



# INTERNATIONAL WORKSHOP ON EXOSOMES (IWE) 2011

*Congrès International sur les Exosomes 2011*

**January 19th-22nd 2011**

*19-22 Janvier 2011*

Institut Curie, 12 rue Lhomond, 75005 Paris, France

Organized by Clotilde Théry and Graça Raposo

The organizers thank the following research organisms and sponsors for help in setting up this workshop



Institut national  
de la santé et de la recherche médicale



## IWE-2011 : Program at a glance

### Congrès International sur les Exosomes 2011: résumé du programme

(note: la langue du congrès est l' anglais)

Wedn Jan 19th <i>Merc 19 Janv</i>	Thurs Jan 20th <i>Jeu 20 Janv</i>	Fri Jan 21st <i>Ven 21 Janv</i>	Sat Jan 22nd <i>Sam 22 Janv</i>
8am-10am: registration, coffee <i>accueil, café</i>	9:15am-10:30am: <b>session 2</b> "Non-Exosomal Secreted Vesicles (microvesicles)" <i>"Vésicules sécrétées non-exosomales"</i>	9:30am-11am: <b>session 5</b> "Genetic Materials" <i>"Matériel génétique"</i>	9:30am-11:45pm: <b>session 8</b> "Tumor-related Immune Functions" <i>"Fonctions immunes dans le cadre du cancer"</i>
10am-10:45am: <b>Welcome, Historics</b> <i>Bienvenue, Historique</i>	10:30am-11:15am: coffee / <i>café</i> + posters	11am-11:45am: coffee / <i>café</i> + posters	10:30am-11am: coffee / <i>café</i> poster take-off
10:45am- 12:45pm: Round Table <i>Table Ronde</i> "Definition, Characterization, Purification" <i>"Définition, purification, caractérisation"</i>	11:15am-12:45pm: <b>session 3</b> "Non Tumor-related Immune Functions" <i>"Fonctions Immunes (hors cancer)"</i>	11:45am-12:30pm: <b>session 6</b> "Use In Clinics and as biomarkers" <i>"Utilisation en clinique et comme biomarqueurs"</i>	11:45-12:30pm: <b>Conclusions,</b> future Exosome society and future Exosome meetings
12:45pm-2:30pm: lunch <i>déjeuner</i>	12:45pm-2:30pm: lunch <i>déjeuner</i>	12:30pm-2:15pm: lunch <i>déjeuner</i>	12:30pm End of Meeting <i>Fin du congrès</i>
2:30pm-6pm: <b>session 1</b> "Biogenesis and Secretion" <i>"Biogenèse et sécrétion"</i>  4pm-4:45pm: coffee / <i>café</i> + posters	2:30pm-6pm: <b>session 4</b> "Non-Immune Functions" <i>"Fonctions non- immunes"</i>  4pm-5pm: coffee / <i>café</i> + posters	2:15pm-3:45pm: <b>session 6</b> (continued) <i>(suite)</i> 3:45pm-4:30pm: coffee / <i>café</i> + Posters  4:30pm-6:15pm: <b>session 7</b> "Pathogens" <i>"Pathogènes"</i>	
6pm-8pm: welcome cocktail <i>cocktail de bienvenue</i>			

# International Workshop on Exosomes (IWE) 2011

## January 19-22, Paris, France

### Final Program

#### Wednesday January 19th (morning)

**8:30am - 10am:**      **Desk opening, Registration**  
Coffee

**10am - 10:15 am:**                      **Welcome**  
Clotilde Théry and Graça Raposo

**10:15am - 10:45am:**                      **HISTORICS OF EXOSOMES**  
Graça Raposo (Paris, France)

**10:45am - 12:45pm:**                      **ROUND TABLE**  
**EXOSOME DEFINITION, CHARACTERIZATION, TECHNICS OF PURIFICATION**

**Chairs: Clotilde Théry (Paris, France), Willem Stoorvogel (Utrecht, The Netherlands), Michel Vidal (Montpellier, France), Jurg Schifferli (Basel, Switzerland), Vincenza Dolo (L'Aquila, Italy)**

