



DC5: Development of click chemistry-enabled NGS library technology for direct RNA profiling

Host institution: [baseclick GmbH](#), Neuried, Germany

Supervisor: [Dr. Thomas Frischmuth](#)

Co-Supervisors: Dr. Stefan Wiedemann, baseclick GmbH (Industrial).

Project description: The general aim is to exploit click-chemistry-mediated ligation to generate libraries for direct RNA sequencing (without reverse transcription and amplification) using the third-generation sequencing platform from Oxford Nanopore Technology (ONT), with particular focus on non-coding RNA (ncRNA). Therefore, in a first step the incorporation of azido-/alkyne-modified nucleotides at both 5'- and 3'-end of RNA should be optimized and optimal conditions for click reactions (CuAAC) between RNA and ONT sequencing adaptors modified with azide/alkyne pairs should be established. Additionally, click-modified adaptors for best performance on the ONT platform for both 3' to 5' and 5'- to 3' sequencing directions should be screened for. The overarching aim will be a streamlined generation of RNA libraries for direct sequencing on the ONT platform needing a decreased amount of input RNA material and a possible increased coverage of the non-coding transcriptome, including direct epitranscriptome analysis.

Host laboratory: baseclick GmbH is a small company based in Neuried (near Munich), which manufactures, sells and develops reagents and technologies as well as kit solution for life science-based applications based on click chemistry technology mostly focused on CuAAC and SPAAC. baseclick provides fully equipped laboratories for performance of chemical and biochemical reaction set up (fume hood, vacuum pumps, Oxford Nanopore sequencing machine)

Secondments: This project is carried out in strong collaboration with the following groups, and visits to their laboratories are expected during the project. A willingness to travel and spend time abroad is therefore essential:

- [Dr. Francesco Nicassio](#), [Istituto Italiano di Tecnologia](#), Italy
- [Prof. Barbara Uszczyńska-Ratajczak](#), [Institute of Bioorganic Chemistry, Polish Academy of Sciences](#), Poland

Eligibility conditions:

- Master's degree in Biotechnology, Biochemistry, Organic chemistry or related fields.
- Supported researchers: Applicants must be doctoral candidates, i.e. not already in possession of a doctoral degree at the date of recruitment.
- Mobility rule: researchers must not have resided or carried out their main activity (e.g. work, studies) in the country of the recruiting beneficiary for more than 12 months in the 36 months immediately before their recruitment date.

Required Skills:

- Research experience (e.g. through a Master thesis work or research internships) in biochemical techniques is required. Experience in working with nucleic acids and/or experience with performing own chemical reactions will be a strong advantage.
- Proficiency in the English language is required, as well as good communication skills, both oral and written. Successful candidates will need to provide an English test (e.g. IELTS, TOEFL, Cambridge English). You may be exempt if you are a national of a majority native-English speaking country or have qualifications / degree that has been taught and assessed in English. The supervisor can also confirm during the interview that a candidate has the required level of English.

Enquiries

For general information about the INT2ACT Doctoral Network visit the project website (www.int2act.eu) or send an email to int2act@gmail.com.

For additional information on this project please contact Dr. Stefan Wiedemann (S.Wiedemann@baseclick.eu) or Dr. Thomas Frischmuth (T.Frischmuth@baseclick.eu).

How to apply

To learn more about the application process, visit the INT2ACT recruitment web page (<https://int2act.eu/open-positions/>).

Required documents:

1. Statement of interest (limit of 2,500 characters) explaining why you wish to be considered for the fellowship and which qualities and experience you will bring to the role.
2. Curriculum vitae et studiorum.
3. A certificate of University examinations taken (with marks).
4. A final degree certificate translated in English. If, at the time of application, candidates should not be yet in possession of a degree certificate, they can submit it at the time of the examination.

All documents must be merged into a single PDF file, in the order listed above.

A limited number of applicants will be invited for an interview and will be required to provide contact information of up to two contact persons for reference letters.

Application deadline

The closing date for applications is **January 31 2026.**