

**AGREEMENT FOR DOUBLE PhD PROGRAM BETWEEN**

**POLITECNICO DI MILANO**  
**Dottorato di Ricerca in Ingegneria Meccanica**

**and**

**NORTHEASTERN UNIVERSITY**  
**Doctoral Degree Program in Mechanical Engineering**

**Preamble**

In consideration of laws and regulations governing the co-operation between public institutions of a scientific, cultural and professional nature and other public or private organizations in Italy and abroad;

In consideration of Italian Ministerial Decree no. 45 of 08.02.2013;

In consideration of the Regulations on the Doctoral Research Program of the Politecnico di Milano;

**the Politecnico di Milano**

with legal domicile at piazza Leonardo da Vinci 32, 20133 Milano (Italy), represented in this deed by its Rector, Prof. Donatella Sciuto and

**the Northeastern University**

with legal domicile at No. 3-11, Wenhua Road, Heping District, Shenyang (China), represented by its Rector Prof. Feng Xiating

agree to develop a system of academic exchanges that will allow a PhD candidate to perform coordinated doctoral studies at both Institutions by spending periods of similar duration at both sites, jointly guided by scientific supervisors from both Institutions, aimed at obtaining the doctoral title from each Institution by satisfying the requirements and quality standards of the doctoral studies of each Institution.

This agreement is based on the principles specified hereunder.

**Part 1 - General principles**

**1. Admission**

The admission to each doctoral program is by two separate and independent selection processes, in accordance with the respective regulations of each Institution.  
Each Institution will inform the other about the admission.

**2. Language requirements**

The PhD candidate must have a good knowledge of the languages of the two Institutions or at least of the language of one of the two Institutions and of the English language. In the latter case, the PhD candidate must engage to learn the language of the Institution not known. To this aim, the two Institutions will offer the PhD candidate the possibility to follow specific courses in order to learn the local language.

### 3. Starting date

The starting date of the double PhD program coincides with the beginning date of the doctorate which has the latest starting date.

### 4. Duration of studies

The duration of the doctorate will be four years after the starting date of the double PhD program, unless extraordinary, exceptional and clearly motivated situations justify a reduction or extension. In particular, if the double PhD specified objectives are not reached, the duration may be extended beyond the four years for up to additional two years and in accordance with the regulations of the two Institutions.

### 5. Residency

The research and study activities will be carried out at the two Institutions during alternated or consecutive periods. The total duration of the periods spent at each of the two Institutions is expected to be approximately equal and to be concerted by the supervisors (art. 7).

Visits at Institutions other than the hosting one can be authorized, if useful to the studies.

### 6. Enrolment and fees

The PhD candidate will be enrolled annually at both Institutions.

However the enrolment fees will be paid only to the home Institution (i.e. the Institution of origin), as specified in Part 2 of this document.

### 7. Supervision of the PhD candidate

Each Institution will appoint a professor as thesis supervisor. The PhD candidate will turn to the supervisor for advice or assistance during her/his residence at that Institution. The two supervisors will jointly exercise the function of scientific guide of the PhD candidate and are responsible for the PhD candidate doctorate education and research training.

### 8. Studying activities

The main activities that the PhD candidate must carry on during the doctoral program include taking advanced level courses, doing research work and elaborating and defending the doctoral thesis. The PhD candidate may take courses and the associated exams at each of the two Institutions, in accordance with the study curriculum concerted with the supervisors.

At least 30 ECTS credits related to courses must be obtained in both Universities; 15 of which must be obtained at Politecnico di Milano.

The PhD candidate shall fulfil all requirements and regulations ruling the PhD programs of both Institutions, particularly with regard to the course credit recognition, qualifying examination (if requested) etc.

The doctoral thesis is expected to contain research material of relevance superior to that attainable by work performed within a single PhD program. It will be written in English, with two extended summaries in the languages of the two involved Institutions.

### 9. Intermediate evaluations

Each Institution will separately examine and evaluate the progress of the PhD candidate annually or with the prescribed frequency, and transmit the result of the evaluation to the other Institution.

#### 10. Final evaluation and award of the title

After completing the double doctoral program and satisfying all the associated requirements (in particular the fulfilment of the coursework credits and the positive committee's evaluation of the thesis work) the PhD candidate will be awarded the "Dottorato di ricerca in Ingegneria Meccanica" by Politecnico di Milano and the "Doctor Degree in Mechanical Engineering" by Northeastern University.

