



AGREEMENT TO ESTABLISH A DOUBLE MASTER'S DEGREE

In the area of Photonics

Between

Universiteit Gent

And

Vrije Universiteit Brussel

And

National Sun Yat-sen University

Preamble

Between

**Ghent University
Sint-Pietersnieuwstraat 25, 9000 Gent (Belgium)**

**Represented by Professor Dr. Ir. Rik Van de Walle, Rector and
Professor Dr. Patrick De Baets, Dean of the Faculty of Engineering and Architecture
Hereafter named: UGent**

And

**Vrije Universiteit Brussel
Pleinlaan 2, 1050 Brussels (Belgium)**

**Represented by Professor Dr. Caroline Pauwels, Rector and
Professor Dr. Ir. Stefaan Caenepeel, Dean of the Faculty of Engineering
Hereafter named: VUB**

And

**National Sun Yat-sen University
70, Lien-Hai Road, Kaohsiung 80424 (Taiwan)**

**Represented by Professor Dr. Ying-Yao Cheng, President and
Prof. Chih-Peng Li, Dean of the College of Engineering
Hereafter named: NSYSU**

Hereafter named: “the institutions”. The aim of this agreement reached between the institutions is the establishment of a double master degree scheme, leading to the corresponding degrees as from 2020-2021:

- **Master of Science in Photonics (NSYSU)**
- **European Master of Science in Photonics (UGent-VUB)**

Within the framework of this agreement, “home institution” refers to the institution in which a student is initially and formally enrolled as a degree candidate. “Host institution” refers to the institution(s) that has(/have) agreed to receive students from the home institution for a period of study, and has(/have) agreed to register them in order to aim for the degree on that university(/those universities), if all requirements of the degree are completed.

UGent and VUB have been successfully cooperating during the past years in providing a jointly organized Master’s programme European Master of Science in Photonics.

Art. 1. Aims

The present partnership agreement has been drawn up to complete the approved cooperation protocol terms between the institutions mentioned above.

This partnership will develop a Double Master's Degree programme in Photonics. The main objective of this agreement is to strengthen the collaboration between the Department of Photonics at NSYSU and the Faculty of Engineering and Architecture (UGent) through the development of a double master's degree program.

Photonics is a rapidly developing field and an increasing number of components is based on the generation or modulation of light for light generation systems, light detection systems, light modulators and displays. These topics will be addressed in this joint master programme in photonics.

The students involved in this double master's degree must have a background in photonics, electrical engineering or physics engineering through a bachelor degree in the field.

Art. 2. Management

Each partner should appoint a local academic coordinator from amongst the academic staff teaching in the programme.

Each local academic supervisor is responsible for:

- 1) ensuring that the requirements of their home universities are met;
- 2) managing the double master's degree programme efficiently in collaboration with the partner coordinator;
- 3) coordinating the programme management (including recruitment procedures, examinations and assessments) with the local administrative representatives (including institution for international academic relationships, course board, and registrar offices).

The governing board of this double master's degree programme is composed of the 3 programme-coordinators and the boards of programmes involved from each institution.

Each institution will allow the mobility of its staff inherent to this partnership, although most meetings should be organized via video-conference if possible.

Art. 3. Description of the Programme

3.1 Duration and Level of Involved Diplomas

This agreement pertains to students who will participate in this double master's degree programme for the programmes mentioned. According to the conditions laid out below, the students will obtain, at the end of the proposed programme, the recognized double degree of these respective master programmes.

Title of the degree in the two countries:

- European Master of Science in Photonics (UGent-VUB). The holder of this degree is also authorised to hold the title of 'Burgerlijk ingenieur' (Dutch).
- Master of Science in Photonics (NSYSU)

The master programmes at UGent-VUB and at NSYSU are composed of 4 semesters and follow a 3 years Bachelor degree or equivalent diplomas. The institutions confirm the existence of sufficient similarity between both education degrees and qualities regarding the objectives and the content of the study programmes.

