

Editorial

Insights into current research at the Institute of Chemical Sciences and Engineering at the Ecole Polytechnique Fédérale de Lausanne 10 years after the unification of chemistry and chemical engineering in Lausanne.

In 2001 the Institutes of Inorganic Chemistry and Organic Chemistry at the University of Lausanne formally merged with the Institutes of Physical Chemistry and Chemical Engineering at EPFL to form the Institute of Chemical Sciences and Engineering (ISIC), embedded entirely within the Federal School. The first director of ISIC, Prof. Tom Rizzo, who oversaw this transformation and carved the current structure, is now Dean of our Faculty, which includes institutes in mathematics and physics. His successor, Prof. Hubert Girault, now the Dean for the Bachelor and Masters programs at EPFL, made further changes to cement a single and strong institute that has proved itself in various international evaluations.

ISIC is the largest single institute at EPFL and, while critical mass is important in order to provide a high level educational experience, quality also counts. And in this context two ISIC chemists were recently named on the list of the 100 most influential chemists in the world – compiled by Thompson Reuters using averaged citations as an indicator. While ISIC has world-renowned senior faculty it is particularly proud of its young faculty. Only last year three tenure-track professors from ISIC were short-listed for the European Young Chemist Award, which resulted in the gold and silver medals coming to EPFL.

Research in ISIC spans fundamental studies in theoretical chemistry and biochemistry to the translation of basic science into applications in medicine, devices and engineering. Recent years have witnessed increasing awareness and response to the needs of society, but without any compromise on the quest for new knowledge. Fundamental research at EPFL led to the discovery of dye-sensitized solar cells, and drugs and diagnostics discovered within our Institute are used in hospitals throughout the world. ISIC continues to take a leading role in many aspects of chemistry and chemical engineering including research at the interface of biology and physics as well as in sustainability, energy and the environment. Our structure that combines chemistry with chemical engineering within a single institute is only shared by a few universities around the world. We have seen the advantages of such a structure for many years, with our graduates being highly sought after by the Swiss industry, but also with the rapid translation of basic science into working technology. Indeed, this structure is now perceived by some to be essential for the future development of chemical sciences in order to tackle the major global challenges that face mankind. In this context we are in a somewhat luxurious position as many of our research efforts confront these specific topics – energy, the environment, natural resources, medicines, health and water – while maintaining a strong tradition in fundamentals.

In this issue of CHIMIA we decided to focus on the present and future rather than the past – since this *is* the golden age of ISIC. We hope that the series of short review articles from ISIC faculty provide a flavor of our on-going research and inspires you to learn more about our activities. You may also be surprised to see so many new faces with more than ten new faculty since the foundation of ISIC in 2001. Some facts and figures about ISIC are also listed overleaf.

Professor Paul J. Dyson
Director of the Institute of Chemical Sciences and Engineering
Ecole Polytechnique Fédérale de Lausanne

Some Facts and Figures

- Selected prizes and honors to ISIC faculty in the last three years include the Dalton Transactions European Lectureship Award – Kay Severin; Bourke Award of the Royal Society of Chemistry – Tom Rizzo; Terra Rarae award – Claude Bünzli; Distinguished Honorary Professor of the Chinese Academy of Sciences – Michael Grätzel; Werner Prize 2010, Swiss Chemical Society – Sandrine Gerber; *Dr. honoris causa* Delft University of Technology – Michael Grätzel; *Laurea honoris causa* University of Hasselt – Michael Grätzel; Galvani Medal – Michael Grätzel; French Chemical Society Prize in Organic Chemistry – Jieping Zhu; Award for Outstanding Achievements in Bioorganometallic Chemistry – Paul Dyson; Balzan Prize – Michael Grätzel; European Young Chemist Award 2010 Gold Medal – Nicolai Cramer; European Young Chemist Award 2010 Silver Medal – Clemence Corminboeuf; *Dr. honoris causa* Moscow State Academy of Fine Chemicals – Liubov Kiwi Minsker; Bayer Early Excellence Award – Nicolai Cramer; 2010 Kuwait Prize – Majed Chergui; City of Florence Award – Michael Grätzel; Millennium Technology Prize 2010 – Michael Grätzel; Werner Prize 2011 – Xile Hu; European Federation for Medicinal Chemistry Prize for Young Medicinal Chemist in Academia – Christian Heinis.
- More than 1000 publications in the last three years, with 380 in 2010 alone including 14 in *Nature* and *Nature* sub-journals, e.g. *Nature Chemistry*, *Nature Chemical Biology* etc., 6 in *Science*, 50 in *Angew. Chemie*, 50 in *J. Am. Chem. Soc.*, 7 in *PNAS* and 25 in CHIMIA – this last number will have increased significantly following the publication of this issue!
- Number of active patents: 64, with 61 licenses or tech-transfer agreements.
- Over 200 active external research grants.

Current number of ISIC co-workers: 360 including faculty, scientific, technical and administrative staff, postdocs and PhD students.