



ISEV

INTERNATIONAL SOCIETY FOR
EXTRACELLULAR VESICLES



UNIVERSITY OF
BIRMINGHAM

Extracellular Vesicles as Biomarkers of Disease

13 - 14 December 2017

Centre for Professional Development
College of Medical and Dental Sciences
University of Birmingham
Edgbaston B15 2TT
United Kingdom

Organising Committee Local Members

Aled Clayton, PhD, *Chair, Cardiff University*, David Carter, PhD *Oxford Brookes*, Hubert Yin, PhD *University of Colorado, Boulder*, Charlotte Lawson, PhD *RVC, London*, Jason Webber, PhD *Cardiff University*, Paul Harrison, PhD *University of Birmingham*

ISEV Board Members

Chris Gardiner, PhD *UCL*, Marca Wauben, PhD *Utrecht University*, Kenneth Witwer, PhD *Johns Hopkins*, Andrew Hill, PhD *University of Melbourne*

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Welcome Message from the Workshop Chair



Dear Delegates,

I would like to extend a warm welcome to you all for your keen and enthusiastic participation in this ISEV sponsored workshop on EV's as disease Biomarkers. We received a great deal of interest from the vesicle community, with over 70 submitted quality and relevant abstracts and the committee has worked hard to create as balanced a programme as possible. I am grateful to the ISEV board for supporting the initiative and to our local organising committee in particular David Carter, Chris Gardiner and Ken Witwer in assisting with the formulation of the programme, and for Tierra Cote and Kathy Baumer from Talley Management Group for fantastic organisational support. We selected presentations to align to the four proposed topics, but we also considered geographical representation, career stage and gender.

In addition to vesicle researchers, who are of course very close to this subject matter, the committee also wanted to scope additional viewpoints from biomarker experts outside the vesicle field. We are delighted to introduce Professor Carolyn Compton from Arizona, who has an extensive biomarker knowledge in cancer and can provide a broader perspective to our workshop.

The topics aim to describe a story, from collecting bio-specimens from a patient, processing these suitably for vesicle extractions, profiling the vesicles and discovering markers, developing assay systems to detect the marker, through to escalation of all of these processes towards clinical application. Whilst there have been major advances in recent years in this realm, there will no doubt remain many unknowns and we certainly need some consensus in best practice. Ultimately, our workshop is about consolidation of our current knowledge and understanding, to identify the areas that are weak and unclear, and push forward progress in this important area.

We are extremely grateful to our assorted sponsors who have made this workshop possible. In particular, I must mention the Welsh Government's Life Science Research Network (LSRN) support who funded the UKEV conference in 2015, and continue to recognise the importance of vesicles as potential companion diagnostics. We are fortunate also to receive vigorous support from a range of commercial sponsors, including Particle Metrix, nanoView Diagnostics, Izon, HansaBioMed Life Sciences and Exosomics Siena, and I would ask delegates to have discussions with sponsors at the stands and presentations at every opportunity.

We also thank Birmingham University's professional development team, and Dr. Paul Harrison who are our hosts, and have made it possible for the workshop to take place immediately following the annual UKEV conference event, which many of you were also able to attend.

I hope that you have a busy, interactive and enjoyable workshop, and that you are able to contribute to the discussions, and writing elements that follow, steering us towards an ISEV position statement on these issues.

Yours Sincerely

Aled Clayton (Chair),

On behalf of the organising committee

A handwritten signature in black ink that reads 'A. Clayton'.

ISEV Workshop Summary

ISEV Workshops are designed to further education of specified topic(s) of interest within the EV community.

ISEV is proud to present the ISEV 2017 Workshop at the University of Birmingham on “Extracellular Vesicles as a Biomarker Disease. It is our mission to advance extracellular vesicle research globally, and we strongly believe our workshops are an excellent resource to do so.

Event Name	ISEV 2017 Workshop: Extracellular Vesicles as a Biomarker Disease
Location	University of Birmingham Center for Professional Development Forum Lecture Theatre
Date	Wednesday, 13-14 December 2017
Attendees	65
Objective	Further Education within the ISEV community
Program Chair	Aled Clayton, PhD, Cardiff University
Key Message	To discuss and deliver a scientific report on our current knowledge of EVs as biomarkers of disease and identify challenges in taking EV biomarkers from the research laboratory to the clinic
Event Goal	To engage in proactive discussions on the technical challenges of using EVs as biomarkers of disease and to identify strategies for developing EV biomarkers as diagnostic and prognostic tools for the clinical management of disease.

