POLITECNICO MILANO 1863

PUBLIC SELECTION ESTABLISHED WITH DIRECTOR'S DECREE NO. 2022_PRO_DICA_4 OF 23/12/2022 PURSUANT TO THE NOTICE PUBLISHED IN THE OFFICIAL GAZETTE NO. 24/01/2023, n. 6 FOR 1 POSITION AS FULL PROFESSOR FOR THE COMPETITION SECTOR 08/B3 - STRUCTURAL ENGINEERING - SDS ICAR/09 - STRUCTURAL ENGINEERING, PURSUANT TO ART. 18 - LAW 240/2010, AT THE POLITECNICO DI MILANO - DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING (PROCEDURE CODE 2022_PRO_DICA_4).

FINAL REPORT

The Selection Board, appointed with RD Index No. 2252 ref. No. 46167 of 24 February 2023, composed by the following Professors:

Prof. DI PRISCO Marco - Politecnico di Milano;
Prof.ssa VANDEWALLE Lucie Alice R - Katholieke Universiteit Leuven, Belgium;
Prof. MUTTONI Aurelio Maria Nicola - École polytechnique fédérale de Lausanne, Switzerland

met on March 13th at 11:00, 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 Selection Board:

Marco di Prisco, Full Professor at Politecnico di Milano, Chairman;
Aurelio Muttoni, Full Professor at the University EPFL of Lausanne, 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 Selection Board established the criteria and the parameters according to which the assessment was carried out, and set the minimum score below which the candidate shall not be included in the ranking of candidates.

On May 3rd at 15:30, the Selection Board met in teams to inspect the list of applicants, who were:

1) Cimellaro Gian Paolo
2) Coronelli Dario Angelo Maria
3) Felicetti Roberto
4) Ferrara Liberato

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.

The Selection Board examines the documentation submitted by the candidates and discusses on the Candidate profiles. The Selection Board decides to meet again on July **12th at 9:30** to decide the score of each candidate and the related judgements.

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

On July 12th the Selection Board, met in teams considering the sum of the scores given, expressed a collective judgement 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 judgements are attached to this report and they are an integral part of it (Attachment No. 1 to this final report).

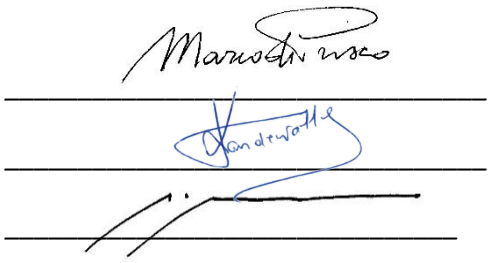
The Selection Board drew up, according to the majority of its members, a ranking of candidates selected to carry out the scientific/teaching functions for which the selection was called, in a number equal to a maximum of five times the number of positions available in the competition (Attachment No.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

THE SELECTION BOARD

Prof. Marco di Prisco *(Chairman)*

Prof. Lucie Vandewalle *(Member)*

Prof. Aurelio Muttoni *(Secretary)*



POLITECNICO DI MILANO

PUBLIC SELECTION ESTABLISHED WITH DIRECTOR'S DECREE NO. 2022_PRO_DICA_4 OF 23/12/2022 PURSUANT TO THE NOTICE PUBLISHED IN THE OFFICIAL GAZETTE NO. 24/01/2023, n. 6 FOR 1 POSITION AS FULL PROFESSOR FOR THE COMPETITION SECTOR 08/B3 - STRUCTURAL ENGINEERING - SDS ICAR/09 - STRUCTURAL ENGINEERING, PURSUANT TO ART. 18 - LAW 240/2010, AT THE POLITECNICO DI MILANO - DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING (PROCEDURE CODE 2022_PRO_DICA_4).

ATTACHMENT No. 1 to the FINAL REPORT

CRITERIA	Quality of scientific and/or project production, assessed on the basis of criteria and parameters recognized by the international scientific community of reference	Teaching activity at the university level in Italy or abroad	Scientific responsibility for funded research projects	Results obtained in technology transfer in terms of participation in the creation of new enterprises (spin off), development, use and marketing of patents	Total
CIMELLARO Gian Paolo	**35,3**	**24**	**10**	**6**	**75,3**
CORONELLI Dario Angelo Maria	**45,4**	**19**	**4**	**4**	**72,4**
FELICETTI Roberto	**53,5**	**21**	**5**	**6**	**85,5**
FERRARA Liberato	**46,9**	**24**	**10**	**6**	**86,9**

CANDIDATE: CIMELLARO Gian Paolo

CURRICULUM:

