



# 2018 Chemistry Travel Award



The «Platform Chemistry» of the Swiss Academy of Sciences (SCNAT) and the Swiss Chemical Society (SCS) announce the 2018 «Chemistry Travel Award».

The award includes a **contribution of CHF 1000** towards the cost of an active participation (poster or oral presentation) at an international conference between 15 May 2018 and 14 May 2019 in any field of the chemical sciences. Up to 45 awards will be given to selected doctoral students from Swiss research institutions. Selection will be based primarily on scientific accomplishments and on the submitted conference abstract.

Applications must include all of the following:

1. Conference announcement
2. Scientific conference abstract
3. Curriculum vitae and list of publications
4. Signed letter of recommendation from the PhD advisor

The application package (as a single PDF file *in the above order*) should be submitted using the online application form before the **deadline of 31 March 2018**.

The award can only be won once in a lifetime – winners of previous years are excluded. There is no limitation of winners per research group.



Further information as well as the application form can be found at:  
[www.chemistry.scnat.ch/travel\\_award](http://www.chemistry.scnat.ch/travel_award)



SCS  
Swiss Chemical  
Society

## Community News

[www.scg.ch](http://www.scg.ch)

[www.chemanager-online.com](http://www.chemanager-online.com)

### SWISS CHEMICAL SOCIETY NEWS

#### SCS Annual Report 2017



The annual report of the Swiss Chemical Society 2017 is now available as pdf download on the website [scg.ch/about](http://scg.ch/about). The printed version is part of this CHIMIA issue. Please enjoy reading through the report that shows a very active and lively society.

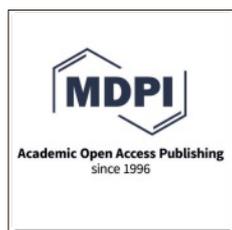
The report not only focus on the SCS activities 2017 but gives you also an

overview of the most important, strategic initiatives that will keep us busy in the coming months and years.

SCS plans to extend it's activities beyond the focus of the five SCS divisions and will link traditional fields with emerging trends. As some examples we will form interest groups on 'green and sustainable chemistry', 'environmental sciences' and 'IP in chemical sciences' to initiated an in-depth analysis of the need/opportunity of the community.

[scg.ch/about](http://scg.ch/about)

#### SCS-MDPI Partnership: Profit from discounts for your OA publications



SCS entered a new partnership and is proud to announce a closer collaboration with MDPI in Basel. SCS members profit from discounts on open access (OA) publishing in the below listed MDPI journals.

When handing in your manuscript, please enter the SCS discount code that is available after the login on the website

of the SCS ([scg.ch/membership](http://scg.ch/membership)).

- 20% discount for publications in *Molecules* [mdpi.com/journal/molecules](http://mdpi.com/journal/molecules)
- 10% discount for publications in *Catalysts* [mdpi.com/journal/catalysts](http://mdpi.com/journal/catalysts)
- 10% discount for publications in *Polymers* [mdpi.com/journal/polymers](http://mdpi.com/journal/polymers)
- 10% discount for publications in *Pharmaceuticals* [mdpi.com/journal/pharmaceuticals](http://mdpi.com/journal/pharmaceuticals)

#### MDPI Conference Support and CHIMIA endowment

Beside granting discounts on OA publishing fees, MDPI also supports SCS conferences in 2018 as partner and sponsor and took over the endowment for CHIMIA issue 5/2018:

- SCS Snow Symposium 2018, 26.–28.01.18, Saas-Fee
- SCS Spring Meeting 2018, 06.04.18, Neuchâtel
- SCS Fall Meeting 2018, 07.09.18, Lausanne
- CHIMIA, International Journal for Chemistry, Sion

#### Chemistry Travel Awards 2018



Through the «Chemistry Travel Award», contributions towards the cost of participation at an international conference in the chemical sciences are granted to selected PhD students. The award is sponsored by the «Platform Chemistry» of the SCNAT and the Swiss Chemical Society.

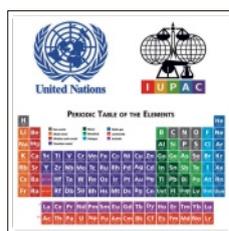
The award includes a contribution of CHF 1'000 towards the cost of an active participation (poster or oral presentation) at an international conference of three days or more between 15 May 2018 and 14 May 2019 in any field of chemical sciences. Up to 45 awards will be distributed to selected doctoral students from Swiss research institutions. Selection will be based primarily on scientific accomplishments and on the submitted conference abstract.

- Only applications in English will be considered.
- The award can only be won once in a lifetime – winners of previous years are excluded.
- There is no limitation of winners per research group.
- The award money will be paid upon presentation of a confirmation of attendance from the conference.

The deadline is: 31 March 2018 (23.59)

Further information as well as the application form can be found at: [chemistry.scnat.ch/travel\\_award](http://chemistry.scnat.ch/travel_award)

#### The United Nations Proclaims the International Year of the Periodic Table of Chemical Elements



The United Nations (UN) General Assembly 72<sup>nd</sup> Session has during its 74<sup>th</sup> Plenary Meeting proclaimed 2019 as the International Year of the Periodic Table of Chemical Elements (IYPT 2019). In proclaiming an International Year focusing on the Periodic Table of Chemical Elements and its applications, the United Nations has recognized the importance

of raising global awareness of how chemistry promotes sustainable development and provides solutions to global challenges in energy, education, agriculture and health. Indeed, the resolution was adopted as part of a more general agenda item on science and technology for development.

This International Year will bring together many different stakeholders including UNESCO, scientific societies and unions, educational and research institutions, technology platforms, non-profit organizations and private sector partners to promote and celebrate the significance of the Periodic Table of Elements and its applications to society during 2019.

The development of the Periodic Table of the Elements is one of the most significant achievements in science and a uniting scientific concept, with broad implications in Astronomy, Chemistry, Physics, Biology and other natural sciences. The International Year of the Periodic Table of Chemical Elements in 2019

will coincide with the 150<sup>th</sup> anniversary of the discovery of the Periodic System by Dmitry Mendeleev in 1869. It is a unique tool enabling scientists to predict the appearance and properties of matter on Earth and in the Universe. Many chemical elements are crucial to enhance the value and performance of products necessary for humankind, our planet, and industrial endeavors. The four most recent elements (115–118) were fully added into the Periodic Table, with the approval of their names and symbols, on 28 November 2016.

The International Year of the Periodic Table of the Chemical Elements will coincide with the Centenary of IUPAC (IUPAC100). The events of IUPAC100 and of IYPT will enhance the understanding and appreciation of the Periodic Table and chemistry in general among the public. The 100<sup>th</sup> Anniversary of IUPAC will be on the UNESCO Calendar of Anniversaries on 28<sup>th</sup> July 2019.

“As the global organization that provides objective scientific expertise and develops the essential tools for the application and communication of chemical knowledge for the benefit of humankind, the International Union of Pure and Applied Chemistry is pleased and honored to make this announcement concerning the International Year of the Periodic Table of Chemical Elements” said IUPAC President, Professor Natalia Tarasova.

Chemical Elements play a vital role in our daily lives and are crucial for humankind and our planet, and for industry. The International Year of the Periodic Table of Chemical Elements will give an opportunity to show how they are central to linking cultural, economic and political aspects of the global society through a common language, whilst also celebrating the genesis and development of the periodic table over the last 150 years. It is critical that the brightest young minds continue to be attracted to chemistry and physics in order to ensure the next generation of scientists, engineers, and innovators in this field. Particular areas where the Periodic Table and its understanding have had a revolutionary impact are in nuclear medicine, the study of chemical elements and compounds in space and the prediction of novel materials. The IYPT is endorsed by a number of international Scientific Unions and the International Council for Science (ICSU). The IYPT will be administered by an International Steering Committee in collaboration with the UNESCO International Basic Sciences Programme and an International Secretariat, to start operating in early 2018. In addition to IUPAC, IYPT is supported by the International Union of Pure and Applied Physics (IUPAP), the European Chemical Sciences (Eu-ChemS), the International Astronomical Union (IAU) and the International Union of History and Philosophy of Science and Technology (IUHPAST).

