Thursday 

October 20, 2016 

Day 1

4:00-6:00PM 
Registration

6:00-7:00PM 
Dinner

7:00-8:10PM 
Session I
Chair 
Michael Graner, University of Colorado Denver

7:00-7:10PM 
Michael Graner, co-organizer, ASEMVF2016
Opening Remarks

7:10-8:10PM 
Mark Tarnopolsky, McMaster University (1)
EXERSOMES: Do exosomes and/or microvesicles mediate the systemic benefits of exercise?

8:10-10:00PM 
Welcome Reception
Friday  
October 21, 2016  
Day 2

8:30AM-12:00PM  
Session II

Chair  
Mark Tarnopolsky, McMaster University

Abstract #

8:30-8:50AM  
Elena Batrakova, UNC Chapel Hill
Development of exosome-encapsulated paclitaxel to overcome MDR in cancer cells

8:50-9:10AM  
Golam Kibria, Case Western Reserve U.
A rapid, automated profiling of cancer stem cell markers on single circulating exosomes in human blood

9:10-9:30AM  
Kirsi Rilla, U. of Eastern Finland
Hyaluronan-coated extracellular vesicles as novel biomarkers

9:30-9:45AM  
Catherine DeMarino, George Mason University
Anti-retroviral drugs alter levels and content of HIV-infected exosomes

9:45-10:00AM  
Pasquale Sansone, Memorial Sloan Kettering CC
Microvesicle mediated horizontal transfer of mitochondrial DNA drives tumor dormancy escape in ER+ breast cancer

10:00-10:15AM  
Heather Pua, UCSF
Identifying the sources and composition of extracellular vesicles during allergic lung inflammation

10:15-10:30AM  
Break

10:30-10:45AM  
Janice Braun, U. of Calgary
The roles of the J protein chaperone family in extracellular vesicles

10:45-11:00AM  
Steven Lundy, U. of Michigan
Exosomes from B lymphocytes are a major source of Fas ligand

11:00-11:15AM  
Amrita Datta Chadhury, Johns Hopkins University
Stimulus-dependent alteration of astrocyte exosome cargo modifies their differential effect on neurons

11:15-11:30AM  
Hiroki Sakakura, Nagoya University
CD109 is a Component of Exosome Secreted from Cultured Cells

11:30-11:45AM  
Masafumi Ito, Tokyo Metropolitan Inst. of Gerontology
Exosomal gamma-glutamyltransferase activity as a marker for prostate cancer

11:45AM-12:00PM  
Constanze Kindler, Qiagen
Sample to insight: integrated solutions for liquid biopsy – rapid isolation of extracellular vesicles and vesicular RNA
12:00–1:00PM   Lunch

1:00PM–4:00PM   Session III

Chair
Michael Graner, University of Colorado Denver

1:00–1:15PM
Andrew Ross Nager, Stanford University
Abstract # (14)
Actin-dependent ectocytosis and BBSome-mediated retrieval drive the removal of activated GPCRs from cilia

1:15–1:30PM
Amrita Singh, Thomas Jefferson University
Abstract # (15)
Exosome-mediated transfer of \( \alpha \beta_3 \) integrin from tumorigenic to non-tumorigenic cells promotes a migratory phenotype

1:30–1:45PM
Moon-Chang Baek, Kyungpook National University
Abstract # (16)
Identification of Del-1 on circulating EVs as a liquid biopsy to detect breast cancer

1:45–2:00PM
Yong Woo Cho, Hanyang University
Abstract # (17)
Adipose tissue engineering using exosomes derived from adipose-derived stem cells

2:00–2:15PM
Magdalena Karbowiczek, Texas Tech University
Abstract # (18)
Exosomes mediate the acquisition of the disease phenotypes by cells with normal genome in tuberous sclerosis complex

2:15–2:30PM   Break

2:30–2:45PM
Asako Shimoda, Kyoto University
Abstract # (19)
Helicobacter pylori virulence factor CagA is delivered by exosome through the bloodstream

