

## Call for project proposals for the Einstein Center 3R (EC3R)

**We invite applications for interdisciplinary network projects on 3D tissue models to join the future Einstein Center 3R.**

**Submission Deadline: July 10, 2020, 23:59 CEST**

**Informative Session: June 10, 2020, 10 a.m.** (please register at [ec3r@charite.de](mailto:ec3r@charite.de))

### General description

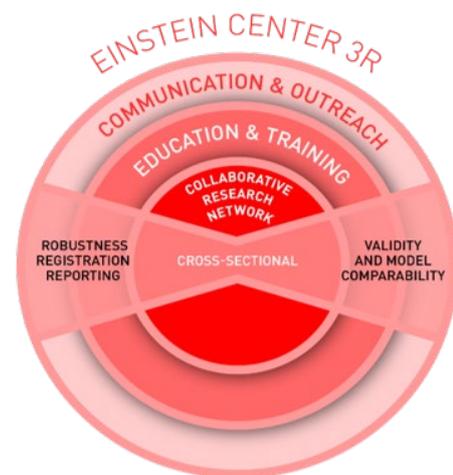
The Einstein Center 3R (EC3R) is a joint initiative of currently eight biomedical research institutions in Berlin (Charité-Universitätsmedizin Berlin, Freie Universität Berlin, Humboldt-Universität zu Berlin, Technische Universität Berlin, Berlin Institute of Health, German Federal Institute for Risk Assessment, Max Delbrück Center for Molecular Medicine, Robert Koch Institute) who want to enhance their 3R (Replace, Reduce, Refine) activities in an integrated approach. A proposal suggesting the outline and preparatory phase of the EC3R is currently under evaluation by the Einstein Foundation. The EC3R aims to make Berlin a role model for 3R driven national and international biomedical research, improving the development of alternative methods and their corresponding dissemination and knowledge transfer to the public. The proposed center consists of three layers and two cross-sectional projects, as shown in Figure 1:

The **Communication and Outreach** program will highlight the visibility of the strong Berlin 3R activities and communicate about 3R research in a transparent and scientifically sound manner.

The **Education and Training** program will integrate the broad spectrum of existing measures and design new activities to improve the awareness, knowledge and application of 3R methods.

The **Collaborative Research Network** will focus on **the joint development of 3D tissue culture models**. It will consist of multiple network projects that are closely interacting with each other.

Two **Cross-sectional Projects** will support the Collaborative Research Network by innovative artificial intelligence applications and an extended quality management, leading to an increase of 3R research quality.



**Figure 1. Structure of the EC3R**

### Timeline of the EC3R proposal

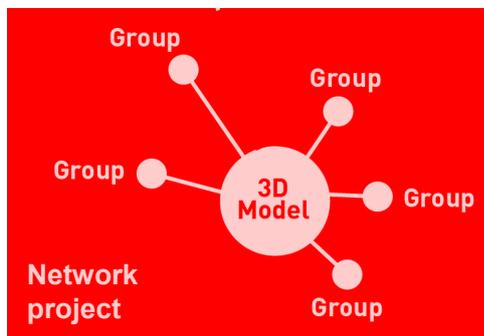
The preliminary EC3R proposal is currently under evaluation by the Einstein Foundation. As the next step, we hereby conduct a Berlin-wide competitive call for proposals to select the best network projects on 3D tissue culture models. These projects will constitute the Collaborative Research Network and join the EC3R. The integrated scientific approach of the Collaborative Research Network will be described in detail in the main proposal for the EC3R, which will be submitted to the Einstein Foundation by 31.01.2021. Upon successful evaluation, funding for the EC3R will begin on 01.07.2021 and be initially available for 3 years. According to the present planning, an extension to 12.2026 is possible.

### Call for projects to enter the EC3R

Despite the latest advances in the field of organoids and 3D models, there are still major limitations when it comes to aspects of robustness, transferability and applicability of a certain 3D model to address multiple scientific questions.

