



## 9<sup>th</sup> Beginner's Course in Molecular Diagnostics

18<sup>th</sup> – 24<sup>th</sup> February 2018

Martin, Slovakia



The course participants and the tutors

The 9<sup>th</sup> IFCC Beginner's Course in Molecular Biology organised by C-CMBC took place at Biomed in Martin, Slovakia from the 18<sup>th</sup> to the 24<sup>th</sup> February 2018.

The local supporting team consisted of the President of the Slovak Society of Clinical Biochemistry (SSKB) **Prof. Oliver Rácz** (Department of Physiological Pathology, Košice), **Prof. Erika Halašová** (Division of Molecular Medicine, Biomed, Martin), **Prof. Dušan Dobrota** (Department of Medical Biochemistry, Martin) and the executive member of the implementation task force **Dr. Katarína Baluchová** (Division of Oncology, Biomed, Martin).



### The workshop tutors:

The following IFCC C-CMBC committee members were the tutors that gave all lectures and organized the practical part of the course, assisted by the IFCC Junior member, namely:

1. **Evi Lianidou**, PhD., Professor of Analytical Chemistry – Clinical Chemistry, University of Athens, Greece (Chair of C-CMBC Committee)
2. **Andrea Ferreira-Gonzales**, PhD., Professor of Pathology and Director of Molecular Diagnostics Laboratory, VCU, Richmond, USA (Consultant of C-CMBC Committee)
3. **Verena Haselmann**, MD., PhD., Institute of Clinical Chemistry, University Medicine Mannheim, Medical Faculty Mannheim of the University of Heidelberg, Germany (Member of C-CMBC Committee)
4. **Ettore Domenico Capoluongo**, PhD., Professor of Clinical Biochemistry and Clinical Biology, Department of Laboratory Medicine, Catholic University – Agostino Gemelli Teaching Hospital, Rome, Italy (Member of C-CMBC Committee)
5. **Zsolt Kovacs**, MD., Associate lecturer, Department of Biochemistry and Environmental Chemistry, University of Medicine and Pharmacy, Tigru Mures, Romania (IFCC Junior member, selected through the Romania course)



**From left to right: Prof. Andrea Ferreira-Gonzales (USA), Dr. Verena Hasselman (Germany), Prof. Ettore Capoluongo (Italy), Zolt Kovacs (Romania), Prof. Evi Lianidou (Greece), Dr. Katarina Baluchova (Slovakia), Prof. Dušan Dobrota (Slovakia), Prof. Erika Halašová (Slovakia)**

### **The Molecular Biology Course**

Dr. Katarína Baluchová was selected by the SSKC as the trainee for this course, and was trained at the Institute for Clinical Chemistry in Mannheim, Germany to attain the course. All C-CMBC members and course participants were hosted by Jessenius Faculty of Medicine (JFM) in Martin. The course took place at the Division of Molecular Medicine, BioMed, Martin and was attended by 20 participants from eight slovakian institutions. The participants were allocated to one of four groups, each led by one of the tutors. The practical laboratory sessions followed the C-CMBC provided manual.



The Pre-Course seminar was held by Prof. Andrea Ferreira-Gonzales and focused on basics of nucleic acid amplification. During the pre-course day, peripheral blood samples were collected from each participant. Consequently, DNA was isolated on the course day 1. Isolated DNA was used in subsequent experiments throughout the course. Each Course day started at 9:00 am with lectures on basic concepts of DNA isolation, DNA quantitation, PCR, real-time PCR and on different topics comprising the field of laboratory medicine and molecular diagnostics. The workshop continued with laboratory work, focusing on:

- Preparation of buffers and working solutions
- Isolation of DNA from peripheral blood samples
- DNA quality control
- Agarose gel electrophoresis
- PCR for HPV-PCR detection, HLA B57 detection, BRAF detection, RFLP FV Leiden and RFLP LCT detection and quantitative PCR CMV testing

*In-silico* training on PCR assay design and RFLP assay design were also part of the workshop. At the end of the Course, Prof. Andrea Ferreira-Gonzales and Dr. Verena Haselmann gave the state-of-art lectures on Next generation sequencing and Liquid biopsy respectively.

