



SCS
Swiss Chemical
Society

Community News

www.scg.ch

www.chemanager-online.com

SWISS CHEMICAL SOCIETY NEWS

Review CHanalysis 2016 – The virus of analytical excellence

Davide Bleiner, Laboratory for Advanced Analytical Technologies, Empa Dübendorf



In the scenic stage of the Bernese Alps, the Division of Analytical Sciences (DAS) of the Swiss Chemical Society gathered its minds on November 18-19, 2016. Prof. Karin Mölling (Uni Zurich) kick-started the meeting for the young and more experienced analytical scientists present with a fulminant introduction into the secrets of viruses. The trip

through the “virophere” annihilated the layman’s misconception that viruses are just natural-born killers, by showing their importance for the “biosphere” itself. The tiny and task-oriented viruses were a great and inspiring visualization of current analytical trends, as shown by the topics that followed Prof. Mölling’s talk:

- Tool miniaturization: the ultimate challenge in the field of NMR, electrodes, and MS;
- Reduction of analysis cost: represented by talks on advanced sensor fabrication or data acquisition;
- Applications driving instrumental parameters: as shown among others for the cases of nanotech, environmental analysis, cosmetics, food, and medical research;
- “Smart models” to make “complex analytical cases” lab-addressable: the case of banana skin spots as a model for a (pre-clinical) study of melanomas.

The 18 oral presentations and 19 posters attracted full audiences all day long, creating the conditions for a fertile inter-analytical forum. Based on this success, the CHanalysis will now move from the current 18-month interval to an annual meeting, with the next one taking place in spring 2018 in Beatenberg.

Finally, the DAS general assembly thanked end-of-term president G. Hopfgartner (Uni Geneva) for his commitment to the DAS during the past 7 years and welcomed “president-elect” M. Suter (Eawag) as the next chairman.

Review SCS Seminars 2017/1



From January 16-18, the SCS organized the first edition of the SCS Seminars in the Au Parc Hotel in Fribourg. 32 participants, mostly PhD students but complemented with some junior scientists from industry, joined the course and discussed about relevant topics in process chemistry.

The SCS seminars are a three-days educational event with a focus on topics relevant for the Swiss chemical and pharmaceutical industry but that are not necessarily part of the academic curricula. So, the experts from Givaudan,

HEIA-FR, Lonza, Nestlé, Novartis, Siegfried and Syngenta coached the participants on the following topics:

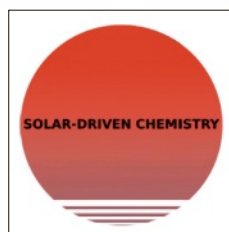
- Production costs
- Efficiency and yield
- Energy consumption and power efficiency
- Time to market
- Safety issues
- Waste handling
- Regulations standards and patents

With an overall rating of 8.4 out of 10 the event was very successful and the format with expert lectures, a visit of a test plant at the HEIA-FR, a poster session, three workshops and a session with short presentations seems to fulfill the expectations.

SCS likes to thank Prof. Christian Bochet for the organization of the event and the SCNAT and the SCS Foundation for the financial support. We also appreciate very much the support of our industrial experts, Dr. Michael Bersier, Dr. Tomas Smejkal, Dr. Fabrice Gallou, Prof. Roger Marti and his team, Dr. Elena Schaller, Dr. Heiko Oertling and Dr. Felix Flachsmann.

A detailed conference report will follow in one of the upcoming CHIMIA issues.

Solar-Driven Chemistry - A Vision for Sustainable Chemistry Production



Modern life is sustained by an unremitting stream of energy that is delivered to final users as fuels, electricity, and heat. Currently, over 80% of the world’s primary energy supply is provided by fossil fuels carbon sources (coal, oil, gas). For the last two centuries fossil fuels, generated from biomass over millions of years, have been extensively used in anthropic activities.

When we burn fossil fuels, we liberate the solar energy stored millions of years earlier in chemical bonds, but we are also generating CO₂ as waste. Over the last few decades it has become clear that the CO₂ that is released in this way is affecting the climate stability of the biosphere. Therefore there is a need for an energy transition from fossil fuels to nonfossil-based energies. This transition has already started and must be completed during the present century. The sun gives us an opportunity to complete this energy revolution as it delivers the same energy to the Earth in about one hour as we currently use from fossil fuels, nuclear power and all renewable energy sources combined in a year. Yet, sunlight is a dilute form of energy. It needs to be converted into other forms of energy in order to be used in a profitable way, such as heat, electricity, or fuels.

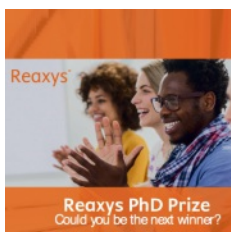
Nature stores solar energy in carbon-based chemical compounds that mankind has long used as an energy source. In plants, algae and some types of bacteria, solar-driven systems are capable of converting carbon dioxide and water into C,H,O-containing compounds. Photosynthesis is a way to capture solar energy and store it in the form of chemical bonds. The compounds thus produced can be used as fuels, but also (bio-)materials or chemical feedstock. Developing artificial systems on an industrial scale that generate such compounds from the same sources (*i.e.* solar radiation, water, CO₂) is a great challenge. Ideally,

such man-made, ecologically friendly energy systems should be more efficient than their natural counterparts, to keep pace with our consumption while making our energy utilization sustainable.

The document is based on the presentations at a brainstorming workshop on “Solar-driven Chemistry” on October 9, 2015 in Berlin, organized by the Deutsche Forschungsgemeinschaft (DFG, represented by Georg Bechtold) and the European Association of Chemical and Molecular Sciences (EuCheMS, represented by Ulrich Schubert, TU Wien).

The White Paper was published by EuCheMS, Nineta Hrastelj Majcen (EuCheMS General Secretary), Bruno Vilela (EuCheMS Public Affairs Officer)
For further information please contact secretariat@euchems.eu
ISBN 978-2-9601 655-2-4

2017 Reaxys PhD Prize is open for submissions



Submissions for the 8th annual Reaxys PhD Prize are now open. It is a great opportunity for talented young chemists to get international recognition for the excellence of their work. The Prize is open to those who have just completed or are still working on their PhD. Submissions will be accepted from now until March 13.

Each year 45 finalists are carefully selected from the submissions and invited to present their research at the Prize Symposium, which will be held in Shanghai this October. The finalists also join the Reaxys Prize Club, an exclusive community made up of some of the chemistry world's brightest young minds. In addition, the 3 winners - selected and announced at the Symposium - each receive \$2,000.

Watch highlights of the 2016 Reaxys Prize Symposium: <https://vimeo.com/191017807>

Could you or someone you know be one of this year's finalists? Details about applying and submission form can be found here: <http://inspiringchemistry.reaxys.com/phdprize>

A flyer with key information is available here: <http://inspiringchemistry.reaxys.com/phdprize/2017/flyers>

Invitation to the SCS General Assembly 2017



The Board of Directors invites all members of the Swiss Chemical Society and the delegates of its associated societies to the 27th General Assembly.

April 21, 2017, 13.30-14.00h
Big Auditorium, basement floor,
Department of Chemistry and Biochemistry,
University of Bern, Freiestrasse 3,
3012 Bern.

Provisional Agenda

1. Welcome and approval of the agenda
2. Election of the vote counters
3. Minutes of the 26th General Assembly from April 22, 2016 in Zurich (published in CHIMIA 5/2016, A373)
4. Annual report 2016 (published in CHIMIA 1-2/2017)
5. Financial statement 2016 incl. audit report
6. Discharge the Board
7. Elections

8. Formal approval of the new SCS Division of Chemical Education
9. Formal approval of the new SCS Section of Catalysis
10. News and strategic projects
11. Outlook 2017/18
12. Varia

Motions to the assembly can be submitted until April 8, 2017 to info@scg.ch. A summary of the financial statement 2016 will be published on the homepage as news message 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 celebrate special birthdays in 2017. This gives us the opportunity to warmly congratulate them and wish them many more years with us!