2:45–3:00PM
Erika Ramos, Case Western Reserve U.
Abstract # (20)
Expression of biomarkers on exosomes secreted by breast cancer cells as molecular signatures

3:00–3:20PM
John Nolan, Scintillon Institute
Abstract # (21)
Vesicle flow cytometry: quantitative high resolution measurement of EV number, size, and cargo

3:20–3:40PM
In-San Kim, Korea Inst. of Science and Technology
Abstract # (22)
Enzymatic and anti-tumorigenic effect of PH20-expressing exosomes

3:40–4:00PM
Yohsuke Yagi, Tokyo Medical and Dental School
Abstract # (23)
Small RNA profiling of cerebrospinal fluid exosomes using next-generation sequencing

4:00–6:00PM   Poster session A
6:00-7:00PM  Dinner

7:00PM-9:00PM  Session IV  
Chair  Chulhee Choi, KAIST  

7:00-7:30PM  Janos Zemeleni, U. of Nebraska  
Non-canonical pathways of signaling and metabolic regulation by extracellular vesicles from cow’s milk  

7:30-8:00PM  Leonid Margolis, NIH/NICHD  
Extracellular vesicles and HIV-1: Close relatives in complex relations  

8:00-8:30PM  Chulhee Choi, KAIST  
Efficient and rapid cellular delivery of therapeutic proteins using EXPLOR technology: exosomes engineering for protein loading via optically reversible protein–protein interaction  

8:30-9:00PM  Fatah Kashanchi, George Mason University  
Exosomes from donor to recipient cells: Role of exosomes from HIV, HTLV, Rift Valley, Ebola and Zika infected cells  

9:00-11:00PM  Reception/Poster session A
Saturday  October 22, 2016  Day 3

8:30AM-12:00PM  Session V
Chair  Vincent Bond, Morehouse School of Medicine

Abstract #

Caris Discovery Lecture
8:30-9:30AM  Raghu Kalluri, MD Anderson Cancer Center  (28)
Exosomes in cancer and therapy

9:30-9:50AM  Leonora Balaj, MGH/Harvard University  (29)
Characterization of the extracellular content released from glioblastoma cells

9:50-10:10AM  Vincent Bond, Morehouse School of Medicine  (30)
HIV-1 pathogenesis hallmarks are modulated by the nef secretion modification region

10:10-10:30AM  Dolores DiVizio, Cedars Sinai Hospital  (31)
Large oncosomes: new frontiers for intercellular communication in cancer

10:30-10:45AM  Break

10:45-11:00AM  Bong Hwan Sung, Vanderbilt University  (32)
Exosome secretion promotes chemotaxis of cancer cells

11:00-11:15AM  Jeff Franklin, Vanderbilt University  (33)
Understanding exosome heterogeneity using the flow-sorting method Fluorescent Activated Vesicle Sorting (FAVS)

11:15-11:30AM  Sheng Wang, Johns Hopkins University  (34)
Astrocyte-derived exosomes regulate dendritic spine maturation

11:30-11:45AM  Billanna Hwang, University of Washington  (35)
Pretreatment with MSC-derived exosomes confers protection against lung ischemia reperfusion injury

11:45AM-12:00PM  Elena Hsieh, University of Colorado Denver  (36)
The role of serum-exosomes in pediatric Systemic Lupus Erythematosus (SLE)