With this call, we are seeking interdisciplinary 3D tissue model network projects that will lead to the development of robust and applicable models.

At the core of each network project is a research group, which further develops a special 3D tissue model based on *ex vivo* tissue cultures, spheroids, organoids, or 3D bioprinting techniques. Each of these core groups is surrounded by additional partner groups that are potential future users of the model that will be developed. Together, they form a network project. Through a direct collaboration, each user will contribute expertise and feedback about the minimum necessary characteristics and biological functions the model should have in order to be applicable to a variety of scientific problems (Fig. 2).

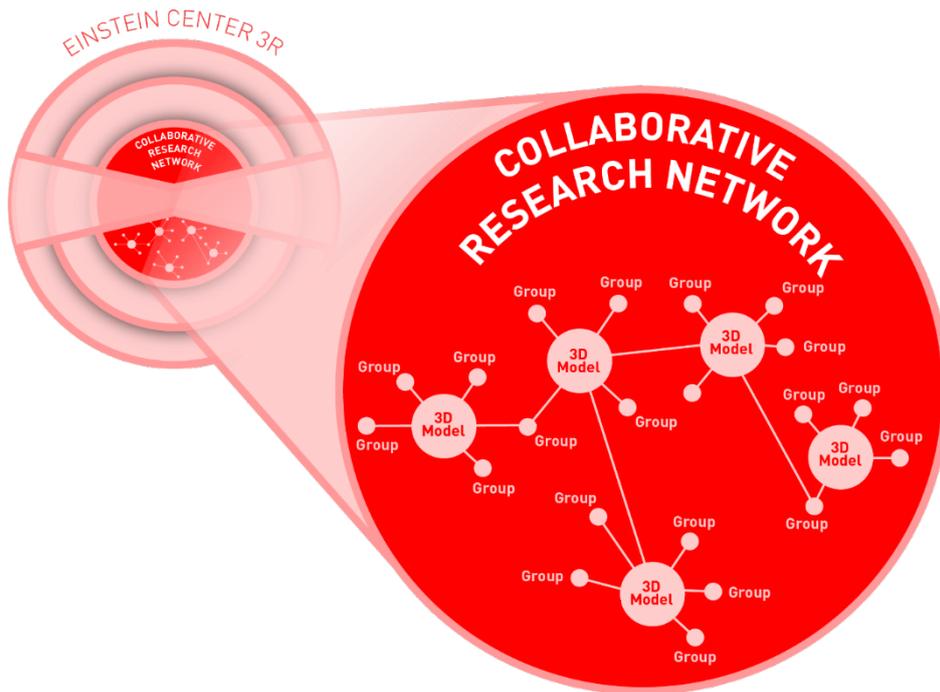


**Fig. 2: Network project: Different groups of potential users and experimenters interact with the scientists building and developing the 3D model.**

Due to the complexity of 3D tissue models, each network project will require at least 3 partners of different expertise. The collaboration of groups that are currently primarily working on animal models and see possibilities for the concrete replacement of animal experiments in their projects is explicitly desired. The integration of early career researchers is highly welcome.

The different network 3D model projects and all involved scientists (Fig. 2) are joined together in an overarching **Collaborative Research Network** (Fig. 3). The network will provide a platform for cross-cutting topics such as agreements on standards and comparative validation of alternative methods, using their own model as an example. Therefore, it is an integral task to develop and implement strategies to improve the validity and transferability of the 3D model in everyday practice.

The aim of this joint approach is thus to produce robust models that actually reflect the needs of regional research approaches in Berlin, ensuring the future application of these models within Berlin research projects.



**Figure 3. Interdisciplinary network projects that consist of several different groups interact with each other, thus forming a Collaborative Research Network dedicated on developing 3D tissue models.**

### **Budget**

Participation in this center requires a high level of commitment from the groups involved. The funds available at the center can only support the joint activities, but not finance them completely. The EC3R members must therefore recognize the great benefits of creating a Berlin network for the further development of 3D tissue models, which will certainly provide an excellent basis for attracting corresponding joint projects.

