



# OPEN MEDICAL INSTITUTE

## SEMINAR REPORT

### GLOBAL HEALTH: VIRUSES, LIVER AND CANCERS

July 18-24, 2021

A Global Educational Initiative by the  
American Austrian Foundation

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# SALZBURG INSTITUT PASTEUR SEMINAR IN GLOBAL HEALTH: VIRUSES, LIVER AND CANCERS 2021

July 18-24, 2021

30 fellows from 21 countries (24 on-site, 6 remote)
12 faculty members from France, Italy, Spain, and China
13 lectures given by faculty

Group Photo of Faculty and Fellows



		<b>Sunday</b> 18.07.2021	<b>Monday</b> 19.07.2021	<b>Tuesday</b> 20.07.2021	<b>Wednesday</b> 21.07.2021	<b>Thursday</b> 22.07.2021	<b>Friday</b> 23.07.2021	<b>Saturday</b> 24.07.2021
07:00	08:00		<b>BREAKFAST</b>	<b>BREAKFAST</b>	<b>BREAKFAST</b>	<b>BREAKFAST</b>	<b>BREAKFAST</b>	<b>DEPARTURES</b>
08:00	09:30		<b>Introductions Pre-Seminar Test</b>	<b>Viral Hepatocarcinogenesis, Viruses, Immunity and Cell Stress</b>  Jean-Christophe Pagès	<b>Virus Hijacking of Host Innate Immune Responses</b>  Angela Santoni	<b>Hepatitis D Virus Infection: Virology, Epidemiology, Natural History and Treatment</b>  Paul Deny	<b>Immunological Aspects and Pathogenesis of Hepatitis B and C Viruses Associated Liver Damage</b>  Vincenzo Barnaba	
09:30	11:00		<b>Hepatitis B Virus, Restriction Factors and Cancer</b>  Jean-Pierre Vartanian	<b>Genomic Aspects of Viral Hepatocarcino-Genesis</b>  Pascal Pineau	<b>Virus-Host Cell Interactions in the Life Cycle of Hepatitis C Virus</b>  Jean Dubuisson	<b>Viral Hepatitis and Risk of Hepatocellular Carcinoma Epidemiology, Diagnosis and Treatment</b>  Stanislas Pol	<u>09:30 - 10:30</u> <b>Cancer Immunotherapy</b>  Vincenzo Barnaba	
11:00	11:30		<b>COFFEE BREAK</b>	<b>COFFEE BREAK</b>	<b>COFFEE BREAK</b>	<b>COFFEE BREAK</b>	<b>COFFEE BREAK</b>	
11:30	13:00		<b>Viral Fitness and its Implications for Disease Control and Host Interactions</b>  Esteban Domingo	<b>Hepatitis B Virus Infection and Hepatocarcinogenesis</b>  Yu Wei	<b>Round Table</b>  Jean Dubuisson Angela Santoni	<b>Hepatocellular Carcinoma: Imaging, Interventional Radiology, Surgery</b>  Stanislas Pol	<b>Preventive and Therapeutic Vaccines for Hepatitis B</b>  Marie-Louise Michel	
13:00	14:30		<b>LUNCH</b>	<b>LUNCH</b>	<b>LUNCH</b>	<b>LUNCH</b>	<b>LUNCH</b>	
14:30	16:00		<b>Round Table</b>  Esteban Domingo Jean-Pierre Vartanian	<b>Round Table</b>  Jean-Christophe Pagès Pascal Pineau Yu Wei	<b>Free Afternoon</b>	<b>Round Table</b>  Paul Deny Stanislas Pol	<b>Round Table</b>  Vincenzo Barnaba Marie-Louise Michel	
16:00	18:00		<u>16:00 - 16:15</u> <b>OMI Presentation</b>				<u>16:00 - 17:00</u> <b>Post-Seminar Test Evaluation &amp; Discussion</b>	
18:00	19:00	<b>FACULTY MEETING TO REVIEW THE WEEK</b>					<b>FAREWELL RECEPTION</b>	
19:00	20:00	<b>WELCOME RECEPTION &amp; DINNER</b>	<b>DINNER</b>	<b>DINNER</b>	<b>DINNER</b>	<b>DINNER</b>	<b>GRADUATION DINNER</b> Certificates Awarded	
20:00	21:00					<u>20:30 - 21:30</u> <b>CHAMBER MUSIC CONCERT</b>		



# OPEN MEDICAL INSTITUTE

## FACULTY BOOKLET

GLOBAL HEALTH:  
VIRUSES, LIVER AND  
CANCERS  
SEMINAR IN SALZBURG

July 18-24, 2021

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## **Wolfgang Aulitzky, MD**

Director, Open Medical Institute  
**American Austrian Foundation**

Associate Dean and Gerhard Andlinger Professor  
for International Medicine & Distance Learning  
Adjunct Professor of Clinical Urology  
Adjunct Professor of Clinical Reproductive Medicine  
**Weill Medical College of Cornell University**

Adjunct Professor of Pediatrics  
**Perelman School of Medicine at the Children's Hospital  
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Associate Professor of Urology  
**Medical University of Innsbruck, Austria**