Born in Rome, on March 8th 1977. Full Professor of Structural Engineering at Politecnico di Torino, Department of Structural, Building & Geotechnical Engineering (DISEG) since 2020. In 2008 he took the Ph.D. in Civil Engineering, at the State University of New York at Buffalo (SUNY), Department of Civil, Structural and Environmental Engineering, (Dissertation title: "*Improving seismic resilience of structural systems through integrated design of structures*") and another PhD at University of Pavia, Dept. of Structural Mechanics (Advisor Prof. E. Calligarich, Department of Physics, title: "*Passive Control of Industrial Structures for Natural Hazard Mitigation: Analytical Studies and Applications*") after a B.S. in Civil Engineering (Hydraulics 5 years program) taken in 2001 at University of Rome "La Sapienza", March 21, 110/110 Summa Cum Laude, Department of Civil Engineering (Advisor Prof. R. Guercio, Department of Hydraulic Engineering), thesis title: "*Technique of defense of the embankments: experimentation with articulated concrete blocks*" and in 2005 a Master in Earthquake Engineering, at State University of New York at Buffalo (SUNY), Structural and Environmental Engineering, USA (Advisor Prof. A.M. Reinhorn, Department of Civil, Structural and Environmental Engineering, thesis title: "Multidimensional Fragility of structures: Formulation and evaluation") and a M.S. in 2012 in Information System, Integration and Auditing – (MBA - IT Governance) at University of Turin, School of Management (Advisor Prof. A. Devalle, thesis title: "*Constitution of a s.r.l. company: laws and regulations with particular attention to a spin-off company*"). In 2003 he worked as Structural and Test Engineer in ENEA Research Center- Laboratory of Structural Dynamics and vibration control (Italian National agency for new technologies, Energy and Environmental) and in the same year he was also Visiting scholar, Dept. of Civil, Structural and Environmental Engineering, University at Buffalo (SUNY), (Advisor: Prof. T.T. Soong). In 2007 he became Structural and Test Engineer at SEESL (Seismic Earthquake Engineering Simulation laboratory), University at Buffalo (SUNY) and in 2008 he became a Post-doctoral Research Associate, Dept. of Civil, Structural and Env. Eng., University at Buffalo (SUNY). From 2008 to 2014 he was Assistant Professor of Structural Engng at Politecnico di Torino, Department of Structural, Building &Geotechnical Engineering (DISEG), while in 2009 he was visiting professor at the Dept. of Civil, Structural and Environmental Engineering, University at Buffalo (SUNY). From 2014 to 2020 he was Associate Professor in Structural Engineering at Politecnico di Torino, Department of Structural, Building & Geotechnical Engineering, (DISEG). From 2014 to 2016 he was visiting Professor at University of California at Berkeley, Department of Civil and Environmental Engineering.

Since 2018 he is visiting Professor at Tsinghua University, Department of Construction management, China; since 2019 he is member of the International Society for structural Health Monitoring of Intelligent Infrastructures (USA); since 2019 he is General Secretary of ASSISI, the Anti-Seismic Systems International Society; since 2017 Chair of the SHMII Committee on Resilient Structures and Infrastructure (CORSI) of the International Society for structural Health Monitoring of Intelligent Infrastructures; since 2015 he is Director of Disaster Resilience Simulation Laboratory (DRSIL) of the Politecnico di Torino, Department of Structural, Building & Geotechnical Engineering (DISEG).

SUBMITTED PUBLICATIONS:

No. of publications	Type/Title of Publication	Judgement
1	PEOPLES: A Framework for Evaluating Resilience	3,44
2	Physical infrastructure interdependency and regional resilience index after the 2011 Tohoku Earthquake in Japan	1,85
3	Performance-based metamodel for healthcare facilities	1,20
4	Post-collapse analysis of Morandi's Polcevera viaduct in Genoa Italy	1,52
5	Design of passive systems for control of inelastic structures	1,79
6	Downtime estimation and analysis of lifelines after an earthquake	1,68
7	Simulating earthquake evacuation using human behavior models	0,90
8	Output-Only Modal Identification of Ancient L'Aquila City Hall and Civic Tower	2,40
9	Probabilistic framework to evaluate the resilience of engineering systems using Bayesian and dynamic Bayesian networks	1,72
10	Fragility Analysis and Seismic Record Selection	2,96
11	Three-Dimensional Base Isolation Using Vertical Negative Stiffness Devices	2,41
12	Collapse analysis of the Polcevera viaduct by the applied element method	1,04
13	Integrated Design of Controlled Linear Structural Systems	2,07
14	New Resilience Index for Urban Water Distribution Networks	2,07
15	Framework for analytical quantification of disaster resilience	2,24