Schedule Overview

13th of DECEMBER

8:00 am Registration

9:00 am Welcome and Introduction

9:10 am Plenary Speakers

10:30 am Coffee Break

11:00 am

Bio-Sample Collection, Storage and Vesicle Isolation
Moderator: Kenneth Witwer, PhD

12:15 pm Lunch

1:15 pm Session Reconvenes

1:45 pm

Molecular Profiling of EV, to Discover Biomarkers
Moderator: Andrew Hill, PhD

3:30 pm Coffee Break

3:45 pm Panel Discussions

5:15 pm Coffee Break

5:30 pm Sponsor Session

6:30 pm Reception

14th of DECEMBER

8:50 am Welcome and Introduction

9:00 am

Detecting EV-markers; Assays and Rare Event Analyses
Moderator: Jason Webber, PhD

10:45 am Coffee Break

11:15 am

Developing EV-biomarkers in Clinical Settings
Moderator: Lorraine O'Driscoll, PhD

12:15 pm Lunch

1:30 pm Session Reconvenes

2:30 pm Coffee Break

2:45 pm Panel Discussions

4:30 pm Coffee Break 5:00

pm Wrap-up Session

Plenary Speakers



Carolyn Compton, MD, PhD

Dr. Carolyn Compton, MD, PhD is an academic pathologist who specializes in gastrointestinal disease and is board certified in both anatomic and clinical pathology. She is a professor of Life Sciences at Arizona State University and a professor of laboratory medicine and pathology at the Mayo Clinic. She is also an adjunct professor of pathology at both the University of Arizona and Johns Hopkins University. She is the Chief Medical Officer of the National Biomarkers Development Alliance, a member of the Biodesign Institute at ASU, and the Chief Medical Officer of the Complex Adaptive Systems Institute.



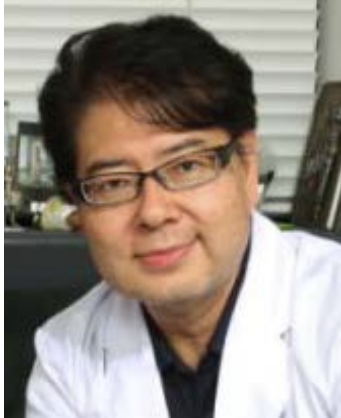
Raghu Kalluri, MD, PhD

He received his Ph.D. in Biochemistry and Molecular Biology from the University of Kansas Medical Center and his M.D. degree from Brown University Medical School. Kalluri was a research associate at the University of Pennsylvania Medical School and studied immunology and organ fibrosis. In 1997, he moved to Harvard Medical School as an Assistant Professor of Medicine and as a faculty based in the Department of Medicine at the Beth Israel Deaconess Medical Center. In 2006, Kalluri was appointed the Chief of the Division of Matrix Biology and was promoted to Professor of Medicine at Harvard Medical School. He holds an appointment in the Department of Biological Chemistry and Molecular Pharmacology, Harvard MIT Division of Health Sciences and Technology, and Harvard Stem Cell Institute. Kalluri was recruited to the MD Anderson Cancer Center in 2012 as the Chairman of the Cancer Biology Department and as the Director of the Metastasis Research Center.



Rienk Nieuwland, PhD

Academic Medical Center, Netherlands. Rienk Nieuwland studied Biology in Utrecht and obtained his PhD at the Department of Haematology of the University Medical Centre Utrecht (Utrecht, the Netherlands). Since 2002, he works at the Academic Medical Centre of the University of Amsterdam, Amsterdam, The Netherlands, where he is PI and Head of the Laboratory of Experimental Clinical Chemistry. His scientific interests are extracellular vesicles and platelets. He chairs the Scientific Standardization Committee on Vascular Biology of the International Society on Thrombosis and Haemostasis, and is a member of the Editorial Board of the Journal of Extracellular Vesicles and the Journal of Thrombosis and Haemostasis, coordinates the European Metrology Research Project METVES, was one of the organisers of the 3rd Meeting of International Society of Extracellular Vesicles, and one of the founders of the CANCER-ID project.



Takahiro Ochiya, PhD

Takahiro Ochiya, Chief, National Cancer Center Research Institute Japan. Dr. Ochiya carried a councilor of Japanese Cancer Association. After he got Ph.D. in 1988 in Osaka University and then went to do a post-doc at La Jolla Cancer Research (SF Burnham Institute for Medical Research), CA, USA. Dr. Ochiya's lab focuses the development of novel animal models, methods, and strategies to study cancer development and metastasis. Especially, current focuses are siRNA- and microRNA-based therapy and exosome-mediated tumor metastasis. Dr. Ochiya has authored more than 260 peer-reviewed publications including 40 review articles, holds 24 Japan and 12 U.S. & Europe patents, and contributed to several books on stem cells, Extracellular vesicles, and RNAi medicine. Dr. Ochiya is a chief scientist of current Japan project of the Development of Diagnostic Technology for Detection of miRNA in Body Fluids (supported by NEDO/AMED).