**Wolfgang Aulitzky, MD** is the Medical Director of the American Austrian Foundation. He is Associate Dean for International Medicine and Distance Learning, Adjunct Prof. of Clinical Urology and Adjunct Prof. of Clinical Reproductive Medicine at the Weill Medical College of Cornell University/New York Presbyterian Hospital. In 2016, he was appointed Adjunct Professor of Pediatrics in the Associated Faculty of the Perelman School of Medicine at the Children's Hospital of Philadelphia. He is also Associate Prof. of Urology at the Medical University of Innsbruck and Visiting Professor at the Medical University of Vienna. Amongst others he is a member of the American, German and Austrian Societies of Urology and was awarded the Zuckermandlpreis of the Austrian Society of Urology in 1989. In 1995 he received the Silver Medal, in 2007 the Golden Medal for Merits to the Republic of Austria and in 2014 the cross of honor of the Land Salzburg. As Director of the Medical Program of the American Austrian Foundation he has initiated the Open Medical Institute, a scientific and educational collaboration of Weill Cornell and the New York Presbyterian Hospital, the Children Hospital of Philadelphia, Duke University, Columbia University, the Cleveland Clinic and leading hospitals in Austria. Dr. Aulitzky earned his medical degree at the University of Innsbruck in 1977, was a research associate at the University of Uppsala, Sweden and the Rockefeller University, New York. He received his training as an urologist at the University of Innsbruck and the General Hospital of Salzburg. He is the author of more than 140 publications on Urology, Andrology and Health Care issues and is co-author of books on basic and clinical urology/andrology.



## Jean-Pierre Vartanian, PhD

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**Jean-Pierre Vartanian, PhD (Course Director)** obtained his PhD at the University of Paris. He is Research Director and Deputy Director of the Department of Virology at the Institut Pasteur. He is the co-director of the basic Virology course at the Institut Pasteur. He is involved in teaching in many French and foreign Universities. He recently organized two MOOCs (Massive Open Online Course) entitled "Viruses and Human Cancers" and "Emerging and Re-emerging Viruses". He is the director of a course of Molecular Cancer Genetics, developed in partnership with Institut Pasteur, Institut Curie and ENS Ulm. He is also actively involved in the organization of courses within the Institut Pasteur International Network. He has supervised numerous students and was the thesis director for 12 students. He works in the Department of Virology at the Institut Pasteur and is focused on identifying restriction factors involved during viral replication and the role of cellular RNA/DNA editing enzymes with antiviral activity against a range of human pathogens. He is a peer reviewer for multiple major journals.



## Vincenzo Barnaba, MD

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**Vincenzo Barnaba, MD** is Honorary Professor of Internal Medicine of Sapienza Università di Roma and carries out his scientific research mainly at the Institut Pasteur, Fondazione Cenci Bolognetti - Dipartimento di Medicina Interna e Specialità Mediche, Sapienza Università di Roma. Dr. Barnaba has been active as an immunologist for 40 years. The group led by Dr. Barnaba has a long-standing interest in the pathogenesis of immune-mediated diseases, including autoimmune and viral (hepatitis viruses, HIV) diseases, and tumor immunity. In particular, the group's research fields are the following:

1. Dynamics of CD8 T cell responses against viral and tumor antigens
2. Mechanisms of cross-presentation of exogenous (pathogen- or tumor-associated) antigens
3. Mechanisms influencing the differentiation of memory or effector T cells during immunopathology (chronic viral infections, tumors)
4. Mechanisms controlling T cell responses (i.e., by regulatory T cells [Tregs]) in chronic infections, autoimmunity and tumors
5. Proteomic analysis of tumor cells addressed for identifying novel immunogenic self- or tumor antigens
6. Proteomic analysis of tumor secretomes addressed for identifying novel immune checkpoints
7. Studies on the role of viruses in unveiling cryptic self-epitopes.

Dr. Barnaba published on these topics, as author or co-author, about 200 papers in peer-reviewed journals (including Nature, Nature Medicine, J Exp Med, J Clin Invest, J Immunol, Hepatology, J Hepatol, PNAS, etc) and presented about 40 talks as invited speaker at international congresses, conferences and international summer courses. He organised several international congresses and meetings, such as the Congress "Immunology Today" Kunkel Society Rockefeller University, NY 2007; Istituto Pasteur Cenci B. conference on Liver development and disease, Rome, 2009; Gordon conference on II meeting on antigen cross-presentation



