is 2 times corresponding or first author, 10 times shares the corresponding author role. Accordingly, and having considered the coherence between CV and publications, the personal contribution appears fair. The panel's evaluation of the 15 submitted papers is almost very good.

This panel evaluates as good the candidate's regularity and intensity of the scientific production. The overall impact of her research on the reference scientific community, evaluated also considering the H-index, the number of publications and the overall citations, is fair. The assigned score is 28 (out of 40).

DIDACTIC ACTIVITIES CARRIED OUT IN ITALIAN OR FOREIGN UNIVERSITIES OR BODIES:

Academic years 2001/02, 2002/03 and 2003/04: Science and Technologies of Materials (10 hours) University of Catania. In 2002 she was Laboratory Assistant for the Master in Chemistry and Industrial Chemistry at the University of Catania. In 2006/07 she did frontal teaching (6 CFU) of General Chemistry (SSD CHIM/03) for the Master in Food Technology. In 2015/16 she also taught the course *Micro and Nanotechnologies for DNA Analysis* (20 hours) within the PhD Programme of Material Science and Nanotechnologies at the University of Catania. In the period 2007/2015 she did several short lessons or training seminars in Italy and abroad within the frames of International Summer Schools or research projects of CNR. She was supervisor of 1 PhD Thesis and co-tutor of several Master Thesis at the Universities of Lecce and Catania. In consideration of CV and working positions in private companies, the candidate's frontal teaching in University courses is not very broad and not totally consistent with the requirements. Final score: 11 (over 30).

SCIENTIFIC RESPONSIBILITY FOR FUNDED RESEARCH PROJECTS:

The candidate is involved in several joint industrial-academic research projects. She is PI of the "DNA on Disk" 4 years project proposed by ST Microelectronics in consortium with 5 research centres and financed by the Ministry of Education, University and Research (MIUR), 2014.

PI of the 2 years project on integrated diagnostic devices (IDIA) proposed by the Biomedical District of Sicily and financed by MIUR within the PON programme (Piani Operativi Nazionali), 2012.

PI of a 3 years project Hippocrates led by the Distretto Micro e Nano sistemi Sicilia and financed by the MIUR

She participated in other projects as representative member of ST Microelectronics: 2014 French research project ADNA as WP leader, 2008, WP leader in the MIUR project FAR152006, Italian Project GPS financed by MIUR; 2008, EU Projects Hypergenes and TM-REST; PRIN 2002 financed by MIUR; 2003 EU Project STREP managed by Belgian IMEC.

The candidate is PI of three projects currently submitted and waiting for evaluation.

The attributed score is 15 out of 20.

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CONSISTENCY WITH THE REQUIRED PROFILE:

In consideration of the scientific profile, teaching experience, research activity, the candidate's academic profile is partially consistent with the required profile. The score for consistency with the required profile is 8 points out of 10

SCRUTINY OF THE DEGREE OF KNOWLEDGE OF THE ENGLISH LANGUAGE:

All the submitted documents and the scientific publications testify a good command of the English language.

CANDIDATE: GALIMBERTI Maurizio Stefano

CURRICULUM:

Born in 1960. The candidate graduated in Industrial Chemistry in 1985 from the Università degli Studi di Milano magna cum laude under the supervision of Prof Farina. He then spent two years at ETH as fac-hörer in the group of Prof. Pino. In 1988 he started his career in industry by taking the positions of Project Leader, then Scientist/Group Leader and eventually Manager/Senior Scientist in the chemical company Himont (later Montell) in the field of polyolefin and catalysis. In 1999 – 2005 he worked as Manager of Advanced Materials' Research at Pirelli Tyre. In 2005 he co-founded Icanova, where he occupied the position of CTO and Scientific Advisor of Pirelli Tyre. In 2010 he obtained a permanent position at Politecnico di Milano – Dept of Chemistry, Materials and Chemical Engineering "G. Natta" as Associate Professor. He obtained the habilitation to full professorship (Abilitazione Scientifica Nazionale, ASN) in the academic group 03/B2 in 2017.

His interests span from elastomeric materials to nanofillers and nanocomposites, from carbon allotropes to materials from renewable sources. He is member of the Science & Technology Committee, Rubber Division of ACS, he is member of the editorial board of some international journals and editor of one book. He is the recipient of 8 national awards and the George Stafford Whitby Award for Distinguished Teaching and Research awarded by ACS Rubber Division (2016).

The candidate declares 92 published papers in ISI indexed journals, 14 books' chapters, H-index = 22 (Scopus, March 2018). He is inventor or co-inventor in 44 international patents and 28 patent applications.

SUBMITTED PUBLICATIONS:

No. of publications	Type/Title of Publication	Judgment
1	M. Galimberti, F. Piemontesi, O. Fusco, I. Camurati, M. Destro "Ethene I propene copolymerization with high product of reactivity metallocene based, catalytic system" <i>Macromolecules</i> 1998, 31 (11) , 3409-3416.	Very good
2	E. Albizzati, M. Galimberti "Catalysts for olefins polymerization" <i>Catalysis Today</i> 1998, 41, 159-168	Very good
3	M. Galimberti, M. Destro, O.Fusco, F. Piemontesi, I. Camurati "Ethene I propene copolymerization from metallocene-based catalytic systems: Role of the Alumoxane" <i>Macromolecules</i> 1999, 32, 258-263	Very good
4	M. Galimberti, N. Mascellani, F. Piemontesi, I. Camurati "Random ethene I propene copolymerization from a catalytic system based half-sandwich complex" <i>Macromol.Rapid Commun.</i> 1999, 20: 4, 214-218	Very good
5	M. Galimberti, F.Piemontesi, N. Mascellani, I. Camurati, O. Fusco, M. D "Metallocenes for ethene I propene copolymerization with high product o <i>Macromolecules</i> 1999, 32, 7968-7976	Very good
6	G. Guerra, M. Galimberti, F.Piemontesi, O. Ruiz de Ballesteros "Influence of regio- and stereoregularity of propene insertion on crystalliz of ethene-propene copolymers" <i>J. Am. Chem. Soc.</i> 2002, 124 n.8, 1566-1567	Very good
7	M. Galimberti, A. Lostritto, A. Spatola, G.Guerra "Clay delamination in hydrocarbon rubbers" <i>Chem.Mater.</i> 2007, 19, 2495-2499.	Very good
8	S. Losio, P. Stagnaro, T. Motta, M. C. Sacchi, F. Piemontesi, M. Galimbe "Penultimate-Unit Effect in Ethene/4-Methyl-1-pentene Copolymeri Distribution of Comonomers" <i>Macromolecules</i> 2008, 41(4) , 1104-1111.	Very good
9	M. Galimberti, M. Coombs, V. Cipolletti, P. Riccio, T. Riccò, S. Pandini, "Enhancement of mechanical reinforcement due to hybrid filler networking in hydrocarbon-based nanocomposites" <i>Appl. Clay Sci.</i> 2012, 65-66, 57-66.	Good
10	M. Galimberti, M. Coombs, P. Riccio, T. Riccò, S. Passera, S. Pandi, I. Tritto "The Role of CNTs in Promoting Hybrid Filler Networking and Synergi Mechanical Behavior of Filled Polyisoprene" <i>Macromol. Mater. Eng.</i> , 2012, 298, 241-251	Good
11	M. Galimberti, V. Barbera, S. Guerra, L. Conzatti, C. Castiglioni, L. Bra "Biobased Janus molecule for the facile preparation of water solutions of few layer graphene sheets". <i>RSC Adv.</i> , 2015, 5, 81142-81152	Very good
12	M. Galimberti, V. Barbera, A. Citterio, R. Sebastiano, A. Truscello, R. Mendichi "Supramolecular interactions of Carbon Nanotubes with bioso 2-(2,5-dimethyl-1H-pyrrol-I -yl)-1,3-propanediol" <i>Polymer</i> , 2015, 63, 62-70	Good
13	V. Barbera, A. Porta, L. Brambilla, S. Guerra, A. Serafini, A.M. Valerio, "Polyhydroxylated few layer graphene for the preparation of flexible conductive carbon paper" <i>RSC Adv.</i> , 2016, 6, 87767-87777.	Good
14	V. Barbera, S. Guerra, L. Brarnbilla, M. Maggio, A. Serafini, L. Conzatti, "Carbon papers and aerogels based on graphene layers and chitosan: direct area graphite" <i>Biomacromolecules</i> , 2017, 18 (12) , 3978-3991.	Very good
15	V. Barbera, A. Bernardi, A. Palazzolo, A. Rosengart, L. Brambilla, M. Ga "Facile and sustainable functionalization of graphene layers with pyrrole" <i>Pure Appl. Chem.</i> , 2018, 90(2), 253-270.	Good
Overall evaluation: almost "very good"		

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Overall collective judgement.**QUALITY OF SCIENTIFIC PRODUCTION, ASSESSED ON THE BASIS OF CRITERIA AND PARAMETERS RECOGNIZED BY THE INTERNATIONAL SCIENTIFIC COMMUNITY OF REFERENCE:**

The candidate submitted 15 scientific research papers within the 1998-2017 span. All the papers are published on ISI indexed journals. The presented papers deal with macromolecular chemistry, catalysis in polymerization or co-polymerization processes, carbon nanotubes and graphene functionalization. In consideration of the sector average, the impact factors of the presented research publications is generally high, in some cases very high and in one case excellent. This panel has considered, as the main descriptors of the candidate's production quality, the journal, the number of citations, the candidate's contribution, and the relevance to the chemistry for engineering scientific community. The latter for the present candidate is very good. The candidate is 11 times corresponding or first author, 3 times shares the corresponding author role. Accordingly, and having considered the coherence between CV and publications, the personal contribution appears very good. The panel's evaluation of the 15 submitted papers is almost very good.

This panel evaluates as high the candidate's regularity and intensity of the scientific production. The overall impact of his research on the reference scientific community, evaluated also considering the H-index, the number of publications and the overall citations, is also good. The assigned score is 29 (out of 40)

DIDACTIC ACTIVITIES CARRIED OUT IN ITALIAN OR FOREIGN UNIVERSITIES OR BODIES:

From 2010-11 the candidate obtained a permanent position at Politecnico di Milano as Associate Professor. He taught the General Chemistry course for BSc in various Engineering specializations (mandatory for BSc students). He also held the course of "Chemistry for elastomers and composites materials" for the MS in Chemical Engineering (elective course, starting from 2011/12 to present). Since 2014/15 to present he chairs the course of General Chemistry for Chemical Engineering and Material Engineering (BSc, mandatory for students).

He was supervisor or co-supervisor of 5 PhD theses and of several MS theses.

In the time span 2001-2008, the candidate reports several seminars, teaching modules or lessons as contract professor at the Università dell'Insubria and at the Università di Modena e Reggio Emilia. The candidate also declares a two days teaching session in a canadian university in 2016.

The candidate's didactic activity is inevitably short, due to the initial non-academic working positions. The reported teaching is in summary of good level and fully consistent with the scientific area. The final score for didactic activities is 23 (out of 30).

SCIENTIFIC RESPONSIBILITY FOR FUNDED RESEARCH PROJECTS:

PI of project "Development of new formulations and product line for the innovation of detergency and of the cosmetics market" funded by Fondimpresa (2017).

PI of project "Nanofiber and new applications in the production of non-woven fabrics" funded by Fondimpresa (2014).

Participant to PRIN 2010 "Nanostructured polymeric materials with tailor made molecular structures, for advanced technologies and for the environment" financed by MIUR after competitive call.

The candidate was also responsible of several research contracts with private industries in the 2011-2017 span.

The attributed score is 14 out of 20.

CONSISTENCY WITH THE REQUIRED PROFILE:

The scientific background and the research activity of the candidate match very well required profile. The teaching activity, started in 2010 in the role of full-time associate professor, is coherent with the profile. The score for consistency with the required profile is 10 points out of 10

SCRUTINY OF THE DEGREE OF KNOWLEDGE OF THE ENGLISH LANGUAGE:

All the submitted documents and the scientific publications testify a good command of the English language.

CANDIDATE: PUNTA Carlo**CURRICULUM:**

Born in 1976, the candidate obtained his Master Degree in Chemistry at the Università di Genova, magna cum laude, in 2001. After 1-year post-grad scholarship at the Department of Chemistry, Materials, and Chemical Engineering "G. Natta" – Politecnico di Milano in the group of Francesco Minisci, he entered the PhD program in Industrial Chemistry and Chemical Engineering at Politecnico di Milano (2002-2005). In 2005 he obtained his PhD, magna cum laude (supervisor Prof. Francesco Minisci). In 2003 he did part of the PhD research (6 months) at the Vanderbilt University at Nashville (USA), supervisor Prof. Ned A. Porter. His PhD thesis was awarded as the best PhD thesis by the National Consortium on Methodologies and Innovative Processes of Synthesis in 2005. He started the academic career in 2004 as Assistant Professor, promoted to Associate Professor in 2014. In 2017 he obtained the eligibility to full professor (Abilitazione Scientifica Nazionale, ASN) for the sector (SSD) 03/B2. In 2016 he spent two months as visiting professor at the University of Ottawa (Canada).

He has been the recipient of some awards leading to invited chapters on Wiley-VCH books. In his academic career, he was also member of the Scientific Credential Commission of Politecnico di Milano (2008-2012). He was elected member of the Managing Board (Giunta) of the Department "G. Natta" (2010-2012), he is member of the Commission for the Design of the New Department (foreseen for 2020).

Since 2013 he is member of the Scientific and Teaching Board (Collegio dei Docenti) of the PhD Programme in Industrial Chemistry and Chemical Engineering of the Politecnico di Milano.

His scientific interests and skills cover selective oxidation reaction in mild conditions, radical chemistry, catalysis and reaction mechanisms, functionalization of cellulose and cyclodextrins for the synthesis of nanostructured organic and ceramic materials for drug delivery and environment decontamination.

He declares 82 papers in ISI indexed journals, 9 contributions on books, 5 international patents and 2 Italian patent applications. He also declares H-index = 24 on February 2018, and about 1700 citation (WoS).

