

60th Anniversary of Artificial Cells
In conjunction with
XVI ISBS Int. Symposium Blood Substitutes & Oxygen Therapeutics
V ISNS Nanomedicine Conference

13-15 November 2017, Montreal, Quebec, Canada
www.medicine.mcgill.ca/artcell/meetings/pdf



CANADA 150



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ISABB

International Society for artificial Cells, Blood Substitutes and Biotechnology



60th Anniversary of Artificial Cell. This is to celebrate the 60th anniversary of the invention of Artificial Cells and the contribution of researchers at this centre and numerous groups of researchers around the world.

The first artificial cells were prepared in 1957 at McGill (Chang, [1957 B.Sc](#) www.medicine.mcgill.ca/artcell/514.pdf), followed by Chang [1964 Science](#), Chang & Poznanski, [1968 Nature](#), Chang, [1971 Nature](#), Chang [1972 Monograph](#) on Artificial Cells. After this, extensive efforts of researchers in this centre and numerous groups around the world have evolved this into (areas for this meeting) Micro-nano systems, Nanobiotechnology, Nanomedicine, Blood Substitutes, Synthetic Biology, Biosorbents, Bioencapsulation, Biotherapeutics, Drug Delivery Systems, cell/stem cell therapy, microbe, enzyme therapy, cancer therapy, nano-robotics etc.

This is held in conjunction with the [XVI ISBS and V Nanomedicine Conference](#) since all have related interests of artificial cells and of the international society (network) of **International Society of Artificial Cells, Blood Substitutes & Biotechnology (ISABB)**, www.medicine.mcgill.ca/artcell/isabi.pdf

Official Journal of Society: Artificial Cells, Nanomedicine & Biotechnology, an international journal, (Editor in chief: Chang) **Impact factor: 5.605** (2016): **Ranks: 4th/77** Biomedical Engineering journals (2017). Taylor & Francis Publisher. Presenters can submit their papers for publication after peer review. <http://www.tandfonline.com/action/showMostReadArticles?journalCode=ianb20>

References for artificial cells: www.medicine.mcgill.ca/artcell

The biannual ISBS has voted to hold the XVI ISBS in Montreal, Quebec, Canada. Most recent ISBS was 2011 XIII at Harvard, 2013 XIV at Blood Transfusion Institute of China and 2015 XV at Lund Sweden. We welcome experienced pioneers, established researchers, new researchers, students, clinicians, developers, regulators and blood bankers and others. **Areas for this meeting** O₂ carriers, O₂ therapeutics, CO₂ carriers, antioxidants, vasoactivity, stem cells, cord blood, recombinant source, platelet substitutes, safety and regulatory, transfusion medicine and other related topics.

V ISNS Nanomedicine Conference has voted to hold this in Montreal since [artificial cell is the forerunner of nanomedicine](#) Areas for this meeting micro-nano systems, applications in therapeutics, drug delivery, Synthetic Biology diagnostics and other areas with emphasis on present & future perspectives.

ORGANISATION

Local organizer (centre and centre alumni):

TMS Chang, McGill, chair and honorary president (McGill 57',61'.65),

F.D'Agnillo, FDA/NIH (McGill 97'),

P. Keipert, Sangart (McGill 86'),

S. Prakash, McGill (McGill 96'),

BL Yu, Harvard (McGill 02')

Artificial Cells & Organs Research Centre and Centre alumni, Departments of Physiology, Medicine & Biomedical Engineering, Faculty of Medicine, McGill University, Montreal, QC, Canada www.medicine.mcgill.ca/artcell

International Organizing committee

Budak G, Bülow L, Chang L, Chang TMS, Chen C, Ergan F, D'Agnillo F, Estep T, Greenburg AG, Jahr S, Hoesli C, Keipert P, Kinsella M, Neufeld R, Piskin E, Poncelet D, Prakash S, Sakai H, Su ZG, Yang CM, Yu BL, Zhou H.

International Scientific Advisory Committee

Alayash A, Abuchowski A. *Bäumler, H*, Bian Y, Biro G, Budak G, Bucci E, Bülow L, Burhop K, Chandra R, Chang TMS, Chen C, Chen GC, Cooper C, D'Agnillo F, Dixit V, Estep T, Feola M, Gould S, Greenburg AG, Gu KF, Han JQ, Hsia C, Huang YB, Intaglietta M, Jahr JS, Juncker D, Keipert P, Kim HW, Kluger R, Kobayashi K, Krafft MP, Liu Q, Liu JX, Lotan M, Ma L, Meßmer K, Mozzarelli A, Maysinger D, Neufeld RJ, Palmer A, Piskin E, Poncelet D, Poznansky M, Prakash S, Privalle C, Pugach I, Rausch C, Riess JG, Sakai H, Shi Z, Simoni J, Selivanov E, Su ZG, Tsai AG, Wang, ZY, Wei G, Wong B, Wong JT, Xiu RJ, Yang CM, Yu BL, Zafiris G, *Zal F*, Zapol W, Zhao L, Zhou H, Zhu YJW

Center and center alumni Advisory Committee

Blais, MC, Barre P, Bian YZ, Budd N, Cattaneo MV, Chan G, Chow KM, D'Agnillo F, Daka JN, Zolotarova E, Ergan F, Fustier C, Georges E, Grunwald J, Gu JS, Gu KF, Gu LM, Guo.C, Hoesli C, Jiang WH, Keipert P, Kinsella M, Esquisabel A, Lau A, Lee C, Liu ZC, Lyold-george I, Ma S, Mobed-Miremadi M, Neufeld RJ, Nicolau D, Nelseiski P, Ning J, Nishiya T, Piskin AK, Piskin E, Poznansky M, Prakash S, Rong ZX, Shi Z, Shum-Tim D, Sorrini P, Stefanescu A, Tabata Y, Tso J, Varma R, Wang Y, Wang Z, Wei G, Wong R, Yu BL, Yu, WP. Zhao YQ, Zhu JW,

VENUE

This meeting will be held in a downtown Montreal hotel where we have reserved a block of rooms on a first come basis. The city has just renovated the surrounding area as a special tourist district. These include the Palais des congress (Montreal Convention Centre) that connects to the modern underground city of shops and metro; Place Des Art with arts exhibits, musicals and concerts. The Notre Dame Cathedral, the historical part of the city and some of Montreal's international cuisines are within walking distances.

TENTATIVE PRELIMINARY PROGRAM

Nov 13 Monday

Morning: Opening ceremony and the 60th Anniversary of Artificial Cells Scientific sessions
Afternoon: Scientific sessions

Nov 14 Tuesday

Morning: Scientific sessions
Afternoon: Scientific sessions

Nov 15 Wednesday

Morning: Scientific sessions
Afternoon: Scientific sessions

ABSTRACT SUBMISSION;

Half page 12 fonts single spacing (Word format only) as email attachment to artcell.med@mcgill.ca with "2017 abstract" under "Subject" of email. Deadline extended at the request of some international organizing committee members: but will depend on space available and on first come basis. Young investigators, postdoctoral fellows and graduate students are encouraged to participate.

REGISTRATION FOR MEETING

1. Early bird registration: (already passed 15 July 2017 deadline)

2. Regular registration fee (July 16-Oct 16 2017) in U.S. dollars:

Regular: \$350

Industry: \$450

Centre and Centre Alumni: \$300

Student and postdocs: \$250

3. Late Registration fee (after Oct 16 and onsite) in U.S. dollars

Regular: \$400

Industry: \$500

Centre and Centre Alumni: \$350

Student and postdocs: \$300

HOTEL ACCOMMODATION

We have reserved a block of rooms **on a first come basis**. Hotels in this area are booked up quickly because of the many celebrations and meetings for the 150th Anniversary of Canadian Federation and 375th for Montreal. It is important to register for the meeting and reserve the hotel as soon as possible.

In Canadian dollars (\$1 Canadian = U.S. \$0.80 variable with time).

Single/double rooms: Cdn\$150/day before September 15 2017 (If after: Cdn \$180)
(\$150 is a special price for this meeting)

Triple/quadruple rooms \$170/\$190 before September 15 2017 (If after \$200/\$220)

Room Reservation is directly with the hotel using credit card.