10:45-10:50am : Introduction  
 10:50-10:55am: Vincenza Dolo (L'Aquila, Italy)  
                   *Microvesicles and exosomes : different biogenesis for different role*  
 10:55-11am: Jürg Schifferli (Basel, Switzerland)  
                   *Ectosomes*  
 11am-11:15am : Richard Simpson (Victoria, Australia)  
                   *Characterization of Human Colon Carcinoma Cell Line LIM1863-Extracellular Vesicles*  
 11:15am-11:30am : Leileata Russo (Exosome Diagnostics, New York, USA)  
                   *Rapid isolation and analysis of urinary exosomes for nucleic acid based biomarker analysis*  
 11:30am-11:45am : Travis Antes (System Biosciences, Mountain View, USA)  
                   *One-step exosome isolation by precipitation*  
 11:45am-12pm : Marca Wauben (Utrecht, The Netherlands)  
                   *Quantitative and qualitative flow cytometric analysis of exosomes at the particle level*  
 12pm-12:15pm : David Spetzler (Caris Life Sciences, Phoenix, USA)  
                   *Isolating Subpopulations of Exosomes and Subsequent miR Profiles*  
 12:15pm-12:30pm : Shivani Sharma (Los angeles, USA)  
                   *Atomic force microscopy based structure and surface receptor characterization of salivary exosomes*  
 12:30pm - 12:45pm : general discussion.  
                   *Agreement on required characteristics to define an exosome?*

## Wednesday January 19th (afternoon)

12:45 - 2:30pm: Lunch

**2:30pm - 4:30pm:**

### **SESSION 1** **EXOSOME BIOGENESIS AND SECRETION**

**Chair : Guillaume Van Niel (Paris, France)**

2:30pm-2:45pm : Willem Stoorvogel (Utrecht, The Netherlands)

*Sorting of MHC class II in dendritic cell exosomes*

2:45pm-3pm : Stephen J Gould (Baltimore, USA)

*Diverse plasma membrane anchors target highly oligomeric cytoplasmic proteins to exosomes/microvesicles*

3pm-3:15pm : Robert Mamoun (Montpellier, France)

*Identification of peptidic motifs of the bovine leukemia virus transmembrane protein able to sort membrane proteins with exosomes.*

3:15pm-3:30pm : Aparna Lakkaraju (Madison, USA)

*Polarized exocytosis of late endosomes and lysosomes in epithelial cells*

3:30pm-3:45pm : Mikael Simons (Gottenburg, Germany)

*The role of Rab35 in exosome biogenesis*

3:45pm- 4pm : Clotilde Théry (Paris, France)

*Insights into the mechanisms of exosome secretion*

4pm-4:45pm: Coffee break and posters (especially: Round Table + Session 1)

**4:45pm - 6pm:**

### **SESSION 1 (continued)** **EXOSOME BIOGENESIS AND SECRETION**

4:45pm-5pm : Pascale Zimmermann (Leuven, Belgium)

*Syndecan-Syntenin-Alix regulate the biogenesis of exosomes*

5pm-5:15pm : Franz Wendler (Nice, France)

*Exosomes as a putative carrier of the cholesterol-modified hedgehog protein in drosophila*

5:15pm - 6pm : Conclusion and general discussion on exosome biogenesis and characterization

6pm - 8pm: cocktail

## Thursday January 20th (morning)

**9:15am - 10:30pm:**

### **SESSION 2**

**NON-EXOSOMAL SECRETED VESICLES ("MICROVESICLES")**

**Chair : Jurg Schifferli (Basel, Switzerland)**

9:15am-9:30am : Ceylan Eken (Basel, Switzerland)

*Polymorphonuclear neutrophil-derived ectosomes induce the release of stored TGF- $\beta$ 1 in macrophages in a PS-independent manner*

9:30am – 9:45pm : Erzsebet Ligeti (Budapest, Hungary)

*Antibacterial effect of neutrophil-derived microvesicles*

9:45pm – 10pm : Marie-Catherine Le Bihan (Paris, France)

*Are secreted microvesicles a novel mechanism of communication for skeletal muscle ?*

10pm - 10:15 : Edit Buzas (Budapest, Hungary)

*Microvesicles in autoimmune diseases*

10:15pm – 10:30pm : Irène Tatischeff (Evry, France)

*Dictostelium discoideum : an eukaryotic model for the study of cell-derived extracellular vesicles*

10:30am - 11:15am: coffee break and posters (especially: Sessions 2 + 3 + 4)

**11:15am – 12:45pm:**

### **SESSION 3 : NON TUMOR-RELATED IMMUNE FUNCTIONS OF EXOSOMES**

**Chair : Esther Nolte-'t-Hoen (Utrecht, The Netherlands)**

11:15am - 11:30am : Paul Robbins (Pittsburg, USA)

*Treatment of autoimmune diseases using immunosuppressive exosomes*

11:30am - 11:45am : Michel Record (Toulouse, France)

*Exosomes as carriers of immunomodulator lipid mediators from the MVB of a donor cell to the nuclear receptors of a target cell: potential direct signaling mechanism to the nucleus*

11:45am – 12pm : Malin Hedlund (Umea, Sweden)

*Placental exosomes as a source of « soluble » NKG2D ligands and their role in pregnancy*

12pm – 12:15pm : Noela Prado (Madrid, Spain)

*Intranasal administration of exosomes loaded with a potential marker of tolerance inhibits IgE response in mice*