## Paul Dény, MD, PhD

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**Paul Dény, MD, PhD** was born on the 21st of May, 1957 to a locksmithing family during the Asian flu H2N2 epidemic that led to approximately 4 million deaths worldwide. He studied medicine in the Paris Medical Faculty Xavier Bichat and was particularly interested in infectious and liver diseases. He completed his residency and medical doctor (MD) thesis on chicken pox-infected young adults, migrating from Sri-Lanka. While doing his clinical internship in a suburb hospital which specialized in illnesses associated with homeless people, he was involved in the clinical bacteriology and virology course of University Paris VI and met Jean-Claude Nicolas who initiated him for scientific research on the cytomegalovirus. After his Master-2 at the Pasteur Institute and University Paris VII-Diderot, he stayed under the supervision of Pierre Tiollais and Christian Bréchet for his PhD on hepatitis delta genetic variability, beginning at a time where the first HDV RNA sequence of 1678/9 nucleotides was published (1986: that was nine years after delta antigen discovery!). At the same time, he was recruited as an Assistant Professor in Virology in the University Paris 13/Sorbonne Paris Nord, Medical Faculty of Bobigny, in the Seine Saint Denis district North-East Suburbs of Paris, to create the laboratory of Virology for Avicenne Hospital in Bobigny. In this district, due to poor social conditions, both HIV and HCV were highly prevalent and, as more than 126 nationalities coexist, it was an opportunity to explore the viral worldwide HIV, HCV, HBV and HDV variabilities and ways of spreading (1). Due to historical relationship between France and Africa, many immigrants came from sub-Saharan Africa and individuals were found to be infected by both HBV and HDV. The HDV genomes characterized from African migrants had not been described previously and extended the HDV genetic variability to eight major clades, partially superimposed on HBV genetic variability (2,3,4). After being a professor in bacteriology and virology, as the chief of the laboratory and obtaining the label of French National Reference Center for Hepatitis Delta virus, Paul Dény joined Fabien Zoulim research team in the Cancer Research Center of Lyon, to study the HDV cellular replication cycle in a cellular environment that allowed the replication of HBV, making models for implementing HDV co and superinfection of HBV in cell culture in collaboration with David Durantel, Julie Lucifora, Fabien Zoulim and Dulce Alfaiate. Together with Jean-Claude Cortay, Natali Abeywickrama-Samarakoon, Dulce Alfaiate, Camille Sureau, Philippe Merle and Massimo Levrero, he explored a Small HDV-interactant found in the differentiated HepaRG cell line that might recruit the cellular DNA dependant-RNA Pol II for HDV RNA synthesis. Indeed, using histone mimicry and a probable pseudo-nucleosome configuration, the acetylated small delta protein may recruit a chromatin remodeling platform, known as BRF1 and BRF5 (BAZ2B Remodeling Factor 1 and 5) that includes both BAZ2B and the ATPase SNF2L/H, paving the way to explore how a DNA-dependant RNA polymerase could replicate the viral RNA (5). During the 2020-2021 COVID-19 epidemic, Paul Dény helped the

Bobigny clinical virology unit and wrote a COVID-19 review for students in French in collaboration with his colleagues Chakib Alloui, Ségolène Bricler, Héroïse Delagrèverie, Frédéric Le Gal, Emmanuel Gordien, Etienne Carbonnelle and Frédéric Adnet (6).



## Esteban Domingo, BSc, PhD

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**Esteban Domingo, BSc, PhD** received a BSc in Chemistry (1965) and a PhD in Biochemistry (1969) from the University of Barcelona. He did postdoctoral work at the University of California, Irvine, with Dr. Robert C. Warner (1969-1973), and University of Zürich, working on genetics of bacteriophage Qbeta, with Dr. Charles Weissmann (1974-1977). This work permitted the first calculation of a mutation rate for an RNA virus, and the first evidence of quasispecies dynamics in an RNA virus. Then he obtained a position of Scientist at Centro de Biología Molecular Severo Ochoa (CSIC-UAM) in Madrid (1976) and was promoted to Professor of Research (CSIC) in 1989. With his group in Madrid, he documented high mutability and quasispecies dynamics of the important animal pathogen foot-and-mouth disease virus (FMDV). Work with FMDV and other RNA viruses, in particular vesicular stomatitis virus (VSV) in collaboration with John Holland, established multiple biological implications of quasispecies dynamics. In recent years, his research is centered in viral fitness and lethal mutagenesis as a new antiviral strategy, using mainly hepatitis C virus as model system. Esteban Domingo has published 400 research papers and several books and book chapters, with an h index of 82. He has received several awards including the degree of Doctor honoris causa from the Universities of Liège (Belgium) in 1999, and Bern (Switzerland) in 2004. He is a member of EMBO, the European Academy, Vice-President of the Royal Academy of Sciences of Spain (Real Academia de Ciencias Exactas, Físicas y Naturales), and International Member of the National Academy of Sciences of the US.



## Jean Dubuisson, DVM, PhD

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**Jean Dubuisson, DVM, PhD** is a virologist specialized in molecular and cellular studies of positive-strand RNA viruses. He grew up in Belgium and graduated as a Doctor in Veterinary Medicine in 1984 from the University of Liège, and he received his PhD degree in 1989 from the same university. Between 1985 and 1991, he studied viral pathogenesis of bovine herpesviruses in Belgium. He did a post-doctoral training between 1991 and 1994 in the Department of Molecular Microbiology of the Washington University School of Medicine in St. Louis, Missouri, in the United States. During that time, he worked on Sindbis virus, yellow fever virus and hepatitis C virus, and he received NATO, Keck Foundation and Fogarty fellowships for his post-doctoral training. In 1994, he obtained a tenure position at the CNRS and he started to develop his own group in France, at the Institut Pasteur of Lille, with the support of a CNRS starting grant (ATIPE grant). Since 1993, Dr Dubuisson has been working on hepatitis C virus. He has been a pioneer in studying hepatitis C virus entry and morphogenesis. Since 2014, his group is also developing research projects on coronaviruses and hepatitis E virus. In 2003, he received the Silver Medal Award from the CNRS and between 2005 and 2010, he was an HHMI (Howard Hughes Medical Institute) International Research Scholar. Recently, Dr Dubuisson was appointed Head of the Center for Infection & Immunity of Lille (CIIL), a research unit affiliated to the CNRS and Inserm on the campus of the Institut Pasteur of Lille.