12:00-1:00PM  Lunch

1:00PM-4:00PM  Break

4:00-6:00PM  Poster session B

6:00-7:00PM  Dinner
### Session VI

**Chair**: Louise Laurent, UCSD

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Abstract #</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00-7:30PM</td>
<td>Johan Skog, Exosome Diagnostics</td>
<td>(37)</td>
<td>Exosomes: Making Liquid Biopsies Great Again! – cfDNA and exoRNA, Stronger Together!</td>
</tr>
<tr>
<td>7:30-8:00PM</td>
<td>Sowmya Yelamanchili, University of Nebraska</td>
<td>(38)</td>
<td>Role of extracellular vesicle associated microRNAs in HIV &amp; METH induced CNS dysfunction</td>
</tr>
<tr>
<td>8:00-8:20PM</td>
<td>Clark Chen, UCSD</td>
<td>(39)</td>
<td>CSF exosomal miRNAs as a biomarker platform for glioblastoma</td>
</tr>
<tr>
<td>8:20-8:40PM</td>
<td>Kendall Van Keuren-Jensen, TGI</td>
<td>(40)</td>
<td>Assessing exRNA data for the ability to monitor the central nervous system</td>
</tr>
<tr>
<td>8:40-9:00PM</td>
<td>Julie Saugstad, Oregon Health &amp; Science University</td>
<td>(41)</td>
<td>MicroRNAs in human cerebrospinal fluid as biomarkers for Alzheimer's disease</td>
</tr>
</tbody>
</table>

### 9:00-11:00PM

**Reception/Poster session B**
Sunday  
October 23, 2016  
Day 4

8:30AM-12:00PM  
Session VII  
Chair  
Robert Raffai, UCSD

8:30-8:50AM  
Louise Laurent, UCSD  
Diagnostic and prognostic potential of smallRNA biomarkers in fetal development

8:50-9:10AM  
Eduardo Marban, Cedars Sinai Medical Center  
Extracellular vesicles as next-generation therapeutic agents

9:10-9:30AM  
Robert Raffai, UCSF  
Therapeutic control of systemic inflammation & atherosclerosis with ApoE-polarized macrophage exosomes

9:30-9:50AM  
Michael Olin, University of Minnesota  
Glioma-Derived Exosomes Activation of Tingible Body Macrophage is Toll-like Receptor 4-Mediated.

9:50-10:10AM  
Joshua Hood, University of Louisville  
Melanoma exosomes promote mixed macrophage polarization

10:10-10:30AM  
Break

10:30-10:45AM  
Johnathon Anderson, UC Davis  
Mesenchymal stem cells package exosomes with distinct classes of proteins with functional therapeutic effects

10:45-11:00AM  
Ryan Spangler, NIH/NIA  
Autophagy and extracellular vesicles: partners in managing molecular garbage in neurons

11:00-11:15AM  
Andrew Hoffman, Tufts University  
Simultaneous analysis of immunophenotype, concentration, and size distribution of extracellular vesicles using novel single-vesicle labeling and nanoparticle tracking analysis

11:15-11:30AM  
Quan Lu, Harvard School of Public Health  
Plasma membrane-derived extracellular microvesicles mediate ligand-independent intercellular NOTCH signaling

11:30-11:45AM  
Michael Dinkins, Augusta University  
Neutral sphingomyelinase-2 deficiency ameliorates Alzheimer's disease pathology and improves cognition in the 5XFAD mouse

11:45AM-12:00PM  
Ikuhiko Nakase, Osaka Prefecture University  
Modification of oligoarginine peptides for improving the cellular uptake efficacy of exosomes

12:00-1:00PM  
Lunch
### 1:00PM–4:00PM  Session VIII  
**Chair**  
*Quan Lu, Harvard School of Public Health*

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<th>Speaker</th>
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<tbody>
<tr>
<td>1:00-1:20PM</td>
<td>(53)</td>
<td><em>Antonio de Maio, UCSD</em></td>
<td>Glycoproteins on urine extracellular vesicles; potential markers for disease conditions</td>
</tr>
<tr>
<td>1:20-1:40PM</td>
<td>(54)</td>
<td><em>Kazunari Akiyoshi, Kyoto University</em></td>
<td>Hybrid exosomes by nanogel and liposome engineering for application to drug delivery system</td>
</tr>
<tr>
<td>1:40-2:00PM</td>
<td>(55)</td>
<td><em>Christie Fowler, UC Irvine</em></td>
<td>CSF-derived exosome microRNAs are differentially expressed with chronic nicotine self-administration</td>
</tr>
<tr>
<td>2:00-2:15PM</td>
<td>(56)</td>
<td><em>Rachel DeRita, Thomas Jefferson University</em></td>
<td>c-Src, insulin-like growth factor I receptor, G-protein-coupled receptor kinases, and focal adhesion kinase are enriched into prostate cancer cell exosomes</td>
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**2:15–2:30PM Break**