Juan Falcón-Pérez, PhD

Dr. Falcon-Perez is an IKERBASQUE Research Professor at CIC bioGUNE research institute (Derio, Bizkaia, Spain) where leads the EXOSOMES laboratory and the METABOLOMICS platform of the center. He is a cellular biologist with wide experience in performing high-content omics-based analyses. Degree in Biological Science (1994, Seville, Spain) and PhD in Biochemistry (1999, Madrid, Spain). From 2001-2005, he occupied a postdoctoral position at Human Genetics Department of UCLA (USA). In 2006, he moved to CIC bioGUNE in Spain and initiated his group on EXOSOMES as a source for disease biomarker discovery and a tool for therapeutic applications. He is co-founder of the Spanish Association for Innovation and Investigation on Extracellular Vesicles (GEIVEX), forms part of the Spanish Network of Excellence in Exosomes (REDIex), and the ISEV board.



Marca Wauben, PhD

Marca Wauben heads the research group Intercellular Communication of the Department of Biochemistry & Cell Biology, Faculty of Veterinary Medicine of Utrecht University. She studied Biology at Utrecht University and performed her graduate research at the Department of Infectious Diseases & Immunology of the Faculty of Veterinary Medicine (PhD cum laude, 1993). Postdoctoral training was performed at Utrecht University and at the University of California San Diego, USA. She became fellow of the Royal Academy of Arts and Sciences of the Netherlands and established her own research groups at Utrecht University, Department of Infectious Diseases & Immunology, at Leiden University Medical Center, Department of Immunohematology and Blood Transfusion and at Utrecht University, Department of Biochemistry & Cell Biology, Faculty of Veterinary Medicine. In 2011, she became full professor Intercellular Communication. Marca Wauben is Executive Chair Science of the International Society for Extracellular Vesicles (ISEV) and vice-chair of the EU COST Action BM1202 Microvesicles and Exosomes in Health and Disease



Jennifer Jones, MD, PhD

Dr. Jones is a Radiation Oncologist at the National Institutes of Health, who is developing, refining, and applying advanced high-resolution flow cytometric methods to the characterization of EV subsets. She initiated/cofounded the international ISEV-ISAC-ISTH EV Flow Cytometry Working Group, to support the development of consensus best practices and standardization methods for the field. The ultimate goal of her research is to develop a new class of EV-based biomarkers (and methods for analyzing those EVs) that will enable adaptive therapeutic strategies, where individual patient treatments are customized based on early responses to treatment.



Hidetoshi Tahara, PhD

Hidetoshi received his PhD in Pharmaceutical Science from Hiroshima University. In 1994, he became a research associate at the Department of Cellular and Molecular Biology, Hiroshima University. He was also a visiting Fellow at the Laboratory of Molecular Carcinogenesis, National Institute of Environmental Health Sciences, National Institute of Health (NIH), North Carolina, U.S.A. Currently he is professor for the Department of Cellular and Molecular Biology, Basic Life Sciences, Institute of Biomedical & Health Sciences, Hiroshima University. He is also head of Basic Life Sciences, Institute of Biomedical & Health Sciences, Hiroshima University. Currently, he is president of the Japanese Association for RNA interferences (JARI), Councilor, Japanese Cancer Association (JCA) and serves as Executive board member for the following societies: International Society of Personalized Medicine, The Japanese Association for Molecular Target Therapy of Cancer (JAMTTC), International Society for Extracellular Vesicles (ISEV).

Moderators



Kenneth Witwer, PhD

Ken Witwer is an Associate Professor in the Department of Molecular and Comparative Pathobiology at Johns Hopkins University and is currently serving a term as secretary general of the International Society for Extracellular Vesicles. He developed an interest in EVs as a postdoctoral fellow at Johns Hopkins, while searching for biomarkers of the deleterious effects of HIV and related viruses on the central nervous system. After joining faculty in 2011, Witwer established an EV-focused lab to investigate HIV and neurodegenerative diseases.



Andrew Hill, PhD

Professor Andrew Hill gained his BSc(Hons) in Biochemistry and Molecular Biology from Victoria University of Wellington in New Zealand and his PhD at Imperial College, London. He held post-doctoral positions in the MRC Prion Unit (London) and in the Department of Pathology at the University of Melbourne as a Wellcome Trust Prize Travelling Research Fellow. Andrew joined the Department of Biochemistry and Molecular Biology at the University of Melbourne in 2002 and joined the Bio21 Institute when it opened in 2005. In 2015, he moved his laboratory to the La Trobe Institute of Molecular Sciences (LIMS) at La Trobe University where he is also Head of the Department of Biochemistry and Genetics. Over the last five years his laboratory has developed an interest in extracellular vesicle RNA and investigated its potential as disease biomarkers for neurological and other conditions. In 2016, Andrew was elected President of the International Society of Extracellular Vesicles (ISEV).