## Marie-Louise Michel, PhD

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**Marie-Louise Michel, PhD** is co-inventor of the first recombinant hepatitis B vaccine, GenHevac B, commercialized by Sanofi. She did most of her scientific career at the Institut Pasteur in Paris as Head of the Pathogenesis of hepatitis B virus Laboratory. While at the Institut Pasteur, she developed a unique humanized mice animal model to enable testing “therapeutic vaccines” against chronic viral hepatitis B. Today, Dr. Michel is a consultant in the field of vaccine development, cancer immunology and infectious diseases for major international research institutions, pharmaceutical and Biotech companies. She is a member of the National Academy of Inventors since 2017. For her work on the hepatitis B vaccine, she has been awarded twice by the National Academy of Medicine, in 1997 she received the Novartis-Pharma Award and in 2000 the Gallet-Breton Award. For her work and pioneering studies on DNA vaccines for hepatitis B, first in animal models and then in human clinical trials, she received the Saul Krugman Award on Viral Hepatitis in 1996. Marie-Louise Michel lives and works in Paris. She is currently on the scientific advisory committee of several government agencies for grant evaluations and academic tenure applications. She is reviewer for various international scientific journals and serves as independent expert at few international industry advisory boards. She received her PhD degree in Microbiology from the University of Paris VII (France) in 1985.



## Jean-Christophe Pagès, MD, PhD

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**Jean-Christophe Pagès, MD, PhD** is a professor of Cell Biology at the University of Toulouse 3, and University hospital Purpan. He graduated at the University Paris 7 Denis Diderot where he studied genetics and the virology applied to gene transfer for liver disease. After installing the retroviral and lentiviral vector core facility at the Genethon in 1996, he moved to Tours where he established as a Professor of Molecular Biology and Biochemistry. Contributing to a virology research unit focused in HIV and HCV, his research topic remained in the field of retroviral gene transfer, building new types of vectors for extended cloning capacities and RNA transfer. The former successfully led to development of a platform for co-transfer of multiple RNAs within a unique particle. These vectors are now commercialized by Flashtherapeutics (Toulouse). Flash-vectors proved efficient for in vitro and in vivo transfer, the particles are mostly developed for gene editing and vaccination. Besides, as biological physician, he launched a platform for molecular diagnostic in cancer with a focus on liver and soft tissue. Jean-Christophe Pagès moved to Toulouse at the fall of 2019 to head the Cell Biology unit at the University Hospital of Purpan, with activities in genetics, cytology and tumor markers. He is teaching cell biology and cancer to medical student at the university Toulouse 3. His research now focuses on cell biology for the development of reprogramed cells for organ regeneration and to reduce metabolic syndrome, including NASH. His research is developed at the RESTORE institute, a multidisciplinary structure. In parallel, Pr Jean-Christophe Pagès heads the High Council for biotechnologies, a governmental advisory body in the field of biotechnologies, including GM plants and gene therapy.



## Pascal Pineau, PhD

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**Pascal Pineau, PhD** is currently Research director (~PI) at the Institut Pasteur in Paris. Dr. Pineau was born in Berlin (Germany) but spent his childhood near Bordeaux in South West France. After moving to Paris, he was a student at the School of Pharmacy of Paris XI University (Chatenay-Malabry) in the 1980s decade and he completed his formation by an internship in Paris-Greater Paris hospitals. He obtained a Ph.D in 1998 from Paris XI university (Orsay) after conducting his thesis work in Institut Pasteur where he took a position of permanent scientist in 2000. Dr. Pineau has published in the areas of cancer genetics and molecular virology and more specifically in the field of hepatocellular carcinoma and hepatitis viruses. His main research interests are dealing with the molecular epidemiology of primary liver cancer with a particular attention for chromosome instability, somatic mutations and DNA methylation in correlation with viral infections and exposure to environmental mutagens. With the help of fellow scientists and clinicians from other research Institutions (Istituto Nazionale dei Tumori, Institut Pasteur of Morocco, of Iran, of Bangui, of Saint Petersburg, of the Centre Pasteur of Cameroon, Institutes Fundeni and Cantacuzino, Fudan University, National Institute for Sustainable Development, and the National Institute for Tumor Diseases in Lima, Peru), Dr. Pineau pioneered the field of somatic and/or inherited genetics of hepatocellular carcinoma in low incidence and poorly studied areas as Northern/SubSaharan Africa, Central Europe/Russia or South-America. This activity enabled him to observe the impact of clinically relevant genetic, infectious, and environmental specificities of liver tumors. Pascal Pineau is a peer reviewer for multiple major liver journal. He is also involved for more than ten years in teaching activities at Institut Pasteur and for international courses.