SUBMITTED PUBLICATIONS:

No. of publications	Type/Title of Publication	Judgment
1	Lipophilic N-Hydroxyphthalimide Catalysts/or the Aerobic Oxidation of Cumene: Towards Solvent-Free Conditions and Bock. Petroselli, M.; Melone, L.; Cametti, M.; Punta, C.	Very good

	Chem. Eur. J. 2017, 23, 10616 - 10625.	
2	An aerogel obtained from chemo-enzymatically oxidized fenugreek galactomannans as a versatile delivery system. Rossi, B.; Campia, P.; Merlini, L.; Brasca, M.; Pastori, N.; Farris, S.; Melone, L.*; Punta, C.*; Galante, V.M. Carbohydrate Polymers 2016, 144, 353-361.	Good
3	Surface-Functionalization of Nanostructured Cellulose Aerogels by Solid State Eumelanin Coating. Panzella, L.; Melone, L.; Pezzella, A.; Rossi, B.; Pastori, N.; Perfetti, M.; D'Errico, G.; Punta, C.*; d'Ischia, M. Biomacromolecules 2016, 17,564-571	Very good
4	TEMPO-Oxidized Cellulose Cross-Linked with Bronched Polyethyleneimine: Nanostructured Adsorbent Sponges for Water Remediation. Melone, L.*; Rossi, B.; Pastori, N.; Panzeri, W.; Mele, A.; Punta, C.* ChemPlusChem 2015, 9, 1408-1415.	Good
5	Is it possible to implement N-hydroxyphthalimide homogeneous catalysis for industrial applications? A case study of cumene aerobic oxidation. Melone, L.; Prosperini, S.; Ercole, G.; Pastori, N.; Punta, C. J. Chem. Technol. Biotechnol. 2014, 89, 1370-1378	Very good
6	Aerobic oxidation of alkylaromatics catalyzed by a new lipophilic N-hydroxyphthalimide: overcoming the industrial limit of the catalyst solubility. Petroselli, M.; Franchi, P.; Lucarini, M.; Punta, C.; Melone, L. ChemSusChem 2014, 7, 2695-2703.	Very good
7	Sunlight Induced Oxidative Photoactivation of N-Hydroxyphthalimide Mediated by Naphtholene Imides. Melone, L.; Franchi, P.; Lucarini, M.; Punta, C. Adv. Synth. Catal. 2013,355, 3210- 3220.	Very good
8	Understanding the topography effects on competitive adsorption on a nonosized anatase crystal: a molecular dynamics study. Raffaini, G.*; Melone, L.; Punta, C. Chem. Commun. 2013, 7581-7583.	Good
9	Selective Catalytic Aerobic Oxidation of Substituted Ethylbenzenes under Mild Conditions. Melone, L.; Prosperini, S.; Gambarotti, C.; Pastori, N.; Recupero, F.; Punta, C. J. Mol. Cat.A: Chemical, 2012, 355, 155-160	Very good
10	Hydroperoxidation of Tertiary Alkylaromatics Catalyzed by N-Hydroxyphthalimide and Aldehydes under Mild Conditions. Melone, L.; Gambarotti, C.; Prosperini, S.; Pastori, N.; Recupero, F.; Punta, C. Adv. Synth. Catal. 2011, 353, 147-154.	Very good
11	Free-Radical Addition to Ketimines Generated In Situ. New One-Pot Synthesis of Quaternary α -Aminoamides Promoted by a H ₂ O ₂ /TiCl ₄ Zn/HCONH ₂ System. Pastori, N.; Greco, C.; Clerici, A.; Punta, C.*; Porta, O. Org. Lett. 2010, 12, 3898-3901.	Good
12	Key Role of Ti(IV) in the Selective Radical-Radical Cross-Coupling Mediated by the Ingold-Fischer Effect. Spaccini, R.; Pastori, N.; Clerici, A.; Punta, C.; Porta, O. J. Am. Chem.Soc. 2008, 130 (52), 18018-18024.	Excellent
13	A New One-Pot, Four-Component Synthesis of 1,2-Amino Alcohols: TiCl ₃ /t-BuOOH Mediated Radical Hydroxymethylation of Imines. Clerici, A.; Ghilardi, A.; Pastori, N.; Punta, C.*; Porta, O. Org. Lett. 2008, 10, 5063-5066	Very good
14	Free radical functionalization of organic compounds catalyzed by N-hydroxyphthalimide . Recupero, F.; Punta, C. Chem. Rev. 2007, 107,3800-3842	Excellent
15	Free-Radical Version of the Strecker Synthesis of α -Aminoamides Promoted by Aqueous H ₂ O ₂ /TiCl ₃ /HCONH ₂ System. Cannella, R.; Clerici, A.; Panzeri, W.; Pastori, N.; Punta, C.; Porta, O. J. Am. Chem. Soc. 2006, 5358-5359	Very good
	Overall evaluation: "very good"	

Overall collective judgement.

QUALITY OF SCIENTIFIC PRODUCTION, ASSESSED ON THE BASIS OF CRITERIA AND PARAMETERS RECOGNIZED BY THE INTERNATIONAL SCIENTIFIC COMMUNITY OF REFERENCE:

The 15 submitted scientific papers are all within the 2006-2017 span. The candidate presents 14 research paper and 1 review article, all of them on ISI indexed journals. The main topics are oxidation reactions, homogeneous catalysis, polysaccharides functionalization, free-radical chemistry. In consideration of the sector average, the impact factors of the presented research publications are generally high, in some cases very high or excellent. This panel has considered, as the main descriptors of the candidate's production quality, the journal, the number of citations, the candidate's contribution, and the relevance to the chemistry for engineering scientific community. The latter for the present candidate is optimal. The candidate is 3 times corresponding or first nameauthor, 11 times shares the corresponding author role with co-authors. Accordingly, and having considered the coherence between CV and publications, the personal contribution appears good. The panel's evaluation of the 15 submitted papers is very good.

This panel evaluates as very high the candidate's continuity and intensity of the scientific production. The overall impact of his research on the reference scientific community, evaluated also considering the H-index, the number of publications and the overall citations, is also very high. The assigned score is 33 (out of 40)

DIDACTIC ACTIVITIES CARRIED OUT IN ITALIAN OR FOREIGN UNIVERSITIES OR BODIES:

From the 2005-06 to the 2015-16 academic year the candidate chaired the course of Foundations of Chemistry at Politecnico di Milano for BSc students in Mechanical, Energy, and Aerospace Engineering. The course (7 CFU) is mandatory for BSc students. In the academic years 2014/2015 and 2015/2016 the candidate also taught the Chemistry module (3 CFU) of the Course of "Chemistry + Technology of Materials and Applied Chemistry" at the School of Architecture Urban Planning Construction Engineering, Politecnico di Milano. The module is mandatory for BSc students

in Building and Architectural Engineering. Since the academic year 2016/2017, the candidate holds the course of General Chemistry (7 CFU) for BSc students in Mathematical Engineering at the Politecnico di Milano.
He was supervisor of 3 PhD theses and 8 MS theses at Politecnico di Milano. The teaching activity of the candidate is considered very pertinent and of very good quality. Final score: 24 (over 30).

SCIENTIFIC RESPONSIBILITY FOR FUNDED RESEARCH PROJECTS:

PI of project NAIADI (Nanocellulose from renewable sources for sustainable release of plant protection products) co-financed by Regione Lombardia (competitive call), 2016.

Coordinator of Politecnico di Milano research unit (RU) in the PRIN projects (Programmi di Ricerca scientifica di Interesse nazionale, PRIN, competitive calls) funded by the Italian Ministry for Education, University and Research (MIUR) in the years 2006, 2008 and 2010.

Participant to PRIN 2002 and 2004, participant to FIRB (Fondo per gli Investimenti della Ricerca di Base, financed by the MIUR. Competitive call) 2010. Participant to the project SURF co-financed by Regione Lombardia (competitive call). Participant to project NanoBonD - Call RSI 2015, POR FSR 2014-2020, co-financed by Regione Toscana.

The candidate was in charge of many research contracts with companies. Large companies: Versalis, division of ENI. The candidate is also in charge of research contracts with many SME. He also acknowledges the responsibility of two research projects financed by Politecnico di Milano Foundation.

Finally, the candidate acknowledges 11 successful applications to large-scale facilities (Elettra Synchrotron, ILL, LLB and others) for miscellaneous neutron and Raman scattering experiments.

The attributed score is 13 out of 20.

CONSISTENCY WITH THE REQUIRED PROFILE:

Given the experience of the candidate in the field of chemistry for engineering, this panel considers the scientific profile and the teaching experience totally coherent with the required profile. The score for consistency with the required profile is 10 points out of 10.

SCRUTINY OF THE DEGREE OF KNOWLEDGE OF THE ENGLISH LANGUAGE:

All the submitted documents and the scientific publications testify a good command of the English language.

CANDIDATE: RAOS Guido

CURRICULUM:

Born in 1965, he graduated in Chemistry from the Università degli Studi di Milano in 1989 magna cum laude. From 1989 to 1993 he studied theoretical chemistry at the University of Bristol (UK), where he obtained a Ph.D. on the spin-coupled theory of molecular electronic structure under the supervision of Dr. Joseph Gerratt. In 1993 he attended the "Scuola di specializzazione in scienza dei polimeri" (Polymer Science Specialization School, 2 years) at Politecnico di Milano. Then he spent 2 years as post-doctoral research assistant in the group of Prof. Giuseppe Allegra on polymer statistical mechanics. He obtained the permanent position of Assistant Professor (Ricercatore) in 1997 and has been promoted to associate professor in 2007. In 2014 the candidate obtained the national habilitation for the position of full professor in the subject areas of physical chemistry ("03/A2: modelli e metodologie per le scienze chimiche") and of chemical technologies ("03/B2: fondamenti chimici delle tecnologie"). The scientific expertise and interests are in the field of quantum and statistical physics, molecular modelling and polymer science. He is currently involved in the application of statistical mechanics, quantum chemistry and molecular simulation to materials for organic electronics and photovoltaics, molecular and polymeric crystals, nanocomposites, room-temperature ionic liquids, and soft matter in general.

He is member of the Subcommittee on Polymer Terminology (SPT) of IUPAC since 2016 and invited lecturer at IUPAC's MACRO2016 World Polymer Conference (Istanbul, July 2016). Invited speaker at the 2005 Gordon Research Conference on "Elastomers, Networks and Gels" (Colby-Sawyer College, New London NH; chairman Prof. Gregory McKenna).

Visiting scholar at School of Mathematics and the nCATS Centre of the University of Southampton, UK (2010 and 2011) and at the Department of Chemistry of University College Dublin, Ireland (2002). Invited speaker at several national and international symposia, member of the scientific board of several symposia.

He was twice elected member of the "giunta" (board) of the Department of Chemistry, Materials and Chemical Engineering "G. Natta" (DCMIC) of the Politecnico di Milano (2005-2008 and 2008-2010), he was member of the External Relations committee of the DCMIC department (2002-2004) and Coordinator for the writing of the overall scientific program of the DCMIC department (2012). He is member of the Scientific and Teaching Board (Collegio dei Docenti) of the PhD Programme in Materials Engineering of the Politecnico di Milano.

He declares 86 ISI indexed papers, 2 book chapters, H-index (Scopus) = 28 and 2381 citations.

SUBMITTED PUBLICATIONS:

No. of publications	Type/Title of Publication	Judgment
1	Allegra, G., Raos, G.* and Vacatello, M., 2008. Theories and simulations of polymer-based nanocomposites: from chain statistics to reinforcement. <i>Progress in Polymer Science</i> , 33(7), pp.683-731.	Excellent
2	Moreno, M., Castiglione, F., Mele, A.*, Pasqui, C. and Raos, G.*, 2008. Interaction of water with the model ionic liquid [bmim][BF ₄]: Molecular dynamics simulations and comparison with NMR data. <i>The Journal of Physical Chemistry B</i> , 112(26), pp.7826-7836.	Very good
3	Raos, G.*, Famulari, A. and Marcon, V., 2003. Computational reinvestigation of the bithiophene torsion potential. <i>Chemical physics letters</i> , 379(3-4), pp.364-372.	Very good
4	Raos, G.*, Moreno, M. and Elli, S., 2006. Computational Experiments on Filled Rubber Viscoelasticity: What Is the Role of Particle-Particle Interactions?. <i>Macromolecules</i> , 39(19), pp.6744-6751.	Very good
5	Moreno, M., Casalegno, M., Raos, G.*, Meille, S.V. and Po, R., 2010. Molecular modeling of crystalline alkythiophene oligomers and polymers. <i>The Journal of Physical Chemistry B</i> , 114(4), pp.1591-1602.	Very good
6	Casalegno, M., Raos, G. and Po, R., 2010. Methodological assessment of kinetic Monte Carlo simulations of organic photovoltaic devices: The treatment of electrostatic interactions. <i>The Journal of chemical physics</i> , 132(9), p.094705.	Good

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7	Marcon, V. and Raos, G.*, 2006. Free energies of molecular crystal surfaces by computer simulation: Application to tetrathiophene. <i>Journal of the American Chemical Society</i> , 128(5), pp.1408-1409.	Excellent
8	Marcon, V., van der Vegt, N., Wegner, G. and Raos, G.*, 2006. Modeling of molecular packing and conformation in oligofluorenes. <i>The Journal of Physical Chemistry B</i> , 110(11), pp.5253-5261	Very good
9	Raos, G.* and Casalegno, M., 2011. Nonequilibrium simulations of filled polymer networks: Searching for the origins of reinforcement and nonlinearity. <i>The Journal of chemical physics</i> , 134(5), p.054902.	Very good
10	Raos, G.*, Famulari, A., Meille, S.V., Gallazzi, M.C. and Allegra, G., 2004. Interplay of conformational states and nonbonded interactions in substituted bithiophenes. <i>The Journal of Physical Chemistry A</i> , 108(4), pp.691-698	Very good
11	Frigerio, F., Casalegno, M., Carbonera, C., Nicolini, T., Meille, S.V.* and Raos, G.*, 2012. Molecular dynamics simulations of the solvent-and thermal history-dependent structure of the PCBM fullerene derivative. <i>Journal of Materials Chemistry</i> , 22(12), pp.5434-5443	Good
12	Idé, J., Fazzi, D., Casalegno, M., Meille, S.V. and Raos, G.*, 2014. Electron transport in crystalline PCBM-like fullerene derivatives: a comparative computational study. <i>Journal of Materials Chemistry C</i> , 2(35), pp.7313-7325.	Very good
13	Raos, G.*, Casalegno, M. and Idé, J., 2013. An effective two-orbital quantum chemical model for organic photovoltaic materials. <i>Journal of chemical theory and computation</i> , 10(1), pp.364-372.	Very good
14	Froltsov, V.A., Klüppel, M. and Raos, G., 2012. Molecular dynamics simulation of rupture in glassy polymer bridges within filler aggregates. <i>Physical Review E</i> , 86(4), p.041801.	Good
15	Casalegno, M., Pastore, R., Idé, J., Po, R. and Raos, G.*, 2017. Origin of Charge Separation at Organic Photovoltaic Heterojunctions: A Mesoscale Quantum Mechanical View. <i>The Journal of Physical Chemistry C</i> , 121(31), pp.16693-16701.	Very good
Overall evaluation: more than "very good"		

Overall collective judgement.

