



ACADEMIA ROMÂNĂ



INSTITUTUL DE BIOLOGIE SI PATOLOGIE CELULARA  
"NICOLAE SIMIONESCU"

# PROGRAM

**"O călătorie fascinantă de 40 de ani pentru descoperirea secretelor celulei în beneficiul sănătății omului"**

**"An incredible 40-year journey to uncover cell's secrets for the benefit of human health"**



**IBPC**

NICOLAE SIMIONESCU

SIMPOZION ANIVERSAR

bucuresti 19-20 septembrie 2019

Felicia ANTOHE  
Jean ASKENASY  
Nadir ASKENAZY  
Angello AZZI  
Alexandrina BURLACU  
Elena BUTOI  
Manuela CĂLIN  
Ana-Maria CATRINA  
Radu DEAC  
Anca DOBRIAN  
Ionel DROC  
Mădălina DUMITRESCU  
Mădălina FENYO  
Alexandru FILLIPI  
Marton FOGARASI  
Werner FRANKE  
Anca GAFENCU  
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## **BUN VENIT,**

dragi Colegi și Prieteni ai Institutului,

În numele echipei noastre este o plăcere și onoare pentru mine să vă spun:  
Bun Venit la această Sărbătoare a IBPC-NS pe care o considerăm o Sărbătoare a Cercetării  
Românești!

La 40 de ani, fie om, fie Instituție, trebuie să privească deopotrivă, în urmă, în prezent și în viitor.  
Asta am încercat și noi. Am scos o carte cu amintiri din trecut, am tipărit o carte cu realizări prezente  
și speranțe de viitor și am organizat acest simpozion în care am invitat Prietenii Institutului, între  
care, unii prezenți, alții absenți au avut un rol esențial în viața noastră științifică și personală.

Omagiul nostru pentru cei care nu sunt azi cu noi.

Întâlnirea aceasta este o celebrare a șansei noastre de a explora biologia Celulei – pentru că Celula  
este Viață, este un Univers redus la esență.  
Programul este remarcabil și conferențiarilor excelenți.

Vă mulțumim că ne sunteți azi alături și sperăm ca acest eveniment să arate încă o dată coeziunea și  
puternicele legături umane care se pot face prin Știință și pentru Știință.

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## **WELCOME,**

dear Colleagues and Friends of our Institute,  
On behalf of our team it is a pleasure and honor for me to:  
Welcome you to the ICBP-NS Anniversary that we consider as a celebration of Romanian research!

At the age of 40, either a human being or an Institution, must look back, at present, and at the  
future.

That's what we tried. We brought out a book with memories, we printed a book with present  
achievements and future hopes and we organized this Anniversary Symposium in which we invited  
the Friends of the Institute, among which, some present, others absent played an essential role in  
our scientific and personal life.

Our tribute to those who are not with us today.

This meeting is a celebration of our chance to explore the biology of the Cell - because the Cell is  
Life, the Cell is a Universe reduced to its essence.

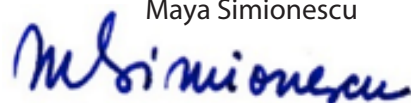
The program of this symposium is excellent and the lecturers outstanding.

Thank you for joining us today and we hope that this event will once again show the cohesion and  
strong human connections that can be made through Science and for Science.

Bine ați venit în România! / Welcome to Romania!

Bine ați venit în IBPC! / Welcome to ICBP!

Maya Simionescu



Co-fondator împreună cu Nicolae Simionescu și / Co-founder with Nicolae Simionescu and  
Director al IBPC "N. Simionescu" / Director of ICBPC "N. Simionescu"

**9.30 - 10.15** Deschiderea Simpozionului/ Opening Remarks

Acad. Ioan -Aurel Pop – Președintele Academiei Române

Acad. Maya Simionescu–Director al IBPC “N. Simionescu”

**10.15 -11.30** Evocări/ “On the memory lane”

CHAIRS: Maya Simionescu, Sam Silverstein

Prof Sam Silverstein – Columbia University Medical Center, USA: “Maya and Nicolae Simionescu, George Palade, and the founding of ICBP”

Prof. Irinel Popescu – Președintele Academiei de Științe Medicale

Prof. Radu Deac – Vicepreședintele Academiei de Științe Medicale

Prof. Jean Askenasy – Tel-Aviv University, Israel, Membru de onoare al Academiei Române

Prof. Werner Franke – German Cancer Research Center (DKFZ), Heidelberg, Germany: “Those were the years of key importance in the history of science: 1979 – Molecules meet Methods”

Acad. Doina Popov – IBPC “N. Simionescu”