Overall collective judgement

QUALITY OF SCIENTIFIC AND/OR PROJECT PRODUCTION, ASSESSED ON THE BASIS OF CRITERIA AND PARAMETERS RECOGNIZED BY THE INTERNATIONAL SCIENTIFIC COMMUNITY OF REFERENCE:
The quality of the Scientific Production is considered of high level: according to Scopus the average rate of the citations per year (without auto-citations) related to the papers presented is around 15,9, while the h-index of the whole production excluding auto-citations is 29. For this reason, the whole scientific production was evaluated with the maximum score (6/6 points). The Editorial placement is very good. The average number of authors for the papers presented is quite high (3,7); the interaction with International authors is significant with an average on the papers presented of about 1,5. Nevertheless, many papers cannot be considered closely related to Civil Engineering research topics, but are more aligned to management, social and economic investigations: the results cannot follow the Galilean method, because they start from certain assumptions and achieve results which cannot be compared with measured values. The author presents also a significant number of recommendation letters which certifies the significant network and the high reputation of the candidate.

TEACHING ACTIVITIES CARRIED OUT IN ITALIAN OR FOREIGN UNIVERSITIES OR BODIES:
The teaching activity is broad and covers the whole spectrum of levels (Bachelor, Master of Science, PhD): it is associated to a large number of theses in all the three levels. The Candidate presents a huge number of international seminars and keynote speaker's invitations. The final judgement is very positive and is resumed by the maximum score 24/24.

SCIENTIFIC RESPONSIBILITY FOR FUNDED RESEARCH PROJECTS:
The Scientific Responsibility is impressive: Marie Curie, National and International Commercial research Projects, 18 International Research grants (17 as Principal Investigator). The judgement is very positive and is resumed by the maximum score of 10/10.

RESULTS OBTAINED IN TECHNOLOGY TRANSFER IN TERMS OF PARTICIPATION IN THE CREATION OF NEW ENTERPRISES (SPIN OFF), DEVELOPMENT, USE AND MARKETING OF PATENTS:
The Candidate presents one National Patent (Cimellaro, G. P., and Domaneschi, M. (2018). "Modular negative stiffness device for vertical seismic isolation, patent n. 102018000007222." Ufficio Italiano Brevetti e Marchi, Ministero dello Sviluppo Economico, Italia) and in 2017 he was a Startup founder of Resiltronics srl., that can be regarded as an innovative company. He has been also member of several International Conferences and chairman of some International Conferences. He is member of ISI-Ingegneria sismica Italiana, since 2019 member of IABSE, since 2018 member of International Scientific Committee member of Institute of Future Cities and Infrastructures, Tsinghua University, China; since 2018 member of NANOE's 2018 Board of Governors; since 2017 Chair of the SHMII Committee on Resilient Structures and Infrastructure (CORSI) of the International Society for structural Health Monitoring of Intelligent Infrastructures. From 2011 to 2018 Chair of the ASCE Committee on Disaster Resilience of Structures, Infrastructures and Communities; from 2011 to 2016 Vice-Chair of the ASCE sub-Committee on Structural Dynamics. Since 2011 he is member of the TCLEE Lifeline Systems Interdependence Committee (LSIC) of the Technical Council on Lifeline Earthquake Engineering (TCLEE); since 2010 member of the ASCE Committee on Structural Control; since 2010 member of the ASCE Committee on Seismic effects; since 2014 member of the fib Task Group 1.8: Structural Sustainability; since 2014 member of the fib Commission 2: Safety and Performance concepts. In 2010 he was

member of the International association for bridge maintenance and safety (IABMAS) and in 2009 he was member of the International Society for Structural Health Monitoring of Intelligent Infrastructure (ISHMII). Since 2005 he ist Associate Member of the American Society of Civil Engineering (ASCE) and finally from 2004 to 2014 he was member of Earthquake Engineering Research Institute (EERI). The score assigned is high: 6/6.

SCRUTINY OF THE DEGREE OF KNOWLEDGE OF THE ENGLISH LANGUAGE:
The degree of knowledge of the English language is very high, as confirmed by the text of the papers, the text of the documents presented and the long stay in Anglo-Saxon countries.

