

## 2 open PhD positions out of 15 in the EU Horizon 2020 Marie Skłodowska-Curie Project:



CHARMING is the “European Training Network for Chemical Engineering Immersive Learning”. CHARMING has pooled the interdisciplinary and intersectoral expertise of leading universities and companies in the fields of chemical technology, instructive psychology and immersive technologies, located in Belgium, Germany, the Netherlands, UK, Denmark and France (Figure 1). The 15 CHARMING ESRs will not only receive state-of-the-art science/technology training but will also benefit from a unique soft-skills training programme. This will kick-start their careers as highly employable professionals in the EU’s chemicals industry, games/VR/AR sector and the fields of e-learning and digital human resource management, as well as for teaching & scientific organisations and public bodies.

### Key dates

- 23-01-2019: Deadline for on-line application
- February 2019 – April 2019: Targeted starting date for ESR contracts

### Key background info

#### Number of positions available

2 PhD Positions

#### Research Fields

Interdisciplinary research on the bridges between 1) Chemistry and Chemical Engineering, 2) instructional psychology and pedagogy, and 3) immersive technologies like games, augmented reality and virtual reality. Potential candidates should be proficient in one of these three fields and have clear interest in the two others.

#### Keywords

Chemistry and Chemical Engineering, Instructional Psychology, Pedagogical Technology, Gaming, VR/AR

#### Career Stage

Early Stage Researcher (ESR) or 0-4 yrs (Post Graduate)

#### Benefits and salary

The successful candidates will receive an attractive salary in accordance with the MSCA regulations for Early Stage Researchers. The exact (net) salary will be confirmed upon appointment and is dependent on local tax regulations and on the country correction factor (to allow for the difference in cost of living in different EU Member States). The salary includes a living allowance, a mobility allowance and a family allowance (if married). The guaranteed PhD funding is for 36 months (i.e. EC funding, additional funding is possible, depending on the local Supervisor, and in accordance with the regular PhD time in the country of origin). In addition to their individual scientific projects, all fellows will benefit from further continuing education, which includes internships and secondments, a variety of training modules as well as transferable skills courses and active participation in workshops and conferences.

#### On-line Recruitment Procedure (see Appendix 1)

All applications proceed through the on-line recruitment portal on the [www.charming-etn.eu](http://www.charming-etn.eu) website. Candidates apply electronically for one to maximum three positions and indicate their preference. Candidates provide all requested information including a detailed CV ([Europass format](#) obligatory) and motivation letter. During the registration, applicants will need to prove that they are eligible (cf. ESR definition, mobility criteria, and English language proficiency). The deadline for the on-line registration is **23 January 2019**. The selected ESRs are to start their research as quickly as possible (February 2019 - April 2019).

#### Applicants need to fully respect three eligibility criteria (to demonstrated in the Europass cv):

**Early-stage researchers (ESR)** are those who are, at the time of recruitment by the host, in the first four years (full-time equivalent) of their research careers. This is measured from the date when they obtained the degree which formally entitles them to embark on a doctorate, either in the country in which the degree was obtained or in the country in which the research training is provided, irrespective of whether or not a doctorate was envisaged.

#### Conditions of international mobility of researchers:

Researchers are required to undertake trans-national mobility (i.e. move from one country to another) when taking up the appointment. At the time of selection by the host organisation, researchers must not have resided or carried out their main activity (work, studies, etc.) in the country of their host organisation for more than 12 months in the 3 years immediately prior to their recruitment. Short stays, such as holidays, are not taken into account.

**English language:** Network fellows (ESRs) must demonstrate that their ability to understand and express themselves in both written and spoken English is sufficiently high for them to derive the full benefit from the network training.

### The 2 available PhD positions

(see Figure 2 for interactions between ESRs/WPs)

#### ESR3: Chemistry and chemical engineering interest development

**Host:** Utrecht University (The Netherlands)

**Lead Supervisor:** Prof. Liesbeth Kester (Utrecht University, [l.kester@uu.nl](mailto:l.kester@uu.nl))

**Duration:** 36 months

**Required profile:** Educational scientist, Educational/developmental psychologist or Pedagogist with interest in STEM and learning technology

**Objectives:** To investigate how interest for chemistry and chemical engineering can be stimulated at an early age in a diverse target group and how it can be sustained during the transition from primary to secondary school education.

**ESR14: Assess your employee in a game**

**Host:** University of Newcastle (UK)

**Lead Supervisor:** Prof. Jarka Glassey (University of Newcastle, [jarka.glassey@newcastle.ac.uk](mailto:jarka.glassey@newcastle.ac.uk))

**Duration:** 36 months

**Required profile:** Chemical engineer with interest in psychology and VR/AR/games

**Objectives:** To evaluate adapted situational judgment based assessment of operator performance following exposure to the gaming environment. To develop robust metrics of measuring professional skill development and threshold concept change for the purposes of continuous professional development.