QUALITY OF SCIENTIFIC PRODUCTION, ASSESSED ON THE BASIS OF CRITERIA AND PARAMETERS RECOGNIZED BY THE INTERNATIONAL SCIENTIFIC COMMUNITY OF REFERENCE:

The 15 submitted scientific papers are all within the 2003-2017 span. The author presents 14 research papers and 1 review article, all of them on ISI indexed journals. The presented papers deal with theoretical and physical chemistry, molecular dynamics simulation on molecular and macromolecular systems, quantum models for photovoltaic materials. In consideration of the sector average, the impact factors of the presented research publications are generally high, in some cases very high and in one case excellent. This panel has considered, as the main descriptors of the candidate's production quality, the journal, the number of citations, the candidate's contribution, and the relevance to the chemistry for engineering scientific community. The latter for the present candidate is very good. The candidate is 12 times corresponding or first name author, 3 times shares the corresponding author role with co-authors. Accordingly, and having considered the coherence between CV and publications, the personal contribution appears very good. The panel's evaluation of the 15 submitted papers is more than very good.

This panel evaluates as very high the candidate's regularity and intensity of his scientific production. The overall impact of his research on the reference scientific community, evaluated also considering the H-index, the number of publications and the overall citations, is also very high. The assigned score is 35 (out of 40).

DIDACTIC ACTIVITIES CARRIED OUT IN ITALIAN OR FOREIGN UNIVERSITIES OR BODIES

The candidate started the teaching activity at Politecnico di Milano in 1997, as Assistant Professor. Since 1999 and up to the academic year 2016/17, he chaired several General Chemistry courses for BSc students of various Engineering degrees at Politecnico di Milano. All of the courses were in the 5-10 CFU range and mandatory for students.

Additionally, in the academic years from 2010/11 to 2012/13, he has also taught a 5-CFU course on "Soft matter simulations" for Master students in Materials and Chemical Engineering.

In the academic years from 2013/14 to 2016/17, he has also taught a 5-CFU course on "Advanced Materials Chemistry" (later renamed "Structural Chemistry of Materials") for the Master students in Materials Engineering and Nanotechnology at Politecnico di Milano. In the present academic year (2017/18), he teaches a 7-CFU course of Chemistry for BSc students in Mechanical, Energy, and Aerospace Engineering of the Politecnico di Milano, along with a 3-CFU course for third-year students in Civil Engineering and Architecture.

He has supervised or co-supervised 7 PhD theses and several MS theses.

The candidate was also the coordinator of the first edition of an interdisciplinary Ph.D. course on "Simulation of molecular systems for chemistry, materials and biology", held in Politecnico's Lecco branch in June-July 2010. He has participated as a lecturer to subsequent editions of the same course in 2013, 2015 and 2017.

The candidate has coordinated (with S. V. Meille) and taught a lecture course on "Structure and statistical properties of polymers" for the Ph.D. programme in Material Engineering (Politecnico di Milano, 2012, 2014 and 2016).

Since 2014 the candidate coordinates (with P. Ossi) the course on the "Methods for the compositional analysis and characterization of materials" for the Ph.D. programme in Material Engineering at Politecnico di Milano. The course consists of three one-day seminar cycles per year with invited lectures offered by experts in different techniques.

The candidate coordinates (with C. Castiglioni) the interdisciplinary Ph.D. course on "Science, technology, society and Wikipedia" (June 2016, to be repeated in June 2018). The courses are carried out in collaboration with Wikimedia Italia and accredited Wikipedia instructors.

The amount of frontal teaching held by the candidate is high and fully consistent with the requirements. Additionally, the teaching and managing activities in the frame of the PhD programme in Material Engineering are worth noting. Final score 27 (over 30).

SCIENTIFIC RESPONSIBILITY FOR FUNDED RESEARCH PROJECTS

Principal investigator (PI) in the project "Photoactive Layer Engineering for highly efficient Organic Solar cells (PLENOS)", financed by Cariplo Banking Foundation after competitive call (2012-2014).

Coordinator of Politecnico di Milano research unit (RU) in the project on "Molecular engineering of ordering processes in organic thin films via computer simulations", PRIN 2015 (Programmi di Ricerca scientifica di Interesse nazionale, PRIN, competitive calls) funded by the Italian Ministry for Education, University and Research (MIUR). Project duration: 3 years (2017-2019).

Participant to several PRIN projects (1999, 2000, 2003, 2004, 2005, 2010). Participant to EU FP7 projects GREENLION (Advanced manufacturing processes for low cost greener Li-ion batteries, NMP2-LA-2011-285268). Participant to project "New photoluminescent nanostructured systems" financed by Cariplo Banking Foundation after competitive call (ref. no. 2007.5378).

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The candidate is also responsible of many research contracts with large companies: ENI, 2008/11 and 2011/14; Pirelli Tyres, 2017; Columbian Chemicals Company (USA), 2018. The candidate is also in charge of research contracts with some SME. He was also the recipient of an internal Politecnico di Milano grant for young researchers (1999). Recipient of grants for supercomputing time in Italy (CINECA, 2012-18) and in the US (CINT, operated by Sandia and Los Alamos National Laboratories, 2013 and 2015). The attributed score is 14 out of 20.

CONSISTENCY WITH THE REQUIRED PROFILE

Given the experience of the candidate in the field of chemistry for engineering, the panel consider the scientific profile and the teaching experience totally coherent with the required profile. The score for consistency with the required profile is 10 points out of 10.

SCRUTINY OF THE DEGREE OF KNOWLEDGE OF THE ENGLISH LANGUAGE

All the submitted documents and the scientific publications testify a good command of the English language.

CANDIDATE: VOLONTERIO Alessandro

CURRICULUM:

Born in 1970, He obtained the Master degree (Laurea) in Chemistry at the Università degli Studi di Milano in 1995 under the supervision of Prof. Carlo Scolastico and Prof. Anna Bernardi. He obtained a specialization in Chemical Synthesis at Politecnico di Milano (2 years, summa cum laude) in 1997, then he started a 3 years PhD programme in Industrial Chemistry at the Politecnico di Milano (in consortium with Università degli Studi di Milano), defending the thesis in 2000. He then obtained a 2-year post-doctoral fellowship from CNR, and a second, 2-years fellowship funded by Politecnico di Milano. In 2005 he obtains a permanent position at the Dept "G.Natta" of Politecnico di Milano as Assistant Professor (Ricercatore). In the same year he did a post-doctoral experience at The Scripps Research Institute at La Jolla with Prof. Julius Rebek, Jr. In 2011 he was promoted to Associate Professor at Politecnico di Milano. In 2016 he was awarded of Fullbright Research Scholarships and joined the group of Prof. Yitzhak Tor at the University of California, San Diego, USA. In 2012 he obtains the habilitation to full professorship. He did some short stay as visiting scholar (Univ Valencia, 1999) or visiting professor (UCSD 2015 and 2017). The candidate was the recipients of some awards: Erasmus fellowship in 1997 (Univ Valencia); fellowship limited to twenty participants from across Europe to attend "Roche Symposium for Leading Chemists of the Next Decade" in Basel (Switzerland); "Corrado Fuortes Prize" of the "Istituto Lombardo - Accademia di Scienze e Lettere", granted to a young organic chemist for an experimental study in organic chemistry.. His scientific activity is strongly focused on organic synthesis, with emphasis on stereoselective transformations, peptide synthesis, chemistry of fluorine, multicomponent and combinatorial synthesis. He is author or co-author of 89 papers in ISI indexed journals, 6 book chapters and inventor in one international patent. He declares H-index = 27 (Scopus) and 1797 citations. He was twice elected member of the Managing Board (Giunta; 2010-12 and 2017-19) of the Department "G. Natta" and since 2012 he is the reference for the Scientific Credentials of the Department "G. Natta", Politecnico di Milano.

SUBMITTED PUBLICATIONS:

No. of publications	Type/Title of Publication	Judgment
1	Maria Cristina Bellucci, Massimo Frigerio, Carlo Castellano, Fiorella Menegnetti, Alessandro Sacchetti,* , Alessandro Volonterio*. "Design, synthesis, and conformational analysis of 3-cyclo-butylcarbonyl hydantoins as novel hydrogen bond driven universal peptidomimetics". <i>Org. Biomol. Chem.</i> 2018, 16, 521-525.	Very good
2	Aurora Sganappa, Ezequiel Wexselblatt, Maria Cristina Bellucci, Jeffrey D Esko, Gabriella Tedeschi, Yitzhak Tor,* Alessandro Volonterio*. "Dendrimeric guanidinoneomycin for cellular delivery of bio-macromolecules". <i>ChemBioChem</i> 2017, 18, 119-125.	Very good
3	Aurora Sganappa, Maria Cristina Bellucci, Vietar Nizet, Yitzhak Tor,* Alessandro Volonterio*. "Multicomponent Domino Synthesis and Antibacterial Activity of Neomycin Sugar Conjugates". <i>Synthesis</i> , 2016, 48, 4443-4450.	Good
4	Maria Cristina Bellucci, Aurora Sganappa, Monica Sani, Alessandro Volonterio*. "Multicomponent diversity oriented synthesis of multivalent glycomimetics containing hexafluorovaline". <i>Tetrahedron</i> , 2015, 71, 7630-7637	Good
5	Maria Cristina Bellucci, Monica Sani, Aurora Sganappa, Alessandro Volonterio*. "Diversity Oriented Combinatorial Synthesis of Multivalent Glycomimetics Through a Multicomponent Domino Process". <i>ACS Comb. Sci.</i> 2014, 16, 711-720	Very good
6	Maria Cristina Bellucci, Alessandro Volonterio*. "Synthesis of N-Glycosyl Conjugates Through a Multicomponent Domino Process". <i>Eur. J. Org. Chem.</i> 2014, 11, 2386-2397	Good
7	Alessandra Ghilardi, Daniele Pezzoli, Maria Cristina Bellucci, Chiara Malloggi, Armando Negri, Aurora Sganappa, Gabriella Tedeschi, Gabriele Candiani,* Alessandro Volonterio*. "Synthesis of Multifunctional PAMAM-Aminoglycoside Conjugates with Enhanced Transfection Efficiency". <i>Bioconjugate Chem.</i> 2013, 24, 1928-1936	Very good
8	Maria Cristina Bellucci, Giancarlo Terraneo, Alessandro Volonterio*. "Multi-component synthesis of peptide-sugar conjugates". <i>Org. Biomol. Chem.</i> 2013, 11, 2421-2444.	Good
9	Francesca Olimpieri, Maria Cristina Bellucci, Tommaso Marcelli, Alessandro Volonterio*. "Regioselective multicomponent sequential synthesis of hydantoins". <i>Org. Biomol. Chem.</i> 2012, 10, 9538-9555	Good
10	Daniele Pezzoli, Francesca Olimpieri, Chiara Malloggi, Sabrina Bertini, Alessandro Volonterio, * Gabriele Candiani*. "Chitosan-Graft-Branched Polyethylenimine Copolymers: Influence of Degree of Grafting on Transfection Behavior". <i>PLoS ONE</i> 2012, 7, e34711	Very good

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11	Maria Cristina Bellucci, Alessandra Ghilardi, Alessandro Volonterio*: "Three-component, one-pot sequential synthesis of glyco-hydantoin conjugates". Org. Biomol. Chem. 2011, 9, 8379-8392	Good
12	Maria Cristina Bellucci, Alessandro Volonterio*: "Multicomponent Synthesis of Peptide Sugar Conjugates Incorporating Hexafluorovaline". Adv. Synth. Catal. 2010, 352-2791- 2798	Good
13	Francesca Olimpieri, Maria Cristina Bellucci, Alessandro Volonterio,* Matteo Zanda*: "A mild, efficient approach for the synthesis of 1,5-disubstituted hydantoins". Eur. J. Org. Chem. 2009, 6179-6188	Good
14	Marco Molteni, Maria Cristina Bellucci, Serena Bigotti, Stefania Mazzini, Alessandro Volonterio.* Matteo Zanda*: "P[CH(CF ₃)NH]Gly peptides: synthesis and conformation analysis". Org. Biomol. Chem. 2009, 7, 2286-2296	Very good
15	Alessandro Volonterio*, Matteo Zanda*: "Multi-Component, one-pot, sequential synthesis of 1,3,5- and 1,3,5,5-substituted barbiturates". J. Org. Chem. 2008, 73, 7486-7497	Very good
Overall evaluation: more than "good"		

Overall collective judgement.

QUALITY OF SCIENTIFIC PRODUCTION

The 15 submitted scientific papers are all within the 2008-2017 span and they are all research papers. All of them are on ISI indexed journals. The presented papers are strongly focused on organic synthetic methods, combinatorial and multicomponent synthesis, peptide chemistry. In consideration of the sector average, the impact factors of the presented research publications is generally high. This panel has considered, as the main descriptors of the candidate's production quality, the journal, the number of citations, the candidate's contribution, and the scope related to the themes pertaining to the chemistry for engineering scientific community. The latter for the present candidate is good. The candidate is 7 times corresponding or first name author and 8 times shares the corresponding author role with co-authors. Accordingly, and having considered the coherence between CV and publications, the personal contribution appears good. The panel's evaluation of the 15 submitted papers is more than good.

This panel evaluates as very high the candidate's regularity and intensity of the scientific production. The overall impact of his research on the reference scientific community, evaluated also considering the H-index, the number of publications and the overall citations, is good. The assigned score is 31 (out of 40).

DIDACTIC ACTIVITIES CARRIED OUT IN ITALIAN OR FOREIGN UNIVERSITIES OR BODIES

The candidate started the teaching activity as Tutor for the General Chemistry courses at Politecnico di Milano in the period 1997-2004. Since 2005 and up to 2014 he chaired the course of General Chemistry for BSc in Engineering at Politecnico di Milano. The course is mandatory for BSc students. Since 2014 the candidate also chairs the course of Environmental Chemistry for BSc of Engineering at Politecnico di Milano. From 2010 he supervised and co-supervised at Politecnico di Milano 21 master thesis and 3 PhD thesis.

The teaching activity of the candidate is considered very pertinent and of very good quality. The final score for the teaching activity is 24 (out of 30).

SCIENTIFIC RESPONSIBILITY FOR FUNDED RESEARCH PROJECTS

The candidate was PI of three projects within the bilateral funding programme Italy/Georgia managed by the research agencies CNR (National Research Council, Italy) and SRNSF (Shota Rustaveli National Science Foundation, Georgia), two-year periods in 2018/19, 2016/17 and 2014-2015. PI of the projects "Development of novel guanidinoglycoside based nanoparticles and nanogels for an efficient delivery of unmodified therapeutics" ASP 2015 - "Alta Scuola Politecnica", funded by Politecnico di Milano, 2015.

PI of the project "Smart guanidinoglycoside-based polyplexes for targeted gene delivery". FARB - "Finanziamento di Ateneo per la Ricerca di Base", funded by Politecnico di Milano, 2011- 2013.

The candidate was also in charge of a research contract with the company Sterling Spa concerning the synthesis of Dagarelix.

The candidate participated in one project financed by the Politecnico di Milano within the "5 per mille" funding programme (2009/10) and one project financed by Cariplo Banking Foundation (2012/14).

The attributed score is 12 out of 20.

CONSISTENCY WITH THE REQUIRED PROFILE

Both teaching experience and scientific background are consistent with the required profile. The score for consistency with the required profile is 10 points out of 10.