CANDIDATE: CORONELLI Dario Angelo Maria

CURRICULUM:
Born in Milan, on November 11th 1966. Since 2014 He is Associate Professor of Structural Analysis and Design (Scientific Sector ICAR09 Tecnica delle Costruzioni, 08/B3), Dept. of Civil Environmental Engineering, Politecnico di Milano and 2017 he achieved the Full Professor qualification, Structural Analysis and Design (ASN – Sector ICAR09 Tecnica delle Costruzioni). In 1993 he graduated at the Master Degree in Civil Engineering at Politecnico di Milano and in 1998 he took the PhD in Structural Engineering at Politecnico di Milano, Dept. of Structural Engineering with a thesis on *Bar Corrosion in Steel-Concrete Bond: Material and Structural effects in RC* (Supervisor Prof. A. Castellani).
Since 2022 he is ISSG PhD course Deputy Coordinator. Since 2021 he is Convener of fib COM3 TG32 Modelling of structural performance of existing concrete structures. Since 2022 he is Secretary of group for the preparation of CNR DT "Guidelines for assessing the resistance and residual life of reinforced concrete and reinforced concrete structures subject to corrosion" with M. Di Prisco and B. Belletti; since 2017 he is Member of fib TG 2.5 Bond and Material models, coordinating the preparation of MC2020 on Bond and corrosion. Since 2014 he is Voting Member ACI Committee 421 "Design of Reinforced Concrete Slabs" and since 2014 he is Member of ACI Committee 364 "Rehabilitation of Concrete Structures" 1997; since 2000 he attends CEB Task Group 2/5 coordinated by Prof. Raleijs Tepfers now FIB Task Group 2 / 5 "Bond models" coordinated by Professor John Cairns (1997-2000).
He co-organized with T. Boothby, G. Cardani and M. Gilbert in 2023 the IALCCE Mini-Symposium MS17 *Assessment of Existing Masonry Arch Bridge Infrastructure* and co-organized with B. Belletti three editions of the International Workshop CACRCS Capacity Assessment of Corroded Reinforced Concrete Structures (2020, 2021, 2023).

SUBMITTED PUBLICATIONS:

No. of publications	Type/Title of Publication	Judgement
1	Corrosion Cracking and Bond Strength Modeling for Corroded Bars in Reinforced Concrete	4,00
2	Structural Assessment of Corroded Reinforced Concrete Beams: Modeling Guidelines	4,00
3	Corroded post-tensioned beams with bonded tendons and wire failure	3,20
4	Grid Model for Flat-Slab Structures	3,20
5	Effect of corrosion of reinforcement on the mechanical behaviour of highly corroded RC beams	3,20
6	Severely Corroded RC with Cover Cracking	3,28
7	Engineering bond model for corroded reinforcement	2,58
8	A parametric model for ribbed masonry vaults	2,80
9	Strength of Corroded RC Beams with Bond Deterioration	3,04
10	Development of the simulation model for Digital Twin applications in historical masonry buildings: The integration between numerical and experimental reality	3,44
11	Seismic Performance of Strengthened Slab-Column Connections in a Full-Scale Test	1,48
12	Structural assessment of prestressed beams with natural corrosion	2,10
13	Deformation capacity evaluation for flat slab seismic design	1,48
14	Testing of a full-scale flat slab building for gravity and lateral loads	2,22
15	Modelling and safety assessment of observed sliding damage in a masonry rib vault	2,37

Overall collective judgement

QUALITY OF SCIENTIFIC AND/OR PROJECT PRODUCTION, ASSESSED ON THE BASIS OF CRITERIA AND PARAMETERS RECOGNIZED BY THE INTERNATIONAL SCIENTIFIC COMMUNITY OF REFERENCE:
The quality of the scientific production presented is considered of high level: according to Scopus the average rate of the citations per year (without auto-citations) related to the papers presented is around 6,5, while the h-index of the whole production excluding auto-citations is only 14. For this

reason, the whole scientific production was evaluated with a limited score (3 points). The Editorial placement is very good. The average number of authors for the papers presented is high (4,4); the interaction with International authors is very significant with an average, on the papers presented, of about 2,4. The examined papers are considered strictly related to Civil Engineering research topics and investigate significant problems of Structural Design: the results on corrosion represent a significant International reference. The author has highlighted a significant network on the faced research.

TEACHING ACTIVITIES CARRIED OUT IN ITALIAN OR FOREIGN UNIVERSITIES OR BODIES:
The teaching activity is mainly focused on structural design in Architecture and Environmental Engineering and covers a complete spectrum of levels (Bachelor, Master of Science, PhD): it is associated to theses in all the three levels, even if the number of PhD theses is quite small. The Candidate does not present a list of international seminars and keynote speaker's invitations. The final judgement is quite positive and is resumed by the score 19/24.

SCIENTIFIC RESPONSIBILITY FOR FUNDED RESEARCH PROJECTS:
The Scientific Responsibility is relatively limited: it is indicated a good number of participations to Research Project, but only in two of them as Principal Investigator. The judgement is good and it is resumed by a score of 4/10.

RESULTS OBTAINED IN TECHNOLOGY TRANSFER IN TERMS OF PARTICIPATION IN THE CREATION OF NEW ENTERPRISES (SPIN OFF), DEVELOPMENT, USE AND MARKETING OF PATENTS:
The Candidate presents a good amount of applied research aimed at improving the technical level of practitioners as consultant and forensic actor and a significant engagement in the production of pre-Standard documents, made possible by a significant participation to International and National Technical Committees (fib, Rilem, ACI, CNR). The score assigned is good: 4/6.