## **Stanislas Pol, MD, PhD**

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**Stanislas Pol, MD, PhD** is Professor of Hepatology and Gastroenterology at Université Paris Sorbonne, Paris, France. He is the Head of the Liver Department at Cochin Hospital, Paris, France. He attended a Hepatology and Gastroenterology residency, chief residency at the Necker-Enfants Malades University and molecular enzymology fellowship in Henri Mondor Hospital. Dr Pol completed his MD thesis on hepatitis B virus occult infections in 1983 and his PhD thesis on the regulation of iso-enzymes of ALT in liver disease in 1992. Dr. Pol's research interests involve: 1. Hepato-virology (diagnosis and therapy of viral hepatitis, especially in populations with immune deficiency; 2. the management of hepatocellular carcinoma and 3. reversal of cirrhosis. He is the recipient of several research awards and fellowships. He has published more than 400 primary and review articles in the field of liver diseases. He has previously chaired the coordinated action 24 of the French Agency for AIDS and Viral Hepatitis (ANRS: therapeutic trials in viral hepatitis) and he is the clinical head of the French ANRS Hepather (HBV and HCV hepatitis) cohort. He was the head of a group in the research Inserm unit 1223, studying the immune pathology of Hepatitis C virus infection until 2020 and the director of the Center of Translational Research of Institut Pasteur, Paris, France until 2019.



## Angela Santoni, PhD

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**Angela Santoni, PhD** is a Full Professor of Immunology and Immunopathology at the Sapienza University of Rome. She graduated at the University of Perugia and completed her scientific training abroad as Fogarty Fellow at the Laboratory of Experimental Chemotherapy and Immunodiagnosis, NCI-NIH, Bethesda, MD, and then as Research Expert, at the Laboratory of Immunodiagnosis, NCI, NIH, Bethesda, MD, and Biological Response Modifiers Program, Biological Therapeutics Branch, Section of Natural Immunity, NCI, CRF, Frederick, MD. In 1986, she became Full Professor, Chair of General Pathology, Medical School, University of L'Aquila, L'Aquila, and in 1990, Full Professor, Chair of Immunology and Immunopathology, Medical School, University of Rome "La Sapienza", Rome, Italy. She was President of the Master Course in Medical Biotechnologies and is the Head of PhD Course in Innovation in immuno-mediated and hematological disorders. Over the last 9 years, she directed the Department of Molecular Medicine that it is recognized at the beginning of 2018 as Department of Excellence by the Italian Ministry of Education, Research and University. Since 2009, she is the scientific Director of the Pasteur Institute-Italia, which is part of the International Pasteur Institute Network (IPIN) representing the Europe Region from 2012 to 2017. Since 2017, she is the President of the Italian Society of Immunology, Clinical Immunology and Allergology (SIICA) and since 2015 member of the Council of International Union Immunological Societies (IUIS). From 2010 to 2012, she was the Editor in Chief of Immunology Letters, a scientific journal of the European Federation of Immunological societies (EFIS). Basically, she is a scientist mainly involved in studying several aspects of the biology of NK cells including the NK cell-mediated cancer immunosurveillance in which she provided important contributions, as described below. In addition to research, during the years, she is confident to have provided important contribution to the educational aspects of science. She is involved in teaching to medical school students, undergraduates and graduates for more than 30 years, and has established numerous PhD programs in the field of Molecular Biology and Medicine. She also has been teaching to numerous residence physicians in the field of Clinical Immunology and allergology, Haematology, Medical Oncology and Clinical Pathology. Finally, she is on the board of the Educational Committee of IUIS and of the IPIN and organized a number of international courses in the field of Immuno-oncology. Currently, her articles have over 19000 citations. Below are some of the specific scientific areas to which Dr. Santoni has contributed:

- Intracellular signaling pathways triggered by several surface activation/adhesion receptors in NK cell functions.
- Identification of the chemokine receptors controlling NK cell migration in the bone marrow and other tissues.
- Molecular mechanisms regulating the expression of NK cell activating receptor ligands on normal and cancer cells.
- NK cell-mediated stress surveillance against cancer cells.
- Neuroimmunology.



## Yu Wei, PhD

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**Yu Wei, PhD** is a principal investigator at Institut Pasteur of Shanghai, Chinese Academy of Sciences and the head of the Unit of Hepatitis B Virus and Liver Disease. Dr. Wei grew up in Beijing, China and attended Peking Union Medical College in Beijing. She studied hepatitis B virus (HBV)-associated hepatocarcinogenesis with Drs. Marie-Annick Buendia and Pierre Tiollais at Institut Pasteur in Paris and earned a Ph.D in virology from University Paris Diderot in France. Dr. Wei completed her postdoc training on hepatitis B virus life cycle with Dr. Don Ganem in the Department of Microbiology and Immunology at University of California, San Francisco, USA. Then, Dr. Wei worked on the mechanisms of liver carcinogenesis at Institut Pasteur in Paris. Dr. Wei's research interests include hepatitis B virus life cycle, host-virus interaction, HBV insertional activation of host genes in hepatocarcinogenesis, immune response to HBV infection, dysregulation of cell signalling pathways in liver disease.

