

IMP Opening Conference

4 - 6 October 2017



WELCOME



Jan-Michael Peters Scientific Director

Dear Colleagues, Alumni and Friends,

Welcome to the IMP and the Vienna BioCenter! We are excited that you are here to inaugurate our new building with us, and that you will celebrate science with us for the next three days and enjoy the inspiration and humanity it creates.

We are proudly looking back on three decades of IMP history. When the institute was founded in 1985, and Max Birnstiel moved into the first building in 1988 together with a team of 80 scientists, no one could have predicted the development that this would set in motion. Today, around 1,400 scientists and over 1000 students work and study here, distributed among four research institutes, three universities, a campus support facility providing access to highend technologies and 18 biotech companies, some of which go back to IMP alumni as their founders.

This development is more dynamic today than ever, with the former IMP building, the "VBC 6", being renovated by the City of Vienna, three new buildings on campus being in various phases of planning and construction, and an additional 500 scientists from the University of Vienna's life science departments expected to arrive here in five years. It is this exciting environment with its technical possibilities, biological expertise, collaborative spirit

and intellectual stimulus that attracts people from more than 65 nations to this campus, who are creative, ambitious and fearless enough to travel with their science into the truly unknown. 41 ERC grants have supported these endeavors in recent years, obtained with a success rate of more than 60 percent, which is unprecedented in Europe with an average funding rate of 11 percent.

As a result, as unlikely as this may have seemed 30 years ago when the IMP was opened in scientific no-man's land, the institute and the campus that has grown around it have changed science in many ways, not just locally, but internationally. Numerous scientists, some returning as speakers and leaders in their fields to this conference, have been trained here, not just to do science productively but in the most imaginative and rigorous way possible. Their work, published in more than 2,000 papers from the IMP alone, has clearly contributed significantly to our understanding of many important biological processes and provided inspiration to the scientific community worldwide. Over the past ten years, 39% of IMP-papers scored among the top 10% of the most cited papers within their relevant research areas.*)

But what will the future bring? To use Stephen Hawking's image of the medieval cathedral, which could not be built high enough to bridge heaven and earth in a single person's lifetime, the IMP wants to continue to create the knowledge that will allow us in the future to understand how life works and how we can use this to treat the maladies that challenge mankind. This sounds old and trite. But it is not. Achieving this aim will require many things – Brilliant minds, new technologies, and imagination beyond the spheres that the human mind is used to operating in. This is what the new IMP building is there for. It has been beautifully designed to stimulate communication and enable the flexibility that will be needed to constantly adapt to new technologies and approaches. The construction will enable all these things for many years to come in an energetically and economically sustainable manner.

We are excited and grateful that we will be able to use this outstanding environment to tackle some of the most important questions in the life sciences: How do cells function at the molecular level? How do they grow, divide and differentiate to create complex tissues, organs and entire organisms? How is information in the genome retrieved to enable these unbelievably complex processes? How do defects at the molecular level cause human diseases, and could we use this knowledge to predict better ways of treating them?

We are grateful to all supporters and friends of the IMP: alumni, present and former members of our Scientific Advisory Board, the funding agencies, ministries and the City of Vienna who support us, but in particular to Boehringer Ingelheim, the largest private sponsor of basic research in Austria, without whom neither the IMP nor the Vienna BioCenter would exist.

I wish you all an enjoyable conference with many memorable and exciting moments. •

*) Source: InCites dataset, exported August 3, 2017. Research areas: Biochemistry & Molecular Biology, Cell Biology, Multidisciplinary Sciences, Immunology.