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<tbody>
<tr>
<td>2:30-2:45PM</td>
<td>(57)</td>
<td><em>Derek Russell, U. Alabama Birmingham</em></td>
<td>Neutrophil-derived exosomes degradation of the inflammatory matrikine Proline-Glycine-Proline is increased with fMLP stimulation</td>
</tr>
<tr>
<td>2:45-3:00PM</td>
<td>(58)</td>
<td><em>Rommel Mathias, Monash University</em></td>
<td>Oncogenic epithelial cells secrete exosomes with angiogenic potential</td>
</tr>
<tr>
<td>3:00-3:15PM</td>
<td>(59)</td>
<td><em>Robert Barclay, George Mason University</em></td>
<td>Lack of HIV-1 transcriptional latency: exosomes from uninfected cells activate HIV-1 transcription</td>
</tr>
<tr>
<td>3:15-3:30PM</td>
<td>(60)</td>
<td><em>Sudipto Chakraborty, Exosome Diagnostics</em></td>
<td>Long RNA sequencing of human plasma exosomes reveals full coverage of a diversity of protein coding and long non coding RNA.</td>
</tr>
<tr>
<td>3:30-3:45PM</td>
<td>(61)</td>
<td><em>Keun Hur, Kyungpook National U.</em></td>
<td>Serum circulating exosomal microRNA-203 and microRNA-373 as non-invasive biomarkers for early diagnosis and predicting prognosis in human hepatocellular carcinoma</td>
</tr>
<tr>
<td>3:45-4:00PM</td>
<td>(62)</td>
<td><em>Vicky Yang, Tufts University</em></td>
<td>Plasma exosomal miRNA as biomarker for canine myxomatous mitral valve disease and congestive heart failure</td>
</tr>
</tbody>
</table>

**4:00-6:00PM Break**

**6:00-7:00PM Dinner**
7:00PM-9:00PM  Session IX
Chair  
O.John Semmes, Eastern Virginia Medical School  

7:00-7:20PM  
Muller Fabbri, Children's Hospital Los Angeles  
Extracellular microRNAs shape biology and resistance of cancer cells  

7:20-7:40PM  
Theresa Whiteside, University of Pittsburgh  
Circulating exosomes carrying an immunosuppressive cargo interfere with adoptive cell therapy in acute myeloid leukemia  

7:40-8:00PM  
Ionita Ghiran, MGH/Harvard University  
The Role of Terminal Complement Components in Plasma miRNAs Composition  

8:00-8:20PM  
Michael Graner, University of Colorado Denver  
Stressing Out the Neighbors: Stressed Exosomes (“Sexosomes”?) Passage Stress Phenotypes to Recipient Cells (a Brief Proteomic Analysis)  

8:20-8:40PM  
Jennifer Jones, NIH/NIAID  
Molecular Analysis of Extracellular Vesicle Subset Cargo with NanoFACS  

8:40-9:00PM  
Masako Harada, Stanford University  
Targeted delivery of therapeutic microRNA to HER2-positive breast cancer  

9:00-11:00PM  Reception  
Monday  October 24, 2016  Day 5  

9:00-12:00PM  Session X  
Chair  Ionita Ghiran, MGH/Harvard University  

8:30-8:50AM  
Geoffrey de Couto, Cedars Sinai Heart Institute  
Cardiosphere-derived cell exosomes reduce proinflammatory gene expression and enhance efferocytosis of macrophages to reduce infarct size following ischemia-reperfusion injury  

8:50-9:10AM  
Peng Loh, NIH/NICHD  
Carboxypeptidase E: a biomarker in serum exosomes for detecting various cancers  

9:10-9:30AM  
Kristopher Genschmer, U. of Alabama Birmingham  
Exosomes from activated human neutrophils produce COPD-like disease in mice.  