3.2 Admission Procedure and Criteria

The students will be recruited either by UGent and VUB or by NSYSU, in the first year of their master's programme. According to the mobility scheme all students will be able to go abroad in the second year of their master programme.

The language of instruction of the two diplomas is English.

Within each institution selection criteria will be in place to ensure that the capacities and potential of each candidate will enable them to make progress and succeed within an international university context.

In order to be admitted in this Double Master's Degree, the UGent or VUB students must have obtained a Bachelor's Degree "Electrical Engineering" from UGent or VUB or "Engineering Physics" from UGent.

In order to be admitted in this Double Master's Degree, the NSYSU students must have obtained a Bachelor's Degree "Photonics" from NSYSU.

The application of students with other bachelor's degrees, who demonstrate a high-level of expertise in the field, can be considered but these students have to follow the required admission procedure validated by each participating partner.

Application forms and pre-requisites include:

- a motivational letter,
- a letter of reference,
- copies of all other university-level diplomas,
- up-to-date authenticated transcripts with results of previous university-level courses,
- official documentation from the student's current university confirming they are enrolled and expected to finalize their course at the end of the current academic year.

In addition, all students are expected to have an acceptable skill-level in spoken and written (scientific) English. An appropriate knowledge of English can be demonstrated through one of the following internationally recognized qualifications:

- Level B2 according to the Common European Framework of Reference for Languages, issued by a university language centre,
- a TOEFL-TEST, showing a score of at least or above 570 (paper-based) or a score of at least or above 87 (internet-based) or a score of at least or above 213 (computer-based),
- an original "Academic Test Report Form" (TRF) from IELTS, with a minimum overall band score of 6.5,
- Cambridge Certificate of Advanced English (CAE): grade B
- Cambridge Certificate of Proficiency in English (CPE): grade C

All certificates mentioned above need to be valid at the time of the first enrolment for a study programme: this means that, if a term of validity is specified, it should not have lapsed and that language certificates without term of validity should not be older than 2 academic years (counting from the academic year after the certificate was obtained).

Students should make sure that they meet the standard admission criteria of the partner institutions and immigration law in Belgium or Taiwan. Each home institution will verify for its own the specific language requirements for participation in the double master's degree programme. The host institution will accept the judgment of the home institution.

Students should complete and send their applications to the local coordinator at the home institution before February 15th. Students wishing to participate may apply for acceptance into the programme during their first year of master programme and thus should have obtained the first cycle (bachelor degree).

Selection and admission procedure

The coordinators will evaluate the applications in coordination with the local board of the involved programme and inform the partner coordinator of pre-selection results. The latter will, in turn, evaluate

the applications with the local board of involved programme in partner institution. If necessary, video-transmitted interview of candidate(s) can be organized on demand of at least one of the coordinators or boards.

The selection criteria are common to all students and related primarily on study results, motivation and an adequate knowledge of the language in which the programme is taught.

A notification of selection results should be made in accordance with the application procedures of each institution. The selected students will then be personally contacted by the coordinator of the expected host institution by March 15th.

Before the first registration in the host institution, the students have to apply for admission according to the rules and procedures of the host institution. For UGent-VUB all information can be found on: www.masterphotonics.be. Afterwards the students will be redirected (based on their study preference to either to UGent or VUB enrolment procedure).

Number

From the first year, the maximum number of students enrolled in the double master's degree programme will be 6 in total, aiming for a balance between the UGent-VUB on the one hand and NSYSU on the other hand. This number may be reviewed every year at the request of one of the partner institutions. If it is not reviewed, the number will remain as stated in the present agreement.

3.3 Registration and enrolment fees

During the entire study period at the host university, students under the present agreement continue to enrol as regular full-time students at their home university. The students and the diplomas delivered under the present agreement will solely generate government finance for the home university.