**ETN CHARMING project abstract and key project information**

The chemical industry in Europe faces stiff competition as it fights to strengthen its position in the global market place. Europe's greatest asset is its human capital, but the people working in such a technology-based environment, with the rise of the "smart factories" of Industry 4.0, need to be very well qualified. The situation of yesteryear, where a person could be trained to carry out a job for the whole of his/her career has long since gone; now the situation is one of developing skills and competencies, but then being able to adapt, re-learn and be able to cross sectors and disciplines in a world of work that is dynamic and subject to constant change. Continuous professional development, the stimulation of creative thinking and the motivation of youngsters for science & technology are high on the EU's agenda. Recent developments in immersive learning technologies are providing exciting new tools for teaching and training programmes, yet they remain underutilised in science & technology education, and nowhere is this more true than in the

field of chemistry and chemical engineering. **CHARMING**, the European Training Network for **CH**emicAI **E**nginee**R**ing **I**mmersive **L**earn**I**NG, takes on this challenge by developing learning strategies, content and prototypes for the application of games and virtual/augmented reality for motivating, teaching and training children, students and employees in chemistry, chemical engineering and chemical operations. The inter-sectorial and interdisciplinary CHARMING ETN consists of leading universities and industry participants and trains 15 ESRs in the areas of innovative chemical engineering, instructional psychology & pedagogy and immersive technology. CHARMING's success is based on integrating these three areas in order to provide Europe with its highly trained young experts who are ready to help motivating, training and integrating the next-generation human capital of the European chemical industry and beyond.