SCRUTINY OF THE DEGREE OF KNOWLEDGE OF THE ENGLISH LANGUAGE


All the submitted documents and the scientific publications testify a good command of the English language..


THE BOARD

Prof. BARTIK KRISTIN (Chairman)

Prof. PADUA ASILIO (Member)

Prof. MELE ANDREA (Secretary)







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PUBLIC SELECTION ESTABLISHED WITH DIRECTOR'S DECREE NO. 2018/PRO_CHIM15 OF 18/01/2018 PURSUANT TO THE NOTICE PUBLISHED IN THE OFFICIAL GAZETTE NO. 13/02/2018, n.13 FOR 1 POSITION AS FULL PROFESSOR FOR THE COMPETITION SECTOR 03/B2 - PRINCIPLES OF CHEMISTRY FOR APPLIED TECHNOLOGIES - SDS CHIM/07 - PRINCIPLES OF CHEMISTRY FOR APPLIED TECHNOLOGIES, PURSUANT TO ART. 18 - LAW 240/2010, AT THE POLITECNICO DI MILANO - DEPARTMENT OF CHEMISTRY, MATERIALS AND CHEMICAL ENGINEERING "GIULIO NATTA" (PROCEDURE CODE 2018/PRO_CHIM15).

ATTACHMENT No. 2 to the FINAL REPORT

MERIT RANKING

SURNAME AND NAME	Overall score
RAOS GUIDO	86
BRENNA MARIA ELISABETTA	84
PUNTA CARLO	80
VOLONTERIO ALESSANDRO	77
GALIMBERTI MAURIZIO STEFANO	76

Milan, July 2nd 2018

THE BOARD

Prof. BARTIK Kristin (Presidente)

Prof. PÁDUA Agilio (Componente)

Prof. MELE Andrea (Segretario)



PUBLIC SELECTION ESTABLISHED WITH DIRECTOR'S DECREE NO. 2018/PRO_CHIM15 OF 18/01/2018 PURSUANT TO THE NOTICE PUBLISHED IN THE OFFICIAL GAZETTE NO. 13/02/2018, n.13 FOR 1 POSITION AS FULL PROFESSOR FOR THE COMPETITION SECTOR 03/B2 - PRINCIPLES OF CHEMISTRY FOR APPLIED TECHNOLOGIES - SDS CHIM/07 - PRINCIPLES OF CHEMISTRY FOR APPLIED TECHNOLOGIES, PURSUANT TO ART. 18 - LAW 240/2010, AT THE POLITECNICO DI MILANO - DEPARTMENT OF CHEMISTRY, MATERIALS AND CHEMICAL ENGINEERING "GIULIO NATTA" (PROCEDURE CODE 2018/PRO_CHIM15).

FINAL REPORT

The Selection Board, appointed with RD Index No. 1932 ref. No. 28428 of 20 March 2018, composed by the following Professors:

Prof. MELE Andrea - Politecnico di Milano;
Prof. BARTIK Kristin - Université libre de Bruxelles;
Prof. PADUA Agilio - Université Blaise Pascal,

met on May 11, 2018 at 2 pm, for the first teleconference meeting.
Each Board member was connected from his/her workstation.

At the start of the session the members of the Selection Board named the Chairman and the Secretary of the Board:

BARTIK Kristin, professor at the Université libre de Bruxelles, Chairman;
MELE Andrea, professor at Politecnico di Milano, Secretary.

Each member of the Board declared not to have conjugal nor family relationship or other degree of kinship or affinity up to the fourth degree, not to be in same-sex civil union (as per art. 1 of Law No. 76 of 20.05.2016) and not to form a cohabiting couple (as per art. 1, paragraphs 37 et seq. of Law No. 76 of 20.05.2016) with the other members of this Board and that there were no reasons for abstention pursuant to arts. 51 and 52 of the Civil Procedure Code.

The members of the Selection Board and the Secretary declared, pursuant to art. 35-bis of Legislative Decree 165/2001, not to have criminal convictions, even with non-definitive sentences, for offences provided for in Chapter I, Title II of the second book of the Criminal Code.

The Board fixed the criteria and the parameters according to which the assessment was carried out, and established the minimum score below which the candidate shall not be included on the ranking of candidates.

On May 26, 2018 the Secretary Prof. Andrea Mele made available the documentation submitted by the candidates to the Board members by web transfer.

On July 2, 2018 at 8,30 am, the Selection Board met for a teleconference meeting, each Board member connected from his/her workstation, to inspect the list of applicants, who were:

- 1) BRENNA MARIA ELISABETTA
- 2) CONOCI SABRINA
- 3) GALIMBERTI MAURIZIO STEFANO
- 4) PUNTA CARLO
- 5) RAOS GUIDO
- 6) VOLONTERIO ALESSANDRO

Each member of the Board declared not to have conjugal nor family relationship or other degree of kinship or affinity up to the fourth degree, not to be in same-sex civil union (as per art. 1 of Law No. 76 of 20.05.2016) and not to form a cohabiting couple (as per art. 1, paragraphs 37 et seq. of Law No. 76 of 20.05.2016) with the candidates and stated that there were no reasons for abstention pursuant to arts. 51 and 52 of the Civil Procedure Code.

Pursuant to the examination and after adequate evaluation, the Board assigned a score to each of the established criteria and a judgment to each publication submitted by the candidate; furthermore, the Board evaluated the knowledge of the foreign language.

Therefore the Board, considering the sum of the scores given, expressed a collective judgment in relation to the quantity and the quality of publications, evaluating the overall productivity of the applicant, also with regard to his/her period of activity.

The above-mentioned judgments are attached to this report and they are an integral part of it (Attachment No. 1 to this final report).

The Board drew up, according to the majority of its members, a ranking of candidates selected to carry out the scientific/teaching functions for which the selection was called, in a number equal to a maximum of five times the number of positions available in the competition (Attachment No. 2 to this final report).

THE BOARD

Prof. BARTIK Kristin

(Presidente)

Prof. PÁDUA Agilio

(Componente)

Aglio P. D. A.

Prof. MELE Andrea

(Segretario)

Andrea Mele



PUBLIC SELECTION ESTABLISHED WITH DIRECTOR'S DECREE NO. 2018/PRO_CHIM15 OF 18/01/2018 PURSUANT TO THE NOTICE PUBLISHED IN THE OFFICIAL GAZETTE NO. 13/02/2018, n.13 FOR 1 POSITION AS FULL PROFESSOR FOR THE COMPETITION SECTOR 03/B2 - PRINCIPLES OF CHEMISTRY FOR APPLIED TECHNOLOGIES - SDS CHIM/07 - PRINCIPLES OF CHEMISTRY FOR APPLIED TECHNOLOGIES, PURSUANT TO ART. 18 - LAW 240/2010, AT THE POLITECNICO DI MILANO - DEPARTMENT OF CHEMISTRY, MATERIALS AND CHEMICAL ENGINEERING "GIULIO NATTA" (PROCEDURE CODE 2018/PRO_CHIM15).

ATTACHMENT No. 1 to the FINAL REPORT

CRITERIA	Quality of scientific production (0-40)/100	Teaching activity at the university level in Italy or abroad (0-30)/100	Scientific responsibility for funded research projects (0-20)/100	Consistency with the requested profile (0-10)/100	Total/100
BRENNA MARIA ELISABETTA	32	26	16	10	84
CONOCI SABRINA	28	11	15	8	62
GALIMBERTI MAURIZIO STEFANO	29	23	14	10	76
PUNTA CARLO	33	24	13	10	80
RAOS GUIDO	35	27	14	10	86
VOLONTERIO ALESSANDRO	31	24	12	10	77

CANDIDATE: BRENNA Maria Elisabetta

CURRICULUM:

Born in 1965, she graduated in Chemistry from the Università degli Studi di Milano in 1989 magna cum laude under the supervision of Prof. F. Sannicolò. In 1993 she obtained the PhD in Chemistry at the Università degli Studi di Milano defending the thesis "Conformational effects on the electric and spectroscopic properties of organic conducting materials" (supervisor Prof. F. Sannicolò). In 1993-95 she attended the Specialization School in Polymer Science at Politecnico di Milano working on a project on conducting polymers (advisor Prof. G. Zerbi). She continued the study of conducting polymers as post-doc at the Università degli Studi di Milano in 1995-96.

She started the academic career in 1996 as Assistant Professor at the Department of Chemistry, Materials and Chemical Engineering (CMIC) "G. Natta". She was then promoted to Associate Professor in 2006. In 2014 she obtained the habilitation to full professorship (Abilitazione Scientifica Nazionale, ASN) in the Academic Recruitment Field 03/B2 (Principles of Chemistry for Applied Technologies). Since 2011 she is a member of the Professors' Committee of the PhD Programme in Industrial Chemistry and Chemical Engineering at Politecnico di Milano. From 2012 - to present: she is member of the CMIC Dep. Didactic Commission, appointed by the Head of Department to assist him in the assignment of the teaching loads to the faculty of the Department.

Her scientific expertise and activity are mainly related to organic synthesis of several classes of compounds: heteroaromatic monomers for the synthesis of functionalized conducting organic polymers, chiral ligands for stereoselective homogeneous catalysis, chiral biologically active molecules, such as active pharmaceutical ingredients, flavors and fragrances. In the last years, she has gained great expertise in the application of biocatalysis to the optimisation of sustainable manufacturing procedures for chiral compounds, investigation of the mechanism of enzyme-catalysed transformations, and on the discovery of new enzymatic activities to replace toxic chemical reagents with high environmental impact. She has several international collaborations, among them the Univ Florida, ETH, Univ Manchester, Universidade Federal do Ceará (Brazil), Givaudan Schweiz AG, Dübendorf, Switzerland. She was invited speaker in many international symposia. She declares 136 ISI indexed papers, 4 book chapters, H-index= 29 (WoS). She is editor of the book "Synthetic Methods for Biologically Active Molecules – Exploiting the Potential of Bioreductions", 2014 - Wiley-VCH, Weinheim (Germany), pp. 1-387".

SUBMITTED PUBLICATIONS:

No. of publications	Type/Title of Publication	Judgment
1	The first "charm bracelet" conjugated polymer: an electroconducting polythiophene with covalently bound fullerene moieties. Benincori, Tiziana; Brenna, Elisabetta; Sannicolò, Franco; Trimarco, Licia; Zotti, Gianni; Sozzani, Piero. <i>Angewandte Chemie, International Edition in English</i> (1996), 35(6), 648-651	Excellent
2	Enantioselective synthesis of p-substituted butyric acid derivatives via orthoester Claisen rearrangement of enzymically resolved allylic alcohols: application to the synthesis of (R)-(-)-baclofen. Brenna, Elisabetta; Caraccia, Nicola; Fuganti, Claudio; Fuganti, Daniela; Grasselli, Piero. <i>Tetrahedron: Asymmetry</i> (1997), 8(22), 3801-3805	Good
3	Optically active ionones and derivatives: preparation and olfactory properties. Brenna, Elisabetta; Fuganti, Claudio; Serra, Stefano; Kraft, Philip. <i>European Journal of Organic Chemistry</i> (2002), (6), 967-978. (REVIEW)	Good
4	A novel general route for the synthesis of C-glycosyl tyrosine analogues. Brenna, Elisabetta; Fuganti, Claudio; Grasselli, Piero; Serra, Stefano; Zambotti, Sabrina. <i>Chemistry--A European Journal</i> (2002), 8(8), 1872-1878	Good
5	Enantioselective perception of chiral odorants. Brenna, Elisabetta; Fuganti, Claudio; Serra, Stefano. <i>Tetrahedron: Asymmetry</i> (2003), 14(1), 1-42. (REVIEW)	Very good
6	Determination of the synthetic origin of methamphetamine samples by 2 H NMR spectroscopy. Armellin, Silvia; Brenna, Elisabetta; Frigoli, Samuele; Fronza, Giovanni; Fuganti, Claudio; Mussida, Daniele. <i>Analytical Chemistry</i> (2006), 78(9), 3113-3117	Very good
7	Biocatalytic methods for the synthesis of enantioenriched odor active compounds. Brenna, Elisabetta; Fuganti, Claudio; Gatti, Francesco G.; Serra, Stefano. <i>Chemical Reviews</i> (2011), 111 (7), 4036-4072. (REVIEW)	Excellent
8	Biocatalyzed enantioselective reduction of activated C=C bonds: Synthesis of enantiomerically enriched α -halo- β -arylpropionic acids. Brenna, Elisabetta; Gatti, Francesco G.; Manfredi, Alessia; Monti, Daniela; Parmeggiani, Fabio. <i>European Journal of Organic Chemistry</i> (2011), (20-21), 4015-4022	Very good
9	Steric effects on the stereochemistry of old yellow enzyme-mediated reductions of unsaturated diesters: Flipping of the substrate within the enzyme active site induced by structural modifications. Brenna, Elisabetta; Gatti, Francesco G.; Manfredi, Alessia; Monti, Daniela; Parmeggiani, Fabio. <i>Advanced Synthesis and Catalysis</i> (2012), 354(14-15), 2859-2864	Very good
10	Old Yellow Enzyme-mediated reduction of β -cyano- α,β -unsaturated esters for the synthesis of chiral building blocks: Stereochemical analysis of the reaction. Brenna, Elisabetta; Gatti, Francesco G.; Manfredi, Alessia; Monti, Daniela; Parmeggiani, Fabio. <i>Catalysis Science and Technology</i> (2013), 3(4), 1136-1146	Very good
11	Opposite enantioselectivity in the bioreduction of (Z)-aryl-cyanoacrylates mediated by the tryptophan 116 mutants of old yellow enzyme 1: Synthetic approach to (R)- and (S)-aryl- γ -lactams. Brenna, Elisabetta; Cretti, Michele; Gatti, Francesco G.; Monti, Daniela; Parmeggiani, Fabio; Powell, Robert W.; Santangelo, Sara; Stewart, Jon D. <i>Advanced Synthesis and Catalysis</i> (2015), 357(8), 1849-1860	Very good
12	Biocatalysed reduction of carboxylic acids to primary alcohols in aqueous medium: A novel synthetic capability of the zygomycete fungus <i>Syncephalastrum racemosum</i> . Brenna, Elisabetta; Cannavale, Flavia; Crotti, Michele; Parmeggiani, Fabio; Romagnolo, Alice; Spina, Federica; Varese, Giovanna C. <i>Journal of Molecular Catalysis B: Enzymatic</i> (2015), 116, 83-88	Good
13	Synthesis of Enantiomerically Enriched 2-Hydroxymethylalkanoic Acids by Oxidative Asymmetrisation of Achiral 1,3-Diols Mediated by <i>Acetobacter acetii</i> . Brenna, Elisabetta; Cannavale, Flavia; Cretti, Michele; De Vitis, Valerio; Gatti, Francesco G.; Migliazza, Gaia; Molinari, Francesco; Parmeggiani, Fabio; Romano, Diego; Santangelo, Sara. <i>ChemCatChem</i> (2016), 8(24), 3796-3803	Good
14	Asymmetric Bioreduction of α -Acylaminonitroalkenes: Easy Access to Chiral Building Blocks with Two Vicinal Nitrogen-Containing Functional Groups. Brenna, Elisabetta; Crotti, Michele; Gatti, Francesco G.; Monti, Daniela; Parmeggiani, Fabio; Santangelo, Sara. <i>ChemCatChem</i> (2017), 9(13), 2480-2487	Good
15	Biocatalytic synthesis of chiral cyclic γ -oxoesters by sequential C-H hydroxylation, alcohol oxidation and alkene reduction. Brenna, Elisabetta; Cretti, Michele; Gatti, Francesco G.; Monti, Daniela; Parmeggiani, Fabio; Pugliese, Andrea; Tentori, Francesca. <i>Green Chemistry</i> (2017), 19 (21), 5122-5130	Very good
Overall evaluation: almost "very good"		

Overall collective judgement

QUALITY OF SCIENTIFIC PRODUCTION, ASSESSED ON THE BASIS OF CRITERIA AND PARAMETERS RECOGNIZED BY THE INTERNATIONAL SCIENTIFIC COMMUNITY OF REFERENCE:

The 15 submitted scientific papers are all within the 1996-2017 span. The author presents 12 research papers and 3 review articles, all of them on ISI indexed journals. The presented papers cover a wide range of fields, from stereoselective transformations to analytical methods, chemistry of flavours and fragrances and finally biocatalysis. In consideration of the sector average, the impact factors of the presented research publications are generally high, in some cases very high, in one case excellent. This panel has considered, as the main descriptors of the candidate's production quality, the journal, the number of citations, the candidate's contribution, the regularity of the candidate's publications and their relevance for the chemistry for engineering scientific community. The latter for the present candidate is very good. The candidate is 13 times corresponding or first author and 1 time shares the corresponding author role. Accordingly, and having considered the coherence between CV and publications, the personal contribution appears very good. The panel's evaluation of the 15 submitted papers is almost very good.