APPLICATION TO REGISTER

Participation will have to be based on space availability. We shall send those accepted, the registration form with details on how to register and how to reserve hotel

To apply, please email the following information to artcell.med@mcgill.ca with "2017 preregistration" in the Subject section of the email.

(Please copy and paste directly in the body of email and input the information)

Full names: Nationality; E-mail address Address: Street, City, Province or state, postal code, Country

Present position: Name of Organization:

Areas of your interest Please indicate one or both (1)Blood substitutes & oxygen therapeutics

(1) Other areas of Nanomedicine and artificial cells

SPEAKERS (next 8 pages)

Abuchowski, A (U.S.A.)

CEO, Prolong Pharmaceuticals

Clinical Use of a Hemoglobin based oxygen carrier to treat hypoxia

Acharya SA (U.S.A.)

Redesign of EAF PEG Hb to function as a targeted oxygen transfer catalyst under anemia to improve tissue oxygenation of the hypoxic areas: Application in Sickle Cell Anemia. (see also Intaglietta Session on microcirculation)

Alayash A (U.S.A.)

Food and Drug Administration, Bethesda, MD, USA

Oxidative stress/heme mediated toxicity

Barre, P (Canada)

Associate Professor-McGill University, Medical Director-Chronic Kidney Disease Clinic, Montreal General Hospital- Division of Nephrology, L4.521, Associate member, Artificial Cells & Organs Research Centre

TBA related to treatment of renal failure

H. Bäuml, H (Germany)

Institute of Transfusion Medicine, Charité-Universitätsmedizin Berlin, Germany

Hemoglobin-Based Oxygen Carriers HbMP-700 can deliver more than oxygen

Berra, Lorenzo (U.S.A.)

Assistant Professor, Harvard Medical School

Department of Anesthesia, Critical Care and Pain Medicine

Massachusetts General Hospital, Boston, MA

FDA approved compassionate use of HBOC 201 while breathing Nitric Oxide in a case of anemia with JK antibodies.

Berra, Lorenzo (U.S.A.)

Assistant Professor, Harvard Medical School

Department of Anesthesia, Critical Care and Pain Medicine

Massachusetts General Hospital, Boston, MA

Autologous transfusion of stored red blood cells increases pulmonary arterial pressure

Best, Robert (U.S.A.)

Professor of Biomedical Sciences, associate Dean for Faculty Affairs, University of South Carolina School of Medicine

Technological versus Traditional Approaches to Medicine in an Age of Rapid Change and Declining Resources

Belcher, DA¹, Julia Ju², Jin Hyen Baek³, Ayla Yalamanoglu³, Paul W. Buehler³, Daniele M. Gilkes^{2,4}, Andre F. Palmer (USA)

1. William G. Lowrie Department of Chemical and Biomolecular Engineering, The Ohio State University, Columbus, OH. 43224, USA

2. Department of Chemical and Biomolecular Engineering, The Johns Hopkins University, Baltimore, MD 21218, USA

3. Division of Blood Components and Devices, Laboratory of Biochemistry and Vascular Biology, FDA/CBER, Silver Spring, MD 20993, USA

4. Department of Oncology and Department of Pathology, Johns Hopkins University School of Medicine, Baltimore, MD 21231, USA

The Quaternary State of Polymerized Human Hemoglobin Regulates Oxygenation of Breast Cancer Solid Tumors: A Theoretical and Experimental Study.

Bian Y^{1,2} TMS Chang¹

¹ Ph.D. Research done at Artificial Cells and Organs Research Centre, McGill University, Montreal, Canada

² Now at ¹ Consulting Company, Beijing, China (Alumni of Artificial Cells & Organs Research Centre)

Storage and pasteurisation temperature stability of poly-[Hb-CAT SOD CA]: a nanobiotherapeutic

Biro, G (Canada)

Professor Emeritus, University of Ottawa

Concurrent disease states that may modify the response to intravascular HBOC

Blais, MC (Canada)

Professor, Montreal University (Alumni of Artificial Cells & Organs Research Centre)

Research on blood groups in animal

Craig A Branch^{1,2}, Min-Hui Cui¹, Sangeetha Thangaswamy, PhD³, and Seetharama Acharya^{2,3} (U.S.A.)

1 Gruss Magnetic Resonance Imaging Center/Dept of Radiology, 2 Department of Physiology and Biophysics, 3 Albert Einstein College of Medicine, Bronx, NY; 3 Division of Hematology, Dept. Medicine, Albert Einstein College of Medicine, Bronx, NY

Semisynthetic Plasma Expanders, EAF PEG Alb and EAF PEG Hb, differentially affect oxygen deficit in animal models of sickle cell disease

Stefano Bruno (Italy)

Authors: Esra'a Ali Mohammad Alomari¹, Stefano Bruno^{1*}, Luca Ronda², Gianluca Paredi¹, Riccardo Piano², Stefano Bettati², Davide Olivari³, Francesca Fumagalli³, Deborah Novelli³, Giuseppe Ristagno³, Roberto Latini³, Chris Cooper⁴, Brandon Reeder⁴, Andrea Mozzarelli¹

¹DEPARTMENT OF FOOD AND DRUG, UNIVERSITY OF PARMA, PARMA, ITALY; ²DEPARTMENT OF MEDICINE AND SURGERY, UNIVERSITY OF PARMA, PARMA, ITALY; ³ISTITUTO DI RICERCHE FARMACOLOGICHE 'MARIO NEGRI', MILAN, ITALY; ⁴SCHOOL OF BIOLOGICAL SCIENCES, UNIVERSITY OF ESSEX, COLCHESTER, UNITED KINGDOM

High- and low-affinity PEGylated hemoglobin-based oxygen carriers: differential oxidative stress in a Guinea pigs transfusion model

Budak, G (Turkey)

President, ISNS International Society for Nanomedical Sciences

Associate Professor, Director, Academy of Nanomedicine and Advance Technology, Ankara, Turkey

Prextrolin®- The Next Generation Nuclear Stain Biomarker for Cellular Analysis

Bülow L (Sweden)

Past president, 2015 ISBS Int Sym Blood Substitutes,

Professor and Chair, Dept of Pure and Applied Biochemistry, Lund University, Sweden

TBA Protein Engineering for Hemoglobin Based Oxygen Carriers

Bülow L (Sweden)

Past president, 2015 ISBS Int Sym Blood Substitutes,

Professor and Chair, Dept of Pure and Applied Biochemistry, Lund University, Sweden

Present status of research on blood substitutes in Europe

Buschmann, M (Canada) (to be confirmed)

Professor, University of Montreal, Montreal, Quebec, Canada (now in an U.S. University)

TBA on Nanomedicine

Cabrales, P

University of California at San Diego

Polyhemoglobin effect on microcirculation and hemorrhagic shock (see Intaglietta Session on microcirculation)

Carlsson, Magnus¹, Selvaraju Kanagarajan¹, Sandeep Chakane², Karin Kettisen², Khuanpiroon Ratanasopa^{2,3}, Leif Bülow², Li-hua Zhu¹ (Sweden)

¹Department of Plant Breeding, Swedish University of Agricultural Sciences, Alnarp, Sweden ²Department of Pure and Applied Biochemistry, Lund University, Lund, Sweden ³Örebro Life Science Centre, School of Science & Technology, Örebro University, Örebro, Sweden

Human fetal hemoglobin expression, purification and characterization in *Nicotiana benthamiana*

Cattaneo M (U.S.A.)

President, BioVolutions Laboratories Inc., Cambridge, Massachusetts, (Alumni of Artificial Cells & Organs Research Centre)

Continuous Manufacturing of Monoclonal Antibodies

Chandra R (India)

Laboratory of Drug Discovery and Metabolism

Department of Chemistry, University of Delhi, Delhi-110007, India

From Laboratory to the bedside.....

Chang TMS (Canada)

Honorary President, of ISBS and of ISNS,

Director, Artificial Cells & Organs Research Centre, Faculty of Medicine, McGill University, Canada

Evolution of Artificial Cells to Nanobiotherapeutic, blood substitutes, Bioencapsulation, Hemoperfusion, Nanomedicine, etc.