Dr. Anca Dobrian – Eastern Virginia Medical School, USA: “Tell them of battles, kings, elephants and, endothelial cells”

Prof. Angello Azzi – Tufts University, USA: “UNESCO-MCBN- ICPB: Acronyms for a better science”

Dr. Florea Lupu – Universitatea din Oklahoma, USA

**11.30-12:00: FOTOGRAFIE DE GRUP – PAUZĂ DE CAFEA/ GROUP PICTURE - COFFEE BREAK**

**12:00 -13:45** “Descoperiri, noutăți în laboratoarele IBPC-NS”/ “Scientific discoveries, latest advances of ICBP laboratories”

CHAIRS: Doina Popov, Jean Askenasy

**12.00-12.15** Anca Sima: “Lipidomics, a pioneering domain in ICBP”

**12.15-12.30** Ileana Mânduțeanu: “Vascular and valvular inflammation in atherosclerosis and diabetes: new mechanisms and targets for nanobiotherapies”

**12.30-12.45** Felicia Antohe: “Toward precision medicine on the road from cell receptors to cell proteomics”

**12.45-13.00** Adriana Georgescu: “Vascular endothelial dysfunction: cardiovascular risk factors, new biomarkers and therapies”

**13.00-13:15** Anca Gafencu: “Apolipoproteins: gene regulation and manipulation for therapeutic purposes”

**13.15-13.30** Adrian Manea: “Epigenetic mechanisms in atherosclerosis: biomarkers and therapeutic targets”

**13.30-13.45** Alexandrina Burlacu: “Advances in MSC-based therapies for tissue regeneration”

**13:45-15:00: PAUZĂ DE PRÂNZ / SESIUNE DE POSTERE: PROIECTUL THERAVALDIS  
LUNCH/POSTER SESSION: THERAVALDIS PROJECT**

**15.00- 19.00:** Workshop THERAVALDIS: “Cardiac valves disease: new targets for therapies and tissue engineering”

CHAIRS: Werner Franke, Ileana Manduteanu, Agneta Simionescu

**15:00-15:25** Ileana Mânduțeanu: Overview of the project. “Early diabetes associated alterations of aortic heart valves in a murine model of atherosclerosis”

**15:25-15:50** Alexandru Fillipi: “Early diabetes induces alterations in endothelial progenitor cell phenotype and homing in a murine model of atherosclerosis”

**15:50-16.15** Elena Butoi: “3D aortic valve leaflet: a model to study the effect of diabetes in valve calcification”



**16.15-16.40** Manuela Călin: "The innovative nanotherapeutics designed for targeted delivery of shRNA to diseased aortic valve"

**16.40-17.05** Agneta Simionescu: "Tissue Engineered Mitral Valve"

**17.05-17.30** Werner Franke: "The special molecular organization of major structures in valvular cells"

**17.30-17.55** Radu Deac: "The pericardium - biological tissue for artificial heart valves"

**17.55-18.20** Dan Simionescu: "The VALVE-REGEN project; extracellular matrix scaffolds, adult stem cells and bioreactors for cardiac valve tissue regeneration"

**18.20-18.45** Ionel Droc: "Transcatheter aortic valve replacement (TAVI) - our experience in Military Hospital"

**18.45 -19.00** Discussion and perspectives

**19:30: WELCOME DINNER**

**VINERI, 20 SEPTEMBRIE 2019** - Aula George Emil Palade, IBPC "N. Simionescu"

**9.00-11.05** Sesiune Științifică I/ Scientific Session I: "Cells and genes"

CHAIRS: Dimitris Kardassis, Anca Sima

**9.00 - 9.25** Jean Askenazy: "Endothelial Cell Function In The Blood-Brain-Barrier"

**9.25 - 9.50** Anca Dobrian: "Endothelial cell plasticity in adipose tissue"

**9.50 -10.15** Angelo Azzi: "Aging and Dietary Biofactors"

**10.15 -10.40** Dimitris Kardassis: "Identification of new genes and miRNAs that are implicated in the pathogenesis of the Metabolic Syndrome in mice: a transcriptomics approach"

**10.40 -11.05** Mircea Ivan: "Cellular Oxygen Sensing: From HIF- Prolyl Hydroxylases to Noncoding RNAs"

**11:05 -11:30 PAUZĂ DE CAFEA**

**11.30 -14.00** Sesiune Științifică II/ Scientific Session II: "Cell Function and Dysfunction"

CHAIRS: Angelo Azzi, Florin Lupu

**11.30 -11.55** Sam Silverstein: "A critical concentration of effector leukocytes is required to eradicate bacteria and cancer cells"

