



RECOOP HST CONSORTIUM

Future of Visegrad Four Families Depends on Healthy Women and Children

International Visegrad Fund Strategic Grant 31110035

RECOOP HST Consortium Tri-Net Meeting

Women's Health and Cardiovascular Diseases (WH&CVD)

Mother and Child Health (M&CH)

NanoBioTechnology for Cancer Treatment (NanoBioTech)

Sponsored by

- - **Visegrad Fund**
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- www.visegradfund.org



Hotel Regnum Residence, Budapest, Hungary on October 14-16, 2011

RECOOP HST Research Networks' Meeting

RECOOP HST Consortium Tri-Net Meeting

Venue:

Hotel Regnum Residence,
Budapest, Ganz street 8, H-1025,
Tel: +36-1 265 – 5080,
E-mail: keresztes@regnumresidence.hu;
Web: www.regnumresidence.hu

Arrival on October 14, 2011 (Friday) until 12pm

Departure on October 16, after 1 pm

RECOOP HST Research Networks' Meeting

- Women's Health and Cardiovascular Diseases (WH&CVD)
- Mother and Child Health (M&CH)
- NanoBioTechnology for Cancer Treatment (NanoBioTech)

Sponsored by

International Visegrad Fund (<http://visegradfund.org/>)

Cedars - Sinai Medical Center, Los Angeles, CA, USA (<http://cedars-sinai.edu/>)

University of Debrecen, Hungary (<http://www.unideb.hu/portal/en>)

RECOOP Life Science Research Platform

In the Central and Eastern European (CEE) Macro Region (Visegrad Four and the Neighboring Countries: (Croatia, Czech Republic, Hungary, Poland, Romania, Slovakia and Ukraine) the methods for the diagnosis and treatment of cardiovascular diseases in the scope of gender differences, preterm birth and ovarian/breast cancers are currently based on inadequate etiologic and epidemiologic data, therefore limited actions taking place to prevent those public health problems.

In 2009 under the leadership of Cedars – Sinai Medical Center, Los Angeles, CA, USA the Regional Cooperation for Health, Science and Technology (RECOOP HST) Consortium decided to initiate some changes in life sciences and health research in the CEE Macro Region. Therefore the Consortium applied for several International Visegrad Fund Standard Grants, established multidisciplinary research networks:

- Women's Health and Cardiovascular Diseases (WH&CVD)
- Mother and Child Health (M&CH)
- NanoBioTechnology for Cancer Treatment (NanoBioTech)

The networks improved the ongoing research and implemented new initiatives in three areas; women - mother and child health, cardiovascular diseases and cancer research. During the last three years:

The Consortium implemented Retro and Prospective Studies for better definition of the women's, mother and child health, cardiovascular diseases and cancer.

The Consortium created data registry (www.flexiform.hu) for etiologic and epidemiologic investigations.

The Research Networks are implementing translational research studies to investigate biological pathways leading to preterm birth, cardiovascular diseases and ovarian, breast and prostate cancer.

In the Consortium the Networks have several research activities complement each other, therefore it would be more sufficient to integrate the multidisciplinary research activities and interconnect research teams in the RECOOP Life Science Research Platform to establish the RECOOP Research Cores.

Genome Core

- Candidate genes for cardiovascular disease
- Mutations in connexin-encoding genes (Cx37, Cx40, Cx43 and Cx45) can lead to functional and developmental abnormalities in birth (preterm birth) and cardiovascular diseases.
- International Genome Wide Search Leading to Preterm Birth in Central and Eastern Europe (INTERGENE PTB CEE)

Metagenomics Core

- Human microbiome in preterm premature rupture of membranes
- Virus infections in pregnant women and possible effects on mothers and infants.

RECOOP HST Research Networks' Meeting

Molecular Biology Core

- Sex difference in development of cardiovascular pathology accompanying obesity
- The impact of stress on cardiovascular function in ovariectomized female rats
- Maternal and neonatal Vitamin D status
- Animal models for premature labor

NanoBioTechnology Core

- Mother- fetus placenta barrier of nanoparticles (ex vivo and animal studies)
- Nanoparticles tagged ovarian, breast and prostate cancer
- Iron – oxide nanoparticles to monitor the change in obesity in ovariectomized, stressed rats to compare to healthy rats.