SCRUTINY OF THE DEGREE OF KNOWLEDGE OF THE ENGLISH LANGUAGE:
The degree of knowledge of the English language is very high, as confirmed by the text of the papers and of the documents presented.

CANDIDATE: Felicetti Roberto

CURRICULUM:
Born in Udine, on July 1st 1965. He is Associate Professor at Department of Civil and Environmental Engineering at Politecnico di Milano since 2002 and in 2019 he achieved the Full Professor qualification in Structural Analysis and Design (ASN – Sector ICAR09 Tecnica delle Costruzioni). In 1992 he graduated at University of Udine in MSc in Civil Engineering (110/110 cum laude, thesis on local phenomena in shear studs for seismic retrofitting of stone masonry buildings) and in 1996 he took the PhD in Structural Engineering at the Department of Structural Engineering at Politecnico di Milano (Superviser: Prof. P.G. Gambarova, thesis on mechanical properties of high-strength concrete exposed to high temperature). He became Assistant Professor at the Department of Structural Engineering, Politecnico di Milano in 1997.
Four projects were related to as many as many visits to foreign institutions: Imperial College of London (Spring 1998), for developing the first-ever test setup for direct tension testing of concrete samples at high temperature, Columbia University, New York (Sept 1999 - Feb 2000), to perform a test programme on the toughening of plain cement slurries with basalt fibre, BAM, Berlin (Feb 2009), to launch a research line at Politecnico di Milano on advanced ultrasonic methods and related data migration for concrete structures; CSTB (from 2009 to 2010), to design innovative test methods for characterization of the sensitivity to explosive spalling of High-Performance Concrete.
Member of the Scientific Committee of the LPM lab of Politecnico di Milano, from 2013 to 2019, he was founder and director of PoliNDT since 2014, an Inter-department Laboratory for Structural Monitoring and Diagnostics. The Laboratory involves 4 groups of experts in different disciplines connected to Non-Destructive Testing (Chemistry, Electronics, Civil and Mechanical Engineering). The goal is to develop innovative solutions for structural assessment and monitoring and to promote the factual cooperation of members in research, didactics, consultancy, and services in this field. He is also member of RILEM, of the Italian Society for Non-Destructive Testing - AIPnD since 2019 and of the Italian Tunnel Society since 2020.
Co-founder of Di.Mo.Re. since 2012, an academic spin-off of the University of Bergamo focused on technology transfer of research results in the fields of diagnostics, structural monitoring and innovative strengthening and retrofitting techniques for existing buildings and structures. Beyond the 10 founders, collaborating as consultants, the company presently counts 12 young PhDs and MSc engineers with specific skills in structural earthquake engineering and building retrofitting. R&D Consultant at Controls-Group Ltd since 2008. This leading worldwide company is active in the development and production of testing equipment for the construction industry. The consultancy work is mostly focused on mechanical design optimization, development of control systems and algorithms, system performance characterization, problem-solving and development of innovative solutions. This collaboration is a permanently open window on new technologies in experimental mechanics and an instructive exercise on simplification and practicality of technical solutions. Member of the Faculty Board of the PhD Programme in "Structural, Seismic and Geotechnical Engineering", Department of Structural Engineering, Politecnico di Milano since 2007, he was Head of the Concrete Materials and Structures group of the Material Testing Laboratory at Politecnico di Milano from 2004 to 2013. The activity covered the whole range from material characterization to structural testing, including on-site testing and monitoring, qualification of precast members and construction products.

SUBMITTED PUBLICATIONS:

No. of publications	Type/Title of Publication	Judgement
1	Some results on punching shear in plain and fibre -reinforced micro-concrete slabs	3,60
2	Residual Capacity of HSC Thermally Damaged Deep Beams	2,96
3	New NDT techniques for the assessment of fire-damaged concrete structures	4,00
4	Residual behavior of steel rebars and R/C sections after a fire	3,20

5	Mechanical properties of steel fibre reinforced concrete exposed at high temperatures	3,20
6	Assessment Methods of Fire Damages in Concrete Tunnel Linings	3,77
7	High-Temperature Behaviour of Concrete in Tension	3,83
8	Thermo-mechanical analysis of an underground carpark structure exposed to fire	2,40
9	A new test method to study the influence of pore pressure on fracture behaviour of concrete during heating	3,20
10	Heated slabs under biaxial compressive loading: a test set-up for the assessment of concrete sensitivity to spalling	4,00
11	End support connection of precast roof elements by bolted steel angles	2,80
12	Computational study on prestressed concrete members exposed to natural fires	2,88
13	A Multidisciplinary Strategy for the Inspection of Historical Metallic Tie-Rods: The Milan Cathedral Case Study	3,70
14	Assessment of concrete sensitivity to fire spalling: A multi-scale experimental approach	3,20
15	Assessment of a fire-damaged concrete overpass: the Verona bus crash case study	2,80