Contact:  
IUPAC Secretariat  
Research Triangle Park, North Carolina 27709 USA  
secretariat@iupac.org; executivedirector@iupac.org

### Invitation to the SCS General Assembly 2018



The Board of Directors invites all members of the Swiss Chemical Society and the delegates of its associated societies to join the 28<sup>th</sup> General Assembly.  
April 6, 2018, 13.00–13.30h  
University of Neuchâtel  
Aula des Jeunes-Rives  
Espace Louis-Agassiz 1  
2000 Neuchâtel

### Provisional Agenda

1. Welcome and approval of the agenda
2. Election of the vote counters
3. Minutes of the 27<sup>th</sup> General Assembly from April 21, 2017 in Bern (published in CHIMIA 6/2017, A394)
4. Annual report 2017 (published in CHIMIA 1-2/2018)
5. Financial statement 2017 incl. audit report
6. Discharge the Board
7. Elections
10. News and strategic projects
11. Outlook 2018/19
12. Varia

Motions to the assembly can be submitted until March 23, 2018 to info@scg.ch. A summary of the financial statement 2017 will be published on the website after the formal audit.

Swiss Chemical Society (SCS)

Dr. Alain De Mesmaeker  
President

David Spichiger  
Executive Director

### Happy Birthday!



Several of our senior SCS members will celebrate special birthdays in 2018. This gives us the opportunity to warmly congratulate them and wish them many more years with us!

### 95 Years

Dr. Gian Franco Schubiger, La Tour-de-Peilz  
Dr. Karl Heusler, Basel  
Prof. Jack D. Dunitz, Küsnacht

### 90 Years

Prof. Hugo Wyler, Lausanne  
Dr. Edmond G. Wyss, Boll  
Dr. Otto G. Rohr, Aarau  
Prof. Duilio Arigoni, Zurich  
Prof. Rudolf Zahradnik, Prague (CZ)

### 85 Years

Dr. Ivan Kompis, Oberwil  
Mr. Rolf R. Bader, Riehen  
Dr. Paul Doswald, Reinach  
Prof. Richard R. Ernst, Winterthur  
Dr. Rolf Wandeler, Territet-Veytaux  
Dr. Roland Darms, Therwil



Jack D. Dunitz



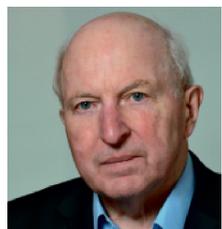
Karl Heusler



Hugo Wyler

**80 Years**

Dr. Roland Wenger, Riehen  
 Dr. Rolf Schurter, Allschwil  
 Dr. Peter Keller, Reinach  
 Prof. Paul Rys, Zurich  
 Prof. Kurt Wüthrich, La Jolla (USA)  
 Dr. Klaus Kahmann, Schwerte (D)  
 Dr. Toni Rihs, Villars-sur-Glâne  
 Dr. Jean-Jacques Salzmann, Bottmingen  
 Prof. Branko Stanovnik, Vrhnika (SI)



Rolf Schurter



Paul Rys



Kurt Wüthrich



Toni Rihs



Branko Stanovnik

**75 Years**

Dr. Ursula Bünzli-Trepp, Cugy  
 Prof. Urs Krähenbühl, Belp  
 Dr. Hans-Ulrich Blaser, St. Gallen  
 Prof. Urs Séquin, Therwil  
 Dr. Robert Egli, Magden  
 Dr. Roland P. Bühlmann, Schönenbuch  
 Prof. Paul S. Pregosin, Zurich  
 Prof. Emanuel Escher, Sherbrooke (CA)  
 Prof. Helmut Schwarz, Berlin (D)  
 Prof. Walter Giger, Zurich  
 Prof. Laurent Rivier, Lausanne  
 Dr. Kurt Geiger, Bronschhofen  
 Mr. Hans T. Frei, Merlischachen  
 Dr. Jakob Kuhn, Bachs  
 Dr. Michel Pelletier, Genève  
 Prof. Andrea Vasella, Farschno  
 Dr. Erich Hunziker, Buchs



Ursula Bünzli-Trepp



Hans-Ulrich Blaser



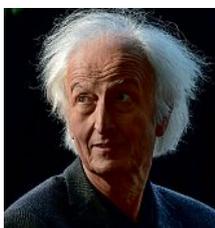
Urs Séquin



Paul S. Pregosin



Emanuel Escher



Helmut Schwarz



Walter Giger



Hans T. Frei

**70 Years**

Dr. Andres Denss, Basel  
 Dr. Paul Vesel, Reinach  
 Dr. Rolf-Otto Klaus, Bottmingen  
 Dr. Bruno Lohri, Reinach  
 Prof. Andreas Pfaltz, Binningen  
 Prof. Bernhard Jaun, Fällanden  
 Prof. Franz-Peter Montforts, Lilienthal  
 Prof. Rinaldo Marini Bettolo, Roma (IT)  
 Prof. Martin Quack, Zurich  
 Mr. Anton Adam-Mennel, Wädenswil  
 Dr. Jürg Lüthy, Wetzikon  
 Dr. Claudio Abächerli, Visp  
 Ing. Robert C. Wydler, Zurich  
 Dr. Peter Frey, Bern  
 Dr. Werner Rutsch, Villars-sur-Glâne  
 Dr. Michel J. Rossi, Cossanay  
 Dr. Gottfried Sedelmeier, Schallstadt (D)  
 Prof. Péter Molnar, Pecs (HU)  
 Dr. Markus Schlageter, Binningen  
 Dr. Jürgen Finter, Freiburg (D)  
 Dr. Ernst Vogel, Disentis



Andres Denss



Rolf-Otto Klaus



Andreas Pfaltz



Rinaldo Marini Bettolo



Martin Quack



Markus Schlageter



Jürgen Finter

## A Warm Welcome to Our New Members!



Period: 21.11.2017 – 29.01.2018

Fabienne Arn, Olten - Sarita Bhat-tacharya, Geneva - Hayley Binch, Reinach - Marie Bischoff, Renens VD - Alice Capecchi, Bern - Ali Coskun, Villars-sur-Glane - Andrew deMello, Zurich - Oksana Desiatkina, Bern - Maksim Eremchev, Vallorbe - Dina Erz-

ina, Bolligen - Raimon Fabregat, Ecublens - Jonas Fürst, Basel - Alexia Glöss, Richterswil - Barbara Günthardt, Zurich - Craig Harris, Biot (F) - Julia Hildesheim, Laufen - Madhusudhan Naik Jarpla, Zurich - Veronika Juraskova, Lausanne - Yusuf Kelestemur, Dubendorf - Jörg Kleimann, St. Gallen - Franziska Krieg, Wädenswil - Raaphael Lengacher, Dietlikon - Keyuan Ma, Zurich - Magdalena Marszalek, Zurich - Johann Mattiat, Zurich - Pal Saniel Mezei, Budapest (HU) - Vaios Moschos, Zurich - Barbara Müller, Basel - Belen Nieto Ortega, Cologny - Anthony O'Sullivan, Basel - Rajiv Ramanujam Prabhakar, Zurich - Franziska Rahn, Zurich - Lukas Rochlitz, Zurich - Nathalie Ségaud, Bern - Laurent Severy, Zurich - Martin Sommer, Biel/Bienne - Jihye Suh, Zurich - Nadine Symond, Zurich - Carlos Triana, Dübendorf - Guido Falk von Rudorff, Basel - Wenchao Wan, Zurich - Mingming Wang, Lausanne - Yanan Wang, Geneva - René Wick-Joliat, Zurich - Evangelia Zdrali, Renens - Xi Zhang, Zurich - Yonggui Zhao, Zurich - Martha Zoumpoulaki, Arcueil (F).

## SISF-SCS INDUSTRIAL SCIENCE AWARDS

It's our pleasure to announce the winners of the 2018 SISF-SCS industrial science awards. We would like to sincerely congratulate the two winners and we are looking forward to the award lectures that will take place on the occasion of the SCS Fall Meeting at EPF Lausanne on September 7, 2018.

### SISF-SCS Distinguished Investigator Award 2018 is given to Dr. Paul W. Manley, Novartis

The prize is given to honor senior scientists for their lifetime achievements in chemical research. The winner receives a certificate and a cash check of CHF 15'000.