RECOOP Life Science Research Platform already implemented short term (1-2 years) pilot research studies listed in the RECOOP Research Cores' activities.

The Networks will continue these translational and clinical research studies in midterm (5 years), assuming the outcomes of the RECOOP Research Cores will provide scientific outputs (International Visegrad Grant reports, abstracts and foremost papers) for

Governmental agencies: National Institutes of Health (<http://nih.gov/>) NIH R21, R01, U10

&

Non governmental agencies:

The Bill & Melinda Gates Foundation (<http://www.gatesfoundation.org/Pages/home.aspx>)

Wellcome Trust (<http://www.wellcome.ac.uk/Funding/index.htm>) - grant applications to execute research for the prevention of diseases are major public health predicaments:

“Interventions that improve prematurity-associated morbidity and mortality”

”Interventions that improve women’s health and cardiovascular Diseases”

“NanoBioTechnology that improve the diagnosis and treatment of breast, ovarian, and prostate cancers”

The RECOOP HST Life Science Research Platform shall plan to continue the clinical research studies for minimum 20 - 30 years and follow up the women, men and newborns registered in the Electronic Data Entry Forms (EDEF) (www.flexiform.hu) will started in 2011.

The networks have to follow up the consented and EDEF registered individuals every five years to investigate the health status of the individuals;

Mothers

- Nutrition
- Stress
- Obesity
- Diabetes and other metabolism related diseases
- High blood pressure
- Cardiovascular diseases
- Inflammatory diseases including Pelvic inflammatory disorder (PID)
- Incidence of breast and ovarian cancer

Babies born prematurely may suffer the health consequences all the way through to adulthood;

- Childhood Mortality
- Increased risk of disabilities (neurological, psychological development, behavior, vision and hearing)
- Delayed Growth
- Obesity
- Diabetes and other metabolism related diseases
- Chronic Lung Disease
- High blood pressure
- Cardiovascular diseases
- Next generation of PTB

Women and Men

- Stress
- Substance dependence, smoking, and alcohol
- Nutrition
- Obesity
- Diabetes and other metabolism related diseases
- Cholesterol and triglyceride levels
- High blood pressure
- Exercise

Therefore it is very important for the future of the RECOOP HST Life Science Research Platform to secure continuum of the robust translational and clinical research programs. Based on the research activities the participating organizations shall establish Ph.D. programs, undergraduate and graduate student exchanges taking advantage on the Visegrad Scholarship, and the USA Fulbright Visiting Scholar and Foreign Student Programs.

"The RECOOP HST Consortium explores and enhances LOCAL scientific outputs of the partner organizations, creates critical mass of scientifically sound innovative research at REGIONAL level and exploits the research outcomes at GLOBAL level to improve the prevention of major public health problems."™

Dr. Sandor G. Vari, MD

Director, International Research and
Innovation Management Program at Cedars-Sinai Medical Center &
General Manager of the RECOOP HST Consortium
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Agenda

October 14, 2011 Friday

Regnum I. Conference Room Lower Level (-1)

01:00 – 02:00 pm RECOOP HST Consortium Tri-Net Mingling Lunch

02:00 – 7:00 pm RECOOP Tri-Net Meeting

“Multidisciplinary research at first view is eclectic, after recognizing the interconnections it is challenging and doing research in multidisciplinary research networks is exciting.”

02:00 – 02:30 Discussion and demonstration of the FlexiForm Excel Data Upload (EXDU) System

Gyula Markovics, Praxinfo, Miskolc, Hungary/ Sandor G. Vari, Cedars-Sinai Medical Center, Los Angeles, CA, USA & RECOOP HST Consortium (*Presentation 20 minutes, discussion 10 minutes*)

02:30 – 03:00 Review of the RECOOP Research Networks: WH&CH, M&CH and NanoBioTechnology

Sandor G. Vari (*Presentation 20 minutes, discussion 10 minutes*)

03:00 – 03:30 Trend of change in sex-specific distribution among patients with ischemic heart failure in Slavonia and Baranja region of Croatia

Dražen Mlinarević, School of Medicine University Josip Juraj Strossmayer Osijek, Croatia (*Presentation 20 minutes, discussion 10 minutes*)