WEDNESDAY 4 OCTOBER 2017

- 1500 1630 Registration & Welcome Drinks
- 1630 1645 Opening Comments

Session 1: Immunology Chair: Rushad Pavri

1645 - 1715	Fred Alt - Boston Children's Hospital, USA Recurrently breaking genes in neuronal progenitor cells: Implications for brain development and diseases
1715 - 1745	David Baltimore - Caltech, USA Responding to inflammatory signals with heterogeneous timing
1745 - 1815	Dan Littman – New York University School of Medicine, USA Mechanisms of microbiota-regulated immune homeostasis
1815	IMP Alumni Building Tours Welcome Reception/Canapés





THURSDAY 5 OCTOBER 2017

Session 1: Immunology Chair: Rushad Pavri

0900 - 0930	Stephen Nutt - Walter and Eliza Hall Institute of Medical Research (WEHI), Australia	
	What determines cell lineage-specific genome organisation?	
0930 - 0955	Meinrad Busslinger – IMP Suppression of autoimmunity by Ikaros	

Session 2: Cancer Chair: Anna Obenauf

0955 – 1025	Tyler Jacks - Koch Institute for Integrative Cancer Research at MIT, USA <i>Engineering the cancer genome</i>
1030 - 1100	Coffee Break
1100 - 1130	Anton Berns - Netherlands Cancer Institute Mouse models of thoracic cancers. What do they teach us?
1130 - 1200	Angelika Amon – Massachusetts Institute of Technology, USA Growth control – when big is bad
1200 - 1230	Robert Weinberg - Whitehead Institute for Biomedical Research, USA Effects of EMT on malignant progression
1230 - 1330	Lunch



1330 - 1400	Erwin Wagner - Spanish National Cancer Research Centre (CNIO)
	Stress signaling in inflammation, metabolism and cancer
1400 - 1425	Johannes Zuber - IMP
	Exploring and exploiting regulators of aberrant cell-fate programs in leukemia
1425 - 1445	Beug Stiftung Award
1445 - 1515	Coffee Break

Session 3: Epigenetics and Gene Regulation Chair: Luisa Cochella

1515 - 1545	Adrian Bird - University of Edinburgh, UK
	Proteins that read the DNA methylation signal
1545 - 1615	Antoine Peters - Friedrich Miescher Institute for Biomedical Research, Switzerland
	Chromatin-based regulation of mouse early embryonic development
1615 - 1645	Dónal O'Carroll - MRC Centre for Regenerative Medicine (CRM), UK
	RNA and the immortal lineage
1645 - 1715	Break
1715 - 1745	Thomas Jenuwein - MPI of Immunobiology and Epigenetics, Germany
	Major satellite repeat RNA organize a nucleosome scaffold at mammalian heterochromatin
1745 - 1810	Alex Stark - IMP
	Decoding transcriptional regulation in Drosophila



FRIDAY 6 OCTOBER 2017

0900 – 0920 Rabitsch Award Chair: David Keays

Session 4: Development Chair: Andrea Pauli

0920 – 0950	Ruth Lehmann – New York University School of Medicine, USA Protecting Immortality – germline development in Drosophila
0950 - 1020	Emmanuelle Passegué - Colombia University Medical Center, USA Hematopoietic stem cells in stress, disease and aging
1020 - 1100	Coffee Break
1100 - 1130	Frank Schnorrer – IBDM, Marseille, France The biomechanics of muscle building
1130 - 1155	Elly Tanaka – IMP Turning on limb regeneration
1200 - 1300	Lunch



Tim Clausen
Christine Hartmann
Ludger Klein

2002

2003



Session 5: Neurobiology Chair: Wulf Haubensak

1300 - 1330	Barry Dickson - Janelia Research Campus, USA The neurobiology of Drosophila courtship behaviour
1330 - 1400	Leslie Vosshall – The Rockefeller University, USA Understanding and modulating mosquito attraction to humans
1400 - 1425	Manuel Zimmer – IMP Regulation of sleep and arousal in C. elegans
1425 - 1455	Coffee Break