The Swiss Chemical Society awards **Dr. Paul W. Manley**, Novartis Pharmaceuticals AG, Basel, for his impressive track record of success as a medicinal chemist, including 31 years in Basel at Sandoz/Novartis, working in several disease areas and on multiple classes of drug targets, including the invention of the commercial anti-leukemia drug Nilotinib.

Past winners of the Distinguished Industrial Science Award

2015: Dr. Jürg Zimmermann, Novartis Pharma AG

2014: Dr. Hans-Ulrich Blaser

2013: Prof. Klaus Müller, Roche, Werner Prize 2018

### SISF-SCS Senior Investigator Award 2018 is given to Dr. Clemens Lamberth, Syngenta

The prize is given to honor very successful and established investigators with outstanding achievements over many years. The winner receives a certificate and a cash check of CHF 10'000.



The Swiss Chemical Society awards **Dr. Clemens Lamberth**, Syngenta Crop Protection AG, Stein, for his impressive track record of success in the field of fungicide research within Crop Protection, including the invention of the fungicide Mandipropamid (Revus®, Pergado®).

Past winners of the Senior Industrial Science Award

2017: Dr. Emmanuel Pinard, F. Hoffmann-La Roche Ltd

Dr. Thomas Netscher, DSM Nutritional Products

2016: Dr. Eric Francotte, Novartis Pharma AG;

Prof. Peter Nesvadba, BASF Schweiz AG

2015: Dr. Michelangelo Scalone, F. Hoffmann La Roche

2014: Dr. Werner Neidhart, F. Hoffmann La Roche AG

2013: Dr. Ian Lewis, Novartis;

PD Dr. Werner Bonrath, DSM

Past winners of the Industrial Science Award

2018: No winner in this category

2017: Dr. Richard Sedrani, Novartis Pharma AG

2016: Dr. Martin H. Bolli, Actelion Pharmaceuticals Ltd

Dr. Andreas Herrmann, Firmenich SA

2015: Dr. Dietmar Hüglin, BASF Schweiz AG

2014: Dr. Andreas Natsch, Givaudan Schweiz AG

Dr. Wolfgang Jahnke, Novartis AG

2013: Dr. Mark Rogers-Evans, Roche

This award program was implemented by the Swiss Industry Science Fund (SISF) with support from the SCS in order to honor successful industrial scientists in Switzerland. The program targets scientists from companies of any size working in the field of chemistry or chemical related sciences.

The nomination deadline for the 2019 awards is September 30, 2018 and nominations are welcome from

- senior scientists or direct line managers to honor a successful team member or
- candidates (self-nomination) incl. a supporting letter from the direct line manager or another senior scientist of the candidate's company or
- third parties incl. a supporting letter from a senior scientists of the candidate's employer.

Swiss Industry Science Fund (SISF)



## HONORS AND AWARDS

### Prof. Katharina Fromm, University of Fribourg, elected as Fellow of the European Academy of Sciences



**Katharina M. Fromm** is Full Professor for Inorganic Chemistry at the University of Fribourg since 2006. After having been President of the Chemistry Department and Director of the Fribourg Center for Nanomaterials (FriMat), she was (re-)elected as a Research Councilor of the Swiss National Science Foundation as of 2011 for eight years. In 2015, she

became President of the Division “Programmes” of the Swiss National Science Foundation, and as of 2016 Vice-President of the Research Council. She has also been elected as the first Fellow of the American Chemical Society in Europe, is member of the Platform Chemistry of the Swiss Academy of Sciences and acts as mentor to a group of young talents via the Swiss Study Foundation. Her research interests emerge from the coordination chemistry of alkali, alkaline earth and transition metal elements via antimicrobial properties of silver compounds to nanoparticles and nanorattles for batteries and implants. A current focus lies on the bioinorganic chemistry of silver, as well as silver resistance and biomineralisation mechanisms by bacteria. Furthermore, she is active in public outreach activities and pushing the MINT areas.

Source: <http://www.eurasc.org>

### Prof. Clémence Corminboeuf, EPFL, wins 2018 ACS award



**Prof. Clémence Corminboeuf**, EPFL Lausanne, has won the 2018 Early-Career Award in Theoretical Chemistry from the American Chemical Society (ACS).

The Award is given by the Physical Chemistry Division of the ACS to “recognize outstanding contributions in experimental and theoretical physical chemistry by young investigators.”

With the Award, the ACS honors Professor Corminboeuf for “her development of novel methods and conceptual tools and their implementation and application to organic systems”.

Professor Clémence Corminboeuf directs the Laboratory for Computational Molecular Design at EPFL. Her research focuses on the development of electronic structure methods and conceptual tools with applications in organic electronics and catalysis.

Source: [actu.epfl.ch/news](http://actu.epfl.ch/news)

### Prof. Jérôme Waser, EPFL, awarded ERC Consolidator Grant



**Prof. Jérôme Waser**, EPFL Institute of Chemical Sciences and Engineering, has been awarded a Consolidator Grant from the European Research Council. Jérôme Waser directs EPFL's Laboratory of Catalysis and Organic Synthesis. His research focuses on the discovery of new reactivity in organic chemistry, especially using catalysis. The lab uses high-energy molecules to perform

chemical transformations, and develops non-conventional bond disconnections to synthesize chemical building blocks and bio-active molecules.

“The project is called SeleCHEM,” says Waser. “Our goal is to develop new methods for the functionalization of chemical bonds in challenging settings – specifically, we will focus on the functionalization of biomass-derived building blocks and biomolecules.”

Source: [actu.epfl.ch/news](http://actu.epfl.ch/news)

### Prof. Hans Jakob Wörner, ETHZ, awarded ERC Consolidator Grant



Also **Prof. Hans Jakob Wörner**, ETH Laboratory of Physical Chemistry (LPC), was awarded with a Consolidator Grants from the European Research Council.

The elementary processes involved in chemical reactions and biological transformations take place incredibly quickly: when chemical bonds break or reform, it happens in attoseconds (10<sup>-18</sup> s).

Electrons in atoms, molecules, solids and liquids move on this time scale. Hans Jakob Wörner, ETH Professor of Physical Chemistry, is a pioneer in the field of attosecond spectroscopy, and holds the world record for the shortest ever laser pulse. In his latest ERC project – Wörner is already the recipient of an ERC Starting Grant – he now wants to further develop X-ray spectroscopy methods so that electron movements can also be directly examined on attosecond time scales in complex molecules and during the aqueous phase. One potential application is in solar cells.

Source: [chab.ethz.ch/](http://chab.ethz.ch/)

## Mass Spectrometry for Chemists with the expression CMS



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# Advion

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[www.expressioncms.com](http://www.expressioncms.com)

## Prof. Anatole von Lilienfeld, Uni Basel, erhält ERC Consolidator Grant



Der Europäische Forschungsrat ERC unterstützt ein fünfjähriges Forschungsprojekt von **Prof. Anatole von Lilienfeld** von der Universität Basel mit einem Consolidator Grant, der mit rund zwei Millionen Euro dotiert ist. Der Basler Chemiker erforscht, wie künstliche Intelligenz chemische Reaktionen vorher-sagen kann.

«Machine Learning» beschreibt den Erwerb neuen Wissens durch ein künstliches System. Mithilfe von Algorithmen lernt das Computerprogramm also nicht nur auswendig, sondern generiert selbständig Wissen. Ziel von maschinellem Lernen ist es, Muster in Daten zu erkennen und Vorhersagen zu treffen. Datensätze von Molekülen und Kristallen werden bereits heute in der Chemie als Lerndaten für Machine-Learning-Modelle eingesetzt, um technologisch relevante Materialeigenschaften zu berechnen.

### Chemische Reaktionen vorhersagen

Prof. Anatole von Lilienfeld wird zusammen mit seiner Arbeitsgruppe am Departement Chemie der Universität Basel in den nächsten fünf Jahren erforschen, wie man diese Techniken so erweitern kann, dass sie auch für die Vorhersage chemischer Prozesse genutzt werden können. Hierzu erhält das Projekt «Quantum Machine Learning» gesamthafte rund zwei Millionen Euro vom Europäischen Forschungsrat.