Edit Buzás, MD, PhD, DSc

Edit I Buzás MD, PhD, DSc is Professor in the Department of Genetics, Cell- and Immunobiology at Semmelweis University, Budapest, Hungary. She graduated as an MD in Szeged, received her PhD in 1996 in immunology, and she got her DSc degree in 2007. She worked for two years in the Joint Diseases Laboratory, Shriner's Hospital, McGill University, Montreal, Canada and for one year at the Rush Medical Center, Chicago, USA. Her earlier research focused on autoimmunity, rheumatoid arthritis, T cell epitope hierarchy, experimental models of arthritis, glycobiology. She is a member of the Editorial Board of the currently launching journal Exosomics, Associate Editor of the Journal of Extracellular Vesicles and founding member of the International Society of Extracellular Vesicles.



Alicia Llorente, PhD

Alicia Llorente received a PhD in 2000 in Cell Biology at the University of Oslo, Norway, where she specialized in intracellular transport. From 2001 to 2009 she was a post-doctoral fellow first at the Center of Molecular Biology Severo Ochoa, Madrid, Spain, where she first learnt about extracellular vesicles, and then at the Institute for Cancer Research, Oslo University Hospital, Norway. Since 2010 she is a senior scientist at the same institution dedicated to the study of extracellular vesicles in prostate cancer. Her main research interests are the molecular machinery required for exosome biogenesis and release and the identification of prostate cancer biomarkers (protein, lipid, miRNA) in urinary exosomes.



David Carter, PhD

Dave graduated from York University with a BSc in Biochemistry, which included a year working on the human genome project at the Sanger Institute in Cambridge. He completed his PhD at Cambridge University. During his PhD he developed a novel assay, 'RNA-tagging and recovery of associated proteins', to demonstrate a physical interaction between a locus control region and the β -globin gene. He then worked at Oxford University as a postdoctoral researcher in Prof Peter Cook's lab, investigating the structure of transcription factories. He was appointed as Senior Lecturer in Biomedical Science in October 2009 in the Faculty of Health and Life Sciences at Oxford Brookes University (OBU). Here he established a lab to study the effects of non-coding RNAs and extracellular vesicles in stress response.



Jason Webber, PhD

Jason graduated from Cardiff University with a BSc in Biochemistry with Medical Biochemistry, before completing a PhD in renal fibrosis. During this time he studied the role of glycosaminoglycans, such as hyaluronan, as regulators of fibroblast differentiation. Upon completion of his PhD, Jason applied this knowledge to the field of cancer. He joined the Exosome Biology Research Group, led by Prof Aled Clayton, to demonstrate a role of cancer exosomes in driving stromal cell differentiation to a disease supporting phenotype. In 2014 Jason received a prestigious Career Development Fellowship, funded by Prostate Cancer UK. Since then he has established a lab to explore the use of exosomes as a source of biomarkers for predicting patients likely to develop aggressive prostate cancer, whilst also maintaining an interest in the mechanisms associated with exosome-induced stromal cell differentiation.



Lorraine O'Driscoll, PhD

Lorraine O'Driscoll (BSc(Hons, Pharm), MSc(Res, Clin Pharm), MA(Ed), PhD(Biotech), FTCD) Lorraine holds a BSc(Hons), pharmacology; MSc(Res), clinical pharmacology; MA, education; PhD, biotechnology. In 2012, she was elected to Fellowship in TCD. Prior to joining TCD in 2008, Lorraine most recently held the position of Senior Research Programme Leader and Lecturer in School of Biotechnology, DCU. She has been a P.I. on 5 cancer clinical trials with ICORG. She is TCD's Principal Investigator on SFI- supported Molecular Therapeutics for Cancer Ireland; Strand Leader of Irish Cancer Society-supported Breast- PREDICT; and P.I. and Chair, H2020- supported European Network Cooperation in Science and Technology focussed on Exosomes & Microvesicles in Health & Disease which brings together researchers from 27 European countries, 3 US universities, Australia and 7 industry partners.



Chris Gardiner, PhD

Chris Gardiner is a research fellow at the Haemostasis Research Unit at University College London. He holds a PhD in Haematology from University College London and an MSc in Immunology from King's College London. Dr. Gardiner's has worked in diagnostic haematology for over 30 years and his research interests include the antiphospholipid syndrome, obstetric haemostasis and extracellular vesicles. He has published over 50 research paper and co-authored the world's first text book dedicated to extracellular vesicles. He is a co-chair of the ISTH Vascular Biology SSC, scientific secretary of the British Society for Thrombosis and Haemostasis and an executive board member of the International Society for Extracellular Vesicles.



Aled Clayton, PhD

Dr. Aled Clayton, PhD Chair of this ISEV Workshop is a Professor of Cell Biology at the Division of Cancer & Genetics, School of Medicine, Cardiff. He is passionate about the importance of EVs in biology in general, but with a particular focus on their functional activities in cancer, and their enormous potential as disease markets. The group studies cell communication by vesicles with a particular interest in immune evasion and stromal-cell activation, but also share interests in vesicle isolation, biofluids and vesicle metrology. He completed his PhD in 1997, at the Institute of Nephrology where he studied Fibrosis in end-stage renal failure, and embarked on a postdoctoral project on cancer vaccines with Prof, Malcom Mason before establishing one of the first UK-based research groups in 2001. He is a founding member of ISEV and has contributed as associate editor of J Extracell Vesicles recently. He is also among the founders of the UKEV interest group.