Overall collective judgement

QUALITY OF SCIENTIFIC AND/OR PROJECT PRODUCTION, ASSESSED ON THE BASIS OF CRITERIA AND PARAMETERS RECOGNIZED BY THE INTERNATIONAL SCIENTIFIC COMMUNITY OF REFERENCE:
The quality of the scientific production presented is considered of very high level even if, according to Scopus, the average rate of the citations per year (without auto-citations) related to the papers presented is relatively low (2,86), and the h-index of the whole production excluding auto-citations is 17. For this reason, the whole scientific production was evaluated with a limited score (4/6 points). The Editorial placement is very good. The average number of authors for the papers presented is in the average (2,73); the interaction with International authors is very low with an average, on the papers presented, of about 0,4. The examined papers are considered strictly related to Civil Engineering research topics and investigate significant problems of Structural Design: the results on fire and diagnostic methods represent a significant reference. The author highlights a limited and strongly selected network on the faced research.

TEACHING ACTIVITIES CARRIED OUT IN ITALIAN OR FOREIGN UNIVERSITIES OR BODIES:
The teaching activity is quite broad and covers the whole spectrum of levels (Bachelor, Master of Science, PhD): it is associated to a large number of theses in the first two levels, but he has been supervisor of only 5 PHD theses. The Candidate presents a good number of international seminars and of keynote speaker's invitations. The final judgement is very positive and is resumed by the score 21/24.

SCIENTIFIC RESPONSIBILITY FOR FUNDED RESEARCH PROJECTS:
The Scientific Responsibility is broad: 29 International projects, of which 23 as PI or leader, but the size of the projects presented was, in the average, relatively reduced. The judgement is good and it is resumed by a score of 5/10.

RESULTS OBTAINED IN TECHNOLOGY TRANSFER IN TERMS OF PARTICIPATION IN THE CREATION OF NEW ENTERPRISES (SPIN OFF), DEVELOPMENT, USE AND MARKETING OF PATENTS:
The technological transfer is the strength of the Candidate. Co-founder of Di.Mo.Re. , R&D Consultant at Controls-Group Ltd, Founder and director of PoliNDT (2014-present), an Inter-department Laboratory for Structural Monitoring and Diagnostics, he participates to several technical committees and associations.
He has 3 patents: 1. Iwaki K.; Shiotani T.; Hirama A.; Asanuma H.; Felicetti R. (2007), Diagnostic device for concrete structures and diagnostic method based on the same, Japanese patent application, JP2007198907 (A), JP4214290 (B2); 2. Felicetti R. (2009). Improved procedure for the analysis of construction materials and device to implement this procedure. Italian Patent Application MI2009A 001073, 1706/2009; 3. Felicetti R. (2019), Sistema per il miglioramento della capacità di isolamento termico di lastre o pannelli per la protezione al fuoco, Felicetti R. (2020), System for improving the thermal insulation capacity of coating elements for fire protection, International Application No.PCT/IB2020/055134, (European extension of the former patent).
He is very active in forensic activity related to damage assessment, diagnostic and fire damage. The score assigned is the maximum: 6/6.

SCRUTINY OF THE DEGREE OF KNOWLEDGE OF THE ENGLISH LANGUAGE:
The degree of knowledge of the English language is very high, as confirmed by the text of the papers, the text of the documents presented and the quite long stay in Anglo-Saxon countries.

CANDIDATE: FERRARA Liberato

CURRICULUM:
Born in Rome, on April 23rd, 1971. Associate Professor of Structural Analysis and Design since 2014 at the Department of Civil and Environmental Engineering at Politecnico di Milano, in 2017 he achieved the Full Professor qualification in Structural Analysis and Design (ASN – Sector ICAR09