According to the mobility scheme, the UGent-VUB students have to register only for the second year at NSYSU.

According to the mobility scheme, the NSYSU students only have to register for second year at UGent or at VUB.

Students must pay all relevant fees to their home institution only. During the enrolment at the host institution, double master degree students shall be responsible for all relevant fees, such as the cost of transportation, food, accommodation, necessary health insurance, and other related costs in order to comply with practicalities and regulations of the host institution. Students enrolled in either UGent or VUB or NSYSU must demonstrate access to social security and health insurance.

Each institution should help enrolled students in their initiatives to apply for any financial support.

3.4 Guidance and Learning Agreements

In particular, coordinators and local boards will define the master-thesis subject or topic along with the supervisor based on (i) student interest as expressed in the motivational letter; (ii) student professional-project, (iii) timeliness and relevance of the research project to ensure that it is suitable for carrying out a high-quality research project in terms of scientific output and complementary skill training. The master thesis will be co-supervised by scientists from both institutions. The supervisor of the host institution is responsible for the grading of the master thesis.

In order to optimize the mobility, a description of the programme will be given to each student. This study guide could be considered as “a learning agreement of this double master's degree programme”.

3.5 Objectives as expected results of the study

The agreed master programme should result in the knowledge, skill and competence required for a qualified professional career in an international, diversified labour market or a PhD education. After the examination the student should be able to independently analyze problems, perform compilations and evaluations in her/his field of specialization. The student should also have achieved a good understanding of applications of photonics in related applications.

3.6 Structure of the Programme and Mobility Scheme

The master programme for the two trajectories (one year at UGent / VUB followed by one year at NSYSU or one year at NSYSU followed by one year at UGent / VUB) is outlined in the appendix.

The students are selected by both institutions before March 15 of the first year of their master's programme. The students can choose from a list of co-supervised master thesis.

The preparation of the master thesis will be conducted during the second year to obtain the complementary credits.

3.7 Evaluations and assessments

The students must comply with the programme and teaching and examination regulations in force at the partner institution in which they are studying.

They attend the courses and academic activities and take all corresponding exams.

Examination includes but is not limited to written exam complemented by seminar presentation/discussions, project work, laboratory and/or field reports. Details for each course (content and examination procedures) will be made available to each candidate by both institutions at the beginning of the programme. All examinations will take place in the institution where the units are taught.

Each partner undertakes to keep appropriate records of the students attending the programme at their institution and to provide all students and partners with a transcript of records.

The oral master thesis defense will take place in the host institution. The evaluation panel will include the supervisor(s) of the home institution and the supervisor(s) of the host institution, in addition to one permanent member of the home institution and one permanent member of the host institution. The two programme coordinators will also be member of the evaluation panel. The supervisor(s) of the host institution will be responsible for grading the master thesis, taking into account the opinion of the supervisor(s) of the home institution.

The thesis defense must take place before the 31th of July of the second academic year.

Each partner will report to the coordinators on the progress of the students, the number of credits obtained and the marks through the transcript of records released in English before established local deadlines, so to ensure student achievements would be validate on date in home institution.

The transfer will be carried out according to the ECTS grading scale to ensure fair transfer and recognition of grades of enrolled students.

3.8. Awarding of the degree

Each institution adopts credits for the teaching units. The institutions agree to validate the results obtained by the students in both their home and their host institution. They formally recognize the modules offered within the programme and the credits awarded.

Each student who successfully completes the study programme, including the compulsory mobility programme, will receive the formal national degrees from the home and host universities (double master's degrees). In addition, each student will receive the diploma supplement presenting the details of the participant's academic programme and academic achievement. Degrees and diploma supplements should be produced by both the universities granting the degree.

Art. 4. Student's rights and responsibilities

4.1. General outlines

The students' rights and responsibilities are the same as those valid for each degree student at the institution where the student is studying at the time. The student must comply with the demands of the institution in question with regard to the documentation required for registration procedures and eventual visa purposes.