The selection of the new IFCC C-CMBC Junior Member from the Slovakia Course was based on the evaluation of all participants by:

- Results of the final written examination
- General performance during the laboratory sessions
- Personal interview with tutors

**Mr. Michal Cibulka**, PhD student from the Department of Medical Biochemistry, Jessenius Faculty of Medicine in Martin was elected as the next Junior Member of C-CMBC.





## List of workshop participants and contacts

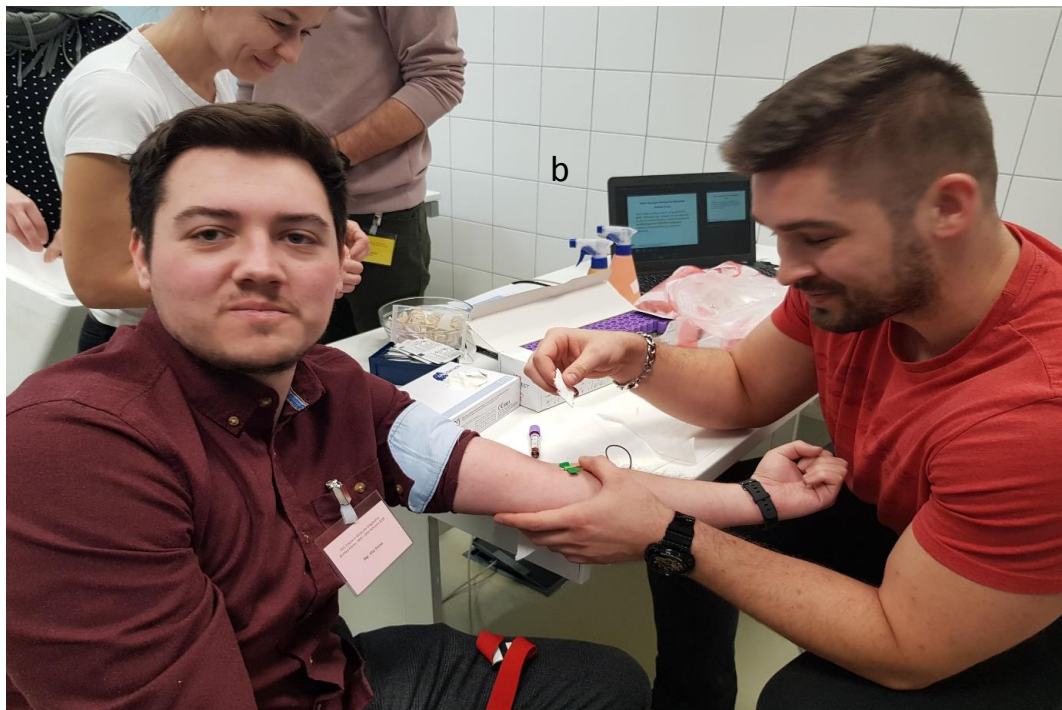
	<b>Name, surname, email</b>	<b>Institution</b>	<b>Current position</b>
	<b>Anna Birková</b> anna.birkova@upjs.sk	University of Pavol Jozef Šafárik, Košice	Assistant lecturer
	<b>Beáta Hubková</b> beata.hubkova@upjs.sk	University of Pavol Jozef Šafárik, Košice	Assistant lecturer
	<b>Daniel Filip</b> dnlfilip6@gmail.com	Comenius University, JFM, Martin	PhD. student
	<b>Dominika Čierna</b> blackovadominika@gmail.com	Slovak Academy of Sciences, Bratislava	Master's degree student
	<b>Gustáv Kováč</b> gustav.kovac@gmail.com	Slovak Medical University, Bratislava	Head of the Department
	<b>Kristína Krajčíková</b> kristina.ugrayova@gmail.com	University of Pavol Jozef Šafárik, Košice	PhD. student
	<b>Marek Zálešák</b> mzmzalesak@gmail.com	Slovak Medical University, Bratislava	Assistant lecturer
	<b>Mária Brodňanová</b> brodnanovamaria@gmail.com	Comenius University, JFM, Martin	PhD. student
	<b>Michal Cibulka</b> cibulka12@uniba.sk	Comenius University, JFM, Martin	PhD. student
	<b>Peter Jendryščík</b> peterj147@gmail.com	Comenius University, JFM, Martin	PhD. student
	<b>Romana Záhumenská</b> romana.zahumenska@gmail.com	Comenius University, JFM, Martin	PhD. student
	<b>Simona Saksonová</b> sim.saksonova@gmail.com	Comenius University, JFM, Martin	PhD. student
	<b>Soňa Uramová</b> sonicka.rybka@gmail.com	Comenius University, JFM, Martin	PhD. student
	<b>Štefan Kečkéš</b> strevo@gmail.com	St. Elizabeth Oncological Institute, Bratislava	Deputy of Department
	<b>Tatiana Kochláňová</b> tatianakochlanova@gmail.com	Comenius University, JFM, Martin	PhD. student
	<b>Terézia Okajčeková</b> tereza.okj@gmail.com	Comenius University, JFM, Martin	PhD. student
	<b>Veronika Mešťanová</b> mestanova.veronika@gmail.com	Comenius University, JFM, Martin	Assistant lecturer
	<b>Veronika Stará</b> veronika.stara@gmail.com	Comenius University, JFM, Martin	Postdoctoral scientist
	<b>Zuzana Biščáková</b> z.biscakova@gmail.com	University of Pavol Jozef Šafárik, Košice	PhD. student
	<b>Zuzana Majerčíková</b> majercikova.zuz@gmail.com	Slovak Academy of Sciences, Bratislava	Master's degree student