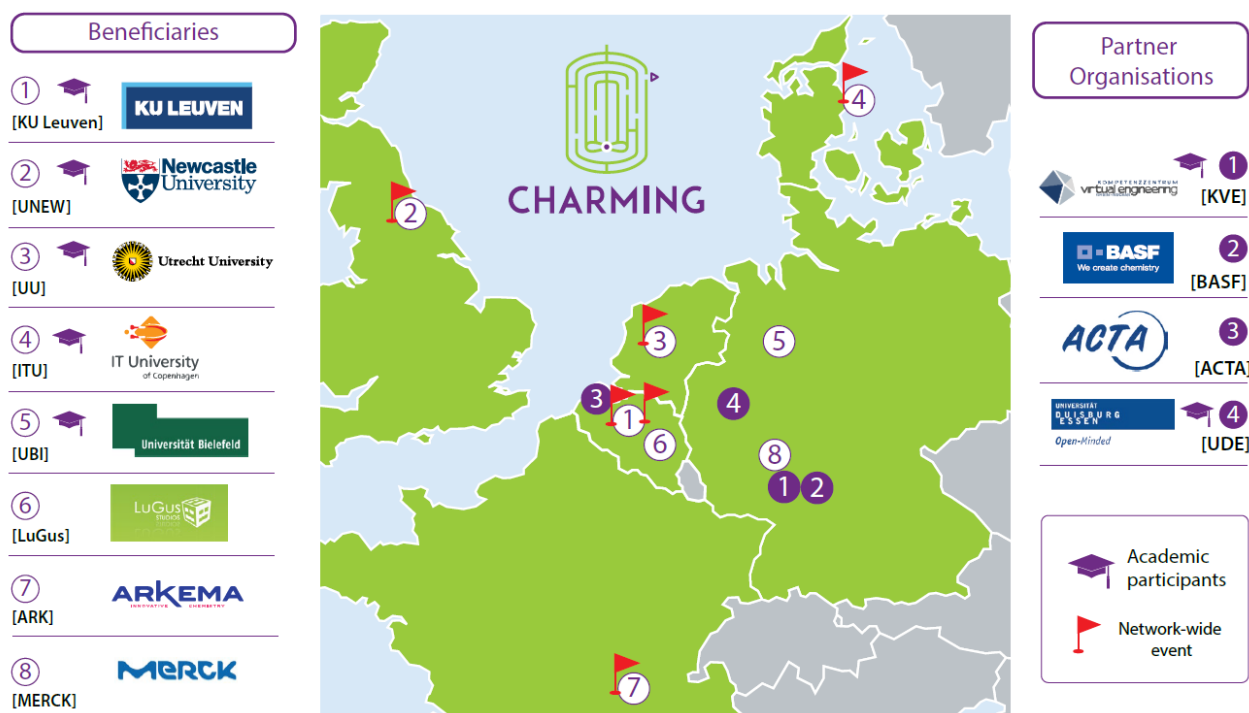


Figure 1: CHARMING Consortium

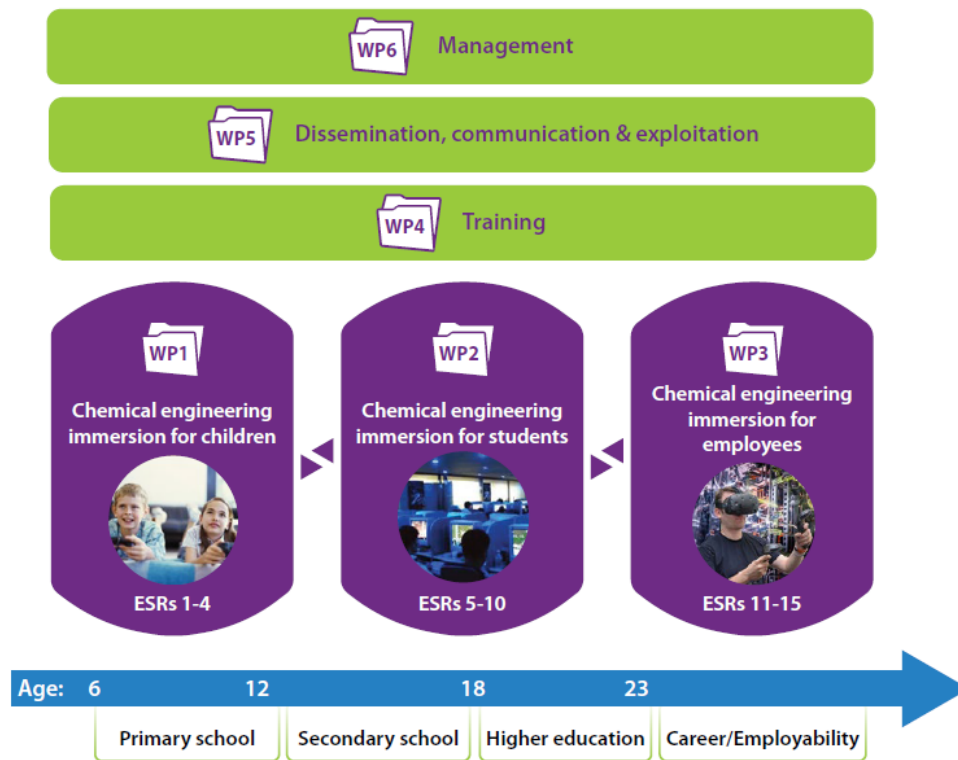


Figure 2: CHARMING WPs and ESRs

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## Appendix 1: Recruitment Procedure and Principles

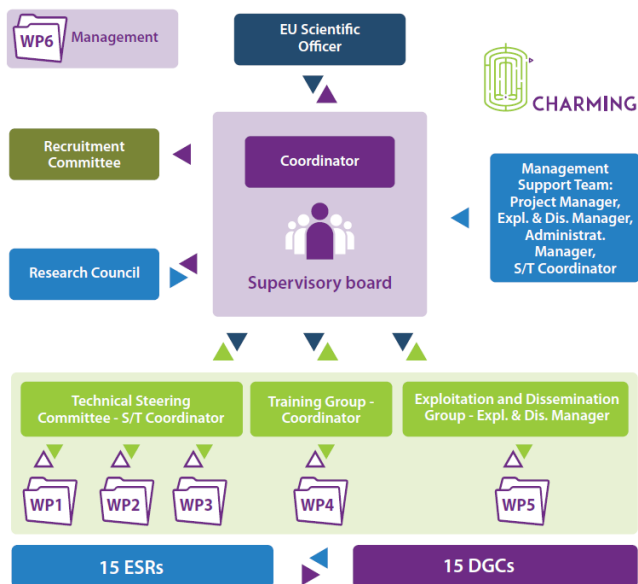
A preliminary CHARMING recruitment web page is put on-line (June 2018). To attract the right students, the required profiles are clearly listed for each ESR position.

Applications are made through an on-line, eligibility-proof form on the CHARMING recruitment webpage. The candidates apply for a maximum of three specific ESR positions and list their order of preference.

The recruitment strategy of CHARMING fully complies with the Code of Conduct definition of merit. For example, merit is not just measured by a researcher's grades, but on a range of evaluation criteria, such as teamwork, interdisciplinary knowledge, soft skills and awareness of the policy impact of science.

The RC has members of each gender and considers the promotion of equal opportunities and gender balance as part of the recruitment strategy.

CHARMING aims at a participation of 50% female ESRs in the network. Researchers are employed on fixed-term contracts and are registered as staff candidates for PhD degrees. Therefore, they are entitled to pension contributions, paid holidays, and other benefits as governed by the universities and industrial companies.



**Figure 3:** CHARMING Governance

*Recruitment Committee = This committee involves the General Coordinator and one representative per Beneficiary (I. Smets, J. Glassey, L.Kester, D. Cermak-Sassenrath, Th. Pfeiffer, K. Haelterman, O.Ulrich, M. Wilk). Its goal is to oversee the recruitment of the 15 ESRs during the collective recruitment event. During the recruitment event additional Supervisors may be present.*