03:30 - 04:00 M&CH Network Retrospective PHASE II Risk Factor Study Term and Preterm Birth data

Chander P. Arora, Cedars-Sinai Medical Center, Los Angeles, CA, USA RECOOP HST Consortium (*Presentation 20 minutes, discussion 10 minutes*)

04:00 – 4:30 Coffee Break

4:30 – 5:00 Ovarian Cancer as a challenge for women

Jindrich Tosner, University Hospital and Medical Faculty in Hradec Kralove, Czech Republic (*Presentation 20 minutes, discussion 10 minutes*)

5:00 – 5:30 Nanobodies in cancer treatment

S. Moein Moghimi, University of Copenhagen, Denmark (*Presentation 20 minutes, discussion 10 minutes*)

5:30 – 5:45 Placenta passage of nanoparticles, ex vivo study

Nandor Acs, Semmelweis University, Budapest, Hungary (*Presentation 10 minutes, discussion 5 minutes*)

RECOOP HST Research Networks' Meeting

- 5:45 – 6:00 **Animal model for placenta passage of nanoparticles between Mother, Fetus and Neonate**
Chander P. Arora (*Presentation 10 minutes, discussion 5 minutes*)
- 6:00 – 7:00 **Standard Operating Procedures for RECOOP Clinical Research Part I**
Linn Defensor, Cedars-Sinai Medical Center, Los Angeles, CA, USA
- 08:00 pm Fusion Dinner (Networks and Central European Dishes)**

October 15, 2011 Saturday

Regnum I. Conference Room Lower Level (-1)

09:00 am – 07:00 pm RECOOP Tri-Net Meeting

- 09:00 – 09:30 **Microbiome in Preterm Birth**
Marian Kacerovsky, University Hospital in Hradec Kralove; Czech Republic (*Presentation 20 minutes, discussion 10 minutes*)
- 09:30 – 10:00 **Bio-applications of novel functionalized nanosized carriers**
Rostyslav Stoika, Institute of Cell Biology, National Academy of Sciences of Ukraine, Lviv, Ukraine (*Presentation 20 minutes, discussion 10 minutes*)
- 10:00 – 10:15 **In vitro characterization of herbal extracts citotoxicity and antioxidants effects**
Istvan Zupko, Faculty of Pharmacy, University of Szeged, Hungary (*Presentation 10 minutes, discussion 5 minutes*)
- 10:15 – 10:45 **Neonate Hyperglycemia Study**
Chander P. Arora, & Tibor Ertl, Faculty of Medicine, University of Pécs, Hungary (*Presentation 10 minutes, discussion 5 minutes*)
- 10:45 – 11:00 Coffee Break**
- 11:00 – 11:30 **Antenatal virus infection study (mother and newborn)**
Shubhada Bopegamage, Slovak Medical University, Bratislava, Slovakia & Iuliana Ceausu, “Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania (*Presentation 20 minutes, discussion 10 minutes*)
- 11:30 – 12:00 **Impact of Stress on Cardiovascular Function in Ovariectomized Female Rats**
Marija Heffer, School of Medicine University Josip Juraj Strossmayer Osijek, Croatia (*Presentation 20 minutes, discussion 10 minutes*)

RECOOP HST Research Networks' Meeting

- 12:00 – 12:30 **Molecular determinants of heart failure**
Zoltan Papp, Medical and Health Science Center, University of Debrecen, Hungary (*Presentation 20 minutes, discussion 10 minutes*)
- 12:30 – 01:00 **Animal model to study preterm birth – contractility of myometrium and tocolysis, denervation of the uterus during pregnancy, steroid hormones in vivo**
Istvan Zupko (*Presentation 20 minutes, discussion 10 minutes*)
- 01:00 – 02:00 pm Tri-Net Lunch**
- 02:00 – 02:30 **Sex difference in development of cardiovascular pathology accompanying obesity**
Marija Heffer (*Presentation 20 minutes, discussion 10 minutes*)
- 02:30 – 03:00 **Pathophysiological roles of vascular adhesion protein-1 (VAP-1)/ semicarbazide sensitive amine oxidase (SSAO) in endothelial cells and adipocytes**
Eva Szoko, Faculty of Pharmacy, Semmelweis University, Budapest, Hungary (*Presentation 20 minutes, discussion 10 minutes*)
- 03:00 – 03:30 **Multifunctional magnetic nanoparticles for cell imaging**
Daniel Horák, Institute of Macromolecular Chemistry, Academy of Sciences, Prague, Czech Republic (*Presentation 20 minutes, discussion 10 minutes*)
- 03:30 – 04:00 **Impact of Connexin 37 gene (1019C> T) on cardiovascular risk is significantly modified by gender and smoking**
Jan Pitha, Institute for Clinical and Experimental Medicine – IKEM, Prague, Czech Republic (*Presentation 20 minutes, discussion 10 minutes*)
- 04:00 – 04:30 **Coffee Break**
- 04:30 – 06:00 **RECOOP Research Cores' Brainstorming**