«Die aus diesem Projekt resultierenden Modelle sollen es ermöglichen, neue Reaktionsprofile augenblicklich, mit hoher Verlässlichkeit und kontrollierter Genauigkeit zu erstellen», sagt von Lilienfeld. Solche Informationen könnten es Chemikern erlauben, Reaktionsbedingungen, Katalysatoren oder Syntheserouten für erfolgreiche Experimente zu optimieren.

Source: [chemie.unibas.ch/Department/news](http://chemie.unibas.ch/Department/news)

The European Research Council's (ERC) Consolidator Grants are given annually to researchers of any nationality with 7–12 years of research experience after completion of their PhD, as well as “a scientific track record showing scientific talent and an excellent research proposal”. The Consolidator Grants, which generally provide funding for five years, are part of the ERC's commitment to support “the highest quality research in Europe with competition-based financing”, with the ultimate aim “to establish and solidify European research as cutting-edge research.”

## Prof. Jason Holland, University of Zurich, receives Grant by Schweizer Krebsliga



**Prof. Jason Holland's** project “Harnessing androgen receptor signaling for imaging protein degradation therapy in prostate cancer” at University of Zurich, was one of 16 basic science applications to receive approval by the Schweizer Krebsliga.

The project aims to develop radioactive imaging agents to measure changes in cellular signalling in prostate cancer. Work will begin in 2018 with a PhD student synthesising new radiotracers for positron emission tomography (PET) imaging of biomarkers associated with androgen receptor signalling. Cellular studies and PET imaging in animal models of human prostate cancer will be used to evaluate the effects of a new class of drugs that target and induce catalytic degradation of key proteins that regulate DNA tran-

scription. By monitoring the downstream effects of drug action *in vitro* and *in vivo*, the goal is to define more accurate dose-response profiles that will allow us to optimise drug efficacy and reduce side-effects for individual patients.

Source: [chem.uzh.ch](http://chem.uzh.ch)

## Michael Saliba, EPFL, wins 2017 MRS Postdoctoral award



**Michael Saliba** is one of the two recipients of the 2017 Postdoctoral Awards from the Materials Research Society (MRS).

The MRS Postdoctoral Awards are given each year to two postdoctoral researchers to “recognize postdoctoral scholars who show exceptional promise that may include, for example, excellence in scientific research, leadership, advocacy, outreach, or teaching, during their postdoc assignment.” The Award is sponsored by the Jiang Family Foundation and the MTI Corporation.

This year, one of two awardees is Michael Saliba, a Marie Curie Fellow at EPFL. Saliba is being recognized for “developing a family of stable, reproducible and highly efficient multi-cation perovskites for optoelectronics.” Specifically, the MRS mentions Saliba's achievements in developing a “deeper fundamental understanding and improvement of optoelectronic properties of emerging photovoltaic technologies with an emphasis on perovskites for a sustainable energy future.”

Source: [actu.epfl.ch/news](http://actu.epfl.ch/news)

## JOURNAL NEWS

### ChemPubSoc Highlights: Welcome to the Family, Batteries & Supercaps



Managed by the team that brings you ChemElectroChem, ChemPhysChem, and ChemPhotoChem, Batteries & Supercaps will focus on all aspects of batteries, supercapacitors and other means of electrochemical energy storage. Find out more and submit your paper now!  
[onlinelibrary.wiley.com](http://onlinelibrary.wiley.com)

### Meet Chemistry – A European Journal's New Editor-in-Chief

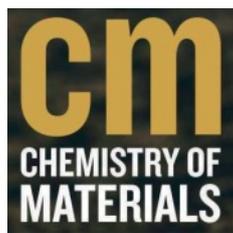


ChemPubSoc Europe and Wiley-VCH have named Dr. Haymo Ross as Editor-in-Chief of Chemistry – A European Journal, succeeding Dr. Neville Compton as of October 1, 2017. In addition, Haymo Ross heads all editorial offices of the ChemPubSoc Europe journals. He talked to ChemViews Magazine about the uniqueness of ChemPubSoc

Europe, his career path, and what he enjoys most about publishing.

DOI: [10.1002/chemv.201700106](https://doi.org/10.1002/chemv.201700106)

## Prof. Kovalenko new Associate Editor of Chemistry of Materials



Prof. Kovalenko, ETH Zurich, is one of three new associate editors of Chemistry of Materials, a journal of the American Society of Chemistry.

Chemistry of Materials publishes original contributions on fundamental research at the interface of chemistry, chemical engineering, and materials science.

[pubs.acs.org/journal/cmaterx](http://pubs.acs.org/journal/cmaterx)

## INDUSTRIAL NEWS

**Source:** [www.chemanager-online.com](http://www.chemanager-online.com)

### Roche Sues Pfizer to Block Herceptin Copy

November 24, 2017: In a suit filed in the state of Delaware, the Swiss-based Roche Holding is suing Pfizer to block the future marketing a biosimilar of its breast-cancer drug Herceptin in the US. The holding claims that the US drugs giant's PF-05280014 infringes 40 patents held by its Genentech unit. Roche is also seeking compensation for lost revenue if the Pfizer drug, which has not yet been approved by the US Food and Drug Administration (FDA), is launched before the Herceptin patents expire, starting in 2019. Pfizer said it would comment on the lawsuit "at an appropriate time." According to pharmaceutical journals, the US company itself has filed still-pending challenges to Genentech patents. The suit is believed to be the first filed by Roche against a biosimilar version of Herceptin, which was worth an estimated \$2.5 billion in US sales last year. Pfizer's drug, however, is not the first biosimilar of Herceptin, which uses the antibody trastuzumab to target the mechanism that makes certain types of breast cancer especially aggressive. The European Commission recently approved Ontruzant, a biosimilar of Herceptin manufactured by Samsung Bioepis. Two other Roche medicines, including the cancer treatments Avastin and Rituxan, are also facing competition from biosimilars. Analysts have calculated that the Swiss holding could lose nearly \$4 billion in sales by 2020 as cheaper versions hit the market. Mylan and Biocon, which also have a biosimilar of Herceptin, have clinched a license deal with Roche that will kick in after their new product – set to be manufactured in India – is approved by the FDA, possibly in early December. Europe is seen as being far ahead of the US in the use of biosimilars. In the seven years since Congress passed legislation regulating the drug copies, the FDA has approved only five biosimilars, compared to Europe's 25, the news agency Bloomberg said.

### Clariant Moves on from Failed Merger

November 27, 2017: Following a supervisory board meeting and a first face-to-face encounter with activist investor White Tale last week, Swiss specialty chemicals producer Clariant said it would proceed with management's plan to "define a concrete set of measures, including M&A activities, to enhance value creation." Details are to be presented to shareholders at the beginning of 2018. Implementation of the corporate strategy as well as further value creation would have been enhanced by the previously planned merger with Huntsman, Clariant said. The combination of the two chemicals players would have generated more than \$3.5 billion of shareholder value through the realization of "massive synergies and a promising optionality from a portfolio

and capital strength perspective," the Swiss group added. In a statement, Clariant said its management is "fully aware" that the new situation following the termination of the Huntsman merger "will require additional efforts to update the strategy, which will now be implemented on an accelerated basis." The merger plans were abruptly canceled in late October for fear White Tale would pull other shareholders over to its side. This could have led the approval ratio to fall short and triggered a break-up fee. The acquisition vehicle of two New York hedge funds Corvex and 40 North, which together hold about 20% of Clariant's capital, had claimed that the Swiss company would be worth more on its own. White Tale had also called for the divestment of the Plastics and Coatings business, with the proceeds to be reinvested in "pure-play" specialty chemicals businesses. At its meeting with the investors, the chemical producer said its board had "unanimously rejected" White Tale's call for an independent strategic portfolio review, as it "perceives this process to be merely focused on finding bidders for various businesses with the ultimate consequence of breaking up the company and selling the assets." Late in the game, activist investors also put pressure on merger partners Dow and DuPont to conduct a portfolio review with the aid of consultants McKenzie. This delayed conclusion of the transaction and forced a reshuffle of assets among the three standalone companies planned to result from the fusion. "In the spirit of being open to major shareholders' suggestions and with specific respect to White Tale's request," Clariant said its board has offered the hedge funds the option to initiate a registration process to propose one additional member at the upcoming March 2018 annual general meeting. This, it said, will give all shareholders the opportunity to vote on the investor's application to serve on the board. The company said it has also repeated its offer for White Tale to sign a non-disclosure agreement, which would legally enable it to gain more insight into Clariant's current strategy. As the legacy shareholders of Süd-Chemie, representing about 15% of the outstanding shares, as well as the vast majority of institutional shareholders, unanimously support management's strategy, Clariant said it believes it has a "broad global backing." Süd-Chemie, based in southern Germany, was acquired by the Swiss specialty chemicals producer in 2011.