Chang TMS (Canada)

Honorary President, of ISBS and of ISNS,

Director, Artificial Cells & Organs Research Centre, Faculty of Medicine, McGill University, Canada

Individual Roles of (1) Oxygen carriers, (2) Oxygen carries with antioxidant and (3) Oxygen carries with antioxidant and CO₂ transport.

Chen C (China)

President, Chinese Society of Blood Substitutes,

Vice President Northwest University, Xian, China

Preclinical investigation of Polymerized Porcine Hemoglobin (pPolyHb)

Chen G, Yaojin Li, Hong Wang, Jiaxin Liu*, Chengmin Yang*(China)

Assistant Professor, Blood Transfusion Institute of Chinese Academy of Medical Sciences

(Alumni of Artificial Cells & Organs Research Centre)

Novel Red Blood Cell Substitute: the Principle, Design and Its Effectiveness for Hemorrhagic Shock

Gang Chen, Tingting Wu, Can Huang, Hanfeng Zheng, Yaojin Li, Hong Wang, Jiaxin Liu*, Chengmin Yang* (China)

Institute of Blood Transfusion, Chinese Academy of Medical Science, Chengdu City, Sichuan Province, P. R. China

The reduction of human cord blood methemoglobin by vitamin C

Chen GQ (China)

Professor of Microbiology and Biomaterials, Department of Biological Sciences and Biotechnology, School of Life Sciences, Tsinghua University Beijing 100084 China

Drug Targeting Systems Based on PHA Granule Binding Protein PhaP

Chen, Jian 1, Guanghui Cheng1, Yamin Chai1 and Lailiang Ou*1 (China)

1Key Laboratory of Bioactive Materials, Ministry of Education, College of Life Sciences, Nankai University, Tianjin 300071, China.

Preparation of nano-CaCO₃/polystyrene nanocomposite beads for efficient bilirubin removal

Chen, Jie, Wenyan Han, Jian Chen,† Weichao Wang, Wenhui Zong, Guanghui Cheng, Yaoting Yu, Lailiang Ou* (China)

*Key Laboratory of Bioactive Materials, Ministry of Education, College of Life Sciences, Nankai University, Tianjin 300071, China
Computer-Aided Design of Small-Molecular Peptide Ligands of Adsorbent Targeting Tumor-Necrosis Factor- α (TNF- α)

Cheng, Ke (U.S.A)

Associate Professor, Dept of Molecular Biomedical Sciences, NC State University, Dept of Biomedical Engineering, UNC Chapel Hill & NC State University, Raleigh, North Carolina

Artificial Stem Cells

Cooper C (U.K) (Dr. Brandon Reeder, U.K. in his place)

Professor Bulow's session on Protein Engineering for Hemoglobin Based Oxygen Carriers

Cattaneo M (U.S.A.)

President and CEO, BioVolutions Laboratories Inc., Cambridge, Massachusetts, (Alumni of Artificial Cells & Organs Research Centre)

Continuous Manufacturing of Monoclonal Antibodies

D'Agnillo F (U.S.A.)

Senior Investigator, Laboratory of Biochemistry and Vascular Biology, Division of Hematology, Center for Biologics Evaluation and Research (CBER), Food and Drug Administration, Bethesda, MD, USA

(Alumni of Artificial Cells & Organs Research Centre)

FDA recommendations on the chemistry and manufacturing controls (CMCs) aspects of HBOC development.

D'Agnillo F (U.S.A.)

Senior Investigator, Laboratory of Biochemistry and Vascular Biology, Division of Hematology, Center for Biologics Evaluation and Research (CBER), Food and Drug Administration, Bethesda, MD, USA

(Alumni of Artificial Cells & Organs Research Centre)

Reversible renal glomerular dysfunction in guinea pigs infused with polymerized cell-free hemoglobin

Daka JN (Canada)

Government Research Scientist, Radiation Protection Bureau, Health Canada, Ottawa, CANADA

(Alumni of Artificial Cells & Organs Research Centre)

A Simple Plate Reader Method for Determination of Taurine in Human Urine Samples as a Potential Radiation Biomarker in Extreme Radiological/Nuclear Exposure Situations.

Jiuxu Deng#, Ming Li#, Jian Weng, Yuhui Kou, Peixun Zhang, Na Han, Bo Chen, Xiaofeng Yin*, Baoguo Jiang* (China)

Department of Orthopedics and Trauma, Peking University People's Hospital, Beijing, China.

#Equal contributors and co-first authors.

Comparison of different number autologous sural nerve grafts repair common peroneal nerve defects

Dixit V (U.S.A.) (to be confirmed)

Professor division of Digestive Diseases, Dept of Medicine, Univ California at Los Angeles

(Alumni of Artificial Cells & Organs Research Centre)

TBA

Doctor, Allan (U.S.A.)

Professor of Pediatrics and Biochemistry, Washington University School of Medicine

Pediatric Critical Care Medicine, Saint Louis Children's Hospital, St. Louis, Missouri

ErythroMer (EM), a Nanoscale Bio-Synthetic Artificial Red Cell: proof of concept and in vivo efficacy results

Eidelman D (Canada)

Welcome address, Dean of Medicine, McGill University (Canada)

Welcome address for Faculty of Medicine

Elmer, J (U.S.A.)

Department Chemical Engineering, Villanova, PA, U.S.A.

Prolonging the Shelf Life of Lumbricus terrestris Erythrocrucorin for Use as a Novel Blood Substitute

Ergan F (France) (to be confirmed)

Speaker and also acting as official French Translator for this meeting
Professor, Université du Maine, France (Alumni of Artificial Cells & Organs Research Centre)
TBA on enzyme biotechnology

Estep T (U.S.A.)

Chart Biotech Consulting, LLC
Moving HBOCs Forward - Testing Hypotheses in the Clinic

Ferenz, Katja (Germany)

Universitätsklinikum Essen (AöR), Institut für Physiologische Chemie, Hufelandstraße 55
Functionality of albumin-derived perfluorocarbon-based artificial oxygen carriers in the Langendorff-heart"

Fortier, S (Canada)

Principal of McGill University
Welcome address for McGill University

Joel M. Friedman MD, Ph.D, (U.S.A.)

Department of Physiology and Biophysics, Albert Einstein College of Medicine, Bronx, NY
Enhancing safety and therapeutic efficacy of both HBOCS and RBC based transfusions through the systemic nanoparticle-based delivery of NO bioactivity. (see also Intaglietta Session on microcirculation)

Greenburg AG (U.S.A.)

Past president, ISBS Int Sym Blood Substitutes,
Emeritus Professor of Surgery, Brown University (U.S.A)
Discussion of clinical trial result of Hemoglobin based oxygen carriers

Grunwald J (Israel) (to be confirmed)

The Israel Institute for Biological Research, Ness-Ziona, Israel, (Alumni of Artificial Cells & Organs Research Centre)
TBA on diagnosis

Gu KF (U.S.A.)

Alumni of Artificial Cells & Organs Research Centre
Novel Feeding Strategy Development for Enzyme/Protein Production

Guo C & TMS Chang (Canada)

¹ Ph.D. Research done at Artificial Cells and Organs Research Centre, McGill University, Montreal, Canada
Poly-[Hb-CAT SOD CA]: a nanobiotherapeutic with enhanced rbc functions: Preliminary study on the Effects of 4 weekly infusions in rats on biochemistry, immunology, general conditions and histology

Guo C & TMS Chang (Canada)

¹ Ph.D. Research done at Artificial Cells and Organs Research Centre, McGill University, Montreal, Canada
Extraction of Superoxide Dismutase, Catalase and Carbonic Anhydrase from red blood cell hemolysate for the preparation of Poly-[Hb-CAT SOD CA]: a nanobiotherapeutic with enhanced rbc functions:

Lulu Han, Jingyu Li, and Lingyun Jia* (China)

School of Life science and Biotechnology, Dalian University of Technology, Dalian 116023, P. R. China
Removal of indoxyl sulfate by water-soluble poly-cyclodextrins in dialysis

Hoesli C (Canada)

Department of Chemical Engineering Université McGill University, Associate member of Artificial Cells & Organs Research Centre
"Pancreatic beta cell bioencapsulation by emulsification and internal gelation"

Hsia C (U.S.A.)