Institutions will provide, through the coordinators, appropriate information to students about the academic requirements, the services for the mobility, the administrative requirements and the financial regulations the mobility implies.

4.2. Services

Students participating in the mobility programme shall benefit from all services offered by the host institution. The services should be the same as those given to regular students at the respective institution. In addition to the regular services offered by each institution, each partner undertakes to provide ad hoc services to non EU students including: support for obtaining Visas and residence permits; support for the search for accommodation, local language courses, special integration activities etc.

4.3. Accommodation

It is agreed that each institution will help the students from the partner institution to find accommodation, within the limits of local availability.

4.4. Insurance

Through their registration at the university, the students get civil liability and physical insurance coverage.

Each institution undertakes to provide appropriate information to students for their registration in the national health system or for the provision of other kinds of health insurance which may be required either before their arrival or once they have registered at the host institution.

4.5 Prevention and Security

The parties shall provide each mobility programme participant with detailed information about the specific risks existing in the work environment in which they will operate and carry out their functions and will provide the necessary documentation about the prevention and emergency security measures and provisions in force in relation to their activities and about the individuals/subjects in charge of this, in conformity with the legislative norms and regulations in force in the country of the host institution.

Art. 5. Promotion of the programme

The promotion of the programme is the responsibility of all the partners. Each member institution agrees to the use of its name and logo for the purposes of promotional material, programme literature and other documentation of the programme. The strategy for promoting the programme will be discussed annually

by the governing board and includes at least a webpage on the websites of the institutions dedicated to the programme.

Art. 6. Non-discrimination and human rights

All parties subscribe to the policy of equal opportunity, and do not discriminate on the basis of race, colour, sex, age, ethnicity, religion, disability, national origin, or sexual orientation. The parties shall abide by these principles in the administration of this agreement. The parties ensure that they shall respect human rights.

Art. 7. Protection of personal data

The Parties commit themselves to respect the European Regulation EU 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (GDPR) as well as the national applicable laws.

The Parties may share personal data of individuals involved in the collaboration such as: name, business telephone, address, and email (“Business Contact Information”). Each Party may store and otherwise process such Business Contact Information. The Parties agree that Business Contact Information will only be processed for administrative purposes to the limited extent as required for the performance of this agreement.

If the processing of other than Business Contact Information is necessary for the performance of this agreement, the Parties commit themselves to agree and enter into a data processing agreement, which shall amend this agreement, as is reasonably required to reflect each Party’s rights and obligations in this respect. In case of any conflict between the data processing agreement and this agreement, the provisions of the data processing agreement shall prevail in relation to the matters covered by the data processing agreement. For all other matters the provision of this Agreement shall prevail.

Art. 8. Validity, disputes

The present agreement is entered into for a period of 5 (five) years, to take effect from the date of the signature hereunder.

The agreement may be renewed at the end of this period, subject to specific modifications (programme content, recruitment procedures etc.) by one or both institutions, one year before the date of renewal. The institutions retain the right to modify or terminate the present agreement by simple mutual consent, subject to the completion of the programme embarked on by the students participating in the double master’s degree programme.

Changes and amendments, at the time of renewal or while the agreement is in effect, to this agreement must be in writing and approved by all cooperating universities.

Any dispute that cannot be solved amicably among the cooperating universities will be resolved within the national legal framework of the courts and laws of the defending partner institution. Each of the parties may terminate this agreement with immediate effect if the other party is involved in a serious violation of human rights.

Any cooperating university may withdraw from this agreement, giving six months’ written notice to the other institutions. However, students who have commenced their studies at any of the cooperating

Made in three (3) original copies, each institution having received one (1) original copy.