Genome Core (Regnum Restaurant)

Jan Pitha, Ana Fruntelata, Attila Borbely, Balazs Zinner, Virginia Lazar, Serhiy Shurpyak, Leonidovich Mykola Rudenko, Anna Stalzer, Dražen Mlinarević, Kinga Lancz

- Candidate genes for cardiovascular disease
- Mutations in connexin-encoding genes (Cx37, Cx40, Cx43 and Cx45) can lead to functional and developmental abnormalities in birth (preterm birth) and cardiovascular diseases.
- International Genome Wide Search Leading to Preterm Birth in Central and Eastern Europe (INTERGENE PTB CEE)

Metagenomics Core - (Regnum Restaurant)

Shubhada Bopegamage, Iuliana Ceausu, Marian Kacerovsky, William J. Britt, Robert Póka, Sinisa Sijanovic, Janos Garai, László Halász, Zsofia Szalay

- Human microbiome in preterm premature rupture of membranes
- Virus infections in pregnant women and possible effects on mothers and infants

Molecular Biology Core – (Regnum I. Conference Room Lower Level)

Marija Heffer, Zoltan Papp, Calvin Hobel, Tibor Ertl, Decebal Hudita, Lyubov L. Lukash, Vira Pirohova, Radivoje Radić, Miklós Koppán, Éva Szökő, Istvan Zupko, Ajvor Lukin, Ladislava Wsólóvá, Daniel Lesko, Levente Sára

- Sex difference in development of cardiovascular pathology accompanying obesity
- The impact of stress on cardiovascular function in ovariectomized female rats
- Maternal and neonatal Vitamin D status
- Animal models for premature labor

NanoBioTechnology Core - (Regnum Restaurant)

S. Moein Moghimi, Jindrich Tosner, Nandor Acs, Chander P. Arora, Daniel Horák, Rostyslav Stoika, Zvonimir Popović

- Mother- fetus placenta barrier of nanoparticles (ex vivo and animal studies)
- Nanoparticles tagged to ovarian, breast and prostate cancers
- Iron – oxide nanoparticles to monitor the change in obesity in ovariectomized, stressed rats to compare to healthy rats.

06:00 – 07:00 Wrap –up the RECOOP Research Cores' brainstorming

06:00 – 06:15 **Genome Core** - Jan Pitha & Ana Fruntelata

06:15 – 06:30 **Metagenomics Core** - Shubhada Bopegamage & Marian Kacerovsky

06:30 – 06:45 **Molecular Biology Core** - Marija Heffer & Zoltan Papp,

06:45 – 07:00 **NanoBioTechnology Core** - S. Moein Moghimi & Chander P. Arora

08:00 pm V4 & CEE Macro Region Dinner – Diversity and Integrity

RECOOP HST Research Networks' Meeting

October 16, 2011 Sunday

- 09:00 – 10:00 am **Standard Operating Procedures for RECOOP Clinical Research Part II**
Linn Defensor Cedars-Sinai Medical Center, Los Angeles, CA, USA
- 10:00 – 10:30 **Review the research plans of RECOOP Research Cores**
Sandor G. Vari
- 10:30 – 10:45 Coffee Break**
- 10:45 – 12:00 **Round Table Discussion – RECOOP Research Cores' Grant applications**
Moderator: Calvin Hobel, Cedars-Sinai Medical Center, Los Angeles, CA, USA & Sandor G. Vari
- 12:00 pm Farewell Lunch**

Departure from 1 pm