### Life Science Valley in the Heart of Europe

November 27, 2017: Located just south of the Swiss Alps, Ticino is the Italian-speaking region of Switzerland. The canton's strategic geographic position represents a bridge between northern and southern Europe and between two of the strongest and most dynamic economic areas in Europe: Lombardy in Italy – with Milan at its heart – and the Basle-Zurich area in Switzerland. Ticino is one of the furthestmost touristic locations in Switzerland, but at the same time it showcases a wide array of business activities. The local economy ideally balances the industrial and the service sectors. Alongside a leading tertiary sector there is a solid industrial sector with internationally competitive and highly innovative companies. The backbone of the industrial sector, composed by a number of SMEs in the fields of life sciences, mechanics and electronics, has recently been complemented by rising new sectors like renewable energies and advanced logistics.

#### *The Life Sciences Sector*

Ticino's industry sector, especially in the electrical engineering and chemical-pharmaceutical areas, is heavily export-oriented. In the life sciences field the pharma industry plays an important role, and top-quality niche producers located in Ticino cover the entire pharma supply chain. The Farma Industria Ticino (FIT) association of chemical and pharmaceutical industries, founded in 1980, is a private organization that currently counts 26 member companies, with a combined workforce of

2,900 employees and a total annual turnover of approximately CHF 2.3 billion (ca. €2.1 billion and \$2.4 billion), more than 80% of which being derived from export. Quality, technology, innovation and sustainable growth represent the core assets of the pharma industry. Several FIT member companies have been certified, in addition to Swissmedic, by many foreign authorities such as US-FDA, and participate in programs such as OSHA, ISO, responsible care and certified sustainability. Several investments accounting for almost CHF 500 million have been planned for Ticino from 2016 to 2018, mainly in R&D and innovation. Activities of the associates range from preclinical and clinical drug development to chemical and formulation process development to industrial manufacturing of different classes of APIs and of a great variety of drug products forms. The vast majority of FIT companies also offer services such as contract research and manufacturing. Representing the vast majority of the companies active in this Italian-speaking part of Switzerland, FIT has a great network of know-how and access to skilled and qualified, multilingual human resources. In Ticino, the presence of world-class high schools and research institutes integrated into the enterprise system and the proximity to the Swiss and Northern Italy universities and pharmaceutical expertise provide a significant technical, scientific, logistic and cultural asset. A main area of focus to which Farma Industria Ticino contributes with its own expertise is vocational training. A commitment also based on the constant need to discover and train future co-workers. The Association's activity in this specific area hinges on the promotion of all training opportunities which are tied to careers in the sector, and targeted at new generations of technicians, organizing introductory courses aimed at young people who are serving apprenticeships in the professions of chemical laboratory technician, biology laboratory technician and manufacturing operators. For the middle management teams, mini-MBA training courses in pharmaceutical management are organized in collaboration with a local university school (SUPSI).

#### *Business Advice and Support*

The success of the local industrial companies is based, on one hand, on the advantages offered by the "Swiss system" in terms of political and institutional stability, a flexible labor market, and a mild taxation. On the other hand, the availability of highly skilled labor force with exceptional multilingual skills and the opportunity for companies to collaborate with top-notch research institutes stimulates the local enterprises to constantly invest in innovation and remain competitive. The local authorities are equipped to advise and support business ventures at their various stages. Particular attention is paid to the general framework conditions, in order to provide a business-friendly and un-bureaucratic environment. The Economic Promotion Agency informs foreign companies about the business opportunities in our region and simplifies their settlement by providing practical and direct support. Start-ups and innovative entrepreneurial projects are supported by the AGIRE Foundation through coaching, technology advisory, networking and financial support. AGIRE promotes and fosters the transfer of technology between companies and the academic or research centers. AGIRE manages the Technology Park (the network of technology parks ("Tecnopolo Ticino")) that offers office spaces and support to innovative companies targeting international markets from Ticino. The main hub located in the proximity of Lugano consists of 2700 m<sup>2</sup> of offices and conference rooms, and, so far, more than 50 companies have settled there. Additional locations, dedicated to specific business sectors, including biotech and medtech, are in preparation. TiVenture is a newly established venture capital fund that invests in innovative companies with high growth potential strongly collaborating with the local stakeholders of the local innovation ecosystem. Existing companies and newly set-

tled enterprises active in manufacturing and innovative fields are also offered various direct incentives and support mainly aimed at fostering R&D, innovation and export.

#### *High Competitiveness*

Ticino's socio-economic elements offer an attractive and highly competitive environment. Attention to quality of life is of paramount importance in Ticino and is reflected in the personal security provided to citizens, the quality of the health system, the efficiency of public transport and of financial services. These distinguishing social factors, together with a mild Mediterranean climate and a spectacular natural landscape, represent great assets for investors and entrepreneurs in the heart of Europe.

#### **Swiss Biotech Sector Stimulates Growth**

November 30, 2017: For many years, Switzerland has held the top spot in the World Economic Forum (WEF) competitiveness index. Compared to other countries, Switzerland maintains relatively high levels of Foreign Direct Investment (FDI). In 2016, FDI in Switzerland amounted to \$ 750 billion, according to Switzerland Global Enterprise (S-GE), the Swiss promotion agency. From a historical perspective, the importance of foreign investment is clear, with Swiss capital invested abroad almost triple what it was in 2000. One reason why Switzerland has become a special place for business and innovation is that it offers good framework conditions for complex industries. A fine balance between tradition and highly innovative approaches is required to support established products and bring new ones to the market. This holds true for industries such as the chemical, pharmaceutical or the highly specialized flavor and fragrance sector, in which Swiss companies occupy a world leadership role, according to Dr. Jan Lucht, spokesperson for biotech at Scienceindustries, the Swiss business association Chemistry Pharma Biotech. For the sector, biotechnology plays an increasingly important role, as it does for the chemistry, healthcare and life sciences sector in general. Over the past two decades, the biotech industry in Switzerland has matured into an established business with numerous commercial products generating high returns on investment. In parallel, novel technologies, new players and additional fields of application have continued to increase overall diversity. All along, patents have been instrumental in protecting products and encouraging investment in this high-risk/high-potential industry. Consequently, the patent landscape for biotechnology has become large and complex. According to the Swiss Biotech Report 2017, Switzerland provides a fertile ground for new ideas – in no other country are newly developed technologies and inventions better protected than in Switzerland.

#### *Success Through Diversity*

Switzerland's success in biotechnology relies on the diversity of its knowledge networks in research, industry, finance and industry development. These days, diversity is considered a major driver of innovation and Switzerland regularly occupies top rankings in global innovation. It has been proven that diverse teams perform better and are more innovative than others. The Swiss have developed an economic and social system that is built on the four pillars of innovation, technology, security and trust; thus creating a national spirit that embraces diversity to deliver innovation, performance and quality. Hence, it is probably no coincidence that Switzerland is a place where the leaders from the flavor and fragrance sector can thrive. The comprehensive education system provides a motivated workforce at different qualification levels. Publicly funded education and research institutions are well equipped, internationally connected, and draw top scientists from all over the world. The research landscape stretches from academia, through innovative start-ups and SMEs, and on to large, multinational companies with their global

resources. Efficient knowledge and technology transfer between basic and applied research and industrial applications further stimulates innovation. And since 2013 the National Thematic Network (NTN) Swiss Biotech, led by Biotechnet Switzerland and the Swiss Biotech Association, has made it a goal to foster transfer activities in biotechnology.