Session 6: Molecular & Cell Biology Chair: Stefan Westermann

1455 - 1525	Kim Nasmyth – University of Oxford, UK How do cohesin's Hawk subunits regulate its engagement with chromosomal DNAs?
1525 - 1555	Silke Hauf – Biocomplexity Institute of Virginia Tech, USA Timing is everything: Dynamics of chromosome separation
1555 - 1625	Tom Rapoport – Harvard Medical School, USA Mechanism of ER-Associated protein degradation (ERAD)
1625 - 1650	Tim Clausen – IMP The phospho-kiss of death: Revealing a specific phospho-signal that serves as degradation tag
1650 - 1730	Drinks



1730 – 1800	Paul Nurse - The Francis Crick Institute, UK Controlling the cell cycle
1800 - 1830	Frank Uhlmann – The Francis Crick Institute, UK Establishment of DNA-DNA interactions by the cohesin ring
1830 - 1900	Jan-Michael Peters - IMP How cohesin controls sister chromatid cohesion and chromatin structure
	Closing Remarks
1915	Buffet and Party





CAMPUS-VIENNA-BIOCENTER 1

Home of first-class science

The new IMP building, officially opened in 2017, embodies the idea of the IMP as the heart and flagship of the Vienna BioCenter: a new home to world-class molecular biology based on the curiosity of passionate scientists. One key goal of the architects planning the IMP building was to enhance communication. Open working spaces and meeting points increase opportunities for interaction within labs, and throughout the institute. Moreover, the building can be easily adapted to changing research needs in the future. Advanced air-conditioning, heat recovery systems and self-shading electrochromic glass are some of the features that ensure high energy efficiency.

The 250 staff members of the IMP benefit from lightflooded offices, generous lab space, individual workingdesks on split-level floors, and the biggest lecture hall on campus. The generous dimensions of the cafeteria, bar area and tea kitchen, along with stylish furniture, support a pleasant work atmosphere in which creativity should thrive •

IMP BUILDING: FACTS & FIGURES

- Workplace for 250 people
- 52 million Euro investment
- · 3 guiding principles: sustainability, adaptability, communication
- 8 levels (including utility floor)
- 15,000 m² gross floor space
- 8,200 m² net area
- 67,000 m² gross volume
- Lot size: 2,573 m²
- 3,000 m^2 labs and research space
- 2,000 $m^{\scriptscriptstyle 2}$ desk and office area
- + 275 $m^{\scriptscriptstyle 2}$ lecture hall with 280 seats
- 6 Seminar rooms
- Construction: ground breaking March 2015, opening March 2017
- Responsible architects: ATP architekten ingenieure

The heart, seed and flagship of the Vienna BioCenter

The establishment of the IMP in the 1980's was the starting point for the development of the Vienna BioCenter (VBC). Today,	1984	Boehringer Ingelheim and the US- based biotech company Genentech start negotiations about a joint basic research institute.
the IMP continues to be the heart of this thriving life science community of global significance. Our Opening Conference poses an opportunity to look back at milestones and key	1985	The IMP is founded as a joint venture of Boehringer Ingelheim and Genentech under the name of 'Institut für Oncogenforschung, Planungs- und Errichtungsgesellschaft m.b.H.'.
achievements.	1986	The molecular biologist Max Birnstiel, professor at the University of Zurich, is appointed Scientific Director of the IMP. Recruiting of the first Group Leaders and Senior Scientists starts.
	1987	'Research Institute of Molecular Pathology' is officially endorsed as the name of the new research institute. Refurbishments begin to convert the former radio factory 'Hornyphon' into a research facility.
	1988	Relocation of the IMP to the newly renovated building in DrBohr- Gasse 7, in the 3rd district of Vienna (Landstraße).
		The IMP and five institutes of the University of Vienna sign a cooperation agreement; this agreement is seen as the starting point of the 'Vienna Biocenter' or VBC.
	1990	The first IMP graduate students complete their PhDs.
	1992	The University of Vienna opens a new research building for its five institutes at the Vienna BioCenter.