100 Years

Dr. Hermann L. Simon, Riehen

90 Years

Dr. Alfred Bräm, Zollikon
Dr. Hans Konrad Jucker, Küssnacht
Dr. Hans Peter Schad, Chatham NJ (USA)

85 Years

Dr. Jozsef Kelemen, Basel
Dr. Klaus Günter Artz, Basel
Dr. Peter Hofer, Liestal
Dr. Georges H. Lyssy, Erlenbach
Prof. Hans Gerlach, Bayreuth (D)
Dr. Max Schellenbaum, Muttentz
Dr. Milan Karvas, Bratislava (SK)



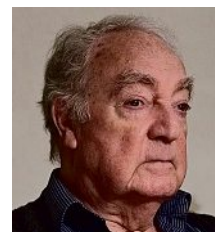
Klaus Artz



Milan Karvas



Georges H. Lyssy



Max Schellenbaum

80 Years

Prof. Helmut Sigel, Basel
 Dr. Maurice Cosandey, St-Prex
 Dr. Rudolf Andreatta, Arlesheim
 Dr. Günter Wolf, Windisch
 Prof. Philipp Christen, Zürich
 Prof. Dieter Seebach, Zürich
 Dr. Christoph Buxtorf-Hosch, Basel
 Dr. Daniel O. Hauser, New York NY (USA)



Christoph Buxtorf



Maurice Cosandey



Daniel O. Hauser



Dieter Seebach



Helmut Sigel



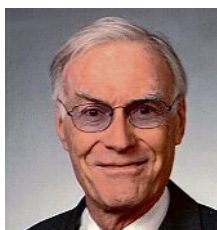
Günter Wolf

75 Years

Dr. Christian Suter, Basel
 Dr. Robert Karl Müller, Basel
 Dr. Jürg Heller, Oberwil
 Dr. Richard Buchecker, Zürich
 Dr. Reinhard Hobi, Maur
 Prof. Wolf-Dietrich Woggon, Basel
 Prof. Renato Amadò, Luzern
 Prof. Ernö Pretsch, Zürich
 Dr. Bernhard Schreiber, Graz (AT)
 Dr. Hans-Kaspar Wipf, Wallisellen
 Dr. Hans Künzi, Riehen
 Prof. Urs von Stockar, Lutry
 Dr. Paul Hug, Geuensee
 Dr. Max Widmer, Rothrist
 Prof. Felix Escher, Seegräben



Renato Amadò



Felix Escher



Bernhard Schreiber



Wolf-Dietrich Woggon

70 Years

Dr. Thomas S. Kowalski, Zürich
 Dr. Marc Guggi, Arisdorf
 Prof. John Paul Maier, Basel
 Dr. Suzanne Hauffe, Allschwil
 Dr. Hans Brunner, Lausen
 Dr. Hans Peter Isenring, Sissach
 Dr. Peter Bläuenstein, Hausen
 Prof. Hans-Jürg Borschberg, Rüslikon
 Prof. Jörg Senn-Bilfinger, Konstanz (D)
 Dr. Klaus Rudolf Lindner, Sinzing (D)
 Dr. Werner Breitenstein, Basel
 Dr. Milan Sak-Bosnar, Osijek (HR)
 Dr. Kurt Wälti, Rafz
 Prof. Romolo Ciccirelli, Unterbäch
 Dr. Albert Beck, Uitikon Waldegg
 Dr. Guido Wicki-Meyer, Auw
 Dr. Max Hunziker, Dürdingen
 Dr. Tobias J. Lotz, Lörrach-Stetten (D)
 Prof. Wilfred van Gunsteren, Zürich



Albert Karl Beck



Milan Sak-Bosnar



Romolo Ciccirelli



Hans Peter Isenring



Thomas Kowalski



Klaus Rudolf Lindner

A Warm Welcome to Our New Members!

Period: 19.11.2016 – 20.01.2017

Anne-Sophie Alingue, Mulhouse (F) - Emy André-Joyaux, Royan (F) - Daniel Annaheim, Greifensee - Dirk Bakowies, Rueschlikon - Christophe Baranowski, Morges - Leonid Bloch, Grenoble (F) - Vasco Bolis, Zurich - Ferdy Coumans, Zurich - Marco Di Gennaro, Basel - Salomé dos Santos, Brugg AG - Daniel Elliott, Basel - Yvonne Forster, Abtwil - Thomas Frossard, Fribourg - Marion Garreau, Lausanne - Lars Gnägi, Meiringen - Nathalie Gremaud, Villars-sur-Glâne - Freya Harvey, Tschugg - Daniel Hernández Valdés, Zurich - Botho Hoffmann, Domat/Ems - Erich Hunziker, Buchs - Viktor Iaroshenko, Lodz (PL) - Bjoern Colin Kahrs, Collonge-Bellerive - Sascha Keller, Basel - Stefan Kradolfer, Zurich - Clemens Lamberth, Efringen-Kirchen (D) - Jean-Baptiste Langlois, Basel - Teng LI, Zurich - Franziska Lissel, Halle/Westf. - Simon Loosli, Zurich - Eva Maurenbrecher, Hünenberg - Christos Mavrokefalos, Zürich - Jonathan Medlock, Rheinfelden - Camilo Melendez, Burgistein - Marzio Monagheddu, Kreuzlin-

gen - Ogadimma Cassandra Oji-Okoro, Penthaz - Martin Pattky, Conthey - Giorgio Pesciullesi, Bern - David Peter, Freiburg i.B. (D) - Ronan Rocaboy, Saint-Louis (F) - Rüdiger Stumpf, Basel - David Trummer, Zürich.

HONORS AND AWARDS

Reto Naef and Topadur Pharma AG win the Swiss Technology Award



With innovation, creativity and the latest technology, the winners of the Swiss Technology Award are able to move into global markets and continually create new jobs. We would like to take this opportunity to congratulate all the winners for their success.

Topadur Pharma AG develops two promising drugs in the area of wound healing for the treatment of non-healing wounds and to avoid excessive scar formation in burn wounds. The active substance "TOP-N53" could offer all diabetics with chronic foot wounds essential support in avoiding amputations and extend their lives. The drugs produced by Topadur cover major medical requirements that burden the global healthcare budget to the tune of more than USD 24 billion every year.

Reto Naef founded Topadur Pharma AG in 2015 and engages 8 employees. More details about Topadur Pharma AG are available on the website of the company on www.topadur.com.

Further information:

- Winners Swiss Technology Award: <http://www.en.swiss-innovation.com/winners>
- Information Swiss Innovation Forum 2016: <http://www.en.swiss-innovation.com/information>

Michael Grätzel elected NAI Fellow



The 2016 National Academy of Inventors (NAI) Fellows Selection Committee, has elected Prof. **Michael Grätzel** to the rank of NAI Fellow. The Committee describes Professor Grätzel as a "truly prolific academic inventor" who has "demonstrated a highly prolific spirit of innovation in creating or facilitating outstanding inventions that have made a

tangible impact on quality of life, economic development, and the welfare of society."

Prof. Grätzel, director of EPFL's Laboratory of Photonics and Interfaces, is known worldwide for pioneering the field of molecular photovoltaics (the famous Grätzel cells), as well as energy- and electron-transfer reactions in mesoscopic systems in the context of solar electricity and fuels. Grätzel cells have proven to be much cheaper and easier to manufacture compared to other photovoltaic cells, and Grätzel's lab has been consistently improving their stability and efficiency.

The National Academy of Inventors (NAI) is a national, non-profit organization of approximately 145 member institutions and some 3,000 individual members and Fellows. The NAI holds an annual conference and an annual awards ceremony during which it welcomes new Fellows.

