From the Academia



The Magazine of the Polish Academy of Sciences No. 1 (5) 2005 Quarterly ISSN 1731-7401

Edited by:

Polish Academy of Sciences © 2005

Editor Address:

Polish Academy of Sciences: Office of Analyses, Scientific Information and Publications PKiN, PI. Defilad 1, 00-901 Warsaw, Poland e-mail: academia@pan.pl www.pan.pl/academia

Editorial Staff:

Jan Strelau Editor-in-Chief

Piotr Kossobudzki Deputy Editor Biomedical Sciences

Anna Zawadzka Managing Editor Humanities

Weronika Śliwa Mathematics, Physics, Chemistry, Technology

> Andrzej Pieńkowski Earth Sciences

Daniel Sax English Language Editor & Translator

> Paweł Adamów Art Director

Scientific Council:

Honorary Chairman: Andrzej B. Legocki President of the Polish Academy of Sciences Irena E. Kotowska Wiesław Bogdanowicz Marek Chmielewski Tadeusz Rychter Tomasz Brandyk Wojciech Kostowski Jan Andrzej Ciołkosz

Publication costs partly covered by the Ministry of Scientific Research and Information Technology

DTP by Vers Print

Splish-Splash!

We are so accustomed to water being one of the most ubiquitous substances in our lives, that we hardly even notice it. Nevertheless, the chemical and physical properties of water are sometimes astounding. Some of them are highlighted in our article on p. 34, including "porous" water and "cages" built of nothing but water.

The fact that water is omnipresent usually means that we do not show it enough respect. How can the environment's balance be reinstated, once human activity has upset an ecosystem's stability? This is a question for ecohydrology – a new field of science whose tenets and achievements we describe on p. 4. But water is not just of interest to hydrologists: astronomers are fascinated with it as well! The question of whether H_2O is present on Mars and other planets and moons of the Solar System is captivating for researchers seeking extraterrestrial life, as well as for scientists planning space missions (p. 8).

However, before we set off into space, we should learn to properly manage water down on Earth. Here, water manifests its powerful force in many ways: it can destroy coastlines (see "Our Beaches" on p. 24) and cause dangerous floods. Did you know that over 1.5 billion people worldwide were affected by floods in the past decade? Read "Learning to Live with Floods" on p. 30 to learn more about how Polish researchers are trying to cope with the problem. Yet the consequences of floods entail more than just damage to city streets or agricultural areas; they have a profound psychological impact as well. Research results (p. 12) have shown that flood victims require the support of psychologists just as urgently as damaged buildings require intervention by engineers.

Winter is the time when water takes on some of its most beautiful and delicate forms, changing into snow and ice (at least on part of the globe). For a truly close look at such superb beauty, take a peek at this issue's Gallery photo on p. 51. Or, for a more macro-scale view of snow in large quantities, we recommend the article "White Ends of the Earth" (p. 16), describing the history of Artic and Antarctic research. Polish scientists have been involved in such study for more than 200 years, and are now preparing to take part in the 4th International Polar Year.

And last but not least, when sending out our magazine's fifth issue for these wintery early months of 2005, the ACADEMIA editorial staff would like to take the opportunity to wish our readers and authors all the best in the new year, and to express our hopes that 2005 will bring many new discoveries and outstanding research results for us to describe in future issues! ACADEMIA staff

Winter is the time when water takes on some of its most beautiful and delicate forms