# Fellow Booklet

## Global Health: Viruses, Liver and Cancers



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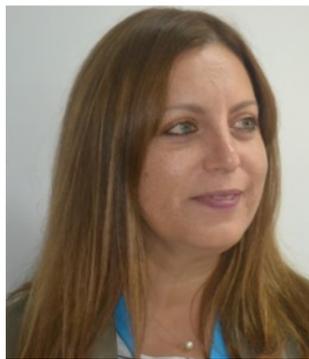
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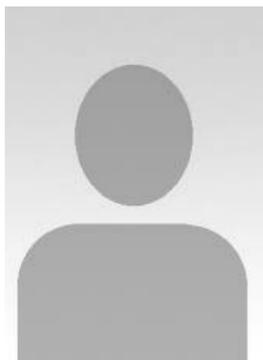
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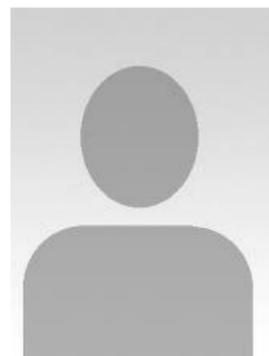
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## DIARY



Marina Prisca De Marguerite Nombot - Yazengué, MD  
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**Saturday, July 17, 2021**

I arrived in Salzburg by plane during the late afternoon when it was raining. I came from my country, the Central African Republic (RCA) (Bangui) located in Central Africa, via Kenya, Paris, and Frankfurt. It was a long trip, but while riding in the taxi from the airport to Schloss Arenberg, I forgot the fatigue due to the beauty of this city. After being greeted at the reception and filling out some official papers, I was directed to a very comfortable single-bed room, where I arranged my luggage and rested.

**Sunday July 18, 2021**

The first meeting was at 7:00 pm. Dr. Wolfgang Aulitzky (Medical Director of AAF) and Dr. Jean-Pierre Vartanian (Course Director) introduced the main issues of the seminar, practical & scientific organization. Then a very tasty dinner allowed us to get to know each other. I was able to realize that we all come from different continents. It was also useful to break down the first communication barriers with other people.

**Monday, July 19, 2021**

At 8:00 am, Dr. Jean-Pierre Vartanian welcomed us to the seminar again and after a brief introduction, we took the pre-seminar test. It was an opportunity for me to review my knowledge

on viral hepatitis and cancer by answering the various questions. The first lecture was given by Dr. Jean-Pierre Vartanian and focused on the Hepatitis B virus in general, restriction factors, and cancer. I was impressed by the straightforward way he explained it. The second class was Dr. Esteban Domingo's, he talked about viral fitness and its implications for disease control and host interactions. I noticed that the presentation materials were very interesting to study. A very interesting feature of all the courses was that the teachers are very committed, they give their time and expertise, sharing their knowledge and experience. This ultimately led me to resolve all my doubts. We also enjoyed the coffee break, lunch, and the group photo with the lecturers. In the afternoon, Ms. Stephanie Faschang gave us a lot of information about the American Austrian Foundation, its objectives, and all the possibilities that this foundation offers to young doctors and researchers who wish to deepen their knowledge. A friendly atmosphere and the ability to ask questions made it easier for me to understand and remember the information given. After dinner, some of us went to town to enjoy Salzburg's nightlife.

**Tuesday, July 20, 2021**

In the morning, we tackled three topics all related to Viral Hepatocarcinogenesis, with presentations given by Dr. Jean-Christophe Pagès, Dr. Pascal Pineau, and Dr. Yu Wei. It was a very interesting section and I got a lot of information, regarding a very common disease, to improve my daily practice. I learned about the role of hepatic viruses in liver cancer and their ability to cause persistent infection and to generate tumours. The discussions during the roundtable once again reinforced my knowledge. We have seen that everyone must see and solve very complex cases in everyday life. Like the afternoon before, we didn't notice the passing time. Afterwards, I went to the mall with some friends to buy some souvenirs.

**Wednesday, July 21, 2021**

In the morning, Dr. Angela Santoni spoke about host cell virus escape and immune response, and Dr. Jean Dubuisson presented about how the virus interacts in life. In the afternoon, case discussions were held with fellows and faculty members. The afternoon was free, we went by car to Hallstatt, and I was impressed by this touristy and very traditional place. On the way, I admired the beautiful landscape and beautiful surroundings.

**Thursday, July 22, 2021**

In the morning, Dr. Paul Deny addressed the topic of Hepatitis D Virus Infection: Virology, Epidemiology, Natural History and Treatment. Dr. Stanislas Pol addressed two topics: Viral Hepatitis and Risk of Hepatocellular Carcinoma Epidemiology, Diagnosis and Treatment followed by the topic of Hepatocellular Carcinoma: Imaging, Interventional Radiology, Surgery. In the afternoon, the round table was very enriching with exchanges and answers to questions asked between fellows and faculty members. After dinner I got to experience Austrian culture with a chamber music concert at Schloss Arenberg - it was very relaxing, and we enjoyed it very much.