1993	Boehringer Ingelheim takes over all shares of the IMP.
	Start of the International PhD Program. Through this program, PhD students are selected among highly qualified applicants from all over the world and are given the opportunity for training and work in different areas at the forefront of modern biology. Today, the Vienna Biocenter PhD Programme is organised jointly by the IMP, the Max F. Perutz Laboratories (MFPL), the Institute of Molecular Biotechnology (IMBA) and the Gregor Mendel Institute (GMI).
1995	Max Perutz opens the joint Vienna Biocenter library named after him: the 'Max Perutz Library'.
1997	Kim Nasmyth, Senior Scientist at the IMP, takes over as Scientific Director of the IMP after Max Birnstiel retires.
	Founding of the initiative 'Gentechnik & Wir' (now 'Open Science').
1998	The biotech company Intercell is founded by Max Birnstiel and other scientists from the IMP and the University of Vienna.
1999	A collaboration contract is signed between Boehringer Ingelheim and the Austrian Academy of Sciences on developing a new research institute, the first step towards the foundation of the Institute of Molecular Biotechnology (IMBA).
	Bender MedSystems moves to the Vienna BioCenter.
2001	Six biotech companies move to the Vienna BioCenter. The 'Campus Vienna Biocenter Association' is founded.
2002	Researchers of the newly founded Institute of Molecular Biotechnology of the Austrian Academy of Sciences (IMBA) start working temporarily in the IMP building.
	The 'University of Applied Sciences (FH Campus Wien) in Biotechnology' is founded at the VBC.

2003	IMBA and GMI officially founded. Affiris is founded.
2004	A Shared-Services agreement ('IMP-IMBA Research Center') with the Institute of Molecular Biotechnology (IMBA) is signed.
	The laboratory building CVBC2 is completed.
2005	The MFPL is founded as a joint venture of Medical University of Vienna and University of Vienna.
	Initial public offering (IPO) of Intercell at the Vienna stock exchange.
2006	Barry Dickson is appointed as new Scientific Director of the IMP after Kim Nasmyth accepts the Whitley Chair at the University of Oxford, United Kingdom.
	Official opening of the 'Austrian Academy of Sciences – Life Sciences Center Vienna': home to the Gregor Mendel Institute of Molecular Plant Biology (GMI), the Institute of Molecular Biotechnology (IMBA) and the expanded core facilities, as well as the Vienna Open Lab.
2007	Start of construction work for laboratory building CVBC3.
2008	The IMP celebrates its 20th anniversary. The highlight of the anniversary is a scientific conference in the Hofburg Conference Centre with outstanding speakers and personalities from the IMP, both past and present.
	Completion of the Solaris building and start of construction work for the Marx Box.
2009	The VBC Summer School is started as a joint programme run by the VBC research institutes.
	Day-care centre for campus children opens.

2010	A new VBC-wide scientific core facility with a broad range of new technologies is set up with funding from the City of Vienna and the Ministry of Science. The 'VBC Core Facilities' provide valuable support to the research groups of the VBC institutes.
2011	Relocation of University of Applied Sciences (FH Campus Wien) to the Marx Box.
2013	Jan-Michael Peters is appointed new Scientific Director of the IMP and Meinrad Busslinger succeeds him as Deputy Director. Former IMP-director Barry Dickson accepts a call to the Janelia Farm Research Campus of the Howard Hughes Medical Institute, USA.
	Intercell and Vivalis fuse to form Valneva.
2015	Groundbreaking for the new IMP building.
	Relocation of INITS business incubator to the VBC.
2016	After less than two years of construction, the IMP moves into its new building at Campus-Vienna-Biocenter 1. The 52 million Euro investment by Boehringer Ingelheim, planned by the architecture firm ATP, forms a new heart for the Vienna Biocenter.
2017	The formal opening ceremony for the new IMP Building on 1 March is attended by dignitaries from politics, science and business including Austria's President Alexander Van der Bellen. The ribbon as represented by a giant DNA double helix is cut by Emanuelle Charpentier.