This panel evaluates as very high the candidate's scientific production and regularity. The overall impact of her research on the reference scientific community, evaluated also considering the H-index, the number of publications and the overall citations, is also high. The assigned score is 32 (out of 40).

DIDACTIC ACTIVITIES CARRIED OUT IN ITALIAN OR FOREIGN UNIVERSITIES OR BODIES:

Teaching Activity as Tutor (exercises and tutoring): Academic Years 1996-97 and 1997-1998, Laboratory Exercises for the course of Organic Chemistry (chair of the course Prof. C. Fuganti) for Chemical Engineering students. Academic Year 1999-2000, Laboratory Exercises for the course of Chemistry 2 (chair of the course Prof. A. Citterio) for Chemical Engineering students.

Teaching Activity as Professor: Academic Years from 1999/2000 to 2002/03, General Chemistry for BSc (5CFU). Academic Years from 2003/04 to 2005/06, course of Organic Chemistry (5 CFU). Academic Years 2006-2007 and 2007-2008, 1st semester: Course of Chemistry A (5 CFU); 2nd semester: course of Organic Chemistry (5 CFU) for BSc in Biomedical Engineering. From Academic Year 2008-2009 to present, 1st semester: course of Fundamentals of Chemistry and Organic Chemistry (10 CFU) for BSc in Biomedical Engineering.

She was supervisor or co-supervisor of 4 PhD theses and several MS theses.

From academic year 2011/12 to present: she shares with Prof. Attilio Citterio the teaching of the course "Chemical Development and Scale-Up of Fine Chemicals" (5 CFU) for the PhD Programme in Industrial Chemistry and Chemical Engineering at Politecnico di Milano.

The teaching activity reported by the candidate are intense and fully consistent with the requirements. The teaching within the PhD programme in Industrial Chemistry and Chemical Engineering is also worth mentioning. Overall score 26 (over 30).

SCIENTIFIC RESPONSIBILITY FOR FUNDED RESEARCH PROJECTS:

The candidate was PI of two projects funded by Cariplo Banking Foundation: INBOX (Innovative Biocatalytic Oxidations, grant 2014-0568) 2015-2017 span, and SOAVE (Seed and vegetable Oils Active Valorization through Enzymes), assigned on 19th December 2017 for 24 months (grant 2017-1015). Both fundings were obtained after competitive call.

Elisabetta Brenna was also WP leader and member of the steering committee of the EU project INTENANT (INTEgrated synthesis and purification of single ENANTIomers, FP7 -NMP2- SL-2008-214129; June 2008 – May 2011), coordinated by Prof. Andreas Seidel-Morgenstern (Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg).

She participates the project VIPCAT (highly Value added Innovative Protocols for Catalytic Transformations) of Lombardy Region, duration 30 months (POR-2016-D-PSD-6-1_ED_1, CUP E46D17000110009) after competitive call. She was also member of the Politecnico di Milano research unit (RU) in three national projects (Programmi di Ricerca scientifica di Interesse nazionale, PRIN, competitive calls) funded by the Italian Ministry for Education, University and Research (MIUR): 2000/02, 2002/04, 2004/06 (PI Prof. Claudio Fuganti).

She was also in charge of important research projects funded by large companies or SME in the field of flavours and fragrances or identification of pharmaceutical impurities.

The attributed score is 16 out of 20.

CONSISTENCY WITH THE REQUIRED PROFILE:

Given the experience of the candidate in the field of chemistry for engineering, the panel considers the scientific profile and the teaching experience totally coherent with the required profile. The score for consistency with the required profile is 10 points out of 10.

SCRUTINY OF THE DEGREE OF KNOWLEDGE OF THE ENGLISH LANGUAGE:

All the submitted documents and the scientific publications testify a good command of the English language.

CANDIDATE: CONOCI Sabrina

CURRICULUM:

Born in 1971. The candidate obtained the Master (Laurea) in Industrial Chemistry magna cum laude in 1995 at the Università di Bologna under the supervision of Prof Busetto. In 1996 she was awarded a 26 months scholarship within the National Program on Advanced Innovative Materials financed by the Ministry of University and Scientific and Technological Research (MURST) and coordinated by Enitecnologie. In 1997, she was admitted to the Specialization Course in Chemistry and Technology of Inorganic Materials at the Università di Bologna. Afterwards she entered a PhD programme in Material Engineering at the Università di Lecce, obtaining the degree in 2001. Part of the PhD thesis (7 months) was done at the University of Ottawa. In 2016 she received the habilitation to full professorship in the sectors 03/B2 (Chemical foundations of technology), 03/B1 (Foundations of Chemical Sciences and Inorganic Systems), 03/A2 (Models and Methodologies in Chemistry), 02/B1 (Experimental Physics of Matter).

In 1997 she started her career at ST Microelectronics where she had different roles: Product Marketing Engineer, R&D Group Manager, Bioware R&D Manager, Advanced Device and Sensors R&D Manager. Her research activity has mainly focused on sensors, lab-on-a-chip technologies, design and characterization of advanced ceramic and multifunctional nanostructured materials.

The candidate declares 73 papers in ISI indexed journals, book chapters, several communications to international symposia and conference proceedings. She declared H-index = 22 and 1167 citation (Scopus, March 2018). She was invited speaker to several conferences. She is inventor or co-inventor of 14 patents or patent applications.

SUBMITTED PUBLICATIONS:

No. of publications	Type/Title of Publication	Judgment
1	Salvatore Petralia*, Emanuele L. Sciuto, Maria Anna Messina, Antonino Scandurra, Salvatore Mirabella, Francesco Priolo and Sabrina Conoci*, Miniaturized and multi-purpose electrochemical sensing device based on thin Ni oxides, <i>Sensor and Actuator B</i> , 2018, 263 10–19	Good
2	Marino N, Petralia S, Perez-Lloret M, Mosinger J, Conoci S*, Sortino S* (2016). Graphene oxide nanohybrid that photoreleases nitric oxide. <i>JOURNAL OF MATERIALS CHEMISTRY. B</i> , vol. 4, p. 5825-5830	Very good
3	Salvatore Petralia* and Sabrina Conoci*, PCR Technologies for Point of Care Testing: Progress and Perspectives, <i>ACS Sensors</i> , 2017, 2, 876-891	Very good
4	N. Giambanco* S.Petralia, S. Conoci *, C. Messineo a and G. Marletta, KRAS Single DNA base Mutation Discrimination by Surface Plasmon Resonance, <i>Colloids and Surfaces B: Biointerfaces</i> , 2017, 158, 41–46	Good

5	S. Petralia, T. Cosentino, F. Sinatra, M. Favetta, P. Fiorenza, C. Bongiorno, E.L. Sciuto, S. Conoci* and S. Libertino*, Silicon Nitride Surfaces as Active Substrate for Electrical DNA Biosensors, <i>Sensors and Actuators B: Chemical</i> , 2017, 252, 492–502,	Very good
6	S. Petralia* E. L. Sciuto, M. L. Di Pietro, M. Zimbone, M G Grimaldi and S. Conoci*, Innovative Chemical Strategy for PCR-free Genetic Detection of Pathogens by an Integrated Electrochemical Biosensor, <i>Analyst</i> , 2017, 142, 2090–2093,	Good
7	S Petralia, E L Sciuto, Conoci S* (2016). A Novel Miniaturized Biofilter based on Silicon Micropillars for Nucleic Acid Extraction <i>Analyst</i> , 2017, 142, 140-146	Very good
8	Giambanco N*, Conoci S*, Russo D, Marletta G (2015). Single-step label-free hepatitis B virus detection by a piezoelectric biosensor. <i>RSC ADVANCES</i> , vol. 5, p. 38152-38158, ISSN: 2046-2069, doi: 10.1039/c5ra03467	Good
9	Conoci S*, Mascali A, Pappalardo F (2014). Synthesis, DNA binding properties and electrochemistry towards an electrode-bound DNA of a novel anthracene-viologen conjugate. <i>RSC ADVANCES</i> , vol. 4, p. 2845-2850, ISSN: 2046-2069, doi: 10.1039/c3ra45247f	Good
10	Sgobba V, Giancane G, Conoci S, Casilli S, Ricciardi G, Guldi DM, Prato M, Valli L (2007). Growth and characterization of films containing fullerenes and water soluble porphyrins for solar energy conversion applications. <i>JOURNAL OF THE AMERICAN CHEMICAL SOCIETY</i> , vol. 129, p. 3148-3156, ISSN: 0002-7863, doi: 10.1021/ja0655789	Very good
11	Conoci S*, Petralia S, Samori P, Raymo FM*, Di Bella S*, Sortino S* (2006). Optically transparent, ultrathin Pt films as versatile metal substrates for molecular optoelectronics. <i>ADVANCED FUNCTIONAL MATERIALS</i> , vol. 16, p. 1425-1432, ISSN: 1616-301X, doi: 10.1002/adfm.200500893	Very good
12	Tanese MC, Farinola GM, Pignataro B, Valli L, Giotta L, Conoci S, Lang P, Colangiuli D, Babudri F, Naso F, Sabbatini L, Zamboni PG, Torsi L (2006). Poly(alkoxyphenylene-thienylene) Langmuir-Schaefer thin films for advanced performance transistors. <i>CHEMISTRY OF MATERIALS</i> , vol. 18, p. 778-784, ISSN: 0897-4756, doi: 10.1021/cm0524291	Very good
13	Sortino S, Conoci S*, Yildiz I, Tomasulo M, Raymo FM* (2006). Self-assembling and electrochromic films of bipyridinium building blocks. <i>JOURNAL OF MATERIALS CHEMISTRY</i> , vol. 16, p. 3171-3173, ISSN: 0959-9428, doi: 10.1039/b608356k	Good
14	Sortino S*, Di Bella S, Conoci S*, Petralia S, Tomasulo M, Paesial EJ, Raymo FM* (2005). Electrochemical switching of chromogenic monolayers self-assembled on transparent platinum electrodes. <i>ADVANCED MATERIALS</i> , vol. 17, p. 1390+, ISSN: 0935-9648, doi: 10.1002/adma.200500200	Excellent
15	Sortino S, Petralia S, Compagnini G, Conoci S, Condorelli G (2002). Light-controlled nitric oxide generation from a novel self-assembled monolayer on a gold surface. <i>ANGEWANDTE CHEMIE. INTERNATIONAL EDITION</i> , vol. 41, p. 1914	Very good
Overall evaluation: almost "very good"		

Overall collective judgement

QUALITY OF SCIENTIFIC PRODUCTION, ASSESSED ON THE BASIS OF CRITERIA AND PARAMETERS RECOGNIZED BY THE INTERNATIONAL SCIENTIFIC COMMUNITY OF REFERENCE:

The candidate submitted 15 scientific research papers covering the time span 2002-2018. All the papers are published on ISI indexed journals. The research deals with materials for sensors and biosensors, surface chemistry and thin films and self-assembly phenomena. In consideration of the sector average, the impact factors of the presented research publications is generally high, in some cases very high or excellent. This panel has considered, as the main descriptors of the candidate's production quality, the journal, the number of citations, the candidate's contribution, and its relevance for the chemistry for engineering scientific community. The latter for the present candidate is partially consistent. The candidate is 2 times corresponding or first author, 10 times shares the corresponding author role. Accordingly, and having considered the coherence between CV and publications, the personal contribution appears fair. The panel's evaluation of the 15 submitted papers is almost very good.

This panel evaluates as good the candidate's regularity and intensity of the scientific production. The overall impact of her research on the reference scientific community, evaluated also considering the H-index, the number of publications and the overall citations, is fair. The assigned score is 28 (out of 40).

DIDACTIC ACTIVITIES CARRIED OUT IN ITALIAN OR FOREIGN UNIVERSITIES OR BODIES:

Academic years 2001/02, 2002/03 and 2003/04: Science and Technologies of Materials (10 hours) University of Catania. In 2002 she was Laboratory Assistant for the Master in Chemistry and Industrial Chemistry at the University of Catania. In 2006/07 she did frontal teaching (6 CFU) of General Chemistry (SSD CHIM/03) for the Master in Food Technology. In 2015/16 she also taught the course *Micro and Nanotechnologies for DNA Analysis* (20 hours) within the PhD Programme of Material Science and Nanotechnologies at the University of Catania. In the period 2007/2015 she did several short lessons or training seminars in Italy and abroad within the frames of International Summer Schools or research projects of CNR. She was supervisor of 1 PhD Thesis and co-tutor of several Master Thesis at the Universities of Lecce and Catania.

In consideration of CV and working positions in private companies, the candidate's frontal teaching in University courses is not very broad and not totally consistent with the requirements. Final score: 11 (over 30).

SCIENTIFIC RESPONSIBILITY FOR FUNDED RESEARCH PROJECTS:

The candidate is involved in several joint industrial-academic research projects. She is PI of the "DNA on Disk" 4 years project proposed by ST Microelectronics in consortium with 5 research centres and financed by the Ministry of Education, University and Research (MIUR), 2014.