#### 11. Composition of final evaluation committee

The committee for the thesis defence will be composed by at least three professors expert in the subject of the thesis. In the final examination at least two external counter-reports are requested and the commission must include at least two external members.

The committee will be nominated jointly by the two Institutions and approved by the Rector of Politecnico di Milano and the Rector of the Northeastern University.

The defence of the thesis will be held at the home Institution and in the language of one of the two Institutions involved or in English, upon agreement between the committee and the PhD candidate.

Two professors from Institutions different from the two engaged in this agreement will have to prepare a written relation on the thesis work.

#### 12. Financial matters

The PhD candidate is expected to be financially supported by a scholarship or grant from either one of the Institutions or from a third party.

The PhD candidate will assume expenses for travel, accommodation and all living expenses.

For the PhD candidate's activities each Institution will freely make available its own resources, including laboratories.

The travel expenses for the Politecnico di Milano thesis supervisor will be in charge of the supervisor own research funds and/or of the Dipartimento di Ingegneria Meccanica.

The travel expenses for the Northeastern University thesis supervisor will be in charge of the supervisor own research funds and/or the School of Mechanical Engineering and Automation.

The travel expenses for the external members of the committee will be in charge of the PhD candidate's home Institution.

There are no other financial charges for the Institutions.

#### 13. Research results protection

The protection of the thesis content and the publication, exploitation and protection of the results of the involved researches will be subject to the regulations of both Institutions.

If required, specific agreements will be arranged for the protection of the intellectual property.

The thesis will be stored in the national libraries in Rome and Florence according to the law.

#### 14. Health insurance and protection measures

The PhD candidate will be required to show proof of health insurance before assuming his/her residency at the hosting Institutions.

Each institution shall maintain policies of insurance and safety for staff and students within the law of its own country.

#### 15. Controversies

If any dispute arises between the Institutions they will in good faith attempt to negotiate a settlement. If unsuccessful any dispute concerning the validity, the interpretation or the performance of this Agreement shall be finally settled under the Rules of the ICC (International Chamber of Commerce) by one or more arbitrator(s) appointed in accordance with the said Rules. The place of arbitration shall be Paris, France. The proceedings shall be conducted in the English language.

#### 16. Expiration of this agreement

This agreement for a double PhD for the PhD candidate indicated in Part 2 of this document will expire when both PhD titles are conferred, and in any way will expire in six years after the starting date of the double PhD program.

Should the PhD candidate decide not to proceed with the program, or be denied authorization to proceed, the two Institutions will end jointly the present agreement.

17. Languages

This agreement has been signed in two copies in English.

Signatures

**For the Politecnico di Milano**

Prof. Donatella Sciuto

Rector

**For the Northeastern University**

Prof. Feng Xiating

Rector

Milano, date

*Town*, date

## Part 2

### Individual data and conditions

#### 1. The PhD candidate

LAST NAME LIANG FIRST NAME HAIYING

Born in Hebei, China. on October 12<sup>th</sup>, 1993

Admitted to the 36<sup>th</sup> cycle of “Dottorato di ricerca in Ingegneria Meccanica” at Politecnico di Milano,

On November 1<sup>st</sup>, 2020

and

admitted to the Doctoral Degree program in Mechanical Engineering at Northeastern University,

on September 1<sup>st</sup>, 2020

starts the program for the double doctorate on November 1<sup>st</sup>, 2020.

#### 2. Enrollment and scholarships

The PhD candidate will get a scholarship from the China Scholarship Council for the duration and according to the regulation of the Institution.

The PhD candidate will not pay the enrolment fees at Politecnico di Milano (host Institution). Activities will be conducted at the two Institutions as specified below:

a. y: 2020/2021 NORTHEASTERN UNIVERSITY

a. y: 2021/2022: NORTHEASTERN UNIVERSITY

a. y: 2022/2023: POLITECNICO DI MILANO

a. y:2023/2024: POLITECNICO DI MILANO

#### 3. The supervisors of the thesis are:

for the Politecnico di Milano, proff. MARCO GIGLIO, CLAUDIO SBARUFATTI

for the Northeastern University, prof. LIU YANG.

#### 4. Thesis title

The thesis has the tentative title: *Research on the reliable fault diagnosis methods for rotor systems.*

#### For the Politecnico di Milano

Prof. Donatella Sciuto

Rector

#### For the Northeastern University

Prof. Feng Xiating

Rector

Milano, date

Town, date

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