Source: <http://actu.epfl.ch/news>

The Ruzicka Prize 2016 goes to Bill Morandi



Dr. **Bill Morandi**, Max-Planck-Institut für Kohlenforschung, Mülheim-Ruhr, received the Ruzicka Prize 2016 for his latest developments of new concepts of catalysis. In an outstanding presentation at the award ceremony he stunned the audience with the latest results of his investigations on, e.g., "shuttle catalysis" which led to a safe way of hydrocyanation,

a common step used in chemical synthesis. Furthermore, Morandi's group investigates how expensive and rare metals used in industrial catalysts may be replaced with cheaper, readily available alternatives, such as iron, nickel or copper.

Source: <https://www.chab.ethz.ch>

Beat Fierz wins ERC Consolidator Grant 2017



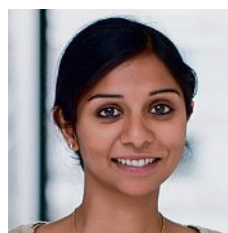
Beat Fierz, who directs EPFL's Laboratory of Biophysical Chemistry of Macromolecules, has been named one of the Consolidator Grant awardees. His winning project is titled: "chromo-SUMMIT: Decoding dynamic chromatin signaling by single-molecule multiplex detection."

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 5 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."

Source: <http://actu.epfl.ch/news>

Assistant Professor Madhavi Krishnan receives ERC Consolidator Grant



Prof. **Madhavi Krishnan** aims to develop a new experimental platform to study 3D macromolecular structure and temporal conformation by measuring the electrical charge of a single trapped molecule in real time.

Only recently, Madhavi Krishnan invented the 'electrostatic fluidic trap', a "field-free" principle that supports stable, non-destructive confinement of single macromolecules in room temperature fluids, representing a paradigm shift in a nearly century-old field. The spatio-temporal dynamics of a single electrostatically trapped molecule reveals fundamental information on its properties, e.g., size and electrical charge. The charge of a macromolecule is in turn a strong function of its 3D conformation - the molecular basis of biological function.

The ability to experimentally link electrical charge and molecular structure will not only open up a new physical dimension in our understanding of macromolecules, but will also advance the development of ultrasensitive, high-throughput molecular sensors for biomedical detection and analytics, potentially enabling an optical or electrical "single-snapshot" read-out of the proteome or transcriptome of a single cell.

Source: <http://www.chem.uzh.ch>

European Research Council (ERC) Funds Three Chemists from Basel

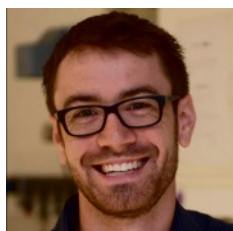
Three researchers from the Department of Chemistry at the University of Basel have been awarded the coveted ERC Starting Grants by the European Research Council (ERC). Michal Juríček, Michael Nash and Konrad Tiefenbacher each receive 1.5 million Euros for their research projects. The University of Basel will thus receive around 5 million Swiss Francs for fundamental research by the EU research program Horizon 2020.



Dr. *Michal Juríček*

During the next five years, Dr. Michal Juríček will study how to manipulate the spin coupling between unpaired electrons in materials assembled from molecules, in order to control the bulk magnetic and conducting properties. Juríček hopes to develop model systems where the spin coupling can be studied within a

single molecule. Through a better understanding of this delicate balance of interactions, he aims to establish the principles that govern the intermolecular assembly and properties in the solid state. This will then provide a useful tool for the design of spintronic materials, where both magnetic and conducting properties can be tuned precisely to match a desired feature.



Prof. *Michael Nash*

Strong glue for biomedical applications: Protein-based hydrogels are commonly used as adhesives, glues and sealants in surgical settings. However, their use is severely limited by poor mechanical properties. The main goal of Professor Michael Nash's ERC project is to develop mechanically tunable protein

hydrogels using design principles that rely on a quantitative understanding of mechanical properties of individual protein domains under force. By understanding protein nanomechanics at the single-molecule level, he aims to optimize novel hydrogel formulations for fast cross-linking and strong adherence to cells and tissues.



Prof. *Konrad Tiefenbacher*

Designing complex catalysts: Terpenes are biologically active molecules and pharmaceutical agents like the malaria drug artemisinin belong to the terpene family. In nature, terpenes are formed into complex structures, however, chemists are not able to mimic this process with man-made catalysts. Professor

Konrad Tiefenbacher wants to find out how such complex catalysts can be designed, in particular those that lead to the formation of ring-shaped terpene compounds. To achieve this goal, Tiefenbacher strives to develop catalysts that are able to self-assemble from smaller units and selectively produce the desired terpene product. In addition, he wants to expand the natural variety of terpenes by utilizing artificial components and synthesize novel artemisinin drug derivatives by using the newly developed catalysts.

Source: <https://www.unibas.ch>

Prof. Kovalenko appointed Associate Professor



Prof. *Maksym Kovalenko* (*1982), currently Tenure Track Assistant Professor at ETH Zurich, as Associate Professor of Functional Inorganic Materials. Maksym Kovalenko has achieved internationally acclaimed research results in the area of nanocrystalline semiconductor materials. His achievements include developing a completely new method of

manufacturing colloidal nanocrystals. These are used in electronic, optoelectronic and infrared optical components, for example. His work has been awarded an ERC Starting Grant, among others. Through the appointment of Maksym Kovalenko as an associate professor, ETH Zurich is strengthening its research in the forward-looking field of inorganic functional materials.

Source: <https://www.chab.ethz.ch>

PD Dr. Kathrin Fenner appointed as Professor ad personam for environmental chemistry

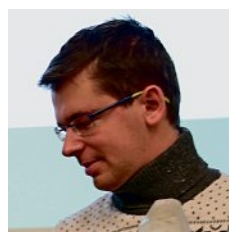


PD Dr. Kathrin Fenner was appointed as extraordinary professor ad personam in the field of environmental chemistry (20%). Kathrin Fenner graduated in Chemistry at UZH and obtained her PhD at the Department of Chemistry of ETH Zurich. Additionally, she achieved a postgraduate degree in Industrial Management and Manufacturing at ETHZ.

In 2010 she received the *venia legendi* in Environmental Chemistry at ETHZ. The topic of her habilitation thesis was «Exposure assessment for organic contaminants - Improving scope and accuracy». Kathrin Fenner was visiting researcher at the Lawrence Berkeley National Laboratory, USA, and visiting researcher with an SNF Fellowship for Advanced Researchers at the University of Minnesota, USA. We welcome Kathrin Fenner at the Department of Chemistry.

Source: <http://www.chem.uzh.ch>

Best Oral Presentations awarded at the 7th Edition of the Geneva Chemistry & Biochemistry Days



At the Geneva Chemistry & Biochemistry Days from January 19-20, 2017, the award committee, composed of the four external senior speakers (Prof. Peter J. Hore, Prof. Andreas Mayer, Prof. Jonathan R. Nitschke, Prof. Peter H. Seiberger), awarded the best oral PhD speakers. SCS supported the award ceremony and grants free membership for

two and one year respectively to the winner and the runners-up:

- Award for the best oral presentation: Mr. *Bogdan Dereka* (Excited-state symmetry breaking: Toward asymmetrical photochemistry)
- 1st runner-up: Mr. *Daniel Abegg* (Strained cyclic disulfides enable cellular uptake by reacting with the transferrin receptor)
- 2nd runner-up: Ms. *Bei Zhang* (Ag doped Au₃₈(SR)₂₄ nano-cluster: Surface flexibility and silver migration)

Lecture Awards for Angelo Frei and Lucas Prieto



Angelo Frei from the Alberto Group and **Lucas Prieto** from the Zelder Lab won each a prize for excellent lectures at the AsBIC8 (8th Asian Biological Inorganic Chemistry Conference), taking place at the University of Auckland, New Zealand. Angelo Frei was awarded with the NZIC (New Zealand Institute of Chemistry) prize for his flash presentation and Lucas Prieto won a Springer Book Prize in the category Early Researcher Forum Presentations. We congratulate both on their great success.