9:30-9:50AM  
O. John Semmes, Eastern Virginia Medical School  
Circulating exosomes as a source of cancer biomarkers
9:50-10:10AM  
Erez Eitan, NIH/NIA  
Age-Related Changes in Plasma Extracellular Vesicle Characteristics and Internalization by Lymphocytes  

10:10–10:30AM  
Break  

10:30-10:45AM  
Vijaya Raghavan Dhandapani  
Characterization of microRNAs encapsulated in extracellular microvesicles/exosomes released from N2a cells treated with psychostimulants  

10:45-11:00AM  
Masamitsu Kanada, Stanford University  
Extracellular vesicle-mediated delivery of minicircle DNA encoding prodrug-converting enzymes for cancer therapy  

11:00-11:15AM  
Heather O’Neill, Caris Life Sciences  
Adaptive Dynamic Artificial Poly-ligand Targeting™ (ADAPT) captures a snapshot of the role of exosomes in cellular processes associated with disease and normal homeostasis  

11:15-11:30AM  
Ophir Vermesh, Stanford University  
The exosome total isolation chip (ExoTIC)  

11:30-11:45AM  
Young Kim, SBI  
Biomarker discovery via exosome-OMICs  

11:45AM-12:00PM  
David Larocca, ReCyte Therapeutics  
Exosomes from highly scalable and clonally-derived embryonic progenitor cells for induced tissue regeneration (iTR)  

12:00-1:00PM  
Lunch  

1:00PM-4:00PM  
Session XI  
Chair  
Stephen Gould, Johns Hopkins University  
Abstract #  

1:00-1:20PM  
Wolf Heusermann, Basel University  
A highway to the cell; Exosomes surf on filopodia to enter cells at endocytic hotspots, and shuttle with endosomes to scan the ER  

1:20-1:40PM  
Alexandra Laberge, Université Laval  
Shedding of proangiogenic microparticles from myofibroblasts isolated from cutaneous hypertrophic scars  

1:40-2:00PM  
Carla Beckham, University of Rochester  
Expression of the Long Non-Coding RNA HOTAIR Correlates with Disease Progression in Bladder Cancer and Is Contained in Bladder Cancer Patient Urinary Exosomes  

2:00-2:15PM  
Francis Fordjour, Johns Hopkins University  
Clonal heterogeneity in exosome biogenesis
**2:15–2:30PM**  
Break

**2:30–2:45PM**  
Subbaya Subramanian, University of Minnesota (84)  
MicroRNAs secreted via extracellular vesicles regulate immune response in colon cancer by targeting the T cell costimulatory pathway

**2:45–3:00PM**  
Adel Driss, Morehouse School of Medicine (85)  
The role of exosomes in the pathogenesis of endometriosis

**3:00–3:15PM**  
Yoosoo Yang, Korea Inst. of Science & Technology (86)  
Virus-mimetic fusogenic exosomes for direct delivery of integral membrane proteins to target cell membranes

**3:15–3:30PM**  
Randy Carney, UC Davis (87)  
Multispectral optical tweezers as a new tool for biomolecular fingerprinting of single vesicles

**3:30–3:45PM**  
Jamie Mayo, Western State Colorado U. (88)  
Driving the HIF pathway in human brain pericytes promotes vascular density and enhances endothelial scrape induced migration in an exosome dependent manner

**3:45–4:00PM**  
Hiroshi Shiku, Kyoto University (89)  
TBA

**4:00PM**  
Meeting Close