



# POLITECNICO MILANO 1863

**PUBLIC SELECTION ESTABLISHED WITH DIRECTOR'S DECREE NO. 2021\_PRA\_DMEC\_1 OF 29/04/2021 PURSUANT TO THE NOTICE PUBLISHED IN THE OFFICIAL GAZETTE NO. 21/05/2021, n. 40 FOR 1 POSITION AS ASSOCIATE PROFESSOR FOR THE COMPETITION SECTOR 09/A2 - APPLIED MECHANICS - SDS ING-IND/13 - APPLIED MECHANICS, PURSUANT TO ART. 18 - LAW 240/2010, AT THE POLITECNICO DI MILANO - DEPARTMENT OF MECHANICAL ENGINEERING (PROCEDURE CODE 2021\_PRA\_DMEC\_1).**

## FINAL REPORT

The Selection Board, appointed with RD Index No. 6871 ref. No. 129381 of 02 August 2021, composed by the following Professors:

Prof. PENNACCHI Paolo Emilio Lino Maria - Politecnico di Milano;  
Prof.ssa BOGUNOVIC JAKOBSEN Jasna - University of Stavanger;  
Prof. ØISETH Ole Andre - Norwegian University of Science and Technology,

met on 08/10/2021 at 13:00, 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:

PENNACCHI Paolo Emilio Lino Maria, full Professor at Politecnico di Milano, Chairman;  
ØISETH Ole Andre, full Professor at the Norwegian University of Science and Technology, 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 27/10/2021 at 12:00, the Selection Board met in teleconference meeting to inspect the list of applicants, who were:

- 1) MUGGIASCA Sara

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 Selection 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 English 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).

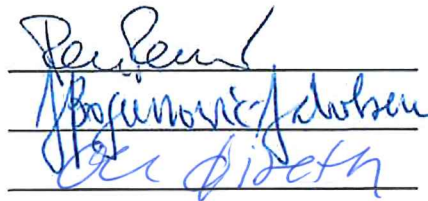
The Selection Board drew up, according to the majority of its members, a ranking of candidates selected to carry out the scientific/teaching functions for which the selection was called, in a number equal to a maximum of five times the number of positions available in the competition (Attachment No.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

#### THE SELECTION BOARD

*Prof. PENNACCHI Paolo Emilio Lino Maria (Chairman)*

*Prof. BOGUNOVIC JAKOBSEN Jasna (Member)*

*Prof. ØISETH Ole Andre (Secretary)*



Three handwritten signatures in blue ink are positioned over three horizontal lines. The top signature is 'Paolo Pennacchi', the middle one is 'Jasna Bogunovic Jakobsen', and the bottom one is 'Ole Andre Øieth'.



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## 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
MUGGIASCA Sara	40,10	18	20	3	81,10

### CANDIDATE: Surname and Name

#### CURRICULUM:

From the curriculum vitae presented, the candidate MUGGIASCA Sara obtained her degree in Mechanical Engineering in 1997 at the Politecnico di Milano and the Ph.D. in 2006 at the Politecnico di Milano.

She was employed in the technical role at Wind Tunnel of Politecnico di Milano from 2003 to 2011. She became Researcher in December 2011 and this is her current role at Department of Mechanical Engineering of Politecnico di Milano.

The candidate performed her scientific activity with continuity, at the Department of Mechanical Engineering of the Politecnico di Milano, on subjects relevant to the Applied Mechanics. In particular, the candidate was mainly involved in cable aerodynamics, wind effects on civil structures, yacht aerodynamics and sail optimization, and finally in wind energy.

The candidate used mainly experimental approaches for her research, along with a continuous activity in the laboratory and in the field.

The scientific activity has been continuous and with a good level, as it is witnessed by 26 papers on Journals and 82 on proceedings of international and national conferences.

#### SUBMITTED PUBLICATIONS:

No. of publications	Type/Title of Publication	Judgment
1	Muggiasca, S., Taruffi, F., Fontanella, A., Di Carlo, S., Belloli, M. Aerodynamic and structural strategies for the rotor design of a wind turbine scaled model (2021) <i>Energies</i> , 14 (8), art. no. 2119, . DOI: 10.3390/en14082119	3,36
2	Ruzzo, C., Muggiasca, S., Malara, G., Taruffi, F., Belloli, M., Collu, M., Li, L., Brizzi, G., Arena, F. Scaling strategies for multi-purpose floating structures physical modeling: state of art and new perspectives (2021) <i>Applied Ocean Research</i> , 108, art. no. 102487, . Cited 4 times. DOI: 10.1016/j.apor.2020.102487	2,61
3	Muggiasca, S., Bayati, I., Giappino, S., Rosa, L., Belloli, M. Wind-induced response of light and slender arched structures in twin arrangement: Wind tunnel tests and full-scale monitoring (2019) <i>Engineering Structures</i> , 190, pp. 262-275. Cited 1 time. DOI: 10.1016/j.engstruct.2019.04.029	3,36
4	Bayati, I., Muggiasca, S., Vandone, A. Experimental and numerical wind tunnel investigation of the aerodynamics of upwind soft sails (2019) <i>Ocean Engineering</i> , 182, pp. 395-411. Cited 1 time. DOI: 10.1016/j.oceaneng.2019.04.037	3,49
5	Bordogna, G., Muggiasca, S., Giappino, S., Belloli, M., Keuning, J.A., Huijsmans, R.H.M., van 't Veer, A.P. Experiments on a Flettner rotor at critical and supercritical Reynolds numbers (2019) <i>Journal of Wind Engineering and Industrial Aerodynamics</i> , 188, pp. 19-29. Cited 12 times. DOI: 10.1016/j.jweia.2019.02.006	3,30