**11.55 -12.20** Florin Lupu: "Targeting host responses as sepsis therapy"

**12.20 -12.45** Cristina Lupu: "Role of Androgen-Dependent Tissue Factor Pathway Inhibitor Regulating Protein (ADTRP) in Vascular Development and Function"

**12.45 -13.10** Alexandru Schiopu: "Inflammation and repair in myocardial infarction"

**13.10 -13.35** Zorina Galis: "The Human BioMolecular Atlas Program" (HuBMAP): Mapping the human body, one cell at a time"

**13.35 -14.00** Șerban Moroșan: "Transparency and Communication on animal used for scientific research: Challenges and Opportunities"

**14.00 -15.30 PAUZĂ DE PRÂNZ** /Sesiune de postere

**LUNCH**/Poster Session

**15.30 -19.00** Workshop DIABETER: "Searching for a novel therapy for type 1 diabetes"

CHAIRS: Maya Simionescu, Nadir Askenazy

**15.30 -16.30 Session I: Therapeutic approaches to diabetes**

**15.30 -16.00** Irit Meivar Levy: "Liver to pancreas transdifferentiation; potential cell replacement therapy for Diabetes"

**16.00 -16.15** Andrei Văcaru: "Reinstating self-tolerance in prediabetic mice by bone marrow transplantation"

**16.15 -16.30** Alexandrina Burlacu: DIABETER Project presentation "Mesenchymal stromal cells as vectors with therapeutic potential to abrogate diabetic autoimmunity"

**16.30 -17.00 PAUZĂ DE CAFEA/ COFFEE BREAK**

**17.00 -18.10 Session II: Molecular design of death-inducing mesenchymal stromal cells**

**17.00 -17.10** Ana Văcaru: "Mesenchymal stromal cells as vectors for expression of death molecules"

**17.10 -17.25** Mihai Bogdan Preda: "Remote activity of mesenchymal stromal cells in chemical diabetes"

**17.25 -17.40** Anca Gafencu: "Three killer molecules: engineering adenoviruses for expression of FasL, TNF $\alpha$  and TRAIL"

**17.40 -17.50** Mădălina Dumitrescu: "Granting killer properties to mesenchymal stromal cells by FasL-adenoviral transduction"

**17.50 -18.00** Violeta Trusca: "The killing capacity of mesenchymal stromal cells -overexpressing TNF $\alpha$ "

**18.00 -18.10** Marton Fogarasi: "Design and engineering of TRAIL-expressing mesenchymal stromal cells"

**18.10 -19.00 Session III: Lessons from in vivo studies of killer MSC**

**18.10 -18.25** Mădălina Fenyo: "Immunomodulation of diabetic mice with killer cells"

**18.25 -18.35** Ana-Maria Catrina: "Diabetic status determined by islet inflammation and insulin production in immunomodulated diabetic mice"

**18.35 -19.00** Discussion

**19:30: GALA DINNER**

## POSTERS: THERAVALDIS PROJECT (19.09.2019)

### 1) **3D bioprinting model of the aortic valve leaflets**

Butoi E., Ciortan L., Iordache F., Macarie R.D., Tucureanu M.M., Alexandru D. Maniu H., Simionescu A., Manduteanu I.

### 2) **Development of a bioprinted 3D model of aortic valve leaflet seeded with human valvular interstitial and endothelial cells**

Butoi E., Cecoltan S., Ciortan L., Macarie R.D., Iordache F., Tucureanu M.M., Vadana M., Maniu H., Alexandru D., Simionescu A., Manduteanu I.

### 3) **Constructing of 3D gelatin scaffolds for aortic valve tissue engineering**

Butoi E., Cecoltan S., Ciortan L., Macarie R.D., Iordache F., Tucureanu M.M., Vadana M., Maniu H., Alexandru D., Simionescu A., Simionescu M., Manduteanu I.

### 4) **Natural 3D models for tissue engineering of aortic valve**

Tucureanu M., Ciortan L., Macarie R., Vadana M., Cecoltan S., Butoi E., Simionescu A., Manduteanu I.

### 5) **Studies on transfection efficiency and toxicity of different nanocarriers of shRNA-expressing plasmid on human valvular interstitial cells**

Rebleanu D., Constantinescu C.A., Voicu G., Simionescu A., Manduteanu I., Calin M.

### 6) **Establishing Correlations Between Structural and Functional Cardiac Changes and Plasma and Hemodynamic Parameters in Atherosclerosis -Associated Diabetes Mellitus**

Alexandru N., Filippi A., Constantinescu C., Frunza S., Tucureanu M., Rebleanu D., Ciortan L., Fenyo M., Simionescu A., Manduteanu I., Georgescu A.