12:15pm – 12:30pm : Patricia Torregrosa-Paredes (Stockholm, Sweden)

*Exosomes from bronchoalveolar lavage fluid contribute to inflammation and leukotriene production in patients with asthma*

12:30pm – 12:45pm : Philip Askenase (New Haven, USA)

*Suppressive T cell derived exosomes deliver an miRNA in vivo to inhibit targeted immune effector T cells systemically*

## Thursday January 20th (afternoon)

12:45pm - 2:30pm: lunch

**2:30pm - 4pm:**

### **SESSION 4**

#### **NON-IMMUNE FUNCTIONS OF EXOSOMES**

**Chair : Philip Stahl (St Louis, USA)**

2:30pm - 2:45pm : Margot Zöller (Heidelberg, Germany)

*The importance of the tetraspanin web in target selection*

2:45pm - 3pm : Michel Vidal (Montpellier, France)

*Galectin 5 is secreted associated with the surface of rat reticulocyte exosomes*

3pm – 3:15pm : Sai Kiang Lim (Singapore)

*Exosome : a mediator of the paracrine effects of mesenchymal stem cells*

3:15pm-3:30pm : Peter Quesenberry (Providence, USA)

*Stem cell plasticity and microvesicles*

3:30pm-3:45pm : Jason Webber (Cardiff, UK)

*Tumor exosomes trigger TGF $\beta$ 1-dependent fibroblast differentiation resulting in a pro-angiogenic phenotype*

3:45pm - 4pm: Janusz Rak (Montreal, Canada)

*Oncosomes as effectors and biomarkers of tumour angiogenesis and progression*

4pm - 5pm: coffee break and posters (especially sessions 2 + 3 + 4)

**5pm– 6pm:**

### **SESSION 4 (continued)**

#### **NON IMMUNE FUNCTIONS OF EXOSOMES**

5pm-5:15pm : Stefan Momma (Frankfurt, Germany)

*Intercellular signaling from hematopoietic to neural cells via Exosomes*

5:15pm-5:30pm : Eva-Maria Krämer-Albers (Mainz, Germany)

*Transfer of oligodendroglial exosomes to neurones : a mode of axon-glia communication ?*

5:30pm – 5:45pm : Remy Sadoul (Grenoble, France)

*Release of exosomes from differentiated neurons and its regulation by synaptic glutamatergic activity*

5:45pm – 6pm : Lawrence Rajendran (Zurich, Switzerland)

*Exosomes in the release and transcellular spread of amyloids: Implications for Neurodegenerative diseases*

## Friday January 21st (Morning)

9:30 am - 11 am :

### SESSION 5

#### EXOSOMES AND GENETIC MATERIALS

**Chair : Johan Skog (New York, USA)**

- 9:30am – 9:45am : Nobuyoshi Kosaka /Takahiro Ochiya (Tokyo, Japan)  
*Secretory mechanisms and intercellular transfer of micro RNAs in living cells in vitro and in vivo*
- 9:45am – 10am : Pierre Busson (Villejuif, France)  
*Biochemical and functional characteristics of tumor exosomes released by Epstein-Barr virus-associated nasopharyngeal carcinomas*
- 10am – 10:15am : Marian Aalberts (Utrecht, The Netherlands)  
*miRNA-containing exosomes in seminal plasma*
- 10:15am – 10:30am : Annie Levy-Mozziconacci (Marseille, France)  
*Detection of cell-free DNA, RNA and miRNA in exosomes : new non-invasive pregnancy-associated markers ?*
- 10:30am – 10:45am : Cecilia Lässer (Göteborg, Sweden)  
*RNA in exosomes from human breast milk, nasal lavage fluid, saliva, and plasma*
- 10:45am – 11am : Traci Pawlowski (Caris Diagnostics, Phoenix, USA)  
*Comparison of miRNA expression pattern in plasma, serum, and cell line exosomes*

11am - 11:45am : coffee break and posters (especially sessions 5 + 6 + 7 + 8)

11:45am - 12:30pm:

### SESSION 6

#### EXOSOMES IN CLINICS AND AS BIOMARKERS



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**Chair : Peter Altevogt (Heidelberg, Germany)**

- 11:45am - 12pm : Juan Falcon-Perez (Bizkaia, Spain)  
*Study of Extracellular Microvesicles (e.g. Exosomes) to Identify Non-Invasive Biomarkers*
- 12pm - 12:15pm : Silke Patz (Graz, Austria)  
*Identification and characterisation of cerebral microparticles in cerebrospinal fluid following traumatic brain injury (TBI)*
- 12:15pm - 12:30pm : Douglas Taylor (Louisville, USA)  
*Exosomal RNA and Protein Profiles Identify Pregnancies Destined to Deliver Preterm*