## Sponsors:

The lab in a suitcase was completed/extended with the help of faithful sponsors of the program and IFCC generous sponsoring. More specifically, the basic equipment and reagents used in the practical course were provided by Biorad, Eppendorf, and the Lesser-Loewe Foundation. Roche Diagnostics Greece provided the CMV kit and all necessary reagents used for the the real time quantitative PCR experiment.

## Some photos of the course:



Peripheral Blood collection



**Preparation of buffers and solutions**

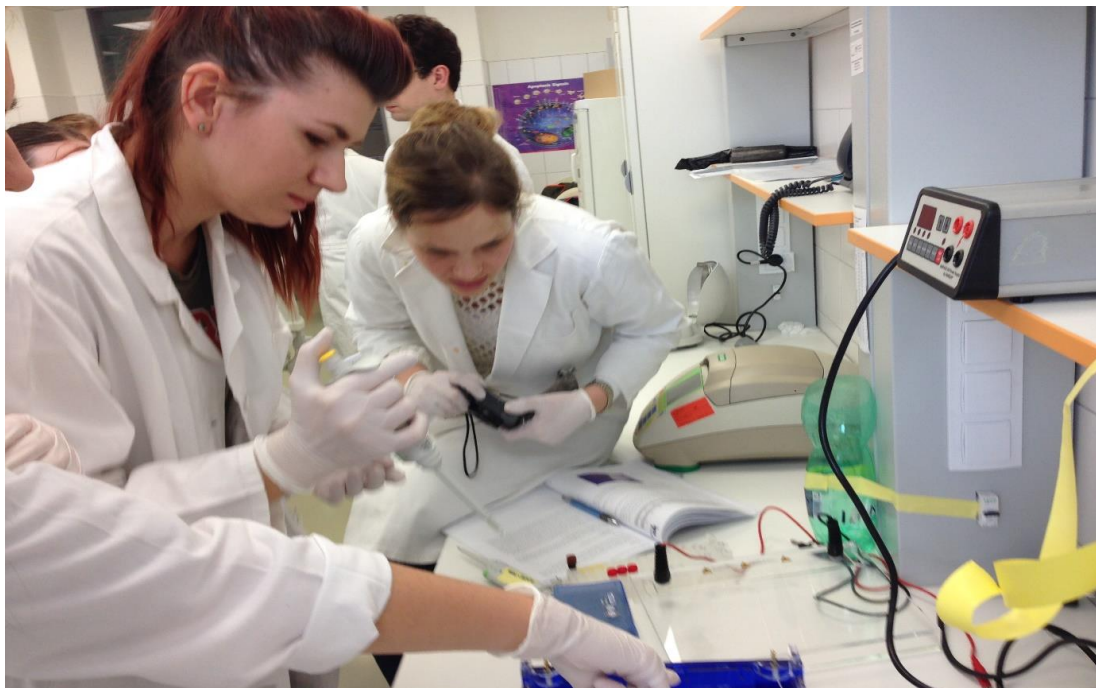


**pH adjustment**





**isolation of genomic DNA**



**sample loading on an agarose gel**





Seminar room