Source: <http://www.chem.uzh.ch>

JOURNAL NEWS

100th anniversary of Helvetica



Helvetica Chimica Acta was founded in 1917 and is celebrating its 100th anniversary this year. SCS takes the opportunity to dedicate its Fall Meeting to the jubilee of Helvetica and will start the two days event in Bern on August 21-22, with a Helvetica lecture session.

For more details please visit the website of the SCS Fall Meeting on www.scg.ch/fallmeeting/2017.

The relaunch of Helvetica last year brought a new focus on full papers, a new scope and a new editorial board to one of the oldest and most prestigious journals in the chemical science.

Helvetica Chimica Acta is now published by Wiley-VHCA AG but the SCS is still involved in its business and, as the title implies, it is often viewed from outside as reflecting chemistry in Switzerland. We would like to increase the number of authors from Switzerland to underline the outstanding research that is done in this country. Therefore we support VHCA to promote its journal in Switzerland and invite authors cordially to send manuscripts to Helvetica.

- No restriction on length
- Wide subject scope
- Short publication time
- Outstanding editorial help

More information: www.helv.wiley.com

ChemistryViews: Best of 2016



Take a look at the most popular articles and most seen videos in 2016. Revisit some of your old favorites, and let us know if there is something that you would like to see published this year in the comments.

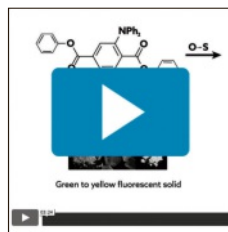
The most seen articles are categorized in the following contributions:

- ChemViews Magazine
- Interviews
- Videos
- Webinars
- Education

We would like to thank our readers and offer congratulations to the authors of these popular articles. We wish you all the best for 2017!

<http://www.chemistryviews.org>

Video Abstracts: New Service for Authors of Wiley Journals



Bring your research to life with video abstracts: These audio-visual abstracts can be a quick way to get the message of your research across to a wide audience.

They are prepared together with Research Square, who produce a custom video that includes voiceover, animation, images, and text. Any author can purchase a video abstract for 1,500 USD. Please contact videoabstracts@wiley.com.

Special Offer for Authors of EurJIC and EurJOC

ChemPubSoc Europe is sponsoring 20 video abstracts. All original research articles that are accepted in the European Journal of Inorganic Chemistry (EurJIC) and the European Journal of Organic Chemistry (EurJOC) from the middle of August 2016 are eligible for this prize. The editors will select the winning papers.

<http://www.chemistryviews.org/view/0/videoabstracts.html>

INDUSTRIAL NEWS

Source: www.chemmanager-online.com

Global Competitive Index

November 21, 2016: Addressing supply-side constraints to growth is of high importance, according to the Global Competitiveness Report 2016-2017. The annual report — issued by the World Economic Forum (WEF) — this year covers 138 economies and finds that income levels have recovered faster in countries with better competitive conditions even as those countries have resorted less to quantitative easing, creating less stress on their central banks. Another key finding is that more open economies are also more innovative. Therefore, falling openness — in the form of increased non-tariff barriers to trade and investment — represents a real threat to future prosperity. According to the report's Global Competitiveness Index (GCI), Switzerland tops the ranking for the eighth consecutive year. Singapore remains second and the United States holds its third position. The Netherlands improves its position, climbing one place to fourth. Germany (5) drops one place compared with last year's ranking, Sweden (6) climbs three places. The United Kingdom (7), going up one place, is followed by Japan (8) and Hong Kong (9), which both drop two places. Finland climbs two places and now rounds out the top 10 of the most competitive economies in the world.

Improving Resilience to Supply Chain Disruption

November 21, 2016: Asia-Pacific Countries Biggest Risers in 2016 FM Global Resilience Index. Whether it be a heightened risk of terrorism, the prolonged decline in oil prices, an impending natural disaster, the risks of accidents due to inadequate safety practices, or an abrupt corporate crisis, external risks to business operations are not trivial. For business executives, such events can disrupt their companies' global supply

chains, making a focus on resilience vital. Resilience against disruption in the global supply chain is a valuable asset, enhanced by an understanding of the drivers of resilience. The results of the 2016 FM Global Resilience Index highlight areas of strength and vulnerability in the global supply chain, providing a useful resource for investors and business executives seeking to manage resilience. Resilience is the ability to withstand disruption and rebound quickly when necessary. It is especially vital for global companies doing business in a fluid, borderless manner, facing unknown risks in developing markets. The Resilience Index presents an annual ranking of 130 countries and territories according to their business resilience to supply chain disruption. The scores that generate the ranking are calculated as an equally weighted composite of nine core variables that affect resilience significantly and directly. The key results of the 2016 survey:

(1.) Switzerland is the new occupant of the top position in the index, reflecting the country's high scores for an extensive and efficient infrastructure, prime quality local suppliers, strong economic productivity and resilience to oil shock. Following on ranks 2 and 3 are Norway (down from last year's top rank) and Ireland, respectively.

(2.) Germany (4) improves slightly by rising two positions, while both France (19) and the United Kingdom (20) retain their positions from last year.

(3.) Armenia (ranked 52) and Malawi (84) are two of the biggest risers in the index this year, driven by an increased resilience to oil shock as their consumption of oil fell relative to economic productivity.

(4.) ASEAN members Singapore (23) and Malaysia (26) are the top-ranked Asia-Pacific countries, followed by Sri Lanka (41) and Taiwan (49). China appears on position 57 and India ends up on no. 107 only a few ranks higher than the ASEAN member countries Myanmar, the Philippines, Indonesia, and Guayana.

Health Canada Mulls Imidacloprid Ban

December 2, 2016: Health Canada is inviting comments through the end of February 2017 on its preliminary plans to ban the chemical imidacloprid, an active ingredient in neonicotinoid-based-insecticides. Following an initial assessment, the Canadian agency said it thinks the chemical should be phased out within five years, due to its increasing presence in waterways at levels harmful to aquatic insects. Imidacloprid is also being eyed as a threat to bees, and Canada is conducting a separate evaluation into chemical's role in Colony Collapse Disorder, which has massively affected bee populations in North America as well as Europe. The EU still has a moratorium in place, which restricts the use of neonics in certain crops attractive to bees. A potential stumbling block to a phase-out, reports said, could be a lack of access to data about how much of the insecticide finds its way into the pollen and nectar of soybeans – the most common crop on which it is used – despite the chemical having been on the market for 20 years. Health Canada is conducting a separate evaluation of how the chemical affects bees. The agency's position that imidacloprid poses so great a risk to waterborne insects that it should be banned is "striking," said Mark Winston, a professor of apiculture at Simon Fraser University. "To take an action to phase out a chemical that is so ubiquitous, and for which there is so much lobbying pressure from industry is a really bold move," he added. Health Canada previously initiated reviews of two other prominent neonics: clothianidin and thiamethoxam. While Germany's Bayer is the major producer of clothianidin – as well as imidacloprid – Switzerland's Syngenta is believed to be the sole importer of thiamethoxam products into Canada. In the US, a report published by the Environmental Protection Agency at the beginning of 2016 concluded that neonics pose a "significant risk" to honeybees when used on cotton and citrus or in concentrations of 25 parts per billion or higher, but prob-

ably not when used on other large crops like corn, berries and tobacco. The EPA subsequently came under pressure from Bayer and environmentalists, from opposite standpoints. Although the German chemical and life science group currently in the process of acquiring US rival Monsanto initially criticized the agency for overestimating the threat, in a subsequent about-face it called the report "scientifically sound." Environmentalists working in tandem with groups representing beekeepers and farmers earlier this year said they would sue the EPA for allowing seeds coated in neonicotinoids to be planted without proper assessments of the impact. Bayer and Monsanto already cooperate in the seeds segment.