Speakers

Edit Buzás, MD, PhD, DSc
Simmelweis University

J. Brian Byrd, MD, MS, FACC, FAHA
University of Michigan

David Carter, PhD
Oxford Brookes University

Lesley Cheng, PhD
La Trobe University

Aled Clayton, PhD
Cardiff University

Carolyn Compton, MD, PhD
Arizona State University

George Daaboul, PhD
nanoView Diagnostics

Juan Manuel Falcon-Perez, PhD
CiCBioGUNE, Spain

Chris Gardiner, PhD
University College London

Dakota Gustafson, BSc
University of Toronto

An Hendrix, PhD
Ghent University

Andrew Hill, PhD
La Trobe University

**Andrew Hoffman, DVM, DVSc,
DACVIM** Tufts University Cummings

Jennifer Jones, MD, PhD
National Cancer Institute

Raghu Kalluri, MD, PhD
Anderson Metastasis Research Center

Ji Yoon Kang, PhD
Korea Institute of Science
and Technology

Benedikt Kirchner, MSc
Technische Universität München

Cecilia Lässer, PhD
University of Gothenburg

Metka Lenassi, PhD
University of Ljubljana

Carina Levin, MD, PhD
Emek Medical Center

Alicia Llorente, PhD
Oslo University Hospital, Norway

Elena Martens-Uzunova, PhD
Erasmus MC

Andreas Möller, PhD
QJMR Berghofer Medical
Research Institute

Luca Musante, PhD
University of Virginia

Rienk Nieuwland, PhD
University of Amsterdam

Takahiro Ochiya, PhD
National Cancer Center
Research Institute

Lorraine O'Driscoll, PhD
Trinity College

Ryan Pink, PhD, MSc, BSc
Oxford Brookes University

Shivani Sharma, MD
University of California

Hidetoshi Tahara, PhD
Hiroshima University

Marca Wauben, PhD
Utrecht University

Jason Webber, BSc, PhD
Cardiff University

Joshua Welsh, PhD, BSc
National Cancer Institute

Kenneth Witwer, PhD
Johns Hopkins University

Agenda

13th of December 2017

Forum Lecture Theatre

- 8:00 am – 8:45 am** **Registration**
Outside the Forum Lecture Theatre
- 9:00 am – 9:10 am** **Welcome and Introduction**
Aled Clayton, PhD
- 9:10 am – 9:15 am** **The Value of ISEV Seminars and Outputs**
Marca Wauben, PhD; Kenneth Witwer, PhD
- 9:15 am – 9:45 am** **Development of Biomarkers for Precision Medicine in an Era of Evolving Technology:
Specimens, Standards, and Signatures**
Carolyn Compton, MD, PhD
- 9:50 am -10:20 am** **Exploiting the Biology of Exosomes for Diagnosis and Treatment of Cancer**
Raghu Kalluri, MD, PhD
- 10:30 am – 11:00 am** **Coffee in the Exhibit Hall**
CPD 5 Ballroom

Topic Area 1: Bio-Sample Collection, Storage and Vesicle Isolation

Moderator: Kenneth Witwer

- 11:00 am – 11:30 am** **From Blood Collection to Prediction of Venous Thromboembolism in Cancer Patients:
Lessons Learned**
Rienk Nieuwland, PhD
- 11:30 am – 11:45 am** **Abstract: How Can We Improve the Isolation Techniques From Small Patient Samples?**
Cecilia Lässer, PhD
- 11:45 am – 12:00 pm** **Abstract: SOPs For the Processing of Exosomes from Biological Fluids for Diagnostic Testing**
Lesley Cheng, PhD
- 12:00 pm – 12:15 pm** **Abstract: Minimal Amounts of Plasma and its EVs for Valid Clinical Diagnosis
Downstream Studies**
Ryan Pink, PhD, MSc, BSc
- 12:15 pm – 1:15 pm** **Lunch in the Exhibit Hall**
CPD 5 Ballroom
- 1:15 pm – 1:30 pm** **Abstract: Standardized Analysis of Extracellular Vesicles in Liquid Biopsies**
An Hendrix, PhD

13th of December 2017

Forum Lecture Theatre

1:30 pm – 1:45 pm **Abstract: The Role of Tamm Horsfall Protein and Proteases Inhibitors in Urinary Extracellular Vesicles Recovered in the Low Centrifugation Speed Pellet**
Luca Musante, PhD

Topic Area 2: Molecular Profiling of EV, to Discover Biomarkers
Moderator: Andrew Hill, PhD