### FDA Approves Mylan's Herceptin Biosimilar

December 7, 2017: The US Food and Drug Administration (FDA) has given the green light to Netherlands-domiciled, US-managed generic drugmaker Mylan's Ogivri (trastuzumab-dkst) breast cancer drug, a biosimilar to the Roche blockbuster Herceptin (trastuzumab). Ogivri, co-developed with India's Biocon, is the first Herceptin biosimilar to be approved for the US market and was greenlighted for all indications included in the label of the reference product, including HER2-overexpressing breast cancer and metastatic stomach cancer (gastric or gastroesophageal junction adenocarcinoma). The drug is also the first biosimilar from Mylan and Biocon's joint portfolio to be approved in the US. Mylan secured secure global licenses for its trastuzumab product from drug developer Genentech – which belongs to Roche – earlier this year. Roche's Herceptin had US sales of more than \$2 billion in fiscal 2017, which ended Sept. 30. The Swiss pharmaceutical group is seeking to block another Herceptin biosimilar made by US drugs giant Pfizer, which is not yet FDA-approved.

Mylan regards itself as a global leader in the development and manufacturing of complex drugs, with a portfolio of 16 biosimilar and insulin analog orproducts. CEO Heather Bresch said Ogivri will expand access to the treatment and make it more affordable. The FDA's go-ahead for the biosimilar follows a unanimous recommendation by its Oncologic Drugs Advisory Committee (ODAC) in July of this year. The new drug has now been approved for use in 19 countries, including India, and is said to be under review by regulatory authorities in Australia, Canada, Europe and several additional markets. According to reports, an estimated 250,000 new cases of female breast cancer and 28,000 new cases of stomach cancer were projected to be diagnosed in the US during 2017. Statistically, some 20–25% of primary breast cancers are HER2-positive.

### World Alliance for Efficient Solutions

December 7, 2017: Following the success of the first solar flight around the world, the Solar Impulse Foundation has officially launched the second phase of its action – the World Alliance for Efficient Solutions – during COP23 in Bonn, Germany, with the goal of selecting 1000 solutions that can protect the environment in a profitable way, and bring them to decision makers at COP24 to encourage them to adopt more ambitious environmental targets and energy policies. The Constituent Assembly of the World Alliance for Efficient Solutions took place in the Bonn Zone of COP23, launching its flagship action: the selection of 1,000 solutions that protect the environment in a profitable way by COP24 in 2018, with H.S.H. Prince Albert II of Monaco starting the countdown on stage. The event was also attended by Patricia Espinosa, Executive secretary of UNFCCC; Maroš Šefcovic, Vice-President of the European Commission; Laura Tuck, Vice President Sustainable Development, World Bank; and Erik Solheim, Executive Director of UN Environment; as well as Ministers and other representatives of high level institutions and many Members the World Alliance who officially adopted its statutes. Lastly, on this occasion Arnold Schwarzenegger became the newest Patron of this initiative. The World Alliance, which at present already counts 474 Members that together combine more than 500 potential solutions, can now begin to identify and select efficient solutions, which it defines as products, services, clean technologies and processes, not limited

to the production of renewable energy, that are profitable and sustain economic growth, while protecting the environment and optimizing the use of natural resources. “Today, thousands of solutions exist that can boost economic growth while preserving nature, but they remain unknown to decision makers and are not implemented at industry level,” commented Bertrand Piccard, Initiator and Chairman of the Solar Impulse Foundation. “Our goal is to select 1,000 solutions that are both clean and profitable and bring them to decision-makers to demonstrate that they must urgently stop compromising for minimal targets and adopt much more ambitious environmental and energy policies.” Examples of potential solutions already submitted by Members range from deep-water offshore turbines, solar desalination plants, containers to transform organic waste into energy, air filters that capture CO<sub>2</sub> emissions and turn them into renewable fuels, hydrogen-based devices that can be added on cars to increase fuel efficiency, to free electric car chargers.

Over the next year, all submitted solutions will be assessed by independent scientific and financial Experts following a structured methodology designed to evaluate their deployability, sustainability and viability. “We need to embrace efficient technologies, because they are much more than ‘ecological’, they are ‘logical’. They create jobs and generate profit, while also reducing CO<sub>2</sub> emissions and protecting the environment. Even if climate change didn't exist, they would make sense. Clean growth is much better than the dirty status quo we have today,” added Bertrand Piccard. In addition to bringing Members from a diversity of backgrounds – start-ups, companies, governments, among others – to work together to create synergies, and facilitating match-making between solution seekers, providers and investors, the World Alliance has entered in close collaboration with several international institutions, states and cities around the world to accelerate the selection, funding and implementation of the 1,000 solutions. The Solar Impulse Foundation offers to the World Alliance its communication and operational support, as well as the media, political and institutional relations developed during the first round-the-world solar flight. Thanks to the continued commitment of its Partners – Covestro, Solvay, Nestlé, Engie, Air Liquide, BNP Paribas (Switzerland) and Schlumberger, as well as private donors – it can fund the World Alliance for Efficient Solutions, which in turn can offer all services to its Members entirely free of charge. “The good news is that whole countries are making choices in favor of cleaner, greener and more efficient solutions to climate change. This is driving demand for green finance from the full range of financial institutions, including the World Bank. These are exciting times for new investments in climate solutions,” Laura Tuck, World Bank VP for Sustainable Development.

### Ineos to ship US-made Ethane to China

December 8, 2017: After making waves by branching out into several new fields recently, Ineos is turning again to shale gas while widening its corporate franchise into third-party shipping. The Swiss-based chemical producer said it has signed a long-term agreement with China's SP Chemicals to ship a “competitive” supply of ethane feedstock derived from US shale gas to that company's new gas cracker currently under construction in Taixing, China. The facility is due to go on stream in 2019 producing 650,000 t/y of ethylene. In announcing the deal on Dec. 7, Ineos said it includes construction of “the largest-ever” ethane carrier. The vessel with a capacity of 95,000 cbm, belonging to the category Very Large Ethane Carrier or VLEC, is scheduled to be delivered in 2018. By contrast, the VLEC that Indian chemical producer Reliance Industries took delivery of in 2016, and billed as “the world's first” Very Large Ethane Carrier, could hold more than 87,000 cbm of the liquefied gas. Like the smaller dragon ships used to transport shale-derived ethane

from the US Marcellus Fields in Pennsylvania to Ineos' crackers in Scotland and Norway, the new carrier, to be built in China by Dalian Shipbuilding Industry Co (DISIC), will be operated by Denmark's Evergas, part of the JACCAR group. This will be the first VLEC in in Evergas' fleet of 23 gas ships, Ineos said. Chan Hian Siang, CEO of SP Chemicals, said the deal with the European chemical giant will help his company fulfil its dreams of upstream integration. David Thompson, CEO of Ineos Trading and Shipping, called the pact with China "another world first" for the Swiss group with British roots, after importing shale gas to Europe for the first time in 2015.

### Clariant Wins China PDH Contract

December 13, 2017: Clariant and its US technology partner CB&I are developing a custom-built propane dehydrogenation (PDH) plant for China's Xuzhou HaiDing Chemical Technology. The agreement includes a license and engineering design for a 600,000 t/y facility in Pizhou, Jiangsu province, China, based on Clariant's Catofin catalyst and heat-generating material (HGM). A timescale for the project was not revealed. The Catofin catalyst is used to produce olefins such as propylene or isobutylene from light paraffin feedstocks. HGM is a patented metal-oxide material loaded with the catalyst that increases the selectivity and yield of the Catofin units. The contract follows another PDH project awarded to Clariant and CB&I in February this year by China's Dongguan Grand Resource Science & Technology. Globally, nine Catofin PDH units have been commissioned to date, producing more than 4.5 million t/y of propylene. In separate news, the Swiss specialty chemicals producer is launching a 3D printing business to provide high-quality products for premium and customized printer filaments. The new business will support the fast-changing additive manufacturing technology, which supplies complex end-use products such as air ducts, drones, lights and parts for manufacturing equipment. The Muttentz-based group said it will work closely with customers on polymer, additive and colorant selection to address typical end-use conditions such as weathering, flame retardancy and electrical properties.

### Green Chemistry and Smart Chemistry

December 18, 2017: As Austria's second largest sector, the chemical industry is also among its most important. Spending on chemical research and innovation also surpasses that of other sectors. At present, it represents around 11% of all investments made in research and development within Austrian industry. An ad hoc survey of senior managers at member companies of the FCIO (Association of the Austrian Chemical Industry) also showed that companies in the chemical industry drive innovation, promoting Austria as a business location. According to the survey, around 82% of innovations were granted the "highest" and "high" priority levels. Around one in four companies generate over 30% of their turnover from products or solutions that have been on the market for less than five years. Yet three-quarters of those surveyed also feel that there is a need for political action. For about half of respondents, the factor inhibiting innovation the most was excessive bureaucracy. For 44%, insufficient resources were a hindrance. Many companies also feel that innovation culture in Austria is woefully lacking.