Gurit Takes BASF's Italian PET Assets

December 5, 2016: Swiss composites producer Gurit has acquired BASF's polyethylene terephthalate (PET) structural foam business for an undisclosed sum. The transaction comprises the German group's PET operations in Volpiano, Italy, and its intellectual property. The Swiss group said the acquisition will strengthen its portfolio of structural core materials, with the Kerdyn brand reinforcing its offering to the wind, marine, transport and construction industries. The deal also adds sizable European PET production capacity to the Watwil-headquartered firm's existing operations in China. In addition, Gurit stands to gain significant extrusion process technology and innovation knowhow. The "special" extrusion process, for example, enables the production of high-performance PET foams with very high densities. BASF's speciality PET business acquired in March 2012 from Italian firm B.C. Foam has a turnover in the "low single digit million" Swiss francs. Gurit said it intends to integrate and further develop the Italian operations as part of its Composite Materials business unit. When buying the business, BASF said the acquisition would further strengthen its position as a leading foam provider and extend its product range for the growing global wind energy market. In the meantime, it seems to have determined the business to be non-core.

Merck KGaA Expands Roche Reagents Pact

December 6, 2016: Germany's Merck KGaA has expanded its distribution alliance with Swiss drugmaker Roche to include the polymerase chain reaction (PCR) and quantitative real-time PCR (qPCR) enzyme products of Kapa Biosystems, a company acquired by Roche in 2015. The addition of the Kapa portfolio strengthens the companies' existing distribution relationship by providing one of the most complementary suites of high-performance tools for PCR and qPCR available, Merck said, adding that the novel PCR enzymes have improved tolerance to common PCR inhibitors, increased speed and specific activity and higher fidelity. The German company will be the exclusive supplier of the enzymes for all geographies except the US, Brazil and Japan. Under the terms of the renewed agreement, Merck said it will leverage its sales, marketing and e-commerce expertise and the strength of its life science division's relationships with the scientific community to present and distribute Kapa PCR and quantitative PCR reagents and kits. The continued collaboration builds on Roche's July 2015 global exclusive distribution agreement with Sigma-Aldrich for its biochemical reagents portfolio. Merck acquired Sigma-Aldrich in the same year, and since then it said the collaboration has since driven growth in its life science business, offering premier brand tools for genomics, proteomics and cell analysis. Transition of Kapa's PCR and qPCR portfolios to Merck is expected to be completed by Jan. 1, 2017. In the interim, these products will continue to be available through existing Kapa channels. "The alliance extension with Roche will offer our customers greater access to novel products via our world-class distribution channel," said Udit Batra, member of the Merck Executive Board and CEO, Life Science. "These enzymes rep-

resent a significant advantage over commercially available DNA polymerases and thus offer the potential for entirely new PCR applications," he said.

Sanofi Said Eyeing Actelion Bid

December 7, 2016: French drugs major Sanofi is weighing a rival offer to Johnson & Johnson's recent bid for Swiss pharmaceuticals and biotech firm Actelion, the news agency Bloomberg has reported, citing sources. Bloomberg said Sanofi is working with advisers to consider its options but has not yet definitively decided to make a bid. The company is believed to be treading carefully after losing to Pfizer in its attempt to acquire another pharma-biotech firm, San Francisco-headquartered Medivation, earlier this year. J&J's original bid for Actelion on November 24 was widely reported, with both firms declining to comment. Reports at the time said a potential takeover could be worth \$20 billion. However, unidentified sources speaking to the British business newspaper Financial Times later said the Swiss company was not considering an outright sale but rather a complex plan to join forces with part of the New Jersey-based healthcare conglomerate while maintaining its independence. Actelion, which has a portfolio of pulmonary arterial hypertension (PAH) treatments, including oral, inhaled, and intravenous, is currently valued at \$17 billion. J&J is said to be bent on clinching a deal before Christmas. According to Bloomberg's sources, the US healthcare giant has meanwhile increased its bid for an outright takeover beyond \$250 per share, which would value Actelion at more than \$27 billion. Financial advisers reportedly have been sounding out other potential buyers, including US drugmaker Pfizer and Swiss drugs giant Novartis, to gauge market interest. Novartis is believed to have mulled an acquisition of Actelion earlier but decided against a move it regarded as too costly. The Swiss drugmaker's CEO, Joe Jimenez, is said to be focused on deals of under \$5 billion. Especially in view of the high price tag, some market watchers said acquisition-hungry US drugmakers may also prefer to wait and see if President-elect Donald Trump makes good on his pledge to cut corporate taxes and thus buy companies closer to home. Bloomberg commented that any deal will hinge on winning over Actelion's co-founder and CEO, Jean-Paul Clozel, one of the company's biggest shareholders. The former CEO, once an executive of Roche, is thought to be keen to hold onto at least part of Actelion.

Ineos Opens new UK Headquarters

December 8, 2016: Olefins and polyolefins giant Ineos, headquartered in Switzerland for the past six years, has officially opened a second corporate base in the UK after quitting the country for tax reasons in 2010. The new British headquarters in London's upscale Knightbridge section includes offices for senior management and the group's shale gas exploration arm, along with trading and shipping and the business teams of vinyls subsidiary Inovyn. Speaking at the dedication of the new premises. Ineos chairman and owner, Jim Ratcliffe, said the partial move "back to the roots" reflects increased confidence in the UK and the favorable climate for growth and business. "The future for Ineos is very bright, and much of this optimism comes from our UK-based operations," he remarked. Climate Change and Industry minister, Nick Hurd, said: "This government has been clear that Britain is open for business and it is welcome news that Ineos are locating their UK headquarters in London." He called the decision "another vote of confidence in the British economy." In recent years, Ineos has been spending heavily on growing its gas portfolio, which is centered on the UK and includes exploration for both shale and conventional gas. Current plans call for investments of around \$2 billion on a range of projects there. "We are also planning to extract shale gas in the north of England and to grow the newly revitalized Grangemouth," Ratcliffe said, speak-

ing of the mammoth chemical complex on the Firth of Forth. He did not mention fracking for shale gas in Scotland, where Ineos' corporate hands are tied due to a government-imposed moratorium. Returning to the UK roots was an "easy decision," the chairman said, explaining that he is optimistic not just about the future of Ineos, but also the future of the post-Brexit UK. Ratcliffe stressed that Ineos is now tax resident in the UK and, he told the business journal IB Times, "at peace" with the level of corporation tax, which is due to fall to 19% from April, 2017. The 2010 move to Rolle, Switzerland, near Geneva was designed to save around £100 million in tax. Speaking to IB Times, Ratcliffe said Ineos has demonstrated its faith in the post-Brexit British economy and is happy to pay "much more tax" than before.

Lonza Sells Belgian Peptides to PolyPeptide

December 8, 2016: Swiss specialty chemicals and biologics producer Lonza has agreed to sell its peptides business and operations in Braine-l'Alleud, Belgium, to PolyPeptide Laboratories Holding (PPL). Financial terms of the transaction, which is expected to close in the coming weeks, were not disclosed. PPL said the acquisition will enhance its manufacturing capacity and capabilities as well as enable seamless support for its portfolio as many products progress toward regulatory approval and commercial supply. "We will be expanding our capacity to meet the needs of customers who demand the highest quality products with the most robust, scalable and cost-efficient peptide manufacturing processes at every scale," said Jane Salik, CEO of the PolyPeptide Group. The Braine-l'Alleud site will add large-scale capacity in synthesis, purification and isolation of peptides, complementing PPL's portfolio of late-stage products and providing opportunities for synergies and continued growth. Mark Funk, chief operating officer of Lonza's Pharma & Biotech segment, said the peptides chemical business is a niche area for the company, which has only limited synergies with other small molecule technologies. "This move will also allow us to fully focus on our many other technologies, which we will continue to develop further. Lonza acquired the Braine-l'Alleud peptide business from UCB in 2006, he commented. PPL said it will harmonize procedures within the expanded group in the coming months. With the acquisition, the group will have nearly 800 employees worldwide, with GMP facilities at Torrance and San Diego in California, USA; Strasbourg, France; Ambernath, India; Braine-l'Alleud, Belgium; and Malmo, Sweden.