1:45 pm – 2:15 pm **Potential of EVs in Liquid Biopsy**
Takahiro Ochiya, PhD

2:15 pm – 2:45 pm **What Can EVs Tell Us About a Pathological Process?**
Juan Manuel Falcon-Perez, PhD

2:45 pm – 3:00 pm **Identification of Non-invasive miRNAs Biomarkers for Prostate Cancer by Deep Sequencing Analysis of Urinary Exosomes**
Alicia Llorente, PhD

3:00 pm – 3:15 pm **Abstract: Systematic Evaluation of Techniques for The Isolation and Detection of Small Non-coding RNA from Urine-derived Extracellular Vesicles**
Elena Martens-Uzunova, PhD

3:15 pm – 3:30 pm **Abstract: Evaluation of Plasma Extracellular Vesicles as Measurement of Leaky HIV Reservoirs in Virologically Suppressed Adults**
Metka Lenassi, PhD

3:30 pm – 3:45 pm **Coffee in the Exhibit Hall**
CPD 5 Ballroom

Panel Discussions

3:45 pm – 4:30 pm **Sample Collection/Storage/Pre-analytical Aspects**
Moderators: Rienk Nieuwland, PhD; Edit Buzás, MD, PhD, DSc
CPD 6 Ballroom

Molecular Profiling of EV to Discover Biomarkers
Moderators: Alicia Llorente, PhD; David Carter, PhD
Forum Lecture Theatre

4:30 pm – 4:45 pm **Coffee in the Exhibit Hall**
CPD 5 Ballroom

Forum Lecture Theatre

4:45 pm – 5:00 pm **Particle Metrix Presentation**

5:00 pm – 5:30 pm **Wrap-up Session: Panel Discussion Summaries**

CPD 5 Ballroom

Reception

6:30 pm – 9:00 pm **Join Us for an Evening of Networking and Fun!**

14th of December 2017

Forum Lecture Theatre

Topic Area 3: Detecting EV-markers; Assays and Rare Event Analyses

Moderator: Jason Webber, BSc, PhD

8:50 am - 9:00 am	Welcome and Introduction Aled Clayton, PhD
9:00 am – 9:30 am	Flow Cytometry Marca Wauben, PhD
9:30 am – 9:45 am	Abstract: Extracellular Vesicles as Biomarkers of Liver Fibrosis Severity in Non-alcoholic Fatty Liver Disease Joshua Welsh, PhD, BSc
9:45 am – 10:00 am	Abstract: New Electrical Discrimination Method for Alzheimer Disease Using Neural Exosomes by Bead-based Electrochemical Impedance Sensor Ji Yoon Kang, PhD
10:00 am – 10:15 am	Abstract: Isoforms of miRNAs - Improving Biomarker Specificity and Diagnostic Power in Extracellular Vesicles and Diseases Benedikt Kirchner, MSc
10:15 am – 10:30 am	Abstract: HSP70 Is Increased in Circulating Extracellular Vesicles from Transfusion-Dependent Thalassemia Patients: Potential Biomarker for Ineffective Erythropoiesis Carina Levin, MD, PhD
10:30 am – 10:45 am	NanoView Presentation: Label-Free Imaging for High Throughput Single Vesicle Sizing and Phenotyping George Daaboul, PhD
10:45 am – 11:15 am	Coffee in the Exhibit Hall <i>CPD 5 Ballroom</i>

Topic Area 4: Developing EV-biomarkers in Clinical Settings

Moderator: Lorraine O'Driscoll, PhD

11:15 am – 11:45 pm	Combining High Throughput Multiplex Assays with High Resolution Single EV Analyses for Clinical Biofluid Analyses Jennifer Jones, MD, PhD
11:45 am – 12:15 pm	Application of exRNA and Circulating RNA for Early Detection of Cancer Hidetoshi Tahara, PhD

14th of December 2017

Forum Lecture Theatre

12:15 pm – 1:30 pm **Lunch in the Exhibit Hall**
CPD 5 Ballroom

Topic Area 4: Developing EV-biomarkers in Clinical Settings (continued.....)

Moderator: Lorraine O'Driscoll, PhD

1:30 pm – 1:45 pm **Abstract: Diet-Induced Changes in Aldosterone Secretion Affect Urinary Excretion of Mineralocorticoid Receptor-Regulated mRNA Transcripts in Prehypertensive Patients**
J. Brian Byrd, MD, MS, FACC, FAHA

1:45 pm – 2:00 pm **Abstract: Circulating Extracellular Vesicle Associated-microRNAs as Predictive Biomarkers of Cardiovascular Complications in Patients with End-stage Renal Disease**
Dakota Gustafson, BSc

2:00 pm – 2:15 pm **Abstract: A blood Exosome Signature Predicts Patient Outcome in Non-small Cell Lung Cancer**
Andreas Möller, PhD