#### *Chemistry 4.0: The Research Priority*

Two distinct trends are emerging as research priorities, which we summarise below under the term Chemie 4.0 [Chemistry 4.0]: Green chemistry involves replacing crude oil-based raw materials with what are known as biogenic substances. Examples of these include solvents based on fermentation, or high-quality fibres made from recycled materials. Smart chemistry is about developing smart products and materials. With their special functional properties, they can offer innovative applications with increased

benefit – personalised medical care is a classic example, as are the first anti-allergenic surgical gloves, which won an award at the European EARTO Innovation Awards.

#### *A Sector Marked by Strong Exports*

Austria's chemical industry has close international ties: over two-thirds of production is for export, with the majority remaining in the EU. Numerous companies have foreign subsidiaries worldwide, or are the subsidiaries of multinationals operating as headquarters for Central and Eastern Europe. The chemical sector in Austria mainly consists of SMEs.

This structure and the small number of (research-relevant) corporate head offices are detrimental to research, and must be compensated for in other ways. That is why Austria needs framework conditions and a funding system to gain the edge over larger countries. Thanks to low labour costs and a wealth of raw materials, Asia, the Middle East and Eastern Europe offer a more cost-effective starting position for competing on the global market. Emerging countries are no longer thought of purely as cheap production sites for the industry, but are now gaining ground as important centres of innovation. Their domestic markets are also growing considerably faster than the European markets.

#### *Investment Incentives are Vital*

Investment incentives must be put in place to secure Austria's future as a viable location for industry. The Austrian system, which indirectly funds research through tax initiatives and directly funds specific projects, is therefore a crucial means of supporting industry research. The chemical industry views direct and indirect research funding as complementary in nature: while indirect research funding is based on location, direct funding is concerned with the specific technology being researched. Austria has a need for both.

#### *Planning Security is Crucial*

Planning security is essential if companies are to minimise investment risk. It is affected by restrictions on raw material availability due to chemical legislation, as well as short-sighted climate policy that creates huge uncertainty in Austria as an industry location and stifles investment efforts before they get off the ground. That is why we are campaigning for transparent, comprehensible and far-sighted legislation.

#### *Legislation Threatens Competitiveness*

The results of a cumulative cost assessment clearly demonstrated that the chemical industry is suffering under the overwhelming financial impact of chemical legislation. This calls for urgent, policy-based action. It can only be hoped that political decision-makers will consider the results of the study. Given the structure of the circular economy and the upcoming REACH Review, measures need to be taken to minimize the administrative burden companies face due to legislation. Otherwise, the competitiveness and innovative power of European companies in the chemical industry will be jeopardized.

#### *The Austrian Chemical Industry in Figures*

Austria's chemical industry generates a total of EUR 14.8 billion in production value (2016). The plastics processing industry, which in Austria is also monitored by the FCIO, contributes over one-third of this figure (36.6% in 2016). Some distance behind is the pharmaceutical sector, contributing 14.5%, and plastics production at 13.2%. Chemical production also contributes a double-digit percentage to the chemical industry's overall turnover. Synthetic fibers come in at fifth place (6.1%). Around 44,500 people work in Austria's 247 chemical industry companies. This figure has increased by 0.3% on the previous year. The sector is shaped by SMEs that have an average of 150 employees. Almost

one in three employees in the chemical industry works for an SME. Of the 247 companies, only about 50 organizations employ more than 250 people.

#### *Economic Situation: The Beginnings of an Upturn*

For the previous five years, there had been no real movement in turnover in Austria's chemical industry. However, as of this year there has been a noticeable upturn and the sector is looking to the future with confidence. In the first half-year, turnover increased by 2.5% to EUR 7.7 billion. Synthetic fibers performed particularly well, with growth of 10.4%, as did pharmaceuticals (up 5.9%) and rubber products (up 5.6%). Other sectors also showed slight signs of improvement. Only organic and inorganic chemicals, agrochemicals and plastic raw materials continued to lag behind relative to the previous year's results. The balance of trade in the Austrian chemical industry was very even in 2016, with only marginally more imports than exports. Around two-thirds of exports remain within the EU. Globally, Germany is Austria's most significant trade partner, receiving 21% of total export volume. In second place is Switzerland, with the USA, France and Italy some way behind.

#### **Roche to Pay \$1.7 Billion for Ignyta**

January 4, 2018: Roche is planning to buy US group Ignyta for around \$1.7 billion in an all-cash deal that will expand the Swiss group's portfolio of cancer medicines. San Diego, California-based Ignyta is focused on precision oncology medicines that seek to identify and treat patients with cancers carrying specific rare mutations. Its lead molecule is entrectinib, an orally bio-available, CNS-active tyrosine kinase inhibitor being developed for tumors that harbor ROS1 or NTRK fusions. Under the terms of the merger agreement, Roche will promptly commence a tender offer to acquire all outstanding shares of Ignyta common stock at \$27 per share. Ignyta's board has unanimously recommended that its shareholders accept the offer. The transaction, which also remains subject to antitrust and other customary closing conditions, is expected to complete in the first half of 2018. Ignyta will continue its operations in San Diego and be responsible for the ongoing pivotal study of entrectinib, which targets tumors with one of two genetically defined gene rearrangements: ROS1 fusions in non-small cell lung cancer (NSCLC) and NTRK fusions across a broad range of solid tumors. The experimental drug is currently being assessed in a Phase II clinical trial, which, if successful, will support new drug application (NDA) submissions in NTRK tumor-agnostic and ROS1 NSCLC. Entrectinib has been granted PRIME designation by the European Medicines Agency (EMA) and Breakthrough Therapy status by the US Food and Drug Administration (FDA). "Cancer is a highly complex disease and many patients suffer from mutations which are difficult to detect and treat. The agreement with Ignyta builds on Roche's strategy of fitting treatments to patients and will allow Roche to broaden and strengthen its oncology portfolio globally," said Daniel O'Day, CEO of the Basel-headquartered company.

#### **Bayer Divests More of Covestro**

January 11, 2018: As it works toward unloading all of its shareholding in its former plastics subsidiary Covestro – the former Bayer MaterialScience – the Bayer group said it has begun an accelerated bookbuilding process for another sale of shares to institutional investors. The share placement was launched on Jan. 10 after the stock market closed. Credit Suisse and Goldman Sachs International acted as joint book-runners. As part of the placement, Bayer has agreed to a 90-day lock-up period. The former German chemicals and plastics giant, which now focuses on life sciences, needs to raise funds for its planned dollar-denominated \$66 billion takeover of US agrochemicals producer

Monsanto, still stuck in the regulatory process. For the latest share sale it has targeted a transaction volume of about €1.5 billion. Bayer still holds 24.6% of Covestro, and the group's Bayer Pension Trust holds a further 8.9%. In four previous placements, the former parent company has raised altogether €4.7 billion. In the latest round, some 18 million shares were to be placed at €86.25–88.46 each, one of the book-runners told the news agency Reuters. According to a Reuters calculation, based on Covestro's current market value the current share sale could amount to as much as 8.9%, which would reduce Bayer's direct to under 16% – excluding the pension fund's stake.