The budget allocated per project amounts up to max 100,000 EUR per year for an initial period of three years. Each project is expected to use the allocated budget to engage at least one staff member working on the development of the 3D model. Additional own contribution is welcome. The total available budget for the Collaborative Research Network amounts up to 500,000 EUR per year.

### **Rules for participation**

All funding recipients must be eligible as determined by the [funding statutes of the Einstein Stiftung Berlin](#) and affiliated with a Berlin research institute or university.

### **Structure of the proposal**

Please use the provided template for your project proposal. Proposals shall not exceed 3 pages excluding Appendix (Arial, font 11pt, spacing 1) and consist of the following structure:

- 1. Names of principal investigators.** Please mark in bold the primary applicant for future communication.
- 2. Project title**
- 3. Background (0.5. page)**  
Current methodology available for 3D tissue model development, biggest challenges and technological difficulties. Highlight the need for the specific methodology that is being proposed, its potential benefits for 3D tissue model development in Berlin and applications to other research areas.
- 4. Aim**  
Describe the overarching aim of the proposal as well as specific objectives.
- 5. Project description and partner contribution (1.5 pages, including Aim)**  
Describe the methodology that will be developed, the basic principles of the experimental design and expected results. Explain the added value of this particular model. A paragraph should demonstrate the specific knowledge and contribution of the individual groups involved and the interdisciplinary nature of the project.
- 6. Collaborations and potential contribution to the EC3R (0.5 page)**  
Describe the existing collaborations referring to the proposed 3D model with scientific or industry partners and its distribution and applicability in other research contexts. How could your model contribute to the Collaborative Research Network of the EC3R?
- 7. Milestones and draft timeline (0.5 page)**
- 8. Required resources and justification (0.5 page)**  
Fill in the table in the attached template according to the resources you apply for. Additional own contribution is welcome.
- 9. Appendix**  
Please provide a short CV (max. one page) for each involved principal investigator including relevant publications. On a separate page you may include the references used in the project proposal.

### **Submission**

Submit your project proposal including the appendix in a single pdf file to [ec3r@charite.de](mailto:ec3r@charite.de) by **July 10, 2020, 23:59 CEST**.

### **Informative session**

In order to answer questions we will prepare an informative online meetup on **June 10, 10am**. If you wish to participate, please send a short message to [ec3r@charite.de](mailto:ec3r@charite.de) to receive the link to the online meeting.

### **Contacts:**

[Stefan Hippenstiel](#); Speaker of Charité 3<sup>R</sup>, coordinator of the EC3R proposal  
[Tina Diamantara](#); Charité 3<sup>R</sup> office

## **Evaluation process of the Call for Project proposals for the Einstein Center 3R**

Proposals will be reviewed in two steps.

In the first step (which is starting with this call), the EC3R Steering Committee will make a preselection of proposals based on their overall fit to the EC3R and the evaluation criteria described below.

In the second step (starting around September 2020), principal investigators of selected proposals will be invited to expand their projects into detailed and interacting Collaborative Research Network proposals, which are subsequently evaluated for the final decision on the composition of the Collaborative Research Network (around November 2020). These projects will then be incorporated into the final application for the Einstein Center 3R and reviewed by the foundation.

### Evaluation criteria:

- **Excellence of the project**
  - The proposed 3D model addresses a relevant medical problem or knowledge gap or area of strategic importance in translational research (impact of the 3D model).
  - The proposed model development is driven by an interdisciplinary team of experts.
- **Contribution to the EC3R Collaborative Research Network and beyond**
  - The proposed network project has the potential to interact with other projects within the Collaborative Research Network.
  - The proposed 3D model has the potential of transferability to other regional Berlin research contexts.