Johnson & Johnson Quits Actelion Bid

December 15, 2016: Johnson & Johnson has withdrawn from the running for Actelion Pharmaceuticals, leaving the path clear for another buyer, which multiple reports say is Sanofi. The US healthcare giant confirmed it has ended discussions for a potential merger, saying it was not able to reach an agreement that it believed would create adequate value for its shareholders. Citing sources close to the situation, news agency Reuters said the Swiss biotech is confident it can attract a bid significantly above J&J's offer of approximately \$27 billion, and there were also issues over the deal structure. The Wall Street Journal's sources have mentioned a deal worth up to \$30 billion, which analysts say is probably too much. "Winning a bidding war when it comes to acquiring biopharmaceutical companies almost always equates to overpaying," noted Bernstein analyst Tim Anderson in a note. Before J&J's interest broke, Actelion's market capitalization stood at about \$20 billion. Actelion has confirmed it is "engaged in discussions with another party regarding a possible strategic transaction", although stressed that "there can be no certainty at this point that any transaction will result". While Sanofi is widely reported to be the potential buyer, the French drugmaker has declined to comment on what it says are market rumors.

Sanofi lost out to Pfizer in its attempt to acquire pharma-biotech firm Medivation earlier this year and is said to need a boost in revenues. The company is facing mounting pressure in its diabetes business from both payers and increased competition from cheaper biosimilar versions, forcing it to lay off 20% of its diabetes and cardiovascular salesforce. The cuts, which could amount to hundreds of jobs, are part of a larger shakeup for the business, which Sanofi announced internally this month.

Lonza Captures Capsugel for \$5.5 Billion

December 16, 2016: Lonza has clinched the mooted deal to buy Capsugel, a Morristown, New Jersey, USA-based producer of capsules for delivery of drugs and food supplements, from US private equity company KKR for \$5.5 billion in cash. The Swiss-based fine chemicals producer and contract manufacturer said the transaction includes refinancing of Capsugel's existing debt of \$2 billion. Capsugel, which employs around 3,600 people at 13 facilities on three continents, manufactures empty two-piece hard capsules as well as finished dosage forms for oral or inhalable drugs.

The biggest buy in Lonza's corporate history is planned to close in the second quarter of 2017, subject to certain regulatory approvals and other customary closing conditions. It will be financed through a combination of debt and equity. The company said it has committed debt financing for the full acquisition amount from BofA Merrill Lynch and UBS and plans to raise its equity, which is fully underwritten by the three financial institutions, by as much as 3.3 billion Swiss francs. Lonza's board of directors, currently authorized to increase share capital through the issuance of 5,000,000 fully paid-in registered shares, will seek approval for additional share capital at its upcoming annual general meeting in April 2017. The Basel-headquartered company expects to retain a leverage profile of around three times net debt/EBITDA at closing and maintain its unofficial investment-grade credit profile assigned by a number of Swiss banks. The finance package also foresees refinancing of Lonza's current 700 million-franc revolving credit facility. The company calculates that the strong projected cash flow post-acquisition will enable rapid deleveraging and continue to support all of its planned growth initiatives. Lonza expects the acquisition to be core EPS accretive in the first full year post-closing, with Capsugel's "profitable business model and robust cash generation" further enhancing its financial profile. Combined pro forma 2015 sales revenue for the two companies comes to around 4.8 billion Swiss francs with adjusted EBITDA of around 1.1 billion francs, and Lonza management envisions an enhanced margin profile. The Swiss company said the merged business will be able to leverage "the strong regulatory track record and global footprint" of both players. Benefits expected to be realized through the deal include operating synergies of 30 million Swiss francs and tax synergies of some 15 million francs by year three. The bulk of the benefits, said CEO Richard Ridinger, should come from "top-line synergies" of 100 million francs per year in the mid-to-long term. These could include cross-selling, combined manufacturing solutions and services and an integrated value offering. From a strategic standpoint, Ridinger said the inclusion of Capsugel's portfolio will make it a fully integrated provider of active ingredients, oral dosage forms, development services and delivery technologies to the consumer healthcare and nutrition markets as well as the manufacturing partner of choice for companies along the global pharma and consumer healthcare chain. The integrated approach, he added, will allow Lonza's customers to work with one company that can provide support from APIs to excipients and dosage forms, thus bringing "highly differentiated products to market more quickly and efficiently." It also will fulfil the Swiss player's strategic goal of getting closer to the patient and end consumer.

Analysts were less positive about the plans, due especially to the high level of debt financing. Lonza's share price fell by a further 7% on the news of a done deal, reflecting investors' concerns that its price – more than 60% of Lonza's market value, plus an equity increase – would be too big a morsel. The share price had already fallen by 5.3%.

Actelion and J&J an "Item" Again?

December 22, 2016: After US healthcare company Johnson & Johnson bowed out of the race to strike a deal with Swiss biotech-pharmaceuticals company Actelion, and Sanofi was reported to have launched its own bid, it now seems to be all change and back to the starting line. On Dec. 21, after reports said Sanofi had been given the cold shoulder, J&J announced it was back at the negotiating table, confirming it had entered "exclusive negotiations with Actelion regarding a potential transaction." Scant hours earlier, news agencies reported that the Swiss company's share price had risen on the back of rumors that it was close to a deal with the French drugmaker after falling by 7% on news of the breakdown in talks with J&J. Sources had previously had told speaking to Bloomberg that, in an attempt to win over Actelion's board, Sanofi had made a higher bid containing cash and a contingent value right (CVR) – similar to the one it had provided when it buying US rare diseases company Genzyme for \$20 billion in 2011. This would amount to a \$2 billion bonus to be paid out if certain Actelion drugs lived up to the expectations voiced by its CEO, Jean-Paul Clozel. The company is regarded as a leader in the field of pulmonary arterial hypertension (PAH). Reuters, also quoting "sources," said Clozel "may now be in a place where he has to make a deal or risk that angry investors will take steps to replace the Actelion board with members that will make a deal." While investors were pitching for a transaction to be wrapped up before Christmas, Reuters said a deal was more likely to be concluded between Christmas and New Year's. On the Dec. 12 news that the company was in advanced talks to buy Capsugel.

J&J Deal Could Split Actelion

December 30, 2016: US healthcare company Johnson & Johnson (J&J) is negotiating a deal to acquire Actelion that would see its commercial portfolio separated from its R&D assets, according to news agency Reuters, citing people familiar with the matter. The structure of the agreement would allow J&J to buy Actelion with a cash offer of around \$260 per share, slightly more than the US major had offered when it withdrew from negotiations earlier this month, while allowing Actelion's shareholders to gain further financial benefit from the Swiss firm's R&D pipeline, the sources said.

Actelion's R&D pipeline would be placed in a new publicly traded company. Details relating to ownership and whether Jean-Paul Clozel, Actelion's CEO, would head the new company are among items still being discussed. A deal could be finalized by January, although the people cited by Reuters cautioned that negotiations may still end without any agreement being reached. J&J and Actelion have not commented. After backing away from its initial takeover plans, J&J returned to the table after French rival Sanofi reportedly launched its own bid for Actelion.

Bertschi Starts Second Phase of Singapore Hub

January 5, 2017: Swiss logistics group Bertschi has broken ground on a second-phase expansion of its facility on Jurong Island, Singapore. An investment of 35 million Singapore dollars (\$24 million) is being injected into the project, which will add 45,000 square meters of space to Bertschi's existing area of 30,610 square meters. The facility will include a dangerous goods warehouse providing 25,000 extra pallet positions and additional drumming services. Completion is targeted for the

fourth quarter of 2017 and will take the group's total investment in Singapore to 80 million Singapore dollars. The expansion will also see staffing increase by 33% to a total of 100 employees.