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6	Muggiasca, S., Belloli, M., Diana, G. Specific power input: Comparison among rigid and flexible models (2018) <i>Journal of Wind Engineering and Industrial Aerodynamics</i> , 173, pp. 180-186. Cited 2 times. DOI: 10.1016/j.jweia.2017.12.004	3,49
7	Persson, A., Lindstrand, R., Muggiasca, S., Larsson, L. CFD prediction of steady and unsteady upwind sail aerodynamics (2017) <i>Ocean Engineering</i> , 141, pp. 543-554. Cited 2 times. DOI: 10.1016/j.oceaneng.2017.06.039	3,41
8	Mandelli, S., Muggiasca, S., Malvasi, S. Pressure field and wake modes analysis of an oscillating cylinder (2016) <i>Ocean Engineering</i> , 124, pp. 74-83. Cited 3 times. DOI: 10.1016/j.oceaneng.2016.07.042	3,49
9	Belloli, M., Giappino, S., Morganti, S., Muggiasca, S., Zasso, A. Vortex induced vibrations at high Reynolds numbers on circular cylinders (2015) <i>Ocean Engineering</i> , 94, pp. 140-154. Cited 25 times. DOI: 10.1016/j.oceaneng.2014.11.017	3,36
10	Belloli, M., Fossati, F., Giappino, S., Muggiasca, S. Vortex induced vibrations of a bridge deck: Dynamic response and surface pressure distribution (2014) <i>Journal of Wind Engineering and Industrial Aerodynamics</i> , 133, pp. 160-168. Cited 19 times. DOI: 10.1016/j.jweia.2014.06.005	3,41
11	Argentini, T., Rocchi, D., Muggiasca, S., Zasso, A. Cross-sectional distributions versus integrated coefficients of flutter derivatives and aerodynamic admittances identified with surface pressure measurement (2012) <i>Journal of Wind Engineering and Industrial Aerodynamics</i> , 104-106, pp. 152-158. Cited 20 times. DOI: 10.1016/j.jweia.2012.03.009	3,41
12	Zasso, A., Belloli, M., Giappino, S., Muggiasca, S. Pressure field analysis on oscillating circular cylinder (2008) <i>Journal of Fluids and Structures</i> , 24 (5), pp. 628-650. Cited 28 times. DOI: 10.1016/j.jfluidstructs.2007.11.007	3,41

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:

Considering the twelve papers presented by the candidate MUGGIASCA Sara, all of them published in international journals, the board was able to recognize that they are original and innovative and that they are methodologically rigorous and scientifically relevant. They also reflect the different fields of interest to the candidate, all consistent with Applied Mechanics (sector SC 09/A2).

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

The teaching activity of the candidate MUGGIASCA Sara has been continuous since 2003 as assistant lecturer in different courses in several Schools of Politecnico di Milano. Starting from academic year 2016-2017, she is the principal lecturer for a course in the bachelor's degree in Biomedical Engineering, Politecnico di Milano.

She supervised 6 master degree students, with 3 ongoing and 1 ESR (Early Stage Researcher) within H2020 Marie-Curie Project Step4Wind.

SCIENTIFIC RESPONSIBILITY FOR FUNDED RESEARCH PROJECTS:

The candidate MUGGIASCA Sara is responsible for the activities of Politecnico di Milano in two EU Projects namely:

- The Blue Growth Farm: Development and demonstration of an automated, modular and environmentally friendly multi-functional platform for open sea farm installations of the Blue Growth Industry, European Commission, 2018-06-01 to 2021-09-3, Grant Number: 774426,
- STEP4WIND - Novel design, production and operation approaches for floating wind turbine farms: A European Industrial Doctorate programme, granted under the H2020 Marie-Curie Innovative Training Network initiative H2020-MSCA-ITN-2019, grant agreement 860737.

She had also the responsibility of many research, consultancy, and test contracts for Department of Mechanical Engineering of Politecnico di Milano.

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 MUGGIASCA Sara is author of a patent (M. Bocciolone, M. Belloli, S. Muggiasca, I. Bayati, "A Device For Pressure Measurements On Yacht Sails", U.S.A.: no. 15/462,621, Australia: no. 017201840).

SCRUTINY OF THE DEGREE OF KNOWLEDGE OF THE ENGLISH LANGUAGE:

Appropriate knowledge of the foreign language by the candidate MUGGIASCA Sara has been verified based on the papers presented for the selection.

Prof. PENNACCHI Paolo Emilio Lino Maria (Chairman)

Prof. BOGUNOVIC JAKOBSEN Jasna (Member)

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ATTACHMENT No. 2 to the FINAL REPORT

## MERIT RANKING

SURNAME AND NAME	Overall score
MUGGIASCA Sara	81,10

Milan, 27/10/2021

### THE SELECTION BOARD

Prof. PENNACCHI Paolo Emilio Lino Maria (Chairman)

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