During this seminar, I was able to discover the most recent developments concerning viruses, cancer, and the liver, as well as recent data on the epidemiology and clinical evolution of the different types of hepatitis and cancers that can vary in developed and developing countries. Finally, I was able to discover the public health issues raised by viral hepatitis, liver cancer, and the ambitious WHO plan to eradicate viral hepatitis by 2030. This seminar is an opportunity

for me to meet and exchange with colleagues and discuss scientific advances. What I like about the seminar is this possibility of bringing together scientists, doctors, professors from various backgrounds (literally and figuratively) to exchange and discuss advances in science. The courses were intense in all areas of virus, cancer, and liver, which allowed me to highlight my strengths in scientific terms and the points that I had to strengthen to meet the challenges within my institute as well as my country. I hope that in the future I will have the opportunity to attend many more interesting and useful seminars like this one.

I want to express my gratitude to everyone who organized this perfect seminar. I had the opportunity to make new friends, extending my network to an international level. I will never forget this experience and most importantly, the daily exchange with others made me grow as a researcher!

**DIARY**

**Georgia Papadopoulou, MSc**  
Hellenic Pasteur Institute  
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Greece

**Sunday, July 18, 2021**

I arrived in Salzburg at 6:00 pm from Athens via Frankfurt, with a colleague from my lab that is also attending the course. When we arrived at Schloss Arenberg, we left our luggage in our beautiful rooms and at 7:00 pm we had our first meeting. Afterwards, we had a welcome dinner where we had time to meet other fellow participants and get know each other.

**Monday, July 19, 2021**

In the morning, Dr. Jean-Pierre Vartanian welcomed us again and introduced us to the issues of the course. Then we took the pre-seminar test. After that, we introduced ourselves to the faculty and the fellows. Dr. Jean-Pierre Vartanian gave the first lecture which was about HBV and its restriction factors. The second lecture was given after a coffee break by Dr. Esteban Domingo. He told us about viral fitness and its effects on the host and the disease progression. After the lunch break a round table took place, where the lecturers had time to answer our questions and gave us the chance to discuss our concerns on the topics of the lectures. Following the round table, Ms. Stephanie Faschang provided us with information about the OMI, its goals, and the opportunities that it gives to young scientists to improve their qualifications. During the dinner, we shared our opinions on the day's lectures and then we spent time to visit Salzburg's old town and the Hohensalzburg castle!

**Tuesday, July 20, 2021**

The first lecture of the day was about Viral Carcinogenesis, Immunity and Cell Stress, given by Dr. Jean-Christophe Page and the second lecture was about HBV and its impact on the host genome that leads to hepatocarcinogenesis, given by Dr. Pascal Pineau. The third and final talk of the day was given by Dr. Yu Wei, who presented us the recent history and epidemiology of HBV in China and the study of hepatocarcinogenesis. In the afternoon during the round table, we further discussed HBV and hepatocarcinogenesis while having a nice conversation. Later in the evening some of us visited the Schloss Hellbrunn.

**Wednesday, July 21, 2012**

We started our day with Dr. Angela Santoni, who lectured us about immunological mechanisms and how viruses hijack them. Then we had a lecture with Dr. Jean Dubuisson about the interactions between HCV and the host. Then we had an intriguing conversation in the round table about immunology and HCV. After lunch we spent our free evening on a two-hour trip to a picturesque village near Salzburg, called Hallstatt, and we came back for dinner.

**Thursday, July 22, 2021**

In the beginning of the day, Dr. Paul Deny lectured us about HDV, epidemiology, natural history, and treatment. The second and third lectures were given by Dr. Stanislas Pol, about epidemiology and treatment of viral hepatitis and about imaging, radiology, and surgery of hepatocellular carcinoma, respectively. Both lecturers were eager to answer every single question we had during the round table. Later in the evening we had the pleasure to attend a chamber music concert, with violins, which had been organized for us and was a fantastic event; the musicians were captivating. Then we had a joyful time in the lovely garden of Schloss Arenberg, having a drink and socializing.

**Friday, July 23, 2021**

On our last day, we first took two lectures from Dr. Vincenzo Barnaba about HBV- and HCV-linked liver cancer and its immunological aspects and cancer immunotherapy. The second and last lecture of the course was about the preventive and therapeutic vaccines for HBV, by Dr. Marie-Louise Michel. After the two lectures and the lunch break, we had an inspiring and motivational conversation at the round table. Then we took the post-seminar test and at the end of the day there was a graduation dinner.

After this excellent seminar, I had to travel back to Athens by plane on Saturday evening, considering how I can implement all the knowledge I gained.

As the seminar has come to its end, I would like to express my gratitude to all the lecturers for donating their time to provide us with their knowledge and part of their work, and everyone else for their perfect work in the organization of the seminar.

As I look back on this week, I feel grateful for what I newly learned and for the people I met. The experiences I had, paired with the conversations with people from different places and professions, triggered my need to boost my mindset and motivated me to take new challenges by learning about subjects that I am not familiar with, which will be helpful for my research. I

would recommend to every health scientist to take part in the OMI seminars because of the exceptional content and the excellent organization.

