

Higher Education Learning Agreement for Traineeship

Academic Year 2018/2019

After the mobility

Student	<i>Last name(s)</i>	<i>First name(s)</i>	<i>Nationality</i>	<i>Sex (M/F)</i>	<i>Date of birth</i>	<i>Field of study</i>
	Bálint	Dudás	Hungarian	M	4/6/1994	0710
Sending University	<i>Name, faculty</i>		<i>Erasmus code¹</i>	<i>Contact person name²</i>		<i>Contact person email; phone</i>
	Pazmany Peter Catholic University		HU BUDAPEST12	Henrietta NOVÁK		novak.henrietta@itk.ppke.hu +361 8864706
Receiving Organization / Enterprise	<i>Name, department</i>		<i>Contact person³ name; position; email; phone</i>			<i>Mentor⁴ name; position; email; phone</i>
	School of Medicine, University of Pittsburgh Department of Computational & Systems Biology		Anna Reinhard, assistant to Dr. Bahar Anr189@pitt.edu , 412-624-7615			Dr. Ivet Bahar, Distinguished Professor and John K. Vries Chair, bahar@pitt.edu , (412) 624-7615

Table D - Traineeship Certificate by the Receiving Organisation/Enterprise

Start date and end date of the completed traineeship: from 17/9/2018 to 17/12/2018,

number of working hours per week: 37.5 hours

Traineeship title: The advancement of the Rhapsody interface

Detailed programme of the traineeship period including tasks carried out by the trainee:

Learning the principles of the Rhapsody interface
 Learning the principles of sequence evolution, coevolution, and their effects
 Learning the principles of Elastic Network Models
 Learning the programming principles of ENM analysis
 Improvement of the membrANM method
 Advancement of the Rhapsody interface
 Implementing and comparing different boundary conditions for membrANM
 Learning principles of VMOD method
 Learning principles of coMD method
 Comparing conformational mapping capacity of VMOD, MDeNM, coMD, and classical MD

Knowledge, skills (intellectual and practical) and competences acquired (achieved Learning Outcomes):

Applying Rhapsody analysis
 Applying different ENM analyses
 Applying membrANM analysis
 Python programming
 Applying VMOD analysis
 Applying coMD analysis
 Individual problem solving
 Project oriented working

Evaluation of the trainee:

It is with great enthusiasm that I strongly write this evaluation in support of Mr. Balint Dudás. I had the pleasure of meeting and mentoring Balint when he joined my lab after having won a fellowship from the Tempus Public Foundation.

During Balint's time in the Bahar Lab, he has contributed to the development of new tools. In particular, he worked on normal mode analysis, (bridging between coarse-grained and full atomic normal mode analysis) for modelling of the dynamics of proteins, and the development of an elastic network model for membranes towards improving the prediction of membrane protein dynamics. Not only did he demonstrate his technical skills and the required knowledge to work on this project, but he also improved them in the 3 months visiting my lab. His visit also helped us to create a collaboration between our lab, and that of his mentor, Dr. Erika Balog. Additionally, our two labs will also coordinate with Dr. David Perahia, the Research Director at the Ecole Normale Supérieure de Cachan in Paris, France. This collaboration currently has 2 manuscripts in preparation in which he is a co-author. Balint is highly self-motivated, organized, and innovative. I was deeply impressed by his capacity and creativity during his short visit to the University of Pittsburgh and would not hesitate to offer him a position in my lab, had he stayed in the United States. He is intelligent, an extremely pleasant person to interact with, and has outstanding interpersonal and communication skills. He is meticulous, hard-working, dedicated, and rigorous.

In closing, I would like to give my strongest recommendation to Mr. Balint Dudás. He was truly a joy not only for me, but for also my lab members to interact with. I look forward to witnessing the future accomplishments of this brilliant student and promising scientist.

Please feel free to contact me should you require any additional information or have any questions.

Date: 19/12/2018

**Higher Education
Learning Agreement for
Traineeship**

Academic Year 2018/2019

Name and signature of the Supervisor at the Receiving Organisation/Enterprise:



Ivet Bahar, PhD

Distinguished Professor and John K. Vries Chair

Computational and Systems Biology

School of Medicine, University of Pittsburgh

Higher Education Learning Agreement for Traineeship

Academic Year 2018/2019

¹ **Erasmus code:** a unique identifier that every higher education institution that has been awarded with the Erasmus Charter for Higher Education (ECHE) receives. It is only applicable to higher education institutions located in Programme Countries.

² **Contact person at the sending institution:** a person who provides a link for administrative information and who, depending on the structure of the higher education institution, may be the departmental coordinator or will work at the international relations office or equivalent body within the institution.

³ **Contact person at the Receiving Organisation:** a person who can provide administrative information within the framework of Erasmus+ traineeships.

⁴ **Mentor:** the role of the mentor is to provide support, encouragement and information to the trainee on the life and experience relative to the enterprise (culture of the enterprise, informal codes and conducts, etc.). Normally, the mentor should be a different person than the supervisor.