

8th Hungarian Cell Analysis Conference

“Light in research and diagnostics”

Budapest, September 3-5, 2015

2nd Department of Internal Medicine, 1st Department of Pathology and
Experimental Cancer Research
Semmelweis University
Szentkirályi street 46,
1088 Budapest

Organizing committee:

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Dr. Peter Nagy
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Invitation

8th Hungarian Cell Analysis Conference

Budapest, September 3-5, 2015

It is our pleasure to invite you for the 8th Hungarian Cell Analysis Conference organized by the Cell Analysis Section of the Hungarian Biophysical Society and the 2nd Department of Internal Medicine, Semmelweis University.

Aim of the conference: introduction to and dissemination of basic technologies applied in cell and molecular biology and improvement of the technical skills of Hungarian laboratories working in the aforementioned fields. In addition, we would like to bring the manufacturers and distributors of research instruments and reagents closer to users of their products in Hungary.

In the plenary lectures during the morning sessions renowned speakers give lectures. Young researchers can present their newest results in poster sessions. In the afternoons practical classes and company presentations will be held in a rotary system for which registration must be done in advance.

During the conference companies manufacturing and distributing instruments and laboratory reagents present their products.

PhD students receive credit points for their participation and successful completion of an exam taking place at the end of the conference.

General information

Venue:

Semmelweis University

2nd Department of Internal Medicine

1st Department of Pathology and Experimental Cancer Research

Szentkirályi street 46, Budapest

Date

September 3-5, 2015

Registration fee (before July 31, 2015):

- MDs, researchers: 15000 HUF
- PhD students, technicians: 8000 HUF
- Commercial participants: 25000 HUF

Late registration (after July 31, 2015):

- MDs, researchers: 20000 HUF
- PhD students, technicians: 12000 HUF
- Commercial participants: 25000 HUF

The registration fee includes

- Participation in the lectures
- Participation in the practical classes
- Coffee breaks and lunch on Thursday and Friday
- Certificate of participation

Registration, abstract submission

Online on the web page of EKHO '94 Ltd:
www.ekho94.hu

Opening hours of on-site registration

September 3, 2015, 9:00 – 17:00

September 4, 2015, 8:00 – 17:00

September 5, 2015, 8:00 – 11:00

Accreditation

PhD students will receive credit points for participation conditioned upon successfully passing a written test at the end of the conference. Each registered participant will receive an official certificate of participation.

Banquet dinner

September 4, 2015 (Friday) 7:00 PM.

(The registration fee does not include the banquet dinner.)

Fee for the banquet dinner: 5000 HUF

Format specification for poster abstracts: page size A/4, margin: 2 cm, font size: 12, font: Times New Roman. Title: all uppercase letters; 2nd row: names of authors; 3rd row: affiliations; 4th row: empty. The text of the abstract starts in the 5th row.

Important deadlines

Registration, abstract submission: **July 30, 2015**

Payment of the registration fee: **August 7, 2015**

Payments must be made directly to the account of the company organizing the conference: EKHO '94 Ltd., Babits M. street 8, 4032 Debrecen, **OTP BANK 11738008 – 20216764.**

PROGRAM – September 3, 2015, Thursday

(The organizers reserve the right to change the program.)

8:00 Mounting of posters

10:00 Opening ceremony

10:05	From project-based sample collection to biobanking	<i>Dr. Zsolt Baranyai</i>
10:25	Cell culturing in the 21 st century. Challenges of in vitro models	<i>Dr. Anna Sebestyén</i>
10:45	Isolation of gastrointestinal epithelial and stromal cells	<i>Dr. Péter Hegyi</i>
11:05	Small animal imaging	<i>Dr. Miklós Kellermayer</i>
11:25	Molecular morphology and tissue microarray (TMA)	<i>Dr. Tibor Krenács</i>
11:45	Application of droplet digital PCR (ddPCR) for the accurate determination of mRNA, miRNA and genomic DNA copy numbers – experiences and potentials	<i>Dr. László Puskás (Bio-Rad Magyarország Ltd.)</i>

12:05 Coffee break, viewing of posters and the exhibition

12:30	Applications of paraffin-embedded samples for molecular biology	<i>Dr. András Kiss</i>
12:50	Circulating free nucleic acids, isolation, genetic and epigenetic analysis	<i>Dr. Theo deVos</i>
13:10	Routing and research applications of laser microdissection in the field of tissue and tumor heterogeneity	<i>Dr. Péter Hollósi</i>
13:30	Recent advances in the application of flow cytometry for protein and RNA analysis	<i>Dr. Gábor Barna</i>
13:50	High-throughput image-based single cell isolation	<i>Dr. Bálint Szabó</i>