The Bertschi Jurong Island Chemical Cluster (JICC) opened in January 2016 and was the Dürrenäsch-headquartered group's first investment in Asia. "In the past year, we helped to fill a pent-up need in the market and have established ourselves as a reference chemical logistics company in Singapore, serving the specialty chemical sector on the Jurong Island ethylene oxide corridor," said Lieven Vander Elstraeten, managing director of Bertschi Solutions, Singapore. He added: "We will continue to meet the fast-growing demand for chemical logistics in the region with the strategic advantage of Jurong Island as the chemical hub main gateway to Asia. Rising demand for specialized chemical logistics services reflects Singapore's push to develop the specialty chemicals sector, which has seen manufacturing output grow at a compound annual rate of 6.1% over the last ten years, noted Damian Chan, executive director for energy & chemicals at Singapore's Economic Development Board. "To pursue growth areas, we will continue developing Jurong Island's infrastructure and services, such that we remain competitive and provide investors with the confidence to grow their business in Asia," Chan said.

J&J and Actelion Said Talking to Swiss Regulators

January 9, 2017: Actelion and Johnson & Johnson may be edging closer to a deal that would give the US healthcare giant at least a major chunk of the Swiss biotech firm, according to the Zurich newspaper Tages-Anzeiger. The paper said the two companies are currently speaking to Swiss regulators about their plan for splitting Actelion into an R&D and a mature products unit, the former majority owned by the family of Actelion founder and CEO Jean-Paul Clozel. His veto is thought to be behind J&J's withdrawal from the initial negotiations. Clozel and his wife Martine are reportedly keen to strike a deal along the lines of Roche's takeover of Genentech. The entrepreneur is said to fear that his company in future could serve only as a sales generator for a huge multinational company, which in time might cut R&D spending or even phase out in-house research. Under the plan, J&J would acquire Actelion's established drugs portfolio, including the pulmonary arterial hypertension treatments Tracleer, Opsumit and Uptravi, which account for the lion's share of the Swiss company's sales revenue. The deal would also include production facilities, marketing and distribution activities and the employees in these fields, along with the relevant research activities. As reported earlier, J&J would pay Actelion about \$260 cash per share for its assets, valuing the intact company at \$28 billion. The Swiss biotech firm with annual sales of more than 2 billion Swiss francs employs more than 2,500 people. The US healthcare firm, with a minority shareholding in the research arm, is said to be prepared to fund R&D to the tune of \$1-2 billion over several years in the interest of bringing more pipeline products to the market. Up to now, reports say Clozel has been loath to split the company. In earlier failed deals, he deflected an \$18.9 billion bid from Shire and outmaneuvered a 2011 takeover attempt by activist hedge fund Elliott Advisors. J&J is said to be happy with the agreed split, especially as its competitors are breathing down its neck with ready-to-launch biosimilars and it desperately needs new products.

EU Says DowDuPont Approval "Still Open"

January 10, 2017: Following a Jan. 9 meeting between would-be merger partners Dow Chemical and DuPont, EU Competition Commissioner Margrethe Vestager said the outcome of the regulatory authority's in-depth probe "is still very much open." The news agency Bloomberg called the meeting a last effort by the two chemical giants to get the merger approved in the important

European market. At the closed-door hearing in Brussels, attended by representatives of BASF and agriculture and biotech trade groups, it said Dow and DuPont defended themselves against objections, adding that the ball is now in the EU's court to give feedback on any remaining concerns and offer further concessions. Without providing details of the meeting, a spokesperson for Dow said the company is "continuing to work constructively" with the European Commission and all other relevant regulatory authorities to address their questions and to obtain clearance for the merger. Dow and DuPont reportedly offered concessions at a July 2016 meeting with EU authorities, but the antitrust officials said these were insufficient to dismiss "serious doubts" about the deal. A deadline for completing the merger was pushed back from the original target of the end of 2016 after the EU twice suspended the review, saying it had not been provided with sufficient information. The Commission is simultaneously reviewing the merger plans of Switzerland's Syngenta with ChemChina and has repeatedly expressed concern about increasing concentration in an already highly concentrated agrochemical industry. "Farmers need to have a choice of seeds and crop-protection products," Vestager told Bloomberg TV. The commissioner called the Swiss-Chinese transaction a "very different deal," which also shows the importance of research to develop new products. "Farmers need innovation as well in these products and that would be something that we will be discussing with the companies moving forward," she said. Bayer's plans to acquire US rival Monsanto, another agriculture giant, have not yet been submitted to the EU for approval.

Lonza Extends Its Distribution Relationship with Azelis

January 12, 2017: Lonza expanded its distribution agreement with Azelis in Europe with effect from Jan. 1, 2017. The company will offer Lonza's materials protection ingredients to industrial market segments such as paints, coatings, inks, emulsion polymerisation, adhesives and sealants, marine paints, building products, construction auxiliaries and mineral slurries. The new mandate covers Germany, Switzerland, United Kingdom, Benelux, Bulgaria, Slovenia, Croatia, Serbia and Ukraine. Azelis has already been serving Lonza in France and Italy for more than ten years and in Turkey since 2015. Per Westin, head of Global Sales, Coatings & Composites SBU Lonza, comments: "We chose Azelis because of their ability to offer customer service and satisfaction through experience, knowledge of the products and applications and their approach to product stewardship and regulatory compliance. We are looking forward to working with Azelis in this expanded partnership." To support the development of its biocide business, Azelis has hired Gilles Pradier as business development manager for this segment. Pradier is a biocide specialist with over 20 years' experience in marketing and sales of industrial biocides. He will be based in the Azelis Paris office.

Clariant Catalysts for Indonesian Ammonia Plants

January 13, 2017: Swiss specialty chemicals company Clariant and licensing partner KBR have provided catalysts and technology, respectively, for two major ammonia projects in Indonesia. Further details on the projects, including locations, identities of the manufacturing companies and capacities, were not revealed. Clariant did say, however, that start-up of the new plants is now underway, as planned. Awarded in 2015, the contracts for the projects are part of a strategic cooperation between Clariant's catalysts business and US-based engineering contractor KBR. The catalysts selected for the new plants include AmoMax 10 for ammonia synthesis, ReforMax 330 LDP and ReforMax 210 LDP for reforming as well as ShiftMax 120, ShiftMax 127 and ShiftMax 210 for high temperature shift and low temperature shift reactions. Clariant said AmoMax 10, which is based on a

wustite structure, offers more than 20% higher activity compared with conventional magnetite catalysts. As well as boosting energy savings and yields, AmoMax 10's unique physical and chemical characteristics is said to allow a faster start of production and reduced natural gas consumption. The catalyst is already used in more than 100 ammonia plants worldwide. "Partnering with Clariant enables us to not only provide our market-leading ammonia technology, but also the best catalysts to optimize the performance of the plant and deliver best value and operability," said Avinash Malhotra, vice president of syngas technologies at KBR.

Grangemouth Firms Fined for Pollution

January 16, 2017: Scotland's environmental protection agency, SEPA, has issued fines to 383 industrial companies or sites – including Ineos, BP and Syngenta at Grangemouth – for their "poor" or "very poor" performance on pollution or safety. With the fines, the environmental watchdog said it was targeting "serial offenders," adding that "every action will be taken to ensure compliance is achieved." The companies, in their defense, pointed to otherwise good environmental credentials and commitments. The Petroineos refinery at Grangemouth, operated by a joint venture between Ineos and Petrochina, was classed as poor because of what the agency said was a "significant breach" of its pollution permit, which had caused "a prolonged offensive odor from the site affecting a wide area" in December 2015. Petroineos also was given an official ultimatum to improve safety, after the Scottish Health and Safety Executive (HSE) accused it of failing to take "all measures necessary" to prevent major accidents. The company has until April of this year to comply or face further action. In particular, the HSE said the refinery operator had not assured inspection and maintenance of hand held, portable electrical equipment used in hazardous areas to control the risk of ignition of "flammable atmospheres." The British-Chinese jv said it has already taken steps to deal with the situation. Two other plants at Grangemouth, BP's at Kinneil oil terminal and a facility operated by Swiss agrochemicals producer Syngenta were also cited. SEPA said the BP plant had prolonged flaring and noise complaints, due to "breakdowns and process upsets," and the Syngenta unit had "extensive drain defects" resulting in groundwater contamination. In its defense, BP stressed the good performance of most of its plants in Scotland, adding that that over the past year it had been working to improve ground flare capabilities at Grangemouth. Syngenta, while acknowledging "a 2015 drainage problem," said it had isolated the affected drains and worked with specialist contractors to repair them. Environmental advocacy group Friends of the Earth Scotland called on SEPA to get "much tougher" with repeat offenders, adding: "It is simply unacceptable in the 21st century that people still need to worry about whether the company next to their community is poisoning them."