## Friday January 21st (afternoon)

12:30pm – 2:15pm: lunch

### 2:15pm – 3:45pm: SESSION 6 (continued) EXOSOMES IN CLINICS AND AS BIOMARKERS



sponsored by

- 2:15pm - 2:30pm : Nathalie Chaput (Villejuif, France)  
*Critical role of IFN $\gamma$  for the production of highly immunogenic dendritic cell-derived exosomes*
- 2:30pm – 2:45pm : Fred Hochberg (Boston, USA)  
*Development of the dick floor biorepository to support studies of serum exosomes from patients with glioblastoma multiforme*
- 2:45pm - 3pm : Diederick Duijvesz (Rotterdam, The Netherlands)  
*Profiling prostate cancer exosomes in search of novel biomarkers*
- 3pm - 3:15pm : Leonora Balaj (Charlestown, USA)  
*Tumor exosomes contain retrotransposon elements and amplified oncogene sequences*
- 3:15pm – 3:30pm : Sascha Keller (Heidelberg, Germany)  
*Exosomal shuttle RNA - a new tool in diagnostics*
- 3:30pm – 3:45pm : Francesco Cappello (Palermo, Italy)  
*Exosome involvement in Hsp60 secretion by tumor cells*

3:45pm – 4:30pm: coffee break and posters (especially sessions 5 + 6 + 7 + 8)

### 4:30pm – 6:15pm: SESSION 7 EXOSOMES AND PATHOGENS

**Chair : Annika Scheynius (Stockholm, Sweden)**

- 4:30pm – 4:45pm : Nuria Izquierdo-Useros (Barcelona, Spain)  
*HIV and mature dendritic cells: Trojan exosomes riding the Trojan horse ?*
- 4:45pm – 5pm : Andreas Baur (Erlangen, Germany)  
*The unexpected function of exosomes secreted by HIV nef and melanoma cells*
- 5pm – 5:15pm : D. Michiel Pegtel (Amsterdam, The Netherlands)  
*Viral hijacking of the exosomal-endosomal pathway*

## Friday January 21st (afternoon)

- 5:15pm – 5:30pm : Ulf Gehrman (Stockholm, Sweden)  
*Exosome-like vesicles induce cytokine responses – novel mechanisms for host-microbe interactions in atopic eczema*
- 5:30pm – 5:45pm : Jeffrey S. Schorey (Notre Dame, USA)  
*Exosomes released from mycobacterial-infected macrophages can function to promote or inhibit macrophage activation*
- 5:45pm – 6pm : Didier Vilette (Toulouse, France)  
*Prions and exosomes : ex vivo and in vivo studies*
- 6pm – 6:15pm : Judith M. Silverman (Vancouver, Canada)  
*Identification of an Exosome-Based Secretion System in Leishmania: Novel Mechanisms and Immune Modulating Properties*

## Saturday January 22nd (morning)

**9:30am – 10:30am:**

### SESSION 8

#### TUMOR-RELATED IMMUNE FUNCTIONS OF EXOSOMES

**Chair : Susanne Gabrielsson (Stockholm, Sweden)**

9:30am – 9:45am : Kim Lyerly (Durham, USA)

*Targeting soluble tumor associated antigens CEA and HER2 to exosomes enhances antigen-specific and anti-tumor immune responses*

9:45am – 10am : Sandrine Silvente-Poirot (Toulouse, France)

*Dendrogenin A modifies aggressive melanoma cells to secrete exosomes with anti-tumor activity*

10am – 10:15am : Theresa Whiteside (Pittsburg, USA)

*Tumor-derived microvesicles (exosomes) expand/up-regulate activity of Tregs and inhibit functions of NK cells*

10:15am – 10:30am : Mar Vales-Gomez (Madrid, Spain)

*Immune modulation mediated by release of ligands for the immune activating receptor NKG2D*

10:30am – 11am : coffee break, poster take off

**11am – 11:45pm:**

### SESSION 8 (continued)

#### TUMOR-RELATED IMMUNE FUNCTIONS OF EXOSOMES

11am – 11:15am : Huang-Ge Zhang (Louisville, USA)

*Tumor cells cross-talk with immune cells leads to induction of tumor exosomal fibronectin and promote tumor progression*

11:15am – 11:30am : Licia Rivoltini (Milan, Italy)

*Immunosuppressive and pro-angiogenic properties of melanoma exosomes*

11:30am – 11:45am : Aled Clayton (Cardiff, UK)

*Cancer exosomes express CD73 and support immune suppression through adenosine generation*

**11:45am -12:30pm:**

**CONCLUDING REMARKS AND GENERAL DISCUSSION :  
FUTURE EXOSOME CONFERENCES. FUTURE EXOSOME SOCIETY.**