Tecnica delle Costruzioni). Graduated in 1995 with a M.Sc. in Building Engineering (grade 100/100) at Politecnico di Milano (Supervisors: proff. P. G. Gambarova, M. di Prisco and J. Mazars; Thesis title: *Application of Continuum Damage Mechanics models to high-gradient strain and stress states in concrete*) he took the Ph.D. in 1999 in Structural Engineering at Politecnico di Milano, Department of Structural Engineering (Thesis title: *A contribution to the modelling of mixed-mode fracture and shear transfer in plain and reinforced concrete*. Supervisors: proff. P. G. Gambarova and M. di Prisco). Post-doctoral Research Associate from 1999 to 2002 with a research topic on earthquake behaviour of precast reinforced concrete structures, he became Assistant professor of Structural Analysis and Design at Department of Structural Engineering – Politecnico di Milano from 2002 to 2014. He won in 2006 a Fulbright Visiting Scholar at Center for Advanced Cement Based Materials-ACBM (advisor: prof. S. P. Shah) at Northwestern University, Evanston, IL, USA, where he spent a period of 6 months. Since 2012he is member of the faculty board of the PhD programme in Structural, Earthquake and Geotechnical Engineering. From 2014 to 2019 he was member of the Scientific Board of the Department of Civil and Environmental Engineering; from 2015 to 2016 and from 2020 to 2022 he is member of the executive board of the Department of
Civil and Environmental Engineering with the mandate to International relationship. Since 2022 he is Director of the scientific board of the Laboratory for Testing Materials Buildings and Structures.
He had been invited as member into several PhD defence tribunals as well as to deliver seminars and keynote lectures in more than 50 university and research institutions worldwide and in major international conferences. He also served as reviewers of competitive research projects for several science agencies and foundations in different European and overseas countries. The involvement into several international (pre)-standardization bodies and committees has been also recognised with the appointment as chair of the technical committee 544-Fibre Reinforced Concrete of the American Concrete Institute, role which I fulfilled for two consecutive three-year terms, being awarded at the end of it the D.L. Bloem award for outstanding service. On the national side, I have been recently appointed as expert by the High Council of Public Works (Consiglio Superiore dei Lavori Pubblici).

SUBMITTED PUBLICATIONS:

No. of publications	Type/Title of Publication	Judgement
1	Mechanical properties and self-healing capacity of Ultra High Performance Fibre Reinforced Concrete with alumina nano-fibres: Tailoring Ultra High Durability Concrete for aggressive exposure scenarios	2,40
2	Self-healing characterization of UHPFRCC with crystalline admixture: Experimental assessment via multi-test/multi-parameter approach	3,70
3	Assessment of Sustainability and Self-Healing Performances of Recycled Ultra-High-Performance Concrete	2,10
4	A discrete numerical model for the effects of crack healing on the behaviour of ordinary plain concrete: Implementation, calibration, and validation	1,72
5	Tensile behaviour identification in Ultra-High Performance Fibre Reinforced Cementitious Composites: indirect tension tests and back analysis of flexural test results	4,00
6	A methodology to assess crack-sealing effectiveness of crystalline admixtures under repeated cracking-healing cycles	3,20
7	The realities of additively manufactured concrete structures in practice	1,20
8	Full-scale testing and numerical analysis of a precast fibre reinforced self-compacting concrete slab pre-stressed with basalt fibre reinforced polymer bars	1,08
9	Effects of autogenous healing on the recovery of mechanical performance of High-Performance Fibre Reinforced Cementitious Composites (HPFRCCs): Part 1	2,10
10	Autogenous healing on the recovery of mechanical performance of High-Performance Fibre Reinforced Cementitious Composites (HPFRCCs): Part 2 e Correlation between healing of mechanical performance and crack sealing	2,56
11	Effect of casting flow defects on the crack propagation in UHPFRC thin slabs by means of stereovision Digital Image Correlation	3,70
12	A ‘‘fracture testing’’ based approach to assess crack healing of concrete with and without crystalline admixtures	3,28
13	Double edge wedge splitting (DEWS): an indirect tension test to identify post-cracking behaviour of fibre reinforced cementitious composites	3,20
14	A magnetic method for non destructive monitoring of fiber dispersion and orientation in steel fiber reinforced cementitious composites—part 1: method calibration	3,20

15	High mechanical performance of fibre reinforced cementitious composites: the role of ‘‘casting-flow induced’’ fibre orientation	3,44

Overall collective judgement

QUALITY OF SCIENTIFIC AND/OR PROJECT PRODUCTION, ASSESSED ON THE BASIS OF CRITERIA AND PARAMETERS RECOGNIZED BY THE INTERNATIONAL SCIENTIFIC COMMUNITY OF REFERENCE:
The quality of the scientific production presented is considered of high level, even if the topics concerned are strongly focused on self-healing of cement-based materials (8 papers over 15). According to Scopus, the average rate of the citations per year (without auto-citations) related to the papers presented is high (7,3), and the h-index of the whole production excluding auto-citations is 30. For this reason, the whole scientific production was evaluated with a high score (6/6 points). The Editorial placement is very good. The average number of authors for the papers presented is quite high (4,73); the interaction with International authors is significant with an average, on the papers presented, of about 2,3. The examined papers are considered strictly related to Civil Engineering research topics and investigate significant advanced problems of mechanics of material: the results on the identification of contribution of self-healing methods represent a significant International reference.