14:10 Sandwich lunch, viewing of posters and the exhibition

14:50 - 16:50 Practical classes 1, viewing of posters and the exhibition

16:50 Coffee break, viewing of posters and the exhibition

17:20 - 19:20 Practical classes 2, viewing of posters and the exhibition

PROGRAM – September 4, 2015, Friday

Analysis at the molecular level

8:00	“Genome editing” techniques: TALEN and CRISPR/Cas9 systems	<i>Dr. Sándor Spisák</i>
8:20	Digital PCR	<i>Dr. László Seres, Life Technologies</i>
8:40	Analysis of DNA methylation, PCR, sequencing, whole genome analysis	<i>Dr. Bálint Péterfia</i>
9:00	DNA sequencing, Next Generation Sequencing, Targeted sequencing	<i>Dr. Kornélia Baghy</i>
9:20	Investigation of microRNA expression pattern in tumors of the adrenal gland	<i>Dr. Péter Igaz</i>
9:40	mRNA, long non-coding RNA expression analysis for the identification of colon cancers	<i>Dr. Béla Molnár</i>
10:00	Novel in-process monitoring tools for improving accuracy and reproducibility of qRT-PCR results	<i>Dirk Schacht, Qiagen (Biomarker)</i>

10:40 Coffee break, viewing of posters and the exhibition

Molecular visualization

11:10	„Number and brightness” analysis (N&B) and quantitative colocalization analysis for the determination of molecular interactions	<i>Dr. Péter Nagy</i>
11:30	Characterization of protein associations using novel FRET-based techniques	<i>Dr. János Szöllősi</i>
11:50	When noise is our friend: fluorescence correlation spectroscopy for the investigation of molecular mobility and interactions	<i>Dr. László Ujlaky-Nagy</i>
12:10	Three-dimensional two-photon imaging with millimeter scanning range and near-microsecond temporal resolution	<i>Dr. Balázs Rózsa</i>
12:30	Roche NimbleGen Target Enrichment: Advance your research with SeqCap Libraries	<i>Markos Mihalatos, Roche Magyarország</i>

12:50 Sandwich lunch, viewing of posters and the exhibition

13:30 - 15:30 Practical classes 3, viewing of posters and the exhibition

15:30 Coffee break, viewing of posters and the exhibition

16:00 - 18:00 Practical classes 4, viewing of posters and the exhibition

19:00 Banquet dinner

PROGRAM – September 5, 2015, Saturday

- 08:00** Dimensionality reduction methods in the analysis of genomic samples *Dr. István Csabai*
- 08:20** The R program package in bioinformatics. Methylation bioinformatics *Dr. Norbert Solymosi*
- 08:40** “Genome editing” applications: Functional characterization of non-coding mutations *Dr. Sándor Spisák*
- 09:00** Gene silencing using RNA interference, gene activation using gene surgery *Dr. Attila Patócs*
- 09:20** Systems level genomics and medicine *Dr. András Falus*
- 09:40** Life beyond the pixels: image analysis and machine learning techniques for high-content imaging *Dr. Péter Horváth*
- 10:00** **Coffee break, viewing of posters and the exhibition**
- 10:20** Mutations and alterations in mRNA expression and methylation in the WNT signal transduction pathway in the pathogenesis of adenomas and cancers of the colon *Dr. Orsolya Galamb*
- 10:40** Exome sequencing in the diagnostics of rare diseases *Dr. Mária Judit Molnár*
- 11:00** Will results of whole genome sequencing change the world? *Dr. Zoltán Szállási*
- 11:20** Quantitative image analysis for fluorescence in situ hybridization (DNA, mRNA and microRNA) *Dr. Annamária Csizmadia*
- 11:40** Molecular microscopy: super-resolution fluorescence microscopy *Dr. Gábor Csúcs*
- 12:00** Quantitative microscopic image analysis and sample preparation *Dr. Gábor Kiszler*
- 12:30** **Test**
- 12:40** **Closing ceremony, issuing of certificates, unmounting of posters**

Practical classes

Practical classes will take place on Thursday and Friday (Thursday: 14:30-16.30, 17.00-19.00; Friday: 13:30-15.30, 16.00-18:00) in a rotation system. At the time of registration the preferred selection of practical classes must be made.

1	Isolation of RNA, DNA and miRNA from paraffin-embedded and frozen samples, quantitative and qualitative analysis	Dr. Alexandra Kalmár
2	Digital PCR	ThermoFisher Scientific, Barbara Bartak, Zsafia Nagy
3	Pyrosequencing, capillary sequencing, targeted sequencing with next generation sequencing (NGS)	the lab of Dr. Ilona Kovalszky
4	Epigenetic investigations: chromatin IP, bisulfite conversion, methyl PCR	Dr. Bálint Péterfia
5	TMA and immune histochemistry, colocalization and digital image analysis	Dr. Tibor Krenács
6	Virtual and fluorescence scanning microscopy, confocal microscopy	Dr. Sándor Paku
7	Laser microdissection and DNA and RNA analysis from rare cells	the lab of Dr. Ilona Kovalszky
8	miRNA, mRNA, expression array experiments, long ncRNAarray analysis	Dr. Kalmár Alexandra
9	Flow cytometry, ratio, cell function investigations, protein quantification	Dr. Gábor Barna
10	Cell and tissue culturing	Dr. Anna Sebestyén
11	Targeted molecular investigations (mRNA, miRNA, lncRNA)	Dr. Attila Patócs
12	Inside the NimbleGen SeqCap workflow: Target enrichment from sample to NGS result	Roche Magyarország
13	Array analysis, in silico pathway analysis, data mining	Dr. Barnabás Wichmann, Dr. Orsolya Galamb