Carleton Jen-Chang Hsia Ph.D. Chairman and CEO, NanoBlood LLC, Sioux Falls, SD., 57107
SanFlow as a Universal Golden Hour Drug for the Treatment of Hemorrhagic and Ischemic Stroke

Huang, Y (Wang, Yupeng ,Yubin Huang*) (China)

Professor, State Key Laboratory of Polymer Physics and Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, ChangChun 130022, People's Republic of China
Endosome formed by protein-polymer conjugate assembly as oxygen carrier

Intaglietta, M (U.S.A.)

Professor, University of California at San Diego
Session on microcirculation

1. POST-TRANSFUSION INCREASE OF HEMATOCRIT *PER SE* DOES NOT IMPROVE CIRCULATORY OXYGEN DELIVERY DUE TO INCREASED BLOOD VISCOSITY

Amy G. Tsai, Pedro Cabrales, Joel M. Friedman, Daniel M. Tartakovsky, and Marcos Intaglietta

2. POLYETHYLENE GLYCOL CAMOUFLAGED EARTHWORM HEMOGLOBIN

Pedro Cabrales

3. IN VIVO ENHANCEMENT OF FLOW AND OXYGEN TRANSPORT IN MICROVESSELS: THE NANOMEDICINE APPROACH DURING ISCHEMIA. Ivo Torres Filho

4. PATTERN OF PEGYLATION OF HB IMPACTS THE EFFICACY TISSUE OXYGENATION BY PEG HB: EAF P3K6 HB IS AN ANTI-ANEMIA THERAPEUTIC OPTIMIZED FOR OXYGEN TRANSFER CATALYTIC ACTIVITY. Seetharama A. Acharya, Savita Bhutoria, Dongxia Li, M. Prabhakaran, Amy G. Tsai, Marcos Intaglietta, and Craig Branch

5. ENHANCING SAFETY AND THERAPEUTIC EFFICACY OF BOTH HBOCS AND RBC BASED TRANSFUSIONS THROUGH THE SYSTEMIC NANOPARTICLE-BASED DELIVERY OF NO BIOACTIVITY. Joel M. Friedman

6. ROLE OF CYTOKINES IN PROMOTING OXYGEN DELIVERY AFTER BLOOD TRANSFUSION. Amy G. Tsai, Pedro Cabrales, Joel M. Friedman and Marcos Intaglietta

Jahr JS (U.S.A.)

Professor Emeritus of Anesthesiology David Geffen School of Medicine at UCLA

Hemoglobin glutamer-250 (bovine) in South Africa: consensus usage guidelines from clinician experts who have treated patients

Lingyun Jia*, Jun Ren, Xiaobo Bao (China)

Liaoning Key Laboratory of Molecular Recognition and Imaging, School of Life science and Biotechnology, Dalian University of Technology, Dalian, China 116024

Removal of Beta-2-microglobulin from Human serum using Single Domain Antibody as Ligand

Juncker D (Canada)

Professor of Biomedical Engineering, Micro and Nanobioengineering Laboratory McGill University

TBA on nanomedicine

Tigist Kassa*¹, Fantao Meng*¹, Michael Brad Strader¹, Sirsendu Jana¹, Darón I. Freedberg², Felice D'Agnillo¹, and Abdu I. Alayash¹ (USA)

¹Laboratory of Biochemistry and Vascular Biology, and ²Laboratory of Bacterial Polysaccharides, Office of Vaccines Research and Review, Center for Biologics Evaluation and Research, Food and Drug Administration, Silver Spring, MD 20993, USA

Biochemical and Biophysical Characterization of Hemoglobin-Based Oxygen Carriers (HBOCs):

Not All HBOCs Are Created Equally

Keipert P (U.S.A.)

Consultant & President, Keipert Corp, San Diego, CA, USA (Alumni of Artificial Cells & Organs Research Centre)

Challenges Facing HBOC Development in Trauma - What have we learned to minimize the risk going forward?

Karin Kettisen* & Leif Bülow (Sweden)

Pure and Applied Biochemistry, Lund University

Impact of cysteine residues in recombinant fetal hemoglobin

Kim Hae Won (U.S.A.) (to be confirmed)

Department of Molecular Pharmacology, Physiology and Biotechnology
Brown University

TBA Some aspects of Hemoglobin based oxygen carrier

Kinsella M (Canada)

Bioengineering Department, McGill University (Associate member of Artificial Cells & Organs Research Centre)

Engineering Nanomaterials to Diagnose and Track Cancer from the Cellular to the Tissue Level

Kluger R (Canada)

Professor of Chemistry, U of Toronto

Authors : Ronald Kluger and Aizhou Wang

HBOCs from Hb-Hb Coupling Deliver Oxygen and Avoid Nitric Oxide

Komatsu , Teruyuki (Japan)

Department of Applied Chemistry, Faculty of Science and 1-13-27 Kasuga Bunkyo-ku, Tokyo 112-8551, Japan

Hemoglobin-Albumin Cluster "HemoAct™" as an Artificial O₂-Carrier

Konetski, D., Zhang, D., Gong, T., Baranek, A., Worrell, B., Bowman, C. (U.S.A.)

University of Colorado, Boulder

Production of Artificial Cell Membranes Bearing New Characteristics or Behaviors Using "Click" Chemistries

Tomoko Kure, Hiromi Sakai (Japan)

Department of Chemistry, Nara Medical University, Kashihara 634-8521, Japan

Transmembrane Difference in Colloid Osmotic Pressure Affects the Lipid Membrane Fluidity of Liposomes Encapsulating a Concentrated Hb Solution

Kwan D (Canada)

Assistant Professor-Dept. of Biology, Centre for Applied Synthetic Biology, Concordia University
Engineering blood group antigen-cleaving enzymes by directed evolution to modify red blood cells and remove antigenicity

Latson, Gary W. M.D.(U.S.A)

Director Neurosurgical Anesthesiology, Scott and White Memorial Hospital, Baylor Scott and White Healthcare
Adjunct Associate Professor, Anesthesiology, Texas A&M University
Perforan (Vidaphor), an intravenous perfluorocarbon emulsion from Russia: Introduction to Western Medicine.

Latson, Gary W. M.D.(U.S.A)

Director Neurosurgical Anesthesiology, Scott and White Memorial Hospital, Baylor Scott and White Healthcare
Adjunct Associate Professor, Anesthesiology, Texas A&M University
Intravenous Perfluorocarbon Emulsions as a treatment for vascular gas embolism and decompression sickness.

Li, Pei Li (Pauline) (Hong Kong)

Professor, Department of Applied Biology and Chemical Technology, The Hong Kong Polytechnic University, Hong Kong
Tentative title "Polyethyleneimine-based Core-Shell Nanocarriers for Gene Delivery

Li, Weinan , Wanjing Li, Wentao Zhou, Yaojin Li, Shen Li, Hong Wang, Chengmin Yang^{*}Jiaxin Liu^{*}(*corresponding author)*(China)

Institute of Blood Transfusion, Chinese Academy of Medical Science, Chengdu, P.R. China
Preliminary Study of Oxidative Stress Caused by Polymerized Hemoglobin and Intervention in Rats

Yaojin Li, Peipei Sang, Weinan Li, Shen Li, Gang Chen, Wentao Zhou, Hong Wang, Jiaxin Liu^{*}, & Chengmin Yang^{*} (*corresponding author)* (China)

Institute of Blood Transfusion, Chinese Academy of Medical Sciences, Chengdu, P.R. China
Polymerized human placenta hemoglobin dissolved in hydroxyethyl starch solution as a novel oxygen-carrying plasma expander

Light, R (U.S.A.)