### 7) **High glucose increase pro-osteogenic molecules expression in valvular cells in a 3D model of human aortic valve**

Mihaela V., Ciortan L., Macarie R., Tucureanu M., Cecoltan S., Mihaila A.C., Simionescu A., Butoi E., Manduteanu I.

### 8) **Extracellular matrix remodeling induced by diabetic stimuli in a 3D model of human aortic valve leaflet**

Macarie R.D., Cecoltan S., Ciortan L., Simionescu A., Butoi E., Manduteanu I.

### 9) **Number and function of circulating endothelial progenitor cells decline in apolipoprotein E-deficient mice with diabetes and high-fat diet**

Filippi A., Alexandru N., Voicu G., Constantinescu C.A., Rebleanu D., Constantin A., Fenyo M., Simionescu D., Simionescu A., Manduteanu I., Georgescu A.

### 10) **High glucose concentrations and TGF- $\beta$ 1 induce endothelial to mesenchymal transition in valvular endothelial cells**

Rebleanu D., Voicu G., Constantinescu C., Ciortan L., Simionescu A., Manduteanu I., Calin M1

### 11) **High glucose concentrations potentiate the induction of osteoblast phenotype of valvular interstitial cells exposed to osteogenic factors**

Voicu G., Constantinescu C., Rebleanu D., Simionescu A., Simionescu M., Manduteanu I., Calin M.

### 12) **VCAM-1 targeted nanoparticles are specifically internalized by high glucose-activated valvular endothelial cells cultured in a dynamic 3D bioreactor**

Constantinescu C.A., Rebleanu D., Voicu G., Ciortan L., Cecoltan S., Simionescu D., Simionescu A., Manduteanu I., Calin M.

### 13) **Study to establish an optimal model for investigation of diabetes-induced aortic valve disease**

Constantinescu C.A., Ciortan L., Rebleanu D., Tucureanu M., Alexandru N., Calin M., Simionescu A., Georgescu A., Manduteanu I.

### 14) **SMAD3 silencing inhibits endMT transition in valvular endothelial cells exposed to high glucose and osteogenic factors**

Rebleanu D., Voicu G., Constantinescu C.A., Ciortan L., Macarie R.D., Vadanei M., Simionescu A., Manduteanu I., Calin M.

**15) Polyplexes carrying a shRNA plasmid down-regulate the transcription factor runx2 in valvular interstitial cells exposed to high glucose concentrations and osteogenic factors**

Voicu G., Constantinescu C.A., Rebleanu D., Simionescu A., Simionescu M., Manduteanu I., Calin M.

## POSTERS (20.09.2019)

**1) Mesenchymal stromal cells-derived factors improve the colonization of collagen 3D scaffolds with skin cells**

Rosca A.M., Tutuianu R., Pruna V., Albu Kaya M.G., Neagu T.P., Lascar I., Simionescu M., Titorencu I.

**2) Mesenchymal stromal cells derived exosomes sustain the re-epithelialization process on skin organotypic models**

Tutuianu R., Rosca A.M., Pruna V., Lascar I., Neagu P., Simionescu M., Titorencu I.

**3) Isolation and characterization of human hypertrophic derived myofibroblasts**

Florea G., Iacomi D. M., Radulescu L., Tutuianu R., Pruna V., Rosca A.M., Lascar I., Simionescu M., Titorencu I.

**4) Effects of low-dose proton radiation on oxidative stress produced in endothelial and epithelial cells**

Mihaila A., Vadana M., Bacalum M., Raileanu M., Ciortan L., Caciun L., Esanu T.R., Manduteanu I., Simionescu M., Butoi E.

**5) Generation and characterization of distinct mouse neutrophil subpopulations**

Ciortan L., Macarie R., Cecoltan S., Mihaila A., Vadana M., Tucureanu M., Manduteanu I., Simionescu M., Butoi E.

**6) Optimization of transfection using fullerene-based nanoparticles for gene therapy purposes**

Trusca V.G., Fenyó I.M., Dumitrescu M., Pinteala M., Gafencu A.V.

7) Interleukin-10 signal sequence cloned in front of the luciferase drives the reporter protein secretion

Moise L.G., Tudor L.E., Trusca V.G., Gafencu A.V.

**8) The secretory potential of interleukin-10 by the encapsulated endothelial cells**

Tudor L.E., Moise L.G., Trusca V.G., Fundueanu G., Bucatariu S., Simionescu M., Gafencu A.V.