PI of the 2 years project on integrated diagnostic devices (IDIA) proposed by the Biomedical District of Sicily and financed by MIUR within the PON programme (Piani Operativi Nazionali), 2012.

PI of a 3 years project Hippocrates led by the Distretto Micro e Nano sistemi Sicilia and financed by the MIUR

She participated in other projects as representative member of ST Microelectronics: 2014 French research project ADNA as WP leader, 2008, WP leader in the MIUR project FAR152006, Italian Project GPS financed by MIUR; 2008, EU Projects Hypergenes and TM-REST; PRIN 2002 financed by MIUR; 2003 EU Project STREP managed by Belgian IMEC.

The candidate is PI of three projects currently submitted and waiting for evaluation.

The attributed score is 15 out of 20.

CONSISTENCY WITH THE REQUIRED PROFILE:

In consideration of the scientific profile, teaching experience, research activity, the candidate's academic profile is partially consistent with the required profile. The score for consistency with the required profile is 8 points out of 10

SCRUTINY OF THE DEGREE OF KNOWLEDGE OF THE ENGLISH LANGUAGE:

All the submitted documents and the scientific publications testify a good command of the English language.

CANDIDATE: GALIMBERTI Maurizio Stefano

CURRICULUM:

Born in 1960. The candidate graduated in Industrial Chemistry in 1985 from the Università degli Studi di Milano magna cum laude under the supervision of Prof Farina. He then spent two years at ETH as fac-hörer in Forbildung in the group of Prof. Pino. In 1988 he started his career in industry by taking the positions of Project Leader, then Scientist/Group Leader and eventually Manager/Senior Scientist in the chemical company Himont (later Montell) in the field of polyolefin and catalysis. In 1999 – 2005 he worked as Manager of Advanced Materials' Research at Pirelli Tyre. In 2005 he co-founded Icanova, where he occupied the position of CTO and Scientific Advisor of Pirelli Tyre. In 2010 he obtained a permanent position at Politecnico di Milano – Dept of Chemistry, Materials and Chemical Engineering "G. Natta" as Associate Professor. He obtained the habilitation to full professorship (Abilitazione Scientifica Nazionale, ASN) in the academic group 03/B2 in 2017.

His interests span from elastomeric materials to nanofillers and nanocomposites, from carbon allotropes to materials from renewable sources. He is member of the Science & Technology Committee, Rubber Division of ACS, he is member of the editorial board of some international journals and editor of one book. He is the recipient of 8 national awards and the George Stafford Whitby Award for Distinguished Teaching and Research awarded by ACS Rubber Division (2016).

The candidate declares 92 published papers in ISI indexed journals, 14 books' chapters, H-index = 22 (Scopus, March 2018). He is inventor or co-inventor in 44 international patents and 28 patent applications.

SUBMITTED PUBLICATIONS:

No. of publications	Type/Title of Publication	Judgment
1	M. Galimberti, F. Piemontesi, O. Fusco, I. Camurati, M. Destro "Ethene I propene copolymerization with high product of reactivity metallocene based, catalytic system" <i>Macromolecules</i> 1998, 31 (11) , 3409-3416.	Very good
2	E. Albizzati, M. Galimberti "Catalysts for olefins polymerization" <i>Catalysis Today</i> 1998, 41, 159-168	Very good
3	M. Galimberti, M. Destro, O.Fusco, F. Piemontesi, I. Camurati "Ethene I propene copolymerization from metallocene-based catalytic systems: Role of the Alumoxane" <i>Macromolecules</i> 1999, 32, 258-263	Very good
4	M. Galimberti, N. Mascellani, F. Piemontesi, I. Camurati "Random ethene I propene copolymerization from a catalytic system based half-sandwich complex" <i>Macromol. Rapid Commun.</i> 1999, 20: 4, 214-218	Very good
5	M. Galimberti, F. Piemontesi, N. Mascellani, I. Camurati, O. Fusco, M. D "Metallocenes for ethene I propene copolymerization with high product o <i>Macromolecules</i> 1999, 32, 7968-7976	Very good
6	G. Guerra, M. Galimberti, F. Piemontesi, O. Ruiz de Ballesteros "Influence of regio- and stereoregularity of propene insertion on crystalliz of ethene-propene copolymers" <i>J. Am. Chem. Soc.</i> 2002, 124 n.8, 1566-1567	Very good
7	M. Galimberti, A. Lostritto, A. Spatola, G. Guerra "Clay delamination in hydrocarbon rubbers" <i>Chem. Mater.</i> 2007, 19, 2495-2499.	Very good
8	S. Losio, P. Stagnaro, T. Motta, M. C. Sacchi, F. Piemontesi, M. Galimbe "Penultimate-Unit Effect in Ethene/4-Methyl-1-pentene Copolymeri Distribution of Comonomers" <i>Macromolecules</i> 2008, 41(4) , 1104-1111.	Very good
9	M. Galimberti, M. Coombs, V. Cipolletti, P. Riccio, T. Riccò, S. Pandini, "Enhancement of mechanical reinforcement due to hybrid filler networking in hydrocarbon-based nanocomposites" <i>Appl. Clay Sci.</i> 2012, 65-66, 57-66.	Good
10	M. Galimberti, M. Coombs, P. Riccio, T. Riccò, S. Passera, S. Pandi, I. Tritto "The Role of CNTs in Promoting Hybrid Filler Networking and Synergi Mechanical Behavior of Filled Polyisoprene" <i>Macromol. Mater. Eng.</i> , 2012, 298, 241-251	Good
11	M. Galimberti, V. Barbera, S. Guerra, L. Conzatti, C. Castiglioni, L. Bra "Biobased Janus molecule for the facile preparation of water solutions of few layer graphene sheets". <i>RSC Adv.</i> , 2015, 5, 81142-81152	Very good
12	M. Galimberti, V. Barbera, A. Citterio, R. Sebastiano, A. Truscillo, R. Mendichi "Supramolecular interactions of Carbon Nanotubes with bioso 2-(2,5-dimethyl-1H-pyrrol-I -yl)-1,3-propanediol" <i>Polymer</i> , 2015, 63, 62-70	Good
13	V. Barbera, A. Porta, L. Brambilla, S. Guerra, A. Serafini, A.M. Valerio, "Polyhydroxylated few layer graphene for the preparation of flexible conductive carbon paper" <i>RSC Adv.</i> , 2016, 6, 87767-87777.	Good
14	V. Barbera, S. Guerra, L. Brarnbilla, M. Maggio, A. Serafini, L. Conzatti, "Carbon papers and aerogels based on graphene layers and chitosan: direct area graphite" <i>Biomacromolecules</i> , 2017, 18 (12) , 3978-3991.	Very good
15	V. Barbera, A. Bernardi, A. Palazzolo, A. Rosengart, L. Brambilla, M. Ga "Facile and sustainable functionalization of graphene layers with pyrrole" <i>Pure Appl. Chem.</i> , 2018, 90(2), 253-270.	Good
	Overall evaluation: almost "very good"	

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Overall collective judgement.**QUALITY OF SCIENTIFIC PRODUCTION, ASSESSED ON THE BASIS OF CRITERIA AND PARAMETERS RECOGNIZED BY THE INTERNATIONAL SCIENTIFIC COMMUNITY OF REFERENCE:**

The candidate submitted 15 scientific research papers within the 1998-2017 span. All the papers are published on ISI indexed journals. The presented papers deal with macromolecular chemistry, catalysis in polymerization or co-polymerization processes, carbon nanotubes and graphene functionalization. In consideration of the sector average, the impact factors of the presented research publications is generally high, in some cases very high and in one case excellent. This panel has considered, as the main descriptors of the candidate's production quality, the journal, the number of citations, the candidate's contribution, and the relevance to the chemistry for engineering scientific community. The latter for the present candidate is very good. The candidate is 11 times corresponding or first author, 3 times shares the corresponding author role. Accordingly, and having considered the coherence between CV and publications, the personal contribution appears very good. The panel's evaluation of the 15 submitted papers is almost very good.

This panel evaluates as high the candidate's regularity and intensity of the scientific production. The overall impact of his research on the reference scientific community, evaluated also considering the H-index, the number of publications and the overall citations, is also good. The assigned score is 29 (out of 40)

DIDACTIC ACTIVITIES CARRIED OUT IN ITALIAN OR FOREIGN UNIVERSITIES OR BODIES:

From 2010-11 the candidate obtained a permanent position at Politecnico di Milano as Associate Professor. He taught the General Chemistry course for BSc in various Engineering specializations (mandatory for BSc students). He also held the course of "Chemistry for elastomers and composites materials" for the MS in Chemical Engineering (elective course, starting from 2011/12 to present). Since 2014/15 to present he chairs the course of General Chemistry for Chemical Engineering and Material Engineering (BSc, mandatory for students).

He was supervisor or co-supervisor of 5 PhD theses and of several MS theses.

In the time span 2001-2008, the candidate reports several seminars, teaching modules or lessons as contract professor at the Università dell'Insubria and at the Università di Modena e Reggio Emilia. The candidate also declares a two days teaching session in a canadian university in 2016.

The candidate's didactic activity is inevitably short, due to the initial non-academic working positions. The reported teaching is in summary of good level and fully consistent with the scientific area. The final score for didactic activities is 23 (out of 30).

SCIENTIFIC RESPONSIBILITY FOR FUNDED RESEARCH PROJECTS:

PI of project "Development of new formulations and product line for the innovation of detergency and of the cosmetics market" funded by Fondimpresa (2017).

PI of project "Nanofiber and new applications in the production of non-woven fabrics" funded by Fondimpresa (2014).

Participant to PRIN 2010 "Nanostructured polymeric materials with tailor made molecular structures, for advanced technologies and for the environment" financed by MIUR after competitive call.

The candidate was also responsible of several research contracts with private industries in the 2011-2017 span.

The attributed score is 14 out of 20.

CONSISTENCY WITH THE REQUIRED PROFILE:

The scientific background and the research activity of the candidate match very well required profile. The teaching activity, started in 2010 in the role of full-time associate professor, is coherent with the profile. The score for consistency with the required profile is 10 points out of 10

SCRUTINY OF THE DEGREE OF KNOWLEDGE OF THE ENGLISH LANGUAGE:

All the submitted documents and the scientific publications testify a good command of the English language.

CANDIDATE: PUNTA Carlo**CURRICULUM:**

Born in 1976, the candidate obtained his Master Degree in Chemistry at the Università di Genova, magna cum laude, in 2001. After 1-year post-grad scholarship at the Department of Chemistry, Materials, and Chemical Engineering "G. Natta" – Politecnico di Milano in the group of Francesco Minisci, he entered the PhD program in Industrial Chemistry and Chemical Engineering at Politecnico di Milano (2002-2005). In 2005 he obtained his PhD, magna cum laude (supervisor Prof. Francesco Minisci). In 2003 he did part of the PhD research (6 months) at the Vanderbilt University at Nashville (USA), supervisor Prof. Ned A. Porter. His PhD thesis was awarded as the best PhD thesis by the National Consortium on Methodologies and Innovative Processes of Synthesis in 2005. He started the academic career in 2004 as Assistant Professor, promoted to Associate Professor in 2014. In 2017 he obtained the eligibility to full professor (Abilitazione Scientifica Nazionale, ASN) for the sector (SSD) 03/B2. In 2016 he spent two months as visiting professor at the University of Ottawa (Canada).

He has been the recipient of some awards leading to invited chapters on Wiley-VCH books. In his academic career, he was also member of the Scientific Credential Commission of Politecnico di Milano (2008-2012). He was elected member of the Managing Board (Giunta) of the Department "G. Natta" (2010-2012), he is member of the Commission for the Design of the New Department (foreseen for 2020).

Since 2013 he is member of the Scientific and Teaching Board (Collegio dei Docenti) of the PhD Programme in Industrial Chemistry and Chemical Engineering of the Politecnico di Milano.

His scientific interests and skills cover selective oxidation reaction in mild conditions, radical chemistry, catalysis and reaction mechanisms, functionalization of cellulose and cyclodextrins for the synthesis of nanostructured organic and ceramic materials for drug delivery and environment decontamination.

He declares 82 papers in ISI indexed journals, 9 contributions on books, 5 international patents and 2 Italian patent applications. He also declares H-index = 24 on February 2018, and about 1700 citation (WoS).

SUBMITTED PUBLICATIONS:

No. of publications	Type/Title of Publication	Judgment
1	Lipophilic N-Hydroxyphthalimide Catalysts/or the Aerobic Oxidation of Cumene: Towards Solvent-Free Conditions and Bock. Petroselli, M.; Melone, L.; Cametti, M.; Punta, C.	Very good