Givaudan Acquires Activ International

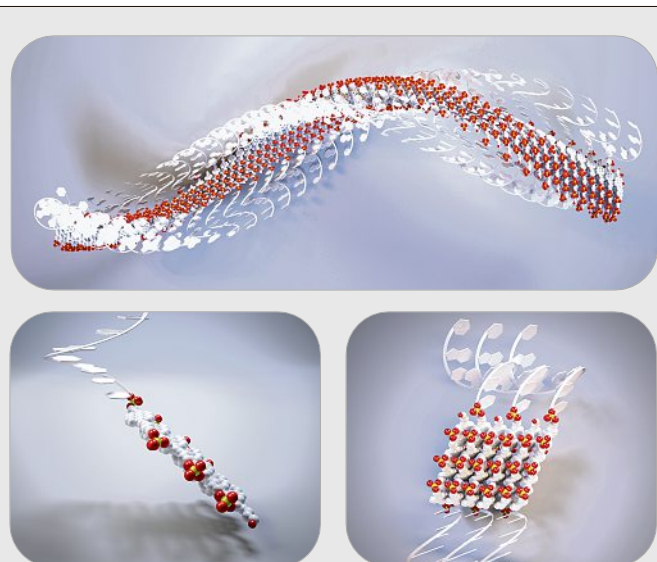
January 18, 2017: As part of an ongoing strategy to expand its product portfolio and invest in high-growth markets, Swiss flavors and fragrances company Givaudan has added local firm Activ International to the group. Financial terms of the transaction were not disclosed. With headquarters in Bienne, Switzerland, and sites in Paris, France; Somerset, New Jersey, USA; Melaka, Malaysia; and Arequipa, Peru, Activ employs 170 people around the world to provide a range of natural and organic flavor products. Mauricio Graber, president of Givaudan's Flavor Division said Activ's portfolio further enables the Swiss group to strengthen its extensive natural flavor offerings and supply customers with complete and competitive natural solutions. Activ's business would have accounted for incremental sales amounting to approximately 40 million Swiss francs in Givaudan's 2016

results on a proforma basis. Givaudan posted sales of 4.4 billion Swiss francs in 2015. The Vernier-headquartered company said it will fund the acquisition from existing resources. Last July, Givaudan paid \$340 million to buy US-based Spicetec Flavors & Seasonings from ConAgra Foods.

Hydrogen Council Launched at World Economic Forum

January 20, 2017: Among the "firsts" launched at the 2017 World Economic Forum in Davos, Switzerland, were – unusually – two projects in which the global chemicals-related industry got its day in the sun. Plastics recycling and the circular economy have been hot topics for some time, and this year's presentation by the Isle of Wight-based Ellen MacArthur Foundation, calling for a 70% quota for plastics recycling, and upstream and downstream companies in plastics packaging, such as Dow, Borealis, Unilever or Danone drew quite a bit of attention. Among the fresher faces spotted at the meeting of the world elite in the Alps were representatives of 13 companies active in the hydrogen sector – along with industrial gases producers, the list included global players in energy and transport. Together, the companies have formed the Hydrogen Council, billed as the first global initiative of its kind, whose primary purpose is to advance the knowledge and use of the element as an energy source. The group representing total revenue of €1.07 trillion and 1.7 million employees worldwide is led by two co-chairs from different geographies and sectors, presently Air Liquide and Toyota. Other members include CEOs and chairpersons from Air Liquide, Alstom, Anglo American, BMW, Daimler, ENGIE, Honda, Hyundai, Kawasaki, Royal Dutch Shell, The Linde Group, Total and Toyota. Together, the companies have committed themselves to help achieve the ambitious goal of reaching the 2° Celsius global warming target set own in the 2015 Paris Agreement. In introducing itself, the Council said it is "determined to position hydrogen among the key solutions of the energy transition." Its members point out that hydrogen, the most abundant element in the universe, in addition to being a versatile energy carrier is also a promising source of clean fuel. As hydrogen does not release any CO₂ at the point of use as a fuel or energy source, they believe it can play an important role in the transition to a clean, low-carbon, energy system. Driven in particular by the industrial gases industry's market leaders, including Air Liquide of France and Linde of Germany, hydrogen technologies and products have significantly progressed over past years and are now being introduced to the market, the Council representatives stressed. To get this message across to the general public, the industry body said it plans to work with and provide recommendations to a number of key stakeholders such as policy makers, business and hydrogen players, international agencies and civil society. During the launch at Davos, members of the Hydrogen Council confirmed their ambition to accelerate their significant investment in the development and commercialization of the hydrogen and fuel cell sectors. Monies invested in such projects currently amount to an estimated €1.4 billion per year. "Thanks to the substantial progress in hydrogen and fuel-cell technologies in recent years, the much-quoted 'energy carrier of the future' has finally become available," said Linde CEO Aldo Belloni. "It is now up to us – the industry, policy makers and customers – to make full use of the potential these climate-friendly technologies can offer," he emphasized, noting that Linde as a pioneer and leader in hydrogen production, distribution and dispensing supports the new Council as a means of paving the way towards a sustainable hydrogen economy. Benoît Potier, CEO of Air Liquide, remarking that the Paris agreement to combat climate change is a "significant step in the right direction," said it also requires business action to be taken to make such a pledge a reality." The Council, he said, brings together some of the world's leading industrial, automo-

tive and energy companies with a “clear ambition” to explain why hydrogen emerges among the key solutions for the energy transition. However, the technology requires the development of new strategies at a scale to support it. “Industry needs governments to back hydrogen with large-scale infrastructure investment schemes.” Toyota, said the Japanese carmaker’s chairman, Takeshi Uchiyamada, “has always tried to play a leading role in environmental and technological advances in the automotive industry, including through the introduction of fuel cell vehicles. Hydrogen also has the potential to support the transition to a low carbon society across multiple industries and the entire value chain, he stressed. A report entitled , commissioned by the Hydrogen Council, goes into greater depth about the potential for the future that hydrogen is ready to provide. It also sets out the vision of the council members and outlines the key actions they consider fundamental for policy makers to implement, in order to fully unlock and empower the contribution of hydrogen to the energy transition. While use of the technology is growing rapidly – more than 500 electric vehicles are now powered by hydrogen in Europe and more than 120,000 fuel cell co-generation systems are installed in Japan – the industry sees challenges in particular from a lack of funding and fragmentation of legislation as well as a lack of critical mass and insufficient infrastructure.



SCS Fall Meeting 2017

University of Bern

Mon, 21. August 2017, 13:00 – 21:00

- 13.00 Helvetica lectures
- 14.15 Future leaders on stage*
- 16.00 Start-ups on stage
- 17.30 Senior KGF-SCS Award lecture
- 18.30 Poster sessions*, commercial exhibition
Beer & Brezel, networking aperitif

Tue, 22. August 2017, 09:00 – 18:30

- 09.00 Welcome coffee
- 09.45 KGF-SCS Award lecture
Grammaticakis-Neumann Award lecture
- 11.00 Morning parallel sessions*
- 12.45 Lunch and poster session*
- 15.00 Afternoon parallel sessions*
commercial exhibition
- 17.00 Sandmeyer Award lecture
- 17.45 Best oral/poster presentation awards
- 18.30 Closing remarks

*Call for contributions:

Open from 20. March to 12. May 2017

<http://scg.ch/fallmeeting/2017>

u^b

**UNIVERSITÄT
BERN**



SCS
Swiss Chemical
Society