**9) VCAM-1 targeted flavanone-loaded lipid nanoemulsions exert anti-inflammatory effects on activated endothelial cells**

Fuor E.V., Voicu G., Deleanu M., Rebleanu D., Constantinescu C.A., Safciuc F., Simionescu M., Călin M.

**10) A new family of vanadium compounds stimulates insulin receptor phosphorylation in HepG2 cells in a time and dose-dependent manner**

Cărnăuță M.G., Pătrașcu A.A., Maxim C., Anghelache M.F., Mânduțeanu I., Popescu D.L., Călin M.

**11) Downregulation of receptor for advanced glycation end products (RAGE) in the aorta of APOE-deficient mice using P-selectin targeted RAGE-shRNA lipoplexes**

Constantinescu C.A., Fuor E.V., Rebleanu D., Voicu G., Deleanu M., Tucureanu M., Butoi E., Mânduțeanu I., Escriou V., Simionescu M., Călin M.

**12) Development and characterization of an in vitro experimental model of hypertrophic cardiomyocytes of pathological type**

Comarita I.K., Constantin A., Alexandru N., Filippi A., Nemezc M., Vilcu A., Procopciuc A., Tanko G., Simionescu M., Georgescu A.

**13) Isolation and characterization of mesenchymal stem cells from subcutaneous adipose**



## **tissue and bone marrow from the hamster**

Procopciuc A., Comarita I.K., Vilcu A., Filippi A., Alexandru N., Nemecz M., Tanko G., Constantin A., Georgescu A.

### **14) Study of vascular dysfunction and cardiac hypertrophy in an experimental animal model of atherosclerosis**

Vilcu A., Comarita I.K., Procopciuc A., Safciuc F., Alexandru N., Filippi A., Constantin A., Nemecz M., Tanko G., Simionescu M., Georgescu A.

### **15) Epigenetic regulation of NADPH oxidase 5 expression by histone acetyltransferase-activated mechanisms in human macrophages exposed to inflammatory conditions; potential role in atherosclerosis**

Vlad M.L., Manea S.A., Raicu M., Muresian H., Simionescu M., Manea A.

### **16) Activation of p300 histone acetyltransferase-dependent signaling pathways induces NADPH oxidase expression and oxidative stress in the kidney of diabetic mice**

Lazar A.G., Cosac M.T., Vlad M.L., Raicu M., Manea A., Manea S.A.

### **17) Murine macrophages proteomic alterations induced by neutrophil secretome using dynamic pulsed SILAC methodology**

Suica V.I., Ivan L., Uyy E., Cerveanu-Hogas A., Boteanu R., Butoi E., Manea A., Antohe F., Simionescu M.

### **18) Alarmins expression in atherosclerotic lesions under severe anti-hyperlipidemic treatment; a mass spectrometry based proteomic approach**

Uyy E., Ivan L., Suica V.I., Boteanu R., Hansen R., Antohe F.

### **19) Proteomic profiling of junctional proteins in HMGB1-stimulated human coronary artery endothelial cells**

Boteanu R., Antohe F., Simionescu M.

### **20) Probiotics administration to hyperlipidemic hamsters modulates microRNAs levels in liver and serum**

Niculescu L.S., Dulceanu M.D., Stancu C.S., Carnuta M.G., Barbalata T., Sima A.V.

### **21) Hyperlipidemia alters the quality of HDL and impedes cholesterol efflux in the small intestine; the effect of ginger extract**

Barbalata T., Deleanu M., Carnuta M.G., Niculescu L.S., Sima A.V., Stancu C.S.

### **22) Human macrophages exposed to aggregated LDL become foam cells, without developing endoplasmic reticulum, oxidative or inflammatory stress**

Sanda G.M., Toma L., Stancu C.S., Deleanu M., Moraru O.E., Sima A.V.

### **23) Influence of aging on the quality and dynamics of mouse cardiac fibroblasts**

**Rusu E.G., Lupan A. M., Marinescu C., Preda M.B., Burlacu A.**

### **24) MicroRNAs characteristic to fibrosis and hypertrophy are up-regulated during natural cardiac aging**

Lupan A. M., Rusu E.G., Marinescu C., Preda M.B., Burlacu A.

### **25) Hypoxia regulates the pro-angiogenic effect of subcutaneously transplanted mesenchymal stromal cells**

Preda M.B., Popescu S., Tutuianu R., Rosca A.M., Simionescu M., Burlacu A.

## COMITETUL DE ORGANIZARE / ORGANIZING COMMITTEE

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Ileana Mânduțeanu  
Nadir Askenasy  
Manuela Călin

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