CSO VirTech Nio, Natick, MA
TBA

Liu JX (China)

Secretariat, Chinese Society of Blood Substitutes,
Professor and Interim Director, Blood Transfusion Institute of Chinese Academy of Medical Sciences
Study on blood substitutes and oxygen carriers in China

Lomis, Nikita^{1,2}, Francis Gaudreault³, Meenakshi Malhotra⁴, Susan Westfall¹, Dominique Shum-Tim⁵ and Satya Prakash (Canada)

^{1,*}Biomedical Technology and Cell Therapy Research Laboratory, Department of Biomedical Engineering, ^{2,*}Division of Experimental Medicine, ³Human Health Therapeutics, National Research Council Canada, ⁴Department of Radiology, Stanford University School of Medicine, Stanford, CA, , USA; ⁵Division of Cardiac Surgery and Surgical Research, Royal Victoria Hospital, Development of a novel nanoparticle based therapy for cardiovascular diseases

Yuhao Lu, Meng Du, Ziyuan Wang* (China)

School of life Science, Xuzhou Normal University, Xuzhou, P.R. China
Enhancement of recombinant hemoglobin production in *P. pastoris* containing the HRG-4 heme transport system

Ming Li[#], Jiuxu Deng[#], Jian Weng, Fei Yu, Yuhui Kou, Na Han, Xiaofeng Yin, Peixun Zhang^{*} & Baoguo Jiang*(China)

Department of Orthopedics and Trauma, Peking University People's Hospital, Beijing, China
Autologous sural nerve repair long common peroneal nerve defect by biodegradable conduit small gap tubulization

Li, Xing¹, Sheng Wang¹, Lailiang Ou², Yaoting Yu², Shenqi Wang¹¹ (China)

¹Huazhong University of Science and Technology, Wuhan, China.

²Nankai University, Tianjin, China

A Novel Polystyrene Beads Adsorbents Containing Mesopores and Linear Decapeptide Segments as Ligands for the Removal of β_2 -Microglobulin from Human Plasma

Lotan N (Israel) (to be confirmed)

Emeritus Professor of Biomedical Engineering, Technion-Israel Institute of Technology, Technion City, Haifa, Israel
TBA some aspects on nanobiotechnology

Li Ma, Ph.D.¹ Carleton Jen-Chang Hsia Ph.D²(U.S.A.)

Georgia Department of Physics, Georgia Southern University, Statesboro, GA¹ and NanoBlood LLC, Sioux Falls, SD²,
SanFlow with Crystalloid as Blood Substitute

Takashi Matsuhira, Keizo Yamamoto, Hiromi Sakai (Japan)

Department of Chemistry, Nara Medical University, Kashihara 634-8521, Japan
Reactivity of Cys b93 of native and b-crosslinked Hbs

Maysinger D (Canada)

Professor, Department of Pharmacology and Therapeutic, McGill University
Anti-inflammatory dendrimer

Mackenzie, Colin MD (U.S.A)

Emeritus Professor, University of Maryland School of Medicine, Baltimore, MD 21201 USA
Lessons Learned from 22 clinical trials of HBOC-201

Mishra, N (Punjab, India)

Professor, Department of Pharmaceutics, ISF College of Pharmacy, Moga (Punjab) 142001
Surface modified microparticulate carriers of Embelin for their beneficial Pharmacological potential in ulcerative colitis

Mobed-Miremadi, M (U.S.A)

Santa Clara University, CA, U.S.A. (Alumni of Artificial Cells & Organs Research Centre)
The Legacy of Artificial Cells in Biomedical Engineering Education

Moghtader, Farzaneh^{1,2}, Orhan Erdem Haberal^{2,3}, Aysel Tomak⁴, Hadi M. Zareie⁵, Erhan Piskin^{1,2}

¹Hacettepe University, Nanotechnology and Nanomedicine Division and Chemical Engineering Department, Beytepe, Ankara, Turkey

²NanoBMT, Beysukent/Cyberpark-Bilkent – KOSGEB/Tekmer-Başkent, Ankara, Turkey

³Başkent University, Biomedical Engineering Department, Bağlıca, Ankara, Turkey

⁴Izmir Institute of Technology, Department of Material Science and Engineering, 35430, Urla, Izmir, Turkey

⁵University of Technology, School of Physics and Advanced Materials,

Microstructural Analysis Unit, Sydney, Ultimo NSW 2007, Australia

Bacterial Detection by SERS Using Nanoparticles and Bacteriophages

R.J. Neufeld¹, C. Pinto Reis^{1,2}, B. Sarmento^{1,3}, C. Woitiski^{1,2}, F. Veiga², A. Ribeiro², D. Ferreira³, C. Damgé⁴

¹Queen's University, Kingston, Ontario, Canada ²University of Coimbra, Portugal ³University of Porto, Portugal

⁴Université Louis Pasteur, France

BIOMATERIAL CHOICES IN DESIGN OF COMPLEX NANOPARTICULATE CARRIERS FOR ORAL DELIVERY OF INSULIN

Nimesh, S (India)

UGC Assistant Professor, Department of Biotechnology, School of Life Sciences, Central University of Rajasthan, India
Nanotechnology for the treatment of Hypercholesterolemia and related cardiovascular diseases

Ning Jing, MD, PhD (Canada)

Senior Clinical Evaluator, Clinical Evaluation Division, Biologics and Genetic Therapies Directorate (BGTD) Health Canada (Alumni of Artificial Cells & Organs Research Centre)
Biosimilars and the Key Considerations for Clinical Assessment

Palmer A (U.S.A.)

Professor and Chair, Dept of Chemical Engineering and Biomolecular Engineering, Ohio State University.
Engineering polymerized hemoglobin size regulates side-effects

Pelletier, P (Canada)

Director of Transfusion Medicine Service, McGill University Hospital Centre designated transfusion center
Faculty of Medicine, McGill University, Montreal, Quebec, Canada
Transfusion related lecture

Peng, Jingtao (China)

Consule General, Chinese Consulate at Montreal
Opening ceremony address

Piskin AK (Turkey) (to be confirmed)

Professor, Hacettepe University, Ankara (Turkey) (Alumni of Artificial Cells & Organs Research Centre)
TBA on nanobiotechnology

Piskin E (Turkey)

President, Biomaterial and Bioprocessing Congresses, Hacettepe University and Biyomedtek/NanoBMT, Cyberpark-Bilkent University/ Tekmer-Başkent University, Ankara, Turkey (Alumni of Artificial Cells & Organs Research Centre)
Engineering of Bone and Cartilage Tissues

Polard, Valérie & Pierre Alix* (France)

Responsable Préclinique/ Preclinical Development Manager

Aéropole centre – Biotechnopôle, 29600 MORLAIX, FRANCE

Evaluation of a specific oxygen carrier (M101®) added to pig liver cold storage solutions to improve post-transplant graft function.

Poncelet D (France)

President, International Bioencapsulation Group, Professor, ONIRIS, UMRS, CNRS, GEPEA, France (Alumni Artificial Cells and Organs Research Centre)

Micropencapsulation : a human story

Ponka P (Canada)

Lady Davis Institute and Department of Physiology, Associate member of Artificial Cells & Organs Research Centre, McGill University
Physiology and Pathophysiology of Iron Homeostasis: Implications for Therapy of Iron Overload

Poznansky M (Canada)

First PhD graduate of Chang, Welcome address,
Consulting Inc, Toronto, Ontario, Canada (Canada) (Alumni of Artificial Cells & Organs Research Centre)
Formerly Professor and Director, Robart Institute, University of Western Ontario, Canada
Welcome address for Centre Alumni

Prabha, Shashi (India)

Ph.D scholar, Department of Pharmaceutics
School of pharmaceutical education and Research
Jamia Hamdard University, New Delhi,, INDIA
Preparation and in-vitro characterization of 9-bromonoscapine for preparation of cancer drug delivery nano formulations for use in breast and other cancers

Prakash, S (Canada)

Professor, Artificial Cells and Organs Research Centre & Department of Biomedical Engineering, McGill University,
Artificial Cells Biomedical technologies for human health with emphasis on microbiome and cardiac stents

Qi, Yanxin, Yupeng Wang, Yubin Huang*(China)

State Key Laboratory of Polymer Physics and Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences,
ChangChun 130022, People's Republic of China
Protein-Resistant Biodegradable Amphiphilic Graft Copolymer Vesicles as Protein Carriers

Quirion, Remi (Canada)

Chief Scientist in charge of all three Quebec Research Councils
Address at the Opening Ceremony

Rausch C (U.S.A. and Hong Kong China)

Newai Corp, Hong Kong
The development and the difficulties as well as the opportunities of blood substitutes

Jun Ren*, Lingyun Jia (China)

School of Life Science and Biotechnology Dalian University of Technology, Dalian, China 116024
Preparation of hydrophobic charge induction adsorbent for selective removal of antibody from human plasma