TEACHING ACTIVITIES CARRIED OUT IN ITALIAN OR FOREIGN UNIVERSITIES OR BODIES:
The teaching activity is quite broad and covers the whole spectrum of levels (Bachelor, Master of Science, PhD): it is associated to a large number of theses in all the three levels: he has been supervisor of 18 PHD theses. The Candidate presents a large number of international seminars and of keynote speaker’s invitations. The final judgement is very positive and is resumed by the score 24/24.

SCIENTIFIC RESPONSIBILITY FOR FUNDED RESEARCH PROJECTS:
The Scientific Responsibility is very broad: he has been PI or leader of 10 large projects and a good number of projects financed by private companies. The author highlights a relevant ability in maintaining good international relationships, building a very wide network instrumental at capturing substantial funding funds. The judgement is very good and it is resumed by a score of 10/10.

RESULTS OBTAINED IN TECHNOLOGY TRANSFER IN TERMS OF PARTICIPATION IN THE CREATION OF NEW ENTERPRISES (SPIN OFF), DEVELOPMENT, USE AND MARKETING OF PATENTS:
He is working for many associations aimed at writing Standards and is consultant of many private companies. Moreover, as RILEM member he is active in several committees: 303-PFC : Performance requirements and testing of fresh printable cement-based Materials; ADC : Assessment of Additively Manufactured Concrete Materials and Structures; DCS : Data-driven concrete science; UMW : Upcycling Powder Mineral “Wastes” into Cement Matrices He participated also as member to the following committees which have concluded their activities; 276-DFC : Digital fabrication with cement-based materials; 222-SCF : Simulation of fresh concrete flow; 228-MPS : Mechanical properties of self-compacting concrete; 240-FDS : A framework for durability design of fibre-reinforced strain-hardening; cement-based composites (SHCC).
As fib Member he attends Commission 4 – Concrete and Concrete Technology; he is co-convener of TG 4.3: Structural Design with flowable concrete; TG 4.7: Structural applications of recycled aggregate concrete: properties, modelling and design; Member of TG 1.2 – Concrete structures in marine environment. As ACI member he attends the following committees: 130: Sustainability of concrete (associate member); 135: Machine learning - informed construction and design (associate member); 237: Self-consolidating concrete (voting member); 238: Workabililty of concrete (voting member); 239: Ultra High-Performance Concrete (voting member); 241: Nanotechnology of Concrete (voting member); 544: Fiber Reinforced Concrete (past chair and voting member); 564: 3-D Printing with Cementitious Materials (voting member); 565: Lunar Concrete (associate member).
He was chairman of the 8th International Conference on Self-Healing Materials, Milan, Italy – June in 2022 and of the upcoming RILEM Spring week 2024; co-chairman of 5th International Conference on the New Boundaries of Structural Concrete (NBSC), organized by the ACI Italy chapter, Milan, Italy – September 2019 and member of many scientific and organizing committees of International conferences. The score assigned is the maximum: 6/6.

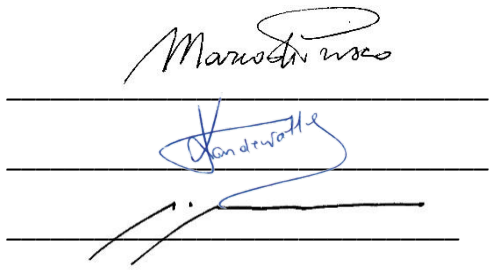
SCRUTINY OF THE DEGREE OF KNOWLEDGE OF THE ENGLISH LANGUAGE:
The degree of knowledge of the English language is very high, as confirmed by the text of the papers, the text of the documents presented and the quite long stay in Anglo-Saxon countries.

THE SELECTION BOARD

Prof. Marco di Prisco *(Chairman)*

Prof. Lucie Vandewalle *(Member)*

Prof. Aurelio Muttoni *(Secretary)*



POLITECNICO MILANO 1863

PUBLIC SELECTION ESTABLISHED WITH DIRECTOR'S DECREE NO. 2022_PRO_DICA_4 OF 23/12/2022 PURSUANT TO THE NOTICE PUBLISHED IN THE OFFICIAL GAZETTE NO. 24/01/2023, n. 6 FOR 1 POSITION AS FULL PROFESSOR FOR THE COMPETITION SECTOR 08/B3 - STRUCTURAL ENGINEERING - SDS ICAR/09 - STRUCTURAL ENGINEERING, PURSUANT TO ART. 18 - LAW 240/2010, AT THE POLITECNICO DI MILANO - DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING (PROCEDURE CODE 2022_PRO_DICA_4).

ATTACHMENT No. 2 to the FINAL REPORT

MERIT RANKING

SURNAME AND NAME	Overall score
FERRARA LIBERATO	**86,9**
FELICETTI ROBERTO	**85,5**
CIMELLARO GIAN PAOLO	**75,3**
CORONELLI DARIO ANGELO MARIA	**72,4**

Milan, July 12th 2023

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