	Chem. Eur. J. 2017, 23, 10616 - 10625.	
2	An aerogel obtained from chemo-enzymatically oxidized fenugreek galactomannans as a versatile delivery system. Rossi, B.; Campia, P.; Merlini, L.; Brasca, M.; Pastori, N.; Farris, S.; Melone, L.*; Punta, C.*; Galante, V.M. Carbohydrate Polymers 2016, 144, 353-361.	Good
3	Surface-Functionalization of Nanostructured Cellulose Aerogels by Solid State Eumelanin Coating. Panzella, L.; Melone, L.; Pezzella, A.; Rossi, B.; Pastori, N.; Perfetti, M.; D'Errico, G.; Punta, C.*; d'Ischia, M. Biomacromolecules 2016, 17,564-571	Very good
4	TEMPO-Oxidized Cellulose Cross-Linked with Bronched Polyethyleneimine: Nanostructured Adsorbent Sponges for Water Remediation. Melone, L.*; Rossi, B.; Pastori, N.; Panzeri, W.; Mele, A.; Punta, C.* ChemPlusChem 2015, 9, 1408-1415.	Good
5	Is it possible to implement N-hydroxyphthalimide homogeneous catalysis for industrial applications? A case study of cumene aerobic oxidation. Melone, L.; Prosperini, S.; Ercole, G.; Pastori, N.; Punta, C. J. Chem. Technol. Biotechnol. 2014, 89, 1370-1378	Very good
6	Aerobic oxidation of alkylaromatics catalyzed by a new lipophilic N-hydroxyphthalimide: overcoming the industrial limit of the catalyst solubility. Petroselli, M.; Franchi, P.; Lucarini, M.; Punta, C.; Melone, L. ChemSusChem 2014, 7, 2695-2703.	Very good
7	Sunlight Induced Oxidative Photoactivation of N-Hydroxyphthalimide Mediated by Naphtholene Imides. Melone, L.; Franchi, P.; Lucarini, M.; Punta, C. Adv. Synth. Catal. 2013,355, 3210- 3220.	Very good
8	Understanding the topography effects on competitive adsorption on a nonosized anatase crystal: a molecular dynamics study. Raffaini, G.*; Melone, L.; Punta, C. Chem. Commun. 2013, 7581-7583.	Good
9	Selective Catalytic Aerobic Oxidation of Substituted Ethylbenzenes under Mild Conditions. Melone, L.; Prosperini, S.; Gambarotti, C.; Pastori, N.; Recupero, F.; Punta, C. J. Mol. Cat.A: Chemical, 2012, 355, 155-160	Very good
10	Hydroperoxidation of Tertiary Alkylaromatics Catalyzed by N-Hydroxyphthalimide and Aldehydes under Mild Conditions. Melone, L.; Gambarotti, C.; Prosperini, S.; Pastori, N.; Recupero, F.; Punta, C. Adv. Synth. Catal. 2011, 353, 147-154.	Very good
11	Free-Radical Addition to Ketimines Generated In Situ. New One-Pot Synthesis of Quaternary α -Aminoamides Promoted by a H ₂ O ₂ /TiCl ₄ Zn/HCONH ₂ System. Pastori, N.; Greco, C.; Clerici, A.; Punta, C.*; Porta, O. Org. Lett. 2010, 12, 3898-3901.	Good
12	Key Role of Ti(IV) in the Selective Radical-Radical Cross-Coupling Mediated by the Ingold-Fischer Effect. Spaccini, R., Pastori, N.; Clerici, A.; Punta, C.; Porta, O. J. Am. Chem.Soc. 2008, 130 (52), 18018-18024.	Excellent
13	A New One-Pot, Four-Component Synthesis of 1,2-Amino Alcohols: TiCl ₃ /t-BuOOH Mediated Radical Hydroxymethylation of Imines. Clerici, A.; Ghilardi, A.; Pastori, N.; Punta, C.*; Porta, O. Org. Lett. 2008, 10, 5063-5066	Very good
14	Free radical functionalization of organic compounds catalyzed by N-hydroxyphthalimide. Recupero, F.; Punta, C. Chem. Rev. 2007, 107,3800-3842	Excellent
15	Free-Radical Version of the Strecker Synthesis of α -Aminoamides Promoted by Aqueous H ₂ O ₂ /TiCl ₃ /HCONH ₂ System. Cannella, R.; Clerici, A.; Panzeri, W.; Pastori, N.; Punta, C.; Porta, O. J. Am. Chem. Soc. 2006, 5358-5359	Very good
Overall evaluation: "very good"		

Overall collective judgement.

QUALITY OF SCIENTIFIC PRODUCTION, ASSESSED ON THE BASIS OF CRITERIA AND PARAMETERS RECOGNIZED BY THE INTERNATIONAL SCIENTIFIC COMMUNITY OF REFERENCE:

The 15 submitted scientific papers are all within the 2006-2017 span. The candidate presents 14 research paper and 1 review article, all of them on ISI indexed journals. The main topics are oxidation reactions, homogeneous catalysis, polysaccharides functionalization, free-radical chemistry. In consideration of the sector average, the impact factors of the presented research publications are generally high, in some cases very high or excellent. This panel has considered, as the main descriptors of the candidate's production quality, the journal, the number of citations, the candidate's contribution, and the relevance to the chemistry for engineering scientific community. The latter for the present candidate is optimal. The candidate is 3 times corresponding or first name author, 11 times shares the corresponding author role with co-authors. Accordingly, and having considered the coherence between CV and publications, the personal contribution appears good. The panel's evaluation of the 15 submitted papers is very good.

This panel evaluates as very high the candidate's continuity and intensity of the scientific production. The overall impact of his research on the reference scientific community, evaluated also considering the H-index, the number of publications and the overall citations, is also very high. The assigned score is 33 (out of 40)

DIDACTIC ACTIVITIES CARRIED OUT IN ITALIAN OR FOREIGN UNIVERSITIES OR BODIES:

From the 2005-06 to the 2015-16 academic year the candidate chaired the course of Foundations of Chemistry at Politecnico di Milano for BSc students in Mechanical, Energy, and Aerospace Engineering. The course (7 CFU) is mandatory for BSc students. In the academic years 2014/2015 and 2015/2016 the candidate also taught the Chemistry module (3 CFU) of the Course of "Chemistry + Technology of Materials and Applied Chemistry" at the School of Architecture Urban Planning Construction Engineering, Politecnico di Milano. The module is mandatory for BSc students

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in Building and Architectural Engineering. Since the academic year 2016/2017, the candidate holds the course of General Chemistry (7 CFU) for BSc students in Mathematical Engineering at the Politecnico di Milano.
He was supervisor of 3 PhD theses and 8 MS theses at Politecnico di Milano. The teaching activity of the candidate is considered very pertinent and of very good quality. Final score: 24 (over 30).

SCIENTIFIC RESPONSIBILITY FOR FUNDED RESEARCH PROJECTS:

PI of project NAIADI (Nanocellulose from renewable sources for sustainable release of plant protection products) co-financed by Regione Lombardia (competitive call), 2016.

Coordinator of Politecnico di Milano research unit (RU) in the PRIN projects (Programmi di Ricerca scientifica di Interesse nazionale, PRIN, competitive calls) funded by the Italian Ministry for Education, University and Research (MIUR) in the years 2006, 2008 and 2010.

Participant to PRIN 2002 and 2004, participant to FIRB (Fondo per gli Investimenti della Ricerca di Base, financed by the MIUR. Competitive call) 2010. Participant to the project SURF co-financed by Regione Lombardia (competitive call). Participant to project NanoBonD - Call RSI 2015, POR FSR 2014-2020, co-financed by Regione Toscana.

The candidate was in charge of many research contracts with companies. Large companies: Versalis, division of ENI. The candidate is also in charge of research contracts with many SME. He also acknowledges the responsibility of two research projects financed by Politecnico di Milano Foundation.

Finally, the candidate acknowledges 11 successful applications to large-scale facilities (Elettra Synchrotron, ILL, LLB and others) for miscellaneous neutron and Raman scattering experiments.

The attributed score is 13 out of 20.

CONSISTENCY WITH THE REQUIRED PROFILE:

Given the experience of the candidate in the field of chemistry for engineering, this panel considers the scientific profile and the teaching experience totally coherent with the required profile. The score for consistency with the required profile is 10 points out of 10.

SCRUTINY OF THE DEGREE OF KNOWLEDGE OF THE ENGLISH LANGUAGE:

All the submitted documents and the scientific publications testify a good command of the English language.

CANDIDATE: RAOS Guido

CURRICULUM:

Born in 1965, he graduated in Chemistry from the Università degli Studi di Milano in 1989 magna cum laude. From 1989 to 1993 he studied theoretical chemistry at the University of Bristol (UK), where he obtained a Ph.D. on the spin-coupled theory of molecular electronic structure under the supervision of Dr. Joseph Gerratt. In 1993 he attended the "Scuola di specializzazione in scienza dei polimeri" (Polymer Science Specialization School, 2 years) at Politecnico di Milano. Then he spent 2 years as post-doctoral research assistant in the group of Prof. Giuseppe Allegra on polymer statistical mechanics. He obtained the permanent position of Assistant Professor (Ricercatore) in 1997 and has been promoted to associate professor in 2007. In 2014 the candidate obtained the national habilitation for the position of full professor in the subject areas of physical chemistry ("03/A2: modelli e metodologie per le scienze chimiche") and of chemical technologies ("03/B2: fondamenti chimici delle tecnologie"). The scientific expertise and interests are in the field of quantum and statistical physics, molecular modeling and polymer science. He is currently involved in the application of statistical mechanics, quantum chemistry and molecular simulation to materials for organic electronics and photovoltaics, molecular and polymeric crystals, nanocomposites, room-temperature ionic liquids, and soft matter in general.

He is member of the Subcommittee on Polymer Terminology (SPT) of IUPAC since 2016 and invited lecturer at IUPAC's MACRO2016 World Polymer Conference (Istanbul, July 2016). Invited speaker at the 2005 Gordon Research Conference on "Elastomers, Networks and Gels" (Colby-Sawyer College, New London NH; chairman Prof. Gregory McKenna).

Visiting scholar at School of Mathematics and the nCATS Centre of the University of Southampton, UK (2010 and 2011) and at the Department of Chemistry of University College Dublin, Ireland (2002). Invited speaker at several national and international symposia, member of the scientific board of several symposia.

He was twice elected member of the "giunta" (board) of the Department of Chemistry, Materials and Chemical Engineering "G. Natta" (DCMIC) of the Politecnico di Milano (2005-2008 and 2008-2010), he was member of the External Relations committee of the DCMIC department (2002-2004) and Coordinator for the writing of the overall scientific program of the DCMIC department (2012). He is member of the Scientific and Teaching Board (Collegio dei Docenti) of the PhD Programme in Materials Engineering of the Politecnico di Milano.

He declares 86 ISI indexed papers, 2 book chapters, H-index (Scopus) = 28 and 2381 citations.

SUBMITTED PUBLICATIONS:

No. of publications	Type/Title of Publication	Judgment
1	Allegra, G., Raos, G.* and Vacatello, M., 2008. Theories and simulations of polymer-based nanocomposites: from chain statistics to reinforcement. <i>Progress in Polymer Science</i> , 33(7), pp.683-731.	Excellent
2	Moreno, M., Castiglione, F., Mele, A.*, Pasqui, C. and Raos, G.*, 2008. Interaction of water with the model ionic liquid [bmim][BF ₄]: Molecular dynamics simulations and comparison with NMR data. <i>The Journal of Physical Chemistry B</i> , 112(26), pp.7826-7836.	Very good
3	Raos, G.*, Famulari, A. and Marcon, V., 2003. Computational reinvestigation of the bithiophene torsion potential. <i>Chemical physics letters</i> , 379(3-4), pp.364-372.	Very good
4	Raos, G.*, Moreno, M. and Elli, S., 2006. Computational Experiments on Filled Rubber Viscoelasticity: What Is the Role of Particle-Particle Interactions?. <i>Macromolecules</i> , 39(19), pp.6744-6751.	Very good
5	Moreno, M., Casalegno, M., Raos, G.*, Meille, S.V. and Po, R., 2010. Molecular modeling of crystalline alkythiophene oligomers and polymers. <i>The Journal of Physical Chemistry B</i> , 114(4), pp.1591-1602.	Very good
6	Casalegno, M., Raos, G. and Po, R., 2010. Methodological assessment of kinetic Monte Carlo simulations of organic photovoltaic devices: The treatment of electrostatic interactions. <i>The Journal of chemical physics</i> , 132(9), p.094705.	Good

7	Marcon, V. and Raos, G.*, 2006. Free energies of molecular crystal surfaces by computer simulation: Application to tetrathiophene. <i>Journal of the American Chemical Society</i> , 128(5), pp.1408-1409.	Excellent
8	Marcon, V., van der Vegt, N., Wegner, G. and Raos, G.*, 2006. Modeling of molecular packing and conformation in oligofluorenes. <i>The Journal of Physical Chemistry B</i> , 110(11), pp.5253-5261	Very good
9	Raos, G.* and Casalegno, M., 2011. Nonequilibrium simulations of filled polymer networks: Searching for the origins of reinforcement and nonlinearity. <i>The Journal of chemical physics</i> , 134(5), p.054902.	Very good
10	Raos, G.*, Famulari, A., Meille, S.V., Gallazzi, M.C. and Allegra, G., 2004. Interplay of conformational states and nonbonded interactions in substituted bithiophenes. <i>The Journal of Physical Chemistry A</i> , 108(4), pp.691-698	Very good
11	Frigerio, F., Casalegno, M., Carbonera, C., Nicolini, T., Meille, S.V.* and Raos, G.*, 2012. Molecular dynamics simulations of the solvent-and thermal history-dependent structure of the PCBM fullerene derivative. <i>Journal of Materials Chemistry</i> , 22(12), pp.5434-5443	Good
12	Idé, J., Fazzi, D., Casalegno, M., Meille, S.V. and Raos, G.*, 2014. Electron transport in crystalline PCBM-like fullerene derivatives: a comparative computational study. <i>Journal of Materials Chemistry C</i> , 2(35), pp.7313-7325.	Very good
13	Raos, G.*, Casalegno, M. and Idé, J., 2013. An effective two-orbital quantum chemical model for organic photovoltaic materials. <i>Journal of chemical theory and computation</i> , 10(1), pp.364-372.	Very good
14	Froltsov, V.A., Klüppel, M. and Raos, G., 2012. Molecular dynamics simulation of rupture in glassy polymer bridges within filler aggregates. <i>Physical Review E</i> , 86(4), p.041801.	Good
15	Casalegno, M., Pastore, R., Idé, J., Po, R. and Raos, G.*, 2017. Origin of Charge Separation at Organic Photovoltaic Heterojunctions: A Mesoscale Quantum Mechanical View. <i>The Journal of Physical Chemistry C</i> , 121(31), pp.16693-16701.	Very good
Overall evaluation: more than "very good"		

Overall collective judgement.

QUALITY OF SCIENTIFIC PRODUCTION, ASSESSED ON THE BASIS OF CRITERIA AND PARAMETERS RECOGNIZED BY THE INTERNATIONAL SCIENTIFIC COMMUNITY OF REFERENCE:

The 15 submitted scientific papers are all within the 2003-2017 span. The author presents 14 research papers and 1 review article, all of them on ISI indexed journals. The presented papers deal with theoretical and physical chemistry, molecular dynamics simulation on molecular and macromolecular systems, quantum models for photovoltaic materials. In consideration of the sector average, the impact factors of the presented research publications are generally high, in some cases very high and in one case excellent. This panel has considered, as the main descriptors of the candidate's production quality, the journal, the number of citations, the candidate's contribution, and the relevance to the chemistry for engineering scientific community. The latter for the present candidate is very good. The candidate is 12 times corresponding or first name author, 3 times shares the corresponding author role with co-authors. Accordingly, and having considered the coherence between CV and publications, the personal contribution appears very good. The panel's evaluation of the 15 submitted papers is more than very good. This panel evaluates as very high the candidate's regularity and intensity of his scientific production. The overall impact of his research on the reference scientific community, evaluated also considering the H-index, the number of publications and the overall citations, is also very high. The assigned score is 35 (out of 40).

DIDACTIC ACTIVITIES CARRIED OUT IN ITALIAN OR FOREIGN UNIVERSITIES OR BODIES

The candidate started the teaching activity at Politecnico di Milano in 1997, as Assistant Professor. Since 1999 and up to the academic year 2016/17, he chaired several General Chemistry courses for BSc students of various Engineering degrees at Politecnico di Milano. All of the courses were in the 5-10 CFU range and mandatory for students.

Additionally, in the academic years from 2010/11 to 2012/13, he has also taught a 5-CFU course on "Soft matter simulations" for Master students in Materials and Chemical Engineering.