Robillard, Pierre (Canada)

Medical Director, Hema-Quebec, Montreal, Quebec, Canada
Hemovigilance from an international perspective

Nicholas L. Robbins, DO^{1,3}, Matthew J. Wordsworth MA, MRCS¹, Kevin Wu, MD¹, Samuel Tahk MD, PhD^{1,2}, Bijaya K. Parida, PhD¹, Vijay S. Gorantla, MD, PhD^{1,4}, Warren C. Breidenbach, MD¹, and Lt Col Erik K. Weitzel, MD^{1,2}

1RESTOR™ Program, 59th Medical Wing, JBSA Lackland AFB, TX, 2San Antonio Military Medical Center, JBSA Fort Sam Houston, TX, 3University of Texas Health Sciences Center at San Antonio, San Antonio, TX, 4Wake Forest Institute for Regenerative Medicine, Winston-Salem, NC
Prevention of Ischemic-Reperfusion Injury and Chronic Rejection in a Porcine Vascularized Composite Allotransplantation Model

Sakai, Hiromi ¹, Koichi Kobayashi²

¹Department of Chemistry, Nara Medical University, Kashihara, Japan; ²Keio University, Tokyo, Japan;
Present Status of Blood Substitute Research in Japan

Sakai, Hiromi (Japan)

Professor Nara Medical University, Nara, Japan
Translational Research of Hb-vesicles (Artificial Red Cells) for a Transfusion Alternative and O₂/CO Therapeutics

Sang, Peipei, Yaojin Li, Gang Chen, Shen Li, Wentao Zhou, Hong Wang, Chengmin Yang* Jiaxin Liu* (corresponding author)*(China)

Institute of Blood Transfusion, Chinese Academy of Medical sciences & Peking Union Medical College, Chengdu, P.R. China.
Effects of polymerized human placenta hemoglobin combined with hydroxyethyl starch on tissue organs in a rat model of hemorrhagic shock

Schmid, H (Germany)

Fachgebietsleiter Nanotechnologie im Produktbereich Energetische Systeme (ES), Fraunhofer-Institut Chemische Technologie (ICT)
Application Possibilities and Selected Examples of Artificial Nanoparticle Systems in Nanomedicine

Scott, M (Canada)

Senior Scientist - Clinical Professor, Canadian Blood Services and University of British Columbia
Modulating the Immune System via Bioreactor Produced miRNA-Based Therapeutics

Scott, M (Canada)

Senior Scientist - Clinical Professor, Canadian Blood Services and University of British Columbia
Stealth Erythrocytes: Treatment and Prevention of RBC Alloimmunization by Polymer-Grafting

Shen, Yuesheng¹, Geng Niu¹, Yuwei Bai¹, Chao Chen^{1,2}, Hongli Zhu^{1,2}

1.College of Life Science, Northwest University, Xi'an, P. R. China

2.National Engineering Research Center for Miniaturized Detection Systems, Northwest University, Xi'an, P. R. China

Preliminary study on pharmacokinetics of Polymerized Porcine Hemoglobin (pPolyHb)

Shi Zhenwei (China)

Some aspects of hemoperfusion

Shi Z (U.S.A.),

Vice President, Clinical Development, REMD Biotherapeutics Corp, California. (Alumni of Artificial Cells & Organs Research Centre)
Zhiqing Shi¹, Jeremy Pettus², Dominic Reeds³, Tricia Santos², Schafer Boeder², Michelle Levin², Edda Cava³, Dung Thai¹, Hai Yan¹,
Edgar Bautista¹, John McMillan¹, Robert Henry², Samuel Klein³ (1: REMD Biotherapeutics, Inc. USA; 2: University of California San
Diego, USA; 3: Washington University School of Medicine, USA)

A Fully Human Glucagon Receptor (GCGR) Antibody Reduces Daily Insulin Requirements and Improves Glycemic Control in People with Type 1 Diabetes

Shum-Tim (Canada)

Professor of Surgery, Associate member of Artificial Cells & Organs Research Centre, Faculty of Medicine, McGill University
Authors: ¹D. Shum-Tim, MD., ²A. Paul, Ph.D., H. ¹Al-Kindi, MD., ³S. Prakash, Ph.D.

¹Departments of Surgery, and Surgical Research, McGill University Health Center, McGill University, Faculty of Medicine, Montreal, Quebec, Canada. ²Departments of Chemical and Petroleum Engineering, University of Kansas, Lawrence Kan, ³Biomedical Technology and Cell Therapy Research Laboratory, Department of Biomedical Engineering, Faculty of Medicine, McGill University, Montreal, Quebec, Canada.

Novel Application of Micro-Nanoparticles in the Treatment of Heart Diseases

Simoni, J (U.S.A)

Professor, Texas University, Texas.

Requirements for HBOC to be highly effective in the treatment of myocardial ischemia

Song, Bjorn K. (USA)

Efficacy of SANGUINATE™ versus Standard of Care in Three Rat Models of Hemorrhagic Shock

William H. Nugent¹, Ramon F. Cestero², Kevin Ward³, Ronald Jubin⁴, Abe Abuchowski⁴, Bjorn K. Song¹

1. Song Biotechnologies, Baltimore, MD

2. University of Texas Health San Antonio, San Antonio, TX

3. University of Michigan Medical School, Ann Arbor, MI

4. Prolong Pharmaceuticals, South Plainfield, NJ

Stowell, Christopher P. MD, PhD (USA)

Director, Blood Transfusion Service, Department of Pathology, Massachusetts General Hospital

Associate Professor of Pathology, Associate Director, Harvard Transfusion Medicine Fellowship Program

Harvard Medical School, U.S.A

The Clinical Impact of Red Blood Cell Storage: What Have the RCTs Told Us?

Alayash's session on

Oxidative /heme mediated toxicity

D'Agnillo's Session on

Regulatory aspects for Hemoglobin Based Oxygen Carriers

Bülow's Session on

Protein Engineering for Hemoglobin Based Oxygen Carriers

Greenburg et al session on:

clinical trial result of Hemoglobin based oxygen carriers

Michael Brad Strader, PhD¹, Tigist Kassa, PhD¹, Sirsendu Jana, PhD¹, Fantao Meng, PhD¹, Wayne Hicks, PhD¹, John S. Olson², and Abdu I. Alayash, PhD¹ (U.S.A)

¹DBCD/OBRR/CBER/FDA, ²BioScience Department, Rice University, Houston, TX

Characterization of oxidative toxicity in mutant Hemoglobins and Hemoglobin Based Oxygen Carrier (HBOCs) candidates using high resolution accurate mass (HRAM) mass spectrometry

Städler, B (Denmark)

Interdisciplinary Nanoscience Center (iNANO), Århus University

Bionic Tissue: The assembly of artificial and biological entities into functional tissue

Sun, Jian 1, Bin Cao², Qinggui Meng² (China)

1Department of Molecular and Cellular Pharmacology, School of Pharmaceutical Science and Technology, Tianjin University, Tianjin 300072, P R China; 2Shandong Wan'an pharmaceutical co., LTD., Dongying, Shandong 25700, China
Preparation of recombinant hemoglobin as oxygen carrier by gene engineering

Tajparast F and Mladen I. Glavinović (Canada)

Departments of Civil Engineering and Applied Mechanics and Physiology, McGill University, Montreal, PQ, Canada
Forces acting on objects in nanopores with irregularities

Vartika Tomar¹, Satya Prakash² and Ramesh Chandra¹

Laboratory of Drug Discovery and Metabolism
¹Department of Chemistry, University of Delhi, Delhi-110007, India
²Department of Biomedical Engineering, McGill University, Montreal, Canada
Metabolism of Anticancer Agents Noscapine and Analogs

Torres Filho, Ivo MD, PhD (U.S.A.)

Research Physiologist, US Army Institute of Surgical Research, JBSA Fort Sam Houston, TX
In vivo Enhancement of Flow and Oxygen Transport in Microvessels: The Nanomedicine Approach During Ischemia

Amy G. Tsai (U.S.A.)

University of California, San Diego; Dept of Bioengineering; La Jolla, CA.
(see Intaglietta Session on microcirculation)

Vandegriff K (U.S.A.)