2:15 pm – 2:30 pm **Abstract: Biomarker Discovery Employing Extracellular Vesicle Based Genomics in our Companion Animal Friends: Opportunities and Challenges**
Andrew Hoffman, DVM, DVSc, DACVIM

2:30 pm – 2:45 pm **Coffee in the Exhibit Hall**
CPD 5 Ballroom

Panel Discussions

2:45 pm – 3:35 pm **Assays and Rare Event Analysis**
Moderators: Marca Wauben, PhD; Chris Gardiner, PhD
CPD 6 Ballroom

Taking EV-markers to the Clinic
Moderators: Jennifer Jones, MD, PhD; Raghu Kalluri, MD, PhD
Forum Lecture Theatre

3:35 pm – 4:00 pm **Coffee in the Exhibit Hall**
CPD 5 Ballroom

Forum Lecture Theatre

4:00 pm – 4:30 pm **Wrap-Up Session: Panel Discussion Summaries**

Optional Evaluation Form

ISEV values their members and works to continue improving education within the ISEV member community. We take your feedback very seriously and make sure to improve our future meetings based on your needs for education. Please fill out this short, optional survey and turn it in to the registration desk or email it to Contact@ISEV.org after the workshop. We appreciate you taking the time to give us feedback and we hope to see you at future meetings! Don't forget ISEV2018 will be held May 2-6, 2018 in Barcelona, Spain. For more details, please visit ISEV2018.org.

PLEASE FILL THIS FORM

Rating 1 (least effective) – 5 (very effective)

Quality of Content

Organization

Location

Networking Opportunities

Biomarkers Coverage

Plenary Speakers

Thank you for joining us.

Additional Feedback

Join Us in May for ISEV2018

May 2-6, 2018 | Barcelona, Spain | ISEV2018.org

It is our pleasure to invite you to the 7th Annual International Society for Extracellular Vesicles (ISEV2018) Conference, to be held May 2-6, 2018 at the Palau de Congressos de Barcelona - FIRA Montjuic, Spain. This is an exciting opportunity to participate in the world's largest annual meeting that focuses on Extracellular Vesicles. The conference will cover all biological basic aspects related to exosomes, microvesicles, apoptotic bodies and synthetic vesicles, as well as, their clinical and translational applications.

ABSTRACT SUBMISSION DEADLINE: 15 JANUARY 2018

EARLT BIRD REGISTRATION SAVINGS DEADLINE: 1 FEBRUARY 2018



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Book Your Hotel

Please find listed recommended hotels in Birmingham. For more information or further suggestions, please see the Visit Birmingham website.

Campus Accommodation

Whether travelling for business or pleasure, you are guaranteed a friendly and warm stay at the Conference Park by University of Birmingham | Conferences and events. Located just five minutes from the main campus in Edgbaston.

AC Hotel by Marriott Birmingham

Access the best of Birmingham from the superbly located city centre hotel. Situated in the heart of the city, the AC Hotel Birmingham offers something for travelers of all types. Regardless of what brings you here, we know you'll appreciate our spacious, well-appointed accommodations, all of which come equipped with Wi-Fi internet access and many of which feature scenic views of the Gas Street Basin Canal.

Park Regis Birmingham

Park Regis Birmingham is a brand new upscale deluxe hotel offering 253 well-appointed guest rooms located in the heart of Birmingham City's Centre. The hotel offers a modern and contemporary ambience with a boutique feel for all guests to enjoy. Being close to Five Ways station, makes it an ideal location for attending events at the University.

Birmingham Marriott Hotel

This classic redbrick hotel is a 10 minute walk to Five Ways Station.

The traditional rooms and suites have flat-screen TVs, Wi-Fi (fee) and desks, plus tea and coffee making facilities. Suites and upgraded rooms offer free Wi-Fi, and suites also have separate living rooms and dining areas. There's a modern bar and restaurant, plus a breakfast buffet (fee). Other amenities include a spa, a heated indoor pool and a fitness centre, plus a business centre and meeting space.

Jurys Inn Hotel Birmingham

The Jurys Inn Hotel is centrally located on Birmingham Broad Street, just a short walk from both New Street station and Five Ways station.

Hilton Garden Inn Birmingham

Set in the prestigious Brindleyplace canal area just off Broad Street, the contemporary Hilton Garden Inn Birmingham Brindleyplace hotel is only minutes from the NIA, the ICC, Symphony Hall and the Bullring shopping centre.

Hotel Novotel Birmingham City Centre

The Hotel Novotel is located on Birmingham's Broad Street which is approximately a 6 minute drive from New Street Station and approximately 2 minute taxi ride or 12 minute walk from Five Ways Station.

Hampton by Hilton Birmingham

The new Hampton by Hilton Birmingham Broad Street will offer the outstanding service and excellent facilities you expect from Hilton, at a price point you'll appreciate.