In the academic years from 2013/14 to 2016/17, he has also taught a 5-CFU course on "Advanced Materials Chemistry" (later renamed "Structural Chemistry of Materials") for the Master students in Materials Engineering and Nanotechnology at Politecnico di Milano. In the present academic year (2017/18), he teaches a 7-CFU course of Chemistry for BSc students in Mechanical, Energy, and Aerospace Engineering of the Politecnico di Milano, along with a 3-CFU course for third-year students in Civil Engineering and Architecture.

He has supervised or co-supervised 7 PhD theses and several MS theses.

The candidate was also the coordinator of the first edition of an interdisciplinary Ph.D. course on "Simulation of molecular systems for chemistry, materials and biology", held in Politecnico's Lecco branch in June-July 2010. He has participated as a lecturer to subsequent editions of the same course in 2013, 2015 and 2017.

The candidate has coordinated (with S. V. Meille) and taught a lecture course on "Structure and statistical properties of polymers" for the Ph.D. programme in Material Engineering (Politecnico di Milano, 2012, 2014 and 2016).

Since 2014 the candidate coordinates (with P. Ossi) the course on the "Methods for the compositional analysis and characterization of materials" for the Ph.D. programme in Material Engineering at Politecnico di Milano. The course consists of three one-day seminar cycles per year with invited lectures offered by experts in different techniques.

The candidate coordinates (with C. Castiglioni) the interdisciplinary Ph.D. course on "Science, technology, society and Wikipedia" (June 2016, to be repeated in June 2018). The courses are carried out in collaboration with Wikimedia Italia and accredited Wikipedia instructors.

The amount of frontal teaching held by the candidate is high and fully consistent with the requirements. Additionally, the teaching and managing activities in the frame of the PhD programme in Material Engineering are worth noting. Final score 27 (over 30).

SCIENTIFIC RESPONSIBILITY FOR FUNDED RESEARCH PROJECTS

Principal investigator (PI) in the project "Photoactive Layer Engineering for highly efficient Organic Solar cells (PLENOS)", financed by Cariplo Banking Foundation after competitive call (2012-2014).

Coordinator of Politecnico di Milano research unit (RU) in the project on "Molecular engineering of ordering processes in organic thin films via computer simulations", PRIN 2015 (Programmi di Ricerca scientifica di Interesse nazionale, PRIN, competitive calls) funded by the Italian Ministry for Education, University and Research (MIUR). Project duration: 3 years (2017-2019).

Participant to several PRIN projects (1999, 2000, 2003, 2004, 2005, 2010). Participant to EU FP7 projects GREENLION (Advanced manufacturing processes for low cost greener Li-ion batteries, NMP2-LA-2011-285268). Participant to project "New photoluminescent nanostructured systems" financed by Cariplo Banking Foundation after competitive call (ref. no. 2007.5378).

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The candidate is also responsible of many research contracts with large companies: ENI, 2008/11 and 2011/14; Pirelli Tyres, 2017; Columbian Chemicals Company (USA), 2018. The candidate is also in charge of research contracts with some SME. He was also the recipient of an internal Politecnico di Milano grant for young researchers (1999). Recipient of grants for supercomputing time in Italy (CINECA, 2012-18) and in the US (CINT, operated by Sandia and Los Alamos National Laboratories, 2013 and 2015).
The attributed score is 14 out of 20.

CONSISTENCY WITH THE REQUIRED PROFILE

Given the experience of the candidate in the field of chemistry for engineering, the panel consider the scientific profile and the teaching experience totally coherent with the required profile. The score for consistency with the required profile is 10 points out of 10.

SCRUTINY OF THE DEGREE OF KNOWLEDGE OF THE ENGLISH LANGUAGE

All the submitted documents and the scientific publications testify a good command of the English language.

CANDIDATE: VOLONTERIO Alessandro

CURRICULUM:

Born in 1970, He obtained the Master degree (Laurea) in Chemistry at the Università degli Studi di Milano in 1995 under the supervision of Prof. Carlo Scolastico and Prof. Anna Bernardi. He obtained a specialization in Chemical Synthesis at Politecnico di Milano (2 years, summa cum laude) in 1997, then he started a 3 years PhD programme in Industrial Chemistry at the Politecnico di Milano (in consortium with Università degli Studi di Milano), defending the thesis in 2000. He then obtained a 2-year post-doctoral fellowship from CNR, and a second, 2-years fellowship funded by Politecnico di Milano. In 2005 he obtains a permanent position at the Dept "G.Natta" of Politecnico di Milano as Assistant Professor (Ricercatore). In the same year he did a post-doctoral experience at The Scripps Research Institute at La Jolla with Prof. Julius Rebek, Jr. In 2011 he was promoted to Associate Professor at Politecnico di Milano. In 2016 he was awarded of Fulbright Research Scholarships and joined the group of Prof. Yitzhak Tor at the University of California, San Diego, USA. In 2012 he obtains the habilitation to full professorship. He did some short stay as visiting scholar (Univ Valencia, 1999) or visiting professor (UCSD 2015 and 2017). The candidate was the recipients of some awards: Erasmus fellowship in 1997 (Univ Valencia); fellowship limited to twenty participants from across Europe to attend "Roche Symposium for Leading Chemists of the Next Decade" in Basel (Switzerland); "Corrado Fuortes Prize" of the "Istituto Lombardo - Accademia di Scienze e Lettere", granted to a young organic chemist for an experimental study in organic chemistry.. His scientific activity is strongly focused on organic synthesis, with emphasis on stereoselective transformations, peptide synthesis, chemistry of fluorine, multicomponent and combinatorial synthesis. He is author or co-author of 89 papers in ISI indexed journals, 6 book chapters and inventor in one international patent. He declares H-index = 27 (Scopus) and 1797 citations. He was twice elected member of the Managing Board (Giunta; 2010-12 and 2017-19) of the Department "G. Natta" and since 2012 he is the reference for the Scientific Credentials of the Department "G. Natta", Politecnico di Milano.

SUBMITTED PUBLICATIONS:

No. of publications	Type/Title of Publication	Judgment
1	Maria Cristina Bellucci, Massimo Frigerio, Carlo Castellano, Fiorella Menegnetti, Alessandro Sacchetti*, Alessandro Volonterio*. "Design, synthesis, and conformational analysis of 3-cyclo-butylcarbamoyl hydantoins as novel hydrogen bond driven universal peptidomimetics". <i>Org. Biomol. Chem.</i> 2018, 16, 521-525.	Very good
2	Aurora Sganappa, Ezequiel Wexselblatt, Maria Cristina Bellucci, Jeffrey D Esko, Gabriella Tedeschi, Yitzhak Tor,* Alessandro Volonterio*. "Dendrimeric guanidinoneomycin for cellular delivery of bio-macromolecules". <i>ChemBioChem</i> 2017, 18, 119-125.	Very good
3	Aurora Sganappa, Maria Cristina Bellucci, Vietar Nizet, Yitzhak Tor,* Alessandro Volonterio*. "Multicomponent Domino Synthesis and Antibacterial Activity of Neomycin Sugar Conjugates". <i>Synthesis</i> , 2016, 48, 4443-4450.	Good
4	Maria Cristina Bellucci, Aurora Sganappa, Monica Sani, Alessandro Volonterio*. "Multicomponent diversity oriented synthesis of multivalent glycomimetics containing hexafluorovaline". <i>Tetrahedron</i> , 2015, 71, 7630-7637	Good
5	Maria Cristina Bellucci, Monica Sani, Aurora Sganappa, Alessandro Volonterio*. "Diversity Oriented Combinatorial Synthesis of Multivalent Glycomimetics Through a Multicomponent Domino Process". <i>ACS Comb. Sci.</i> 2014, 16, 711-720	Very good
6	Maria Cristina Bellucci, Alessandro Volonterio*. "Synthesis of N-Glycosyl Conjugates Through a Multicomponent Domino Process". <i>Eur. J. Org. Chem.</i> 2014, 11, 2386-2397	Good
7	Alessandra Ghilardi, Daniele Pezzoli, Maria Cristina Bellucci, Chiara Malloggi, Armando Negri, Aurora Sganappa, Gabriella Tedeschi, Gabriele Candiani,* Alessandro Volonterio*. "Synthesis of Multifunctional PAMAM-Aminoglycoside Conjugates with Enhanced Transfection Efficiency". <i>Bioconjugate Chem.</i> 2013, 24, 1928-1936	Very good
8	Maria Cristina Bellucci, Giancarlo Terraneo, Alessandro Volonterio*. "Multi-component synthesis of peptide-sugar conjugates". <i>Org. Biomol. Chem.</i> 2013, 11, 2421-2444.	Good
9	Francesca Olimpieri, Maria Cristina Bellucci, Tommaso Marcelli, Alessandro Volonterio*. "Regioselective multicomponent sequential synthesis of hydantoins". <i>Org. Biomol. Chem.</i> 2012, 10, 9538-9555	Good
10	Daniele Pezzoli, Francesca Olimpieri, Chiara Malloggi, Sabrina Bertini, Alessandro Volonterio, * Gabriele Candiani*. "Chitosan-Graft-Branched Polyethylenimine Copolymers: Influence of Degree of Grafting on Transfection Behavior". <i>PLoS ONE</i> 2012, 7, e34711	Very good

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11	Maria Cristina Bellucci, Alessandra Ghilardi, Alessandro Volonterio*: "Three-component, one-pot sequential synthesis of glyco-hydantoin conjugates". Org. Biomol. Chem. 2011, 9, 8379-8392	Good
12	Maria Cristina Bellucci, Alessandro Volonterio*: "Multicomponent Synthesis of Peptide Sugar Conjugates Incorporating Hexafluorovaline". Adv. Synth. Catal. 2010, 352-2791- 2798	Good
13	Francesca Olimpieri, Maria Cristina Bellucci, Alessandro Volonterio,* Matteo Zanda*: "A mild, efficient approach for the synthesis of 1,5-disubstituted hydantoins". Eur. J. Org. Chem. 2009, 6179-6188	Good
14	Marco Molteni, Maria Cristina Bellucci, Serena Bigotti, Stefania Mazzini, Alessandro Volonterio.* Matteo Zanda*: "P[CH(CF ₃)NH]Gly peptides: synthesis and conformation analysis". Org. Biomol. Chem. 2009, 7, 2286-2296	Very good
15	Alessandro Volonterio*, Matteo Zanda*: "Multi-Component, one-pot, sequential synthesis of 1,3,5- and 1,3,5,5-substituted barbiturates". J. Org. Chem. 2008, 73, 7486-7497	Very good
Overall evaluation: more than "good"		

Overall collective judgement.

QUALITY OF SCIENTIFIC PRODUCTION

The 15 submitted scientific papers are all within the 2008-2017 span and they are all research papers. All of them are on ISI indexed journals. The presented papers are strongly focused on organic synthetic methods, combinatorial and multicomponent synthesis, peptide chemistry. In consideration of the sector average, the impact factors of the presented research publications is generally high. This panel has considered, as the main descriptors of the candidate's production quality, the journal, the number of citations, the candidate's contribution, and the scope related to the themes pertaining to the chemistry for engineering scientific community. The latter for the present candidate is good. The candidate is 7 times corresponding or first name author and 8 times shares the corresponding author role with co-authors. Accordingly, and having considered the coherence between CV and publications, the personal contribution appears good. The panel's evaluation of the 15 submitted papers is more than good.

This panel evaluates as very high the candidate's regularity and intensity of the scientific production. The overall impact of his research on the reference scientific community, evaluated also considering the H-index, the number of publications and the overall citations, is good. The assigned score is 31 (out of 40).

DIDACTIC ACTIVITIES CARRIED OUT IN ITALIAN OR FOREIGN UNIVERSITIES OR BODIES

The candidate started the teaching activity as Tutor for the General Chemistry courses at Politecnico di Milano in the period 1997-2004. Since 2005 and up to 2014 he chaired the course of General Chemistry for BSc in Engineering at Politecnico di Milano. The course is mandatory for BSc students. Since 2014 the candidate also chairs the course of Environmental Chemistry for BSc of Engineering at Politecnico di Milano. From 2010 he supervised and co-supervised at Politecnico di Milano 21 master thesis and 3 PhD thesis. The teaching activity of the candidate is considered very pertinent and of very good quality. The final score for the teaching activity is 24 (out of 30).

SCIENTIFIC RESPONSIBILITY FOR FUNDED RESEARCH PROJECTS

The candidate was PI of three projects within the bilateral funding programme Italy/Georgia managed by the research agencies CNR (National Research Council, Italy) and SRNSF (Shota Rustaveli National Science Foundation, Georgia), two-year periods in 2018/19, 2016/17 and 2014-2015.

PI of the projects "Development of novel guanidinoglycoside based nanoparticles and nanogels for an efficient delivery of unmodified therapeutics" ASP 2015 - "Alta Scuola Politecnica", funded by Politecnico di Milano, 2015.

PI of the project "Smart guanidinoglycoside-based polyplexes for targeted gene delivery". FARB - "Finanziamento di Ateneo per la Ricerca di Base", funded by Politecnico di Milano, 2011- 2013.

The candidate was also in charge of a research contract with the company Sterling Spa concerning the synthesis of Dagarelix.

The candidate participated in one project financed by the Politecnico di Milano within the "5 per mille" funding programme (2009/10) and one project financed by Cariplo Banking Foundation (2012/14).

The attributed score is 12 out of 20.

CONSISTENCY WITH THE REQUIRED PROFILE

Both teaching experience and scientific background are consistent with the required profile. The score for consistency with the required profile is 10 points out of 10.

SCRUTINY OF THE DEGREE OF KNOWLEDGE OF THE ENGLISH LANGUAGE

All the submitted documents and the scientific publications testify a good command of the English language..

THE BOARD

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A handwritten signature in blue ink, appearing to be 'RM'.

Handwritten initials in blue ink, possibly 'R.'.



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PUBLIC SELECTION ESTABLISHED WITH DIRECTOR'S DECREE NO. 2018/PRO_CHIM15 OF 18/01/2018 PURSUANT TO THE NOTICE PUBLISHED IN THE OFFICIAL GAZETTE NO. 13/02/2018, n.13 FOR 1 POSITION AS FULL PROFESSOR FOR THE COMPETITION SECTOR 03/B2 - PRINCIPLES OF CHEMISTRY FOR APPLIED TECHNOLOGIES - SDS CHIM/07 - PRINCIPLES OF CHEMISTRY FOR APPLIED TECHNOLOGIES, PURSUANT TO ART. 18 - LAW 240/2010, AT THE POLITECNICO DI MILANO - DEPARTMENT OF CHEMISTRY, MATERIALS AND CHEMICAL ENGINEERING "GIULIO NATTA" (PROCEDURE CODE 2018/PRO_CHIM15).

ATTACHMENT No. 2 to the FINAL REPORT

MERIT RANKING

SURNAME AND NAME	Overall score
RAOS GUIDO	86
BRENNA MARIA ELISABETTA	84
PUNTA CARLO	80
VOLONTERIO ALESSANDRO	77
GALIMBERTI MAURIZIO STEFANO	76

Milan, July 2nd 2018

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