Chair session

Quan Wang,^{†,‡} Ruirui Zhang,^{‡,*} Mingzi Lu,[†] Guoxing You,[†] Ying Wang,[†] Gan Chen,[†] Caiyan Zhao,[‡] Zhen Wang,[†] Xiang Song,[†] Yan Wu,^{‡,*} Lian Zhao,^{‡,†} Hong Zhou,^{†,†} (China)

[†] Beijing Institute of Transfusion Medicine, Beijing Key Laboratory of Blood Safety and Supply Technologies, 100039 Beijing, P. R. China

[‡] National Center for Nanoscience and Technology, 100190 Beijing, P. R. China

*Corresponding author: Yan Wu, Hong Zhou, Lian Zhao

Oxygen Carriers with Antioxidant Properties

Wang , Shenqi (China)

Marie Curie Fellow(MC-IIF) Ph.D
Professor, School of Life Science & Technology
Huazhong University of Science and Technology, Wuhan, P.R.China
The Challenge of Adsorbent for Hemoperfusion in China

Wang, Y^{1,2} and TMS Chang¹

¹ Research done at Artificial Cells and Organs Research Centre, McGill University, Montreal, Canada

² Now Research staff, ³ Hospital of Peking University Medical School (Alumni of Artificial Cells & Organs Research Centre)

Biodegradable Nanocapsules Containing A Nanobiotechnological Complex for the Suppression of A Melanoma Cell Line B16F10

Westfall S1, Lomis N1, Iqbal U1, Prakash, S1

1Biomedical Technology and Cell Therapy Research Laboratory, Dept. of Biomedical Engineering, Artificial Cells and Organs Research Centre, McGill University,
Ferulic acid produced by the probiotic Lactobacillus fermentum NCIMB 5221 reduces developmental time through a dTOR-mediated mechanism

Susan Westfall, Nikita Lomis, Umar Iqbal, Imen Kahouli, Satya Prakash

(1) Biomedical Technology and Cell Therapy Research Laboratory, Dept. of Biomedical Engineering, Dept. of Experimental Medicine, Artificial Cells and Organs Research Centre, Faculty of Medicine, McGill University,;

Describing the novel prebiotic activity of Triphala extract and its impact on its anti-oxidant, immune and metabolic processes

Susan Westfall¹, Nikita Lomis¹, Umar Iqbal¹, Satya Prakash^{1*}

1Biomedical Technology and Cell Therapy Research Laboratory, Dept. of Biomedical Engineering, Artificial Cells and Organs Research Centre, McGill University, Montreal, Canada

Elucidating microbiome-host communication: Ferulic acid is a cross-talk mediator between L. fermentum NCIMB 5221 and the host metabolic, anti-oxidant and immune systems

White, John (Canada)

Professor and chairman, Department of Physiology, McGill University
Welcome for Department of Physiology

Wollocko, Hanna (U.S.A.)

President and CEO, OXYVITA Inc
Zero-Link Polymerized Hemoglobin (OxyVita®Hb) Stabilizes the Heme Environment: Potential for Lowering Vascular Oxidative Stress

Wollocko, Hanna (U.S.A.)

President and CEO, OXYVITA Inc

OVCCC - OXYVITA@C, A NEXT GENERATION HEMOGLOBIN BASED OXYGEN CARRIER, WITH COAGULATION CAPACITY. MODIFIED LYOPHILIZATION/SPRAY-DRYING PROCESS FOR PROTEIN PROTECTION

Wong, Bing L

"Substituting Blood and beyond"

Yang, Bo¹, Li Wang¹, Chao Chen^{1,2}, Hongli Zhu^{1,2} (China)

1.College of Life Science, Northwest University, Xi'an 710069, P. R. China

2.National Engineering Research Center for Miniaturized Detection Systems, Northwest University, Xi'an 710069, P. R. China

pPolyHb protects myocardial H9C2 cell against ischemia-reperfusion injury by regulation of Pink1-Parkin mitochondrial autophagy pathway

Yang CM (China)

Professor and Director Emeritus, Institute of Transfusion medicine, CAMS/PUMC.

Former Director, Chinese Red Cross National Blood Center.

Recent Development of Transfusion Medicine in China

Yu BL (U.S.A.)

Assistant Professor, Mass General Hospital, Harvard Medical School (Alumni of Artificial Cells & Organs Research Centre)

Therapeutic Inhalation of nitric oxide in HBOC transfusion

Yu, Huibin and Professor Shenqi Wang (China)

School of Life Science and Technology, Huazhong University of Science and Technology, Wuhan 430074, China.

Preparation of Zn²⁺ loaded chitosan beads based adsorbent for the removal of human testosterone in plasma

Yu WP (Canada)

President and CEO, Lipont Pharmaceuticals (Alumni of Artificial Cells & Organs Research Centre)

Liposome drug delivery: challenges and opportunities

Zal F (France)

President, HEMARINA S.A. | Aéropole centre | Biotechnopôle |

Use of HEMO2life - an Innovative Oxygen Carrier in Organ Transplantation.

Ka Zhang^{(1)*}, Tongchang Zhou⁽¹⁾, Lei Ye⁽¹⁾, Leif Bülow⁽¹⁾, (Sweden)

⁽¹⁾ Division of Pure and Applied Biochemistry, Lund University, Lund, Sweden

Purification of recombinant human hemoglobin from crude cellular extracts using molecularly imprinted polymers

Peixun Zhang, Yuhui Kou, Na Han, Xiaofeng Yin, Baoguo Jiang (China)

Peking University People's Hospital, Beijing, China.100044

Peripheral nerve system repair with the bi-directional induction and system remodeling from central system and target organs

Zhang, ZB (United Kingdom)

Past President, President of Symposium on biocompatible capsules (UK)

Professor and Deputy Director of the China Institute, University of Birmingham, Birmingham

Understanding the mechanical properties of cells, microspheres and microcapsules

Zhao, Mengye¹, Chengbin Yan¹, Ying Xiao¹, Chao Chen^{1,2}, Hongli Zhu^{1,2} (China)

1.College of Life Science, Northwest University, Xi'an 710069, P. R. China

2.National Engineering Research Center for Miniaturized Detection Systems, Northwest University, Xi'an 710069, P. R. China

The effect of Polymerized Porcine Hemoglobin (pPolyHb) on hemodynamic stability and oxygen delivery in a rat model of perioperative blood transfusion

Zhou, Dongfang, Xing Wei, Yubin Huang*

Assistant Professor, State Key Laboratory of Polymer Physics and Chemistry, Changchun Institute of Applied Chemistry, Chinese

Academy of Sciences, ChangChun 130022, People's Republic of China

A Facile Way to Prepare Functionalized Dextran Nanogels for Conjugation of Hemoglobin

Zou, Hequn Zou (China)

Vice-president, Chinese Society of Apheresis

Director, Institute of Nephrology and Urology, Southern Medical University

1. Adsorbent based plasmapheresis for autoimmune/inflammation diseases

2. Nanomedicine in the early diagnosis of diabetes.

Zhu YJW (China)

Secretariat, Chinese Society of Blood Substitutes,

Professor, Northwest University, Xian, China (Alumni of Artificial Cells & Organs Research Centre)

Preclinical investigation of Polymerized Porcine Hemoglobin (pPolyHb)

60^{ième} Anniversaire des Cellules Artificielles
En association avec
XVI ISBS Symp. Int. Substituts sanguins & Oxygénothérapies
et
V ISNS Congrès Mondial de Nanomédecine



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(1) 60^{ième} anniversaire des Cellules Artificielles. L'année 2017 est le 60^{ième} anniversaire de l'invention des cellules artificielles à l'Université McGill (Chang, Baccalauréat en Sciences 1957 www.medicine.mcgill.ca/artcell/514.pdf, Chang 1964 Science). Ceci a évolué vers (**domaines de ce congrès**) Micro-nano systèmes, Nanobiotechnologie, Nanomédecine, Substituts Sanguins, Adsorbants Biologiques, Bioencapsulation, Biothérapies, Systèmes d'Administration de Médicaments, etc...