#### **SIX Claims Clariant Breached Disclosure Rules**

January 15, 2018: Switzerland's stock exchange SIX is investigating specialty chemicals producer Clariant on grounds it may have breached the market's ad hoc disclosure requirements when launching its bid to acquire Huntsman in May 2017. SIX said it is basing the investigation on Clariant's press release regarding the announcement of the merger agreement dated 22 May 2017. The probe is due to continue for an "indefinite period," and the exchange said it will "provide no further information in the meantime." Rejecting the SIX concerns, Clariant said it believes it upheld all requirements. "From Clariant's point of view, the ad hoc publicity requirements ... were fully respected," the Muttenz-based group said in a statement emailed to news agencies on Jan. 11. Clariant said it had involved Swiss Radio and Television (SRF) in the announcement prior to the general disclosure in order to provide the public with background information on the transaction. "The SRF depended on early involvement in order to be able to fulfill its role. As part of this involvement, a legally binding confidentiality agreement was signed," Clariant said. "This agreement included the obligation to only air the report after the announcement of the planned merger." It was unclear whether SIX was acting on its own accord or had received a complaint from a third party. Clariant is still struggling with its activist investor White Tale, the acquisition vehicle of two US-managed hedge funds based in the Cayman Islands. Opposition to the merger by White Tale, which by that time had accumulated 20% of Clariant's capital, led to the transaction being scuppered in late October 2017. The chemical producer and the investor are still at loggerheads over White Tale's request for an independent strategic review and three seats on Clariant's board of directors.

#### **Sandoz and Biocon Collaborate on Biosimilars**

January 24, 2018: Sandoz, the generics subsidiary of Novartis, is collaborating with Biocon, an India-based biopharmaceuticals producer, to develop, manufacture and commercialize multiple biosimilars in immunology and oncology. Terms of the worldwide collaboration call for both companies to share responsibility for end-to-end development, manufacturing and global regulatory approvals for a number of products and to share costs and profits globally. Commercialization responsibilities will be divided according to geographies, with each of the companies' strengths leveraged. Sandoz will lead commercialization in North America and Europe, while Biocon will have responsibility for the rest of the world. The Swiss generics maker currently markets five biosimilars worldwide and maintains a position in both innovative and off-patent medicines. Bangalore-based Biocon has developed a range of novel biologics, biosimilar antibodies, rh-insulin and insulin analogs, which it now markets. Launches include insulin glargine in Japan; trastuzumab and bevacizumab biosimilars in India; and rh-insulin, insulin glargine and biosimilar trastuzumab in some emerging markets. The company was the first in India to have a biosimilar approved by the US Food and Drug Administration (FDA). "Today's announcement bolsters our leadership position in biosimilars and positions us to continue to lead well into the future," said Sandoz CEO Richard

Francis. “Biocon is a great complement to our proven biosimilar capabilities at Sandoz. Through this collaboration, we are reinforcing our long-term commitment to increase patient access to biologics.”

### Sanofi to Buy Hemophilia Specialist Bioverativ

January 24, 2018: Sanofi is boosting its presence in blood disorders through the acquisition of Bioverativ, the former hemophilia business of major US biotech Biogen, which was spun out in February 2017. The French drugmaker is paying \$11.6 billion for the Massachusetts-based company, a price that several analysts said looked expensive as limited growth was expected for Bioverativ in the mid-term. US investment bank Jefferies noted that while the deal looked relatively expensive, it was “logical in terms of building around Sanofi’s presence and pipeline in rare diseases and hemophilia, though management may have to argue against concerns on competition.” Sanofi said hemophilia drugs are worth around \$10 billion in annual sales, and 181,000 people around the world are affected by the disorder that makes it difficult for blood to clot. The market is expected to grow by more than 7% annually through 2022. Bioverativ has two blood therapies, Elocate and Alprolix, for treating hemophilia A and B respectively, generating sales of \$847 million and royalties of \$41 million in 2016. The two drugs are currently marketed in the US, Canada, Japan and Australia and plans exist to expand into other territories. The therapies are also commercialized in the EU and other countries under a collaboration agreement. Along with Elocate and Alprolix, Bioverativ’s pipeline includes a program in Phase 3 testing for cold agglutinin disease as well as early stage research programs and collaborations in hemophilia, and other rare blood disorders, including sickle cell disease and beta thalassemia. The deal also allows Sanofi to leverage Bioverativ’s clinical expertise and existing commercial platform to advance fitusiran, an investigational RNA interference (RNAi) therapeutic for hemophilia A and B, with or without inhibitors, to which it recently obtained development and commercialization rights. “With Bioverativ, a leader in the growing hemophilia market, Sanofi enhances its presence in specialty care and leadership in rare diseases, in line with its 2020 Roadmap, and creates a platform for growth in other rare blood disorders,” said Olivier Brandicourt, Sanofi’s CEO. The acquisition, which is expected to close in the next three months, should be immediately accretive to Sanofi’s earnings per share in fiscal 2018 and up to 5% accretive in fiscal 2019. The deal is Sanofi’s biggest in seven years, after it bought US biotech Genzyme in 2011 for about \$20 billion.

It has failed twice to conclude a deal in recent years. In 2016, it lost out on buying California cancer specialist Medivation, which went to Pfizer, and last year missed Swiss biotech Actelion, which ended up with Johnson & Johnson. Bloomberg news agency said more transactions could be on the way for Sanofi as sales of its best-selling drug Lantus insulin come under pressure from cheaper, alternative treatments. Sanofi could be a suitor for Pfizer’s or Merck KGaA’s consumer-health divisions, Sebastien Malafosse, an analyst at Franco-German financial group Odob-HF told Bloomberg.

### SABIC Acquires 24.99% Stake in Clariant

January 26, 2018: In a surprise move, Saudi Arabian petrochemicals and plastics producer SABIC has stepped in as a white knight to rescue Swiss specialty chemicals producer Clariant from the jaws of two ravenous US hedge funds. White Tale, the acquisition vehicle of funds Corvex and 40 North, apparently did not have the appetite for a fight with Clariant’s management after achieving its goal of torpedoing the planned merger of the Swiss specialty chemicals group with US rival Huntsman. In a deal announced on Jan. 25, the funds sold their 24.99% stake in the Swiss group to SABIC for a sum estimated by analysts at \$2.5

billion. Clariant it “intends to engage with its “chemical industry peer and partner SABIC” over the coming weeks” to discuss the future relationship. The two companies already are partners in the US-based joint venture, Scientific Design, which bills itself as a “leading licensor of chemical process technologies worldwide.” The share purchase is the biggest for the Saudi group since it acquired GE Plastics for \$11.6 billion in 2007. While SABIC stressed that it has “no plans” for a full takeover, some analysts said they thought its appetite for more could be whetted at some point in the future. “Clariant is now marked ‘off the market,’” Baader Bank analyst Markus Mayer commented to the news agency Bloomberg, adding; “SABIC is not being a white knight to be nice guys. They’ll want to acquire Clariant at some stage.” Prior to the maneuvers by White Tale, formerly family-owned Süd-Chemie – acquired by Clariant in 2011 for \$2.3 billion – was the Swiss group’s largest shareholder, holding about 15% of its capital. Ironically, The Saudis at the time were seen to have been vying for the Munich-based chemical producer but lost out to Clariant. SABIC said buying into Clariant is “part of its strategy to diversify its products and to provide innovative solutions to its customers.” With the purchase it will gain access to such diverse markets as cosmetic ingredients, oil and gas chemicals and additives and colorants for plastics. The new arrangement offers opportunities for both sides.

While giving SABIC a foothold in higher-margin plastics businesses, it offers Clariant’s management a freer hand to steer the company in its intended strategic direction. White Tale had been pushing for it to divest its plastics and coatings business as well as develop a cost-cutting strategy. In a statement last October, Clariant CEO Hariolf Kottmann said management would consider divesting 25% of its portfolio – including its Pigments and Masterbatches businesses – following the merger with Huntsman. Under the new circumstances, this plan is likely to be off the table, even if before White Tale’s share purchase emerged, other institutional shareholders had been pressing for divestment of plastics and coatings business to boost the stock’s price. In preparation for the fusion with Huntsman, Clariant said prospects for enhancing the current downstream presence would focus on expanding formulation- and application-based segment niches as well as high-end composites, bespoke polyurethane (PU) systems and customer-oriented and co-developed products. Following AkzoNobel’s narrow escape from being gobbled up by PPG in March 2017, the Saudi-Swiss deal is the second major escape of an established chemicals player from an unwanted takeover attempt in the space of not quite a year. In the latest case, observers said White Tale may have feared emerging the loser, due to Clariant’s fierce opposition to its demands. Management and supervisory boards clearly outmaneuvered the investors in their push to seat three of the hedge funds’ representatives on the board, they added. Lending credence to this perspective, David Millstone, co-chief investment officer of 40 North, said in a joint statement with SABIC to announce the share transfer, “Sabic’s investment in Clariant is a “successful outcome.”