## DIARY



**Ohanna Kirakosyan, MD**  
Yerevan State Medical University  
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### **Sunday, July 18, 2021**

I arrived in Salzburg in the afternoon by train, coming first by plane from Yerevan to Vienna. Despite the cloudy and rainy weather, I enjoyed the beautiful landscape from the window of the train. It was nice to come back to Salzburg and Schloss Arenberg after having attended my first seminar 13 years ago. Despite the weather, I went out for a walk and had the chance to attend an amazing classical music concert.

At 7:00 pm we met in the lobby, where we had the chance to quickly get to know each other before starting the official introduction. The Medical Director of the AAF, Dr. Wolfgang Aulitzky, very warmly welcomed all of us and introduced Dr. Jean-Pierre Vartanian (the director of the course) and the faculty. The faculty members came from different countries: France, Italy, Spain, and China. There were several participants who attended Salzburg Seminars before. Then Ms. Stephanie Faschang gave short organizational instructions about the upcoming week and led us to the dining room to have a welcome dinner altogether. We had enough time to talk with the other participants about their background and interests in the nice atmosphere.

### **Monday, July 19, 2021**

This year, due to COVID-19 regulations, the seminar took place in a hybrid mode. Thus, few participants joined through an online platform while others attended in-person. 30 Participants represented 21 countries.

We started at 8:00 am with a welcome speech done by Dr. Vartanian. Then we had a short round of introductions and took a pre-test, which was not such an easy task. Following the test, Dr. Vartanian held a great talk about the Hepatitis B virus and cancer and encouraged everyone to participate actively in the discussions.

The next great lecture about Viral Fitness was presented by Dr. Estebano Domingo. Both talks were very interesting and very clearly presented. We continued our discussions with the experts during the round table.

Luckily, after heavy rains, the weather changed and we enjoyed breaks outside in the nice garden.

At the end of the day, Ms. Stephanie Faschang presented about the OMI. It was very inspiring to see how many countries and specialists have attended seminars, and to see the possibilities after the seminars that are suggested by OMI as a part of a continuing medical education.

After the lectures, we went to the Hohensalzburg Fortress with several participants. On our way, we had common discussions about health systems and medical education in our countries.

### **Tuesday, July 20, 2021**

We started the day with a presentation done by Dr. Jean-Christophe Pages about hepatocarcinogenesis, liver structure and functions. Then we went to the garden to take a group photo. After the break we listened to a very interesting talk, done by Dr. Yu Wei, about Hepatitis B in China. The was preceded by a great talk done by Mr. Pascal Pineau on genomic aspects of hepatocarcinogenesis. I was very impressed by the discussion about analysis of different genomics in Peruvian patients, and the challenges China faced with hepatitis B and the pathway after the development and introduction of vaccines in the country. At the end of the day, we had a round table with all three experts to address our questions and discuss interesting topics.

In the evening we visited Schloss Hellbrunn and enjoyed it a lot!

### **Wednesday, July 21, 2021**

The day started with the lectures given by Dr. Angela Santoni and Dr. Jean Dubuisson, following a round table discussion with experts to go deeply into the immune response and host-HCV interactions. We had a free afternoon and went to see a bit of the countryside. The weather was nice, the panorama was wonderful. Our driver made the trip amazing, telling about the history and culture of the region. We were very happy with our visit.

### **Thursday, July 22, 2021**

This was a "clinical day", we started the morning with a lecture given by Mr. Paul Deny on HDV, following with wonderful talks given by Mr. Stanislas Pol about Viral hepatitis, HCC, and treatment strategies. We had a great discussion with experts which went far beyond the scheduled time. I was truly amazed by the lectures.

In the evening we listened to a chamber music concert. This was wonderful, amazing. They played Mozart; it was so nice.

**Friday, July 23, 2021**

This was the last day and we started with the lectures given by Dr. Vincenzo Barnaba on “Immunological aspects of HBV and HCV” and “Cancer immunotherapy”. After that Dr. Marie-Louise Michel gave a wonderful talk on “Vaccines for Hepatitis B”.

Looking back, I realize the time has gone very fast and we are almost at the end. This was another great experience, amazing seminars where we learned a lot. This was a great “puzzle” of understanding and linking the cell level, immune reactions, and a clinical presentation of the diseases. It was a great experience that left a space to dig more into preventing diseases, environmental health, vaccines, transmissions, connect cells, genomics, and reactions with clinical presentations.

I would like to express my enormous gratitude to everyone who was involved in each moment of the organization and who made it possible for us! Thanks to the OMI, Dr. Aulitzky, Ms. Faschang, Dr. Vartanian, the Faculty, the Participants, the staff at the reception, kitchen, cleaners, tour drivers... everyone. THANK YOU SO MUCH! I learned a lot with you and from all of you!

In addition to the many new things I learned, I want to emphasize that I am very happy I had a chance to meet so many nice people. This is a great opportunity for networking and for collaboration between experts and participants!

I am going to share my impressions and knowledge I got here with my colleagues. The aim of the OMI seminars is to share the newly gained knowledge with the colleagues in your country. I am going to do so.