Crowne Plaza Birmingham

The Crowne Plaza Birmingham City Centre is a great, centrally located hotel, just off Birmingham Broad Street. The Hotel is a short walk from both New Street station and Five Ways Station.

Holiday Inn Birmingham City Centre

Holiday Inn Birmingham City Centre is ideally located close to New Street station, just a 5 minute walk. The hotel would be approximately 8 minutes by train or 4 minutes by car to Five Ways Station.

Premier Inn, Birmingham Broad Street, Brindley Place

Wake up just minutes from Birmingham's must-see sights and iconic shopping centre. Whether it's underwater antics or soaring strings, big brands or trendy bars, our Birmingham hotel puts it all at your feet.

Premier Inn, Birmingham Broad Street, Canal Side

Get a taste of Venice in the heart of Birmingham at the canal-side Premier Inn Birmingham Broad Street. Overlooking the city's own world-famous waterways, it's a laid-back spot for exploring the city - whether for business or pleasure.

UNIVERSITY OF BIRMINGHAM

College of Medical and Dental Sciences Medical School

How to find us



Birmingham is at the heart of the UK's road and rail network, and is easily accessible from other parts of the country and beyond.

The Medical School is situated near to the West Gate of the University's main campus at Edgbaston.

Venue details:

Medical School, University of Birmingham, Vincent Drive, Edgbaston, B15 2TT

Sat nav users enter postcode B15 2SG which will direct you to Vincent Drive.

Tel: 0121 414 8606 / 8607/ 8608

Email: med-cpdbookings@contacts.bham.ac.uk

Website: www.birmingham.ac.uk/mds-cpdcentre

By Motorway

Approaching from the north-west or south-east along the M6:

- Leave at Junction 6 (signposted Birmingham Central) to join the A38(M)
- At the end of the motorway, keep to the right, go over a then through three underpasses to join the A38 Bristol Road
- The University is on your right, two and a half miles from the city centre

Approaching from the M42 north:

- Leave at Junction 8 to join the M6 northbound and follow the instructions above

Approaching from the south west:

- Leave the M5 at Junction 4 signposted Birmingham (SW) to join the A38
- The University is approximately eight miles from the motorway

Approaching from the M40:

- It is easier to turn south on the M42 and leave at Junction 1, heading north on the A38 Bristol Road
- The University is approximately eight miles from the motorway

By Rail

Most cross-country services to Birmingham arrive at New Street Station. Up to six trains an hour depart for the University station on the cross-city line (final destination: Longbridge or Redditch). The Medical School is just a three minute walk away from the University station. Turn right as you leave the station and the Medical School is in front of you.

National Rail for UK train times and timetables: www.nationalrail.co.uk

Network West Midlands for information on bus, rail and metro in the West Midlands: www.networkwestmidlands.com

By Air

Birmingham International Airport has direct flights from locations in the UK, as well as from the USA, Canada, Europe and the Middle East.

The journey by taxi from the airport to the University takes approximately half an hour. Alternatively, Air-Rail Link provides a free, fast connection between the airport terminals and Birmingham International railway station. Air-Rail Link operates every two minutes (journey time 90 seconds). Birmingham International railway station has frequent services to New Street Station in the city centre (journey time around 15 minutes).

If you are arriving at London, there is a frequent train service from London Euston railway station to New Street Station (journey time around 1 hour 30 minutes).

- From Heathrow Airport. Take the Heathrow Express train to Paddington Station and then the Underground or a taxi to Euston Station. Alternatively, an Airbus runs from Heathrow Airport direct to Euston Station

- From Gatwick Airport. Take the Airport Express train to Victoria Station and then the Underground or a taxi to Euston Station

By Bus

The X64, 98, serves the Medical School and Queen Elizabeth Hospital. Number 11 stops a short walk away at the bottom of Vincent Drive. Bus timetables are available on the National Express West Midlands website: www.nxbus.co.uk/west-midlands.

By Coach

There are frequent express coach services to Birmingham from London, Heathrow and Gatwick Airports and many UK cities. The long-distance coach station is in Digbeth in the city centre. The University is a short taxi ride or bus journey away.

By Taxi

There are taxi ranks at New Street station and throughout the city centre. The journey from the city centre takes about ten minutes.

Car Parking

The University has a Pay and Display system operating on the Edgbaston campus and visitors are advised to have change available. There are parking spaces available for visitors on Pritchatts Road Car Park (junction with Vincent Drive) and the North East Car Park (access via Pritchatts Road).

Visitor Parking rates:

Up 1 hour £2.00
1-3 hours £3.00
3-5 hours £4.00
5-8 hours £6.00

No cash, register with www.myringgo.co.uk to pay via your credit/debit card via your mobile phone.

Please note that any vehicles found not displaying a valid University parking permit, a visitor's permit, a pay and display ticket or parked illegally will receive a penalty notice.