Ce congrès se déroule en parallèle avec les congrès ISBS XVI et Nanomédecine V puisque ces 3 organisations ont comme centre d'intérêt commun les cellules artificielles ainsi que la **Société Internationale sur les Cellules Artificielles, les Substituts Sanguins et la Biotechnologie** (www.medicine.mcgill.ca/artcell/isabi.pdf)

Journal officiel de la Société: "Artificial Cells, Nanomedicine & Biotechnology", un journal international, Publication Taylor & Francis.

<http://www.tandfonline.com/loi/ianb20#.VctewUt969Q>

Les intervenants pourront soumettre leurs manuscrits pour publication après évaluation par les pairs.

(2) La société Internationale sur les Substituts sanguins (ISBS) s'est prononcée pour que le congrès ISBS XVI se tienne à Montréal, Québec, Canada. Les précédents congrès se sont tenus à Harvard (ISBS XIII en 2011) , à l'Institut de Transfusion Sanguine de Chine (ISBS XIV en 2013) et à Lund en Suède (ISBS XV en 2015). Nous accueillons des pionniers expérimentés, des chercheurs confirmés, de jeunes chercheurs, médecins, concepteurs, organismes de réglementation, banques de sang et autres. **Domaines de ce congrès** Transporteurs d'O₂ et de CO₂ , oxygénothérapies, antioxydants, vasoactivité, cellules souches, sang de cordon ombilical, source recombinante, sécurité et réglementation, médecine transfusionnelle et autres domaines connexes.

(2) Le Congrès Mondial de Nanomédecine V (ISNS) s'est prononcé pour que ce congrès se tienne à Montréal puisque les cellules artificielles sont là l'origine de la nanomédecine **Domaines de ce congrès** Micro-nano systèmes, applications thérapeutiques, administration de médicaments, diagnostics et autres domaines en mettant l'accent sur le passé, le présent & les perspectives futures.

LIEU DES CONGRES

Les 3 conférences auront lieu dans un hôtel du centre-ville de Montréal où ont été réservés des salles de réunion et un certain nombre de chambres, qui seront attribuées sur la base du premier arrivé, premier servi. La ville de Montréal vient de rénover les alentours pour en faire un quartier touristique. Le Palais des Congrès de Montréal est connecté avec le célèbre réseau souterrain de magasins et le métro de Montréal. La place des Arts propose des expositions artistiques et des concerts. La Basilique Notre Dame, le quartier historique de la ville et les restaurants de cuisine internationale sont à distance de marche.

EBAUCHE DU PROGRAMME PRELIMINAIRE

Lundi 13 novembre

Matinée : Cérémonie d'ouverture et 60^{ième} anniversaire des Cellules Artificielles

Après-midi : Sessions scientifiques

Mardi 14 novembre

Matinée : Sessions scientifiques

Après-midi : Sessions scientifiques

Mercredi 15 novembre

Matinée : Sessions scientifiques

Après-midi : Sessions scientifiques

ORGANISATION

Organisateurs locaux :

TMS Chang 61'(Chair), F.D'Agnillo 97'(FDA/NIH), P. Keipert 86' (Sangart), S. Prakash 96'(McGill),

BL Yu 02' (Harvard)

Centre de Recherches sur les Cellules & Organes Artificiels & Association des Anciens Elèves du Centre, Départements de Physiologie, Médecine & Génie Biomédical, Faculté de Médecine, Université McGill, Montréal, QC, Canada. www.medicine.mcgill.ca/artcell

Comité d'organisation International

Budak G, Bülow L, Chang L, Chang TMS, Chen C, Ergan F, D'Agnillo F, Estep T, Greenburg AG, Jahr S, Hoesli C, Keipert P, Kinsella M, Neufeld R, Piskin E, Poncelet D, Prakash S, Sakai H, Su Z, Yang CM, Yu BL, Yu YT, Zhou H

Comité Consultatif Scientifique International

Alayash A, Abuchowski A, Bian Y, Biro G, Budak G, Bucci E, Bülow L, Burhop K, Chandra R, Chang TMS, Chen C, Chen GC, Cooper C, D'Agnillo F, Dixit V, Estep T, Feola M, Gould S, Greenburg AG, Gu KF, Han JQ, Hsia C, Intaglietta M, Jahr S, Keipert P, Kim HW, Kluger R, Kobayashi K, Krafft MP, Liu Q, Liu JX, Lotan M, Ma L, Meßmer K, Mozzarelli A, Maysinger D, Neufeld RJ, Palmer A, Piskin E, Poncelet D, Poznansky M, Prakash S, Privalle C, Pugach I, Rausch C, JG, Sakai H, Shi Z, Simoni J, Selivanov E, Su ZG, Tsai AG, Wei G, Wong B, Wong JT, Xiu RJ, Yang, CM, Yu BL, Yu YT, Zafiris G, Zal F, Zapol W, Zhao L, Zhou H, Zhu YJW

Comité Consultatif du Centre et de l'Association des Anciens Elèves du Centre

Budd N, Barre P, Bian YZ, Cattaneo MV, Chan G, Chow KM, Cysomir, D'Agnillo F, Daka JN, Zolotarova E, Ergan F, Fustier C, Georges E, Grunwald J, Gu JS, Gu KF, Gu LM, Guo C, Hoesli C, Jiang WH, Keipert P, Kinsella M, Esquisabel A, Lau A, Lee C, Ma S, Lyold-george I, Neufeld RJ, Nicolau D, Nelseiski P, Ning J, Nishiya T, Piskin AK, Piskin E, Poznansky M, Prakash S, Rong ZX, Shi Z, Shum-Tim D, Sorriani P, Stefanescu A, Tabata Y, Tso J, Varma R, Wang Y, Wang Z, Wong R, Yu YT, Yu BL, Zhao YQ, Zhu JW

SOUSSION DES RESUMES

Il est possible de soumettre un résumé dès maintenant. Une décision sera prise dans le mois suivant sa réception et une mise à jour du résumé sera possible jusqu'à la date limite de soumission. Les résumés d'1/2 page, police 12, interligne 1 (format Word uniquement) doivent être soumis sous forme de fichier joint à un courriel à artcell.med@mcgill.ca indiquant en "Objet" du courriel "2017 abstract".

PRE-INSCRIPTION (en \$ US)

1. Inscription anticipée (avant le 15 juillet 2017):

2. Frais d'inscription (16 juillet – 16 octobre 2017):

Académique: \$350

Industriel: \$450

Centre et Anciens Elèves du Centre : \$300

Etudiants et postdocs: \$250

3. Inscription tardive (après le 16 octobre et sur place) :

Académique: \$400

Industriel: \$500

Centre et Anciens Elèves du Centre : \$350

Etudiants et postdocs: \$300

HOTEL (en \$ CA)

Le congrès aura lieu dans un hôtel du centre-ville de Montréal où ont été réservés des salles de réunion et un certain nombre de chambres, sur la base du premier arrivé, premier servi.

Chambre simple/double: \$150/jour avant le 15 septembre 2017 (après: \$180)

Chambre triple/quadruple \$170-190/jour avant le 15 septembre 2017 (après : \$200-\$220) (1\$ CA environ 0,80 \$ US, variable).

Les réservations de chambres se font directement auprès de l'hôtel avec une carte de crédit.

PRE-INSCRIPTION

Les membres des différents comités mentionnés ci-dessus, les orateurs invités et acceptés après soumission de résumés n'ont pas besoin de procéder à la pré-inscription. Ils recevront formulaires d'inscription et de réservation d'hôtel début 2017.

Cette étape est nécessaire pour les autres participants pour s'assurer de la disponibilité de places. Cette étape nous permettra de vous envoyer les formulaires d'inscription avec les détails concernant inscription et réservation d'hôtel.

Pour une pré-inscription, envoyer s'il vous plaît un courriel à artcell.med@mcgill.ca indiquant en "Objet" du courriel "2017 preregistration".

(Merci de copier et coller dans le corps du courriel puis saisir l'information)

Nom et prénoms: Nationalité: Adresse de courriel: Adresse: rue, ville, province ou état, code postal, pays
Fonction actuelle: Nom de l'organisme: Domaines d'intérêt (Indiquer une ou les deux)

Substituts sanguins et oxygénothérapies, Autres domaines de nanomédecine et cellules artificielles

ORATEURS (liste préliminaire, en cours d'élaboration) Voir pages 4-15