Signed in **Kaohsiung** on
Date :

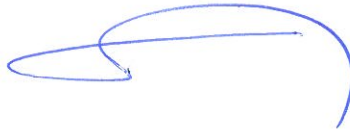
Prof. Ying-Yao Cheng



**President
National Sun Yat-sen
University
Taiwan**

Signed in **Brussel** on
Date:

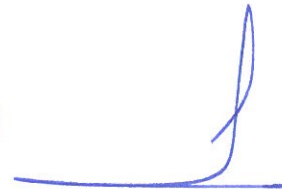
Prof. Caroline Pauwels



**Rector
Vrije Universiteit
Brussel
Belgium**

Signed in **Gent** on
Date :

Prof. Rik Van de Walle



**Rector
Universiteit Gent
Belgium**

Prof. Chih-Peng Li



**Dean
College of Engineering
National Sun Yat-sen
University**

Prof. Stefaan Caenepeel



**Dean
Faculty of Engineering
Vrije Universiteit Brussel**

Prof. Patrick De Baets



**Dean
Faculty of Engineering and
Architecture
Universiteit Gent**

university at the date of termination are entitled to complete their courses of study and the programme at all institutions.

If all cooperating institutions should agree to terminate the double master's degree programme, all the cooperating institutions are obliged to make arrangements for all students who have commenced their studies to complete their courses of study and the programme in a satisfactory way.

ANNEX 1 – Master’s courses and required units

In this annex the study programme for double degree students is written down. Note that credits at UGent / VUB (ECTS) and credits at NSYSU (NSC) differ by about a factor 2. All courses taught in the second year are in English.

First year at UGent/VUB	First year at NSYSU
11 Obligatory courses (52 ECTS)	11 Obligatory courses (30 NSC)
Optical Materials	Optoelectronic Materials – Liquid Crystal (3)
Microphotonics	Optoelectronics (3)
Lasers	Principles and Applications of Semiconductor Lasers (3)
Introduction to Entrepreneurship	Numerical Methods in Optical Engineering (3)
Mathematics in Photonics	Electro-Optics Lab (3)
Laboratories in Photonics Research	Fiber-Optic Communication Systems (3)
Optical Communication Systems	Characterization Technique for Electro-Optics (3)
Sensors and Microsystems Electronics	Manufacturing Technology of Semiconductor for Nano Devices (3)
Physics of Semiconductor Technologies and Devices	Principles and Design of Integrated Optoelectronic devices (3)
Innovation in Photonics	Innovation in Photonics (3)
Recent Trends in Photonics	Seminars (1, no-weight for ECTS scores)
2 elective courses from a list (8 ECTS)	
See: http://masterphotonics.be/	

Second year at NSYSU (after year 1 at UGent / VUB)	Second year at UGent / VUB (after year 1 at NSYSU)
Obligatory courses (6 NSC+30 ECTS)	Obligatory courses (40 ECTS)
Master Thesis (30 ECTS, there is no credit for thesis in NSYSU)	Master Thesis (30 ECTS)
2 courses related to the thesis subject by suggestion of the thesis advisor (6 NSC)	Recent Trends in Photonics (4 ECTS)
	Laboratories in Photonics Research (6 ECTS)
3 Elective courses from the list below (9 NSC)	Elective courses (20 ECTS)
Optoelectronic Materials (3)	At least 12 ECTS from photonics elective courses
Semiconductor Optoelectronic Devices (3)	The rest from engineering elective courses
Principles of Modern Communication (3)	See: http://masterphotonics.be/
Principle and Application of Organic Optoelectronics (3)	
Liquid Crystal Display Technologies (3)	

ANNEX 2 – Programme Coordinators

The programme coordinators have been defined for the considered duration. They can be changed by mutual consent of both Institutions.

EMSP (UGent-VUB) coordinator of the double master's degree programme

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Web site of Master Photonics:

<http://masterphotonics.be/>

NSYSU coordinator of the double master's degree programme

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Email: jameslin@mail.nsysu.edu.tw

Website of Department of Photonics:

<http://dop.nsysu.edu.tw/p/412-1207-134.php?Lang=en>