European Network on the Supramolecular Chemistry of Carbohydrates

11 DC positions within the programme Horizon Europe (HORIZON) Marie Skłodowska-Curie Actions Doctoral Networks (DN)

"ENSCC" European Network on the Supramolecular Chemistry of Carbohydrates

(HORIZON-MSCA-2022-DN, project number 101119492 - ENSCC)

This project has received funding from the European Union's Horizon Research and Innovation programme under the Marie Skłodowska-Curie (HORIZON-MSCA-2022-DN-01) grant agreement No. 101119492.

GENERAL INFORMATION

ENSCC is an European Training Network funded in the framework of HORIZON Marie Skłodowska-Curie Doctoral Networks (DN). ENSCC is a multidisciplinary network that aims to understand, monitor and intervene in biological processes involving carbohydrates by developing carbohydrate-binding molecules (CBMs) that can selectively and supramolecularly (non-covalently) bind a variety of carbohydrate molecules ranging from simple monosaccharides to complex oligosaccharides and glycoconjugates. Technologies that can be developed based on CBMs could be exploited in medical therapies, glycobiology, and biomedical research and include: the separation and isolation of carbohydrate-containing molecules; developing carbohydrate sensing and detection devices; enabling selective chemistry on (unprotected) carbohydrates; and a range of biofunctional applications.

The main goal of ENSCC is to forge young professionals within an integrated research training programme in academia and industrial environments on the supramolecular chemistry of carbohydrates to ready the field for the future and unlock the full potential of artificial CBMs.

ENSCC will pursue this ambitious goal through a collaborative effort involving 4 academic groups, 2 research institutes and 2 industrial partners as Beneficiaries, along with 4 Associated Partners.
The combination of the beneficiaries' expertise in supramolecular chemistry, carbohydrate synthesis, conjugation techniques, nanotechnology, and molecular glycobiology along with a wide experience in business and technological transfer, will create a multidisciplinary environment in which 11 Doctoral Candidates (DCs) can nourish their skills and the most innovative ideas in supramolecular chemistry and glycoscience.

In parallel, ENSCC will improve the European competitiveness and innovation capacity by bringing to market and policy stakeholders new glycoscience concepts in the development of novel therapeutic options to tackle unmet medical needs and major global healthcare challenges.

For more information on ENSCC visit www.enscc.eu.

ENSCC CONSORTIUM

Beneficiaries

The following institutions will directly recruit the DCs:

- Università degli Studi di Firenze (UNIFI) – Italy, Department of Chemistry "Ugo Schiff", DICUS, Prof. O. Francesconi [Coordinator]
- Utrecht University (UU) – Netherlands, Department of Chemical Biology and Drug Discovery, Prof. Dr. R.J. Pieters
- Centre National de la Recherche Scientifique (CNRS) and University of Bordeaux – France, Institute of Chemistry and Biology of Membranes and Nano-objects, CBMN, Dr. Y. Ferrand
- CICbioGUNE (CBG) – Spain, Chemical Glycobiology Lab, Dr. A. Ardá
- Ludwig Maximilians Universität München (LMU) – Germany, Department of Pharmacy, Prof. Dr. I. Huc
- University of Copenhagen (UCPH) – Denmark, Department of Chemistry, Prof. Christian M. Pedersen

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- Giotto Biotech (GB) – Italy, Research and Development, Dr. T. Martelli
- Atlas molecular pharma (AMP) – Spain, Research and Development, Dr. O. Millet

Associated Partners with national fundings

The following institutions will directly recruit the DCs:

- University of Bristol (UoB) – United Kingdom, School of Chemistry, Prof. Dr. A. P. Davis (funding from UK government)

Associated Partners

The following Institutions and companies are part of the consortium and will contribute to training activities, including secondments:

- Eindhoven University of Technology (TUE) – The Netherlands, Chemical Engineering and Chemistry, Dr. G. Vantomme
- University of Basque Country (UBC) – Spain, Chemistry Department, Prof. Dr. J. Jiménez Barbero
- Université de Bordeaux (UBx) – France, Doctoral School of Chemical Science, Prof. C. Mathonière

RESEARCH PROJECTS

The ENSCC research activity will be implemented with the following 11 individual doctoral projects:

Position	Project's title	Host institution	Reference person
DC1	Streamline Binding Studies	UU	Roland Pieters r.j.pieters@uu.nl
DC2	Peptide-based receptors	UU	Roland Pieters r.j.pieters@uu.nl
DC3	Covalent podands and macrocycles for the molecular recognition of carbohydrates	UNIFI	Oscar Francesconi oscar.francesconi@unifi.it
DC4	Development of saccharide analogues for protein functionalization and as ligands for binding studies with CBMs. Multivalent presentation of CBMs.	UNIFI	Oscar Francesconi oscar.francesconi@unifi.it or Cristina Nativi cristina.nativi@unifi.it
DC5	Foldamers as supramolecular protecting groups and molecular flasks for selective chemistry of carbohydrates in organic solvents	CNRS	Yann Ferrand yann.ferrand@u-bordeaux.fr
DC6	NMR-based binding screening and structural studies	CBG	Ana Arda aarda@cicbiogune.es
DC7	Tailored foldamers for the supramolecular sensing of carbohydrates	LMU	Ivan Huc ivan.huc@cup.lmu.de

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DC8	Supramolecular protecting groups for carbohydrate synthesis	UCPH	Christian Marcus Pedersen cmp@chem.ku.dk
DC9	Functionalization and labelling of recombinant proteins with sugars for NMR interaction studies	GB	Tommaso Martelli martelli@giottobiotech.com
DC10	NMR methods for the characterization of protein-ligand interactions at the mutation hotspot	AMP	Oscar Millet omillet@cicbiogune.es
DC11	Macropolycyclic hydrogen bonding cages for carbohydrate recognition in water	UoB	Anthony P. Davis Anthony.Davis@bristol.ac.uk

Additional details on the individual research projects can be found at www.enscc.eu or directly asked to the reference persons.

The 11 DCs will participate in the network's training activities and work placements at the laboratories of the participating academic and industrial partners. In addition, the training programme of the recruited DCs will be supplemented by regular meetings and workshops within the ENSCC Doctoral Network.

TRAINING PROGRAMME

ENSCC will provide an international, cross-sectoral and interdisciplinary educational program. According to the EU Principles for Innovative Doctoral Training, it will allow the DCs to obtain skills and knowledge necessary for a career development both in academia and/or private sector.

All the recruited DCs will be involved in a highly stimulating training programme, both at the local and at the network-wide level, which includes:

1. the implementation of the individual research projects (aligned with local PhD training programmes) that include strong collaborations with other ENSCC Beneficiaries;
2. each researcher will be involved in local training sessions;
3. joint scientific courses and workshops will be organized by the ENSCC consortium. An intensive and original training programme will be provided to all DCs, including multidisciplinary training events and transferable skills courses ranging from project management and responsibility in research (including ethics and regulations), to IPR/valorisation and dissemination of science.
4. secondments in labs with complementary and scientific integrated areas at one of the Beneficiaries and/or Associated Partners, to complement the training through research methods offered at the home institution;
5. the ENSCC consortium will encourage the researchers to attend international conferences in the supramolecular and glycoscience fields;
6. visits at industrial sites or research centers will be performed in conjunction with the network meetings to put the students in direct contact with top levels scientific laboratories or manufacturing sites.

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RECRUITMENT

Recruited DCs will receive a 36-months grant to cover living, travel and installation (mobility) allowance, and family allowance (if applicable), as reported in the following table. The reported total amount is referred to gross salary (€) before tax. Please note that taxation may vary according to country and institutions.

DC	Recruiting institution	Country	Living allowance[a]	Mobility allowance	Family Allowance[b]	Total maximum GROSS amount (36 months)[c]
DC1	UU	NL	134.150,40 €	21.600,00 €	17.820,00 €	173.570,04 €
DC2	UU	NL	134.150,40 €	21.600,00 €	17.820,00 €	173.570,04 €
DC3	UNIFI	IT	119.217,60 €	21.600,00 €	17.820,00 €	158.637,60 €
DC4	UNIFI	IT	119.217,60 €	21.600,00 €	17.820,00 €	158.637,60 €
DC5	CNRS	FR	142.473,60 €	21.600,00 €	17.820,00 €	181.893,60 €
DC6	CBG	ES	111.751,20 €	21.600,00 €	17.820,00 €	151.171,20 €
DC7	LMU	DE	120.319,20 €	21.600,00 €	17.820,00 €	159.739,20 €
DC8	UCPH	DK	161.568,00 €	21.600,00 €	17.820,00 €	200.988,00 €
DC9	GB	IT	119.217,60 €	21.600,00 €	17.820,00 €	158.637,76 €
DC10	AMP	ES	111.751,20 €	21.600,00 €	17.820,00 €	151.171,20 €
DC11	UoB	UK	167.565,60 €	21.600,00 €	17.820,00 €	206.985,60 €

[a] The amount is dependent on a country correction coefficient which takes into account the cost of living in the country of the recruiting institution.

[b] Only applicable to the DCs having or acquiring family obligations (i.e. persons linked to them by (i) marriage, or (ii) a relationship with equivalent status to a marriage recognized by the legislation of the country or region where this relationship was formalized; or (iii) dependent children who are being maintained by them) during the action duration.

