



We offer a position as an

## Early Stage Researcher (M/F/D)

in the **Marie Skłodowska-Curie Innovative Training Network Project STIMULUS** in the field

### *Development of Novel Fluorescent Dyes for Therapeutic-Diagnostic Coatings (ESR13)*

STIMULUS is a European Training Network working on reducing healthcare-associated infections. We train early-stage researchers (Ph.D. students) for a career in biomaterials by researching smart wound dressings that can detect and treat bacterial infections without opening the wound. To accomplish this, STIMULUS combines the expertise of organic, macromolecular, physical and materials chemists, materials scientists, electronic engineers, biotechnologists, medical doctors (clinicians), (micro)biologists, government policy experts, and representatives from both SMEs and large enterprises. Our consortium bridges from academia and medical research institutes to policymakers and industry.

The advertised position refers to a project, in which novel fluorophores are being developed that afford bright fluorescence for use in capsules and polymeric coatings with sensing functions. In particular, the synthesis and characterization of pH-sensitive reporter dyes suitable for wound environment is targeted, as well as scale up of the synthesis of lead compounds.

Our researchers get individualized and joint training in all these disciplines and relevant sectors along the value chain, giving them a unique and genuinely interdisciplinary and multi-sectoral training experience. The successful candidate will be employed for a maximum period of **three years full-time equivalent** and receives a **generous financial package plus an additional mobility and family allowance** according to the rules for Early Stage Researchers (ESRs) in an EU Marie Skłodowska-Curie Actions Innovative Training Networks (ITN). A career development plan will be prepared for each fellow in accordance with his/her supervisor and will include training, planned secondments and outreach activities in partner institutions of the network. The ESR fellows are supposed to complete their PhD thesis by the end of the 3rd year of their employment. For more information please visit the Marie Skłodowska-Curie Actions Innovative Training Networks website as well as [www.stimulus-etn.eu](http://www.stimulus-etn.eu)

## YOUR TASKS

- Development, synthesis, and characterization of application-level amounts of pH-sensitive reporter dyes suitable for wound environment.
- To prototype novel fluorescent dyes of improved suitability for the indication of pH changes in the wound environment.
- Preparation of dye amounts sufficiently large for the planned applications.
- Collaboration in and preparation of publications in relevant scientific journals.

## PROFILE

- Master's or equivalent degree in one of the following fields: physics, materials science, chemistry, chemical engineering, biochemical engineering, biotechnology, biology, biochemistry, or a cognate discipline (the qualifying degree).
- Expertise as well as hands-on experience in the fields of preparative organic synthesis (chemistry), purification and characterization methods (HPLC, NMR spectroscopy, mass spectrometry etc.).
- Experience in photophysical characterization of dyes (e.g. fluorescence spectroscopy, determination of quantum yields etc.).
- Very good command of the English language in speaking and in writing and willingness to learn basic skills of the German language

## PLANNED SECONDMENTS

The ESR will interact closely with the project partners and will have two formal secondments with:

- **Macromolecular Chemistry, University of Siegen**, Siegen, Germany, 3 months, to acquire skills for the synthesis of polymeric hydrogels;
- **Koç University**, Istanbul, Turkey, 1 month, to fabricate polymeric waveguides and carry out optical experiments with functional nanoparticles.

**ATTO-TEC GmbH**, a privately owned company located in Siegen, was founded in 1999 as a spin-off of the University of Siegen. The company is staffed with 15 employees, mostly with a degree in physical chemistry, organic chemistry, and biochemistry.

ATTO-TEC is known world-wide as a leading supplier of fluorescent labels for bioanalytical applications. After more than 20 years ATTO-TEC has built up a portfolio of more than 40 fluorophores with over 400 different modifications. These patented fluorescence markers cover the spectral range from ultraviolet to near infrared and provide innovative fluorescent tools for the life science market.

The continuous development of new derivatives, e.g. compounds for "click chemistry" or dye-conjugated phospholipids, has further strengthened the market position.

ATTO fluorescent labels are successfully used by renowned research institutes and international companies who appreciate their high purity, excellent reactivity, and brightness. In addition to catalogue products, ATTO-TEC offers the service of custom synthesis, where tailor-made dyes or derivatives are developed according to customer-specific requirements.

The position will be located at:

### **ATTO-TEC GmbH**

Martinshardt 7, 57074 Siegen, Germany

Website: <https://www.atto-tec.com>

Supervisor: Dr. Jutta Arden-Jacob

You can find more information on the selection process on the [STIMULUS website](#). We plan the interviews for the second half of February 2021. Applications are welcome until the 31<sup>st</sup> of January 2021.

Planned Recruitment date: before **September 30<sup>th</sup> 2021**

The ESR will be enrolled at the University of Siegen, Germany.

**Eligibility Criteria and Mobility Rule:**

ESRs must, at the date of recruitment, be in the first four years (full-time equivalent research experience) of their research careers and have not been awarded a doctoral degree. Full-Time Equivalent Research Experience is measured from the date when the researcher obtained the first degree entitling 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 is recruited), even if a doctorate was never started or envisaged. Researchers can be of any nationality. ESRs must not have resided or carried out their main activity (work, studies, etc.) in the country of the recruiting beneficiary for more than 12 months in the 3 years immediately before the planned recruitment date. Compulsory national service, short stays such as holidays, and time spent as part of a procedure for obtaining refugee status under the Geneva Convention are not taken into account.

**ADDITIONAL INFORMATION****Contact and Further Information**

Dr. Jutta Arden-Jacob

[arden-jacob@atto-tec.com](mailto:arden-jacob@atto-tec.com)

[www.stimulus-etn.eu](http://www.stimulus-etn.eu)



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MARIE SKŁODOWSKA-CURIE ACTIONS

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