[c] These are the maximum GROSS amounts paid by the European Research Executive Agency (REA) and from UK government (for DC-11). Net salaries will depend on the national taxation applied by the recruiting institution's country and on possible extra-benefits granted by the employing institution.

All DCs will be provided with office space and all facilities for their research project.

ELIGIBILITY RULES

The DC positions are open to candidates of any nationality, provided they fulfill the strict eligibility requirements established for the enrollment through the Marie Sklodowska-Curie Action-Doctoral Network. Each DC will be employed according to the financial and eligibility rules reported in the EU document accessible to the following link.

In particular, at the time of recruitment applicants must fulfill the following rules:

Experience

Eligible applicants must be doctoral candidates, i.e. not already in possession of a doctoral degree. Researchers who have successfully defended their doctoral thesis but who have not yet formally been

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awarded the doctoral degree will not be considered eligible. Doctoral candidates must be enrolled in a doctoral programme leading to the award of a doctoral degree in at least one EU Member State or Horizon Europe Associated Country.

Mobility
Eligible applicants must not have resided in the country where the research training activities will take place for more than 12 months in the 3 years immediately prior to the recruitment date (and not have carried out their main activity (work, studies, etc.) in that country).

Additional eligibility criteria required by the ENSCC consortium
Admission to the programme is open to applicants who hold a 2nd Level Master's Degree (120 ECTS + 180 ECTS in a bachelor's degree) or a Single Cycle Degree (minimum 300 ECTS), or a comparable university degree (Second Cycle qualification), as required by the partner universities for admission to doctoral studies.

Equal opportunities policy without distinction on the grounds of gender, racial or ethnic origin, religion or belief, disability, age or sexual orientation will be applied.

APPLICATION PROCEDURE

Applicants can apply for up to 3 projects within the consortium, indicating the order of preference. All applications will be checked for eligibility. Ineligible or incomplete applications will not be considered. Applications must be in English.

All applications shall be conveyed exclusively through the ENSCC website at www.ENSCC.eu starting from March 1 2024, and no later than April 14, 2024, at h 23:59 CET. In particular, the following mandatory documents shall be included in the application by uploading them as PDF files along with the application form (available from www.enscc.eu):

1) an updated CV (EU pass format: https://europa.eu/europass/it/create-europass-cv) including the details of education/qualifications, work experience, language skills, list of publications, participation in funded research project and other relevant skills;
2) copy of a valid ID/Passport;
3) a letter giving reason for his/her motivation for the post (max 1 page);
4) two recommendation letters that can be attached to the material or sent directly (within the deadline) by the referees to info@enscc.eu;
5) the certified copy of the Academic degree translated into English (usually the Master Degree) which would formally entitle him/her to embark on a doctorate, either in the country in which the degree was obtained or in the country in which the researcher will be recruited. If the candidate has not yet obtained a Master's Degree, it is required to provide certification, preferably through an official document from their institution or a declaration from the Master's thesis supervisor, stating that the candidate will complete the Master's Degree by the scheduled contract starting date for the selected positions;
6) a summary of the Master Degree thesis or a brief description of the past scientific activity;

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7) the Academic Transcript of Records;
8) letter of research statement, describing the applicant's research experience in relation with the project/s s/he is applying for (max 1500 words). The letter shall report a description of the applicant's master research project and a self-evaluation on scientific and soft skills.

ASSESSMENT CRITERIA

Selection of the DCs will be based on merits providing equal opportunity and in agreement with the European Code of Conduct for the Recruitment of Researchers (https://euraxess.ec.europa.eu/). Applications will be evaluated against the following criteria:
- educational record;
- scientific quality of the applicant's CV;
- expected individual impact and benefit to the fellow and to the project;
- ability to collaborate and communicate;
- previous experience in the subject of the ENSCC research programme.

The selection process will take place in two steps. The first step will be based on the assessment of the documents submitted with the application and eventual preliminary interview directly done by each beneficiary. Then shortlisted candidates will be invited for an online interview with supervisor/co-supervisor and a committee from the network (online). Good level of English proficiency (understood, spoken and written) will be considered. Candidates will be notified of the outcome.

STARTING DATE

The starting date of each PhD contract shall be set according to local rules of the Beneficiary institution and in agreement with the local supervisor of the selected DC project. However, guess starting dates of each PhD contracts are the following:

DC	Beneficiary	Tentative starting date
DC1	UU	01/09/2024
DC2	UU	01/09/2024
DC3	UNIFI	01/11/2024
DC4	UNIFI	01/11/2024
DC5	CNRS	01/10/2024
DC6	CBG	01/09/2024
DC7	LMU	01/11/2024
DC8	UCPH	01/09/2024
DC9	GB	01/11/2024
DC10	AMP	01/09/2024
DC11	UoB	01/09/2024

Further information

For further information, please contact:
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