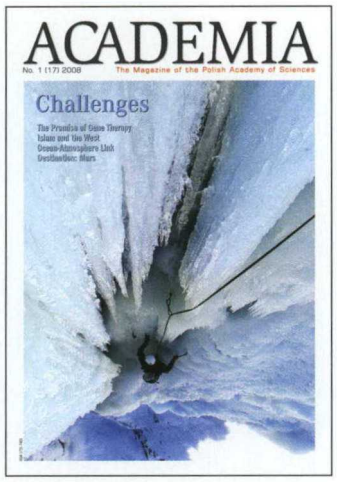


The Magazine of the Polish Academy of Sciences
No. 1 (17) 2008
Quarterly
ISSN 1731-7401

Edited by:
Polish Academy of Sciences

Editor Address:
Polish Academy of Sciences:
Office for Popularizing and Promoting Science
PKiN, pl. Defilad 1, 00-901 Warsaw, Poland
e-mail: academia@pan.pl
www.pan.pl/academia

Subscription:
academia.prenumerata@pan.pl

Publication costs partly covered by
the Ministry of Science and Higher Education

DTP by Edit Sp. z o.o.

DTP Operator: Magdalena Giera

Taking up the Gauntlet

Perplexing puzzles, cryptic conundrums, and bold challenges are the very stuff of science. Yet now more than ever before, contemporary challenges confront all of humanity at large, thus requiring broad, international efforts. One inspiring challenge in man's not-so-distant future is traveling to Mars: no longer in the realm of dreams, such a voyage is already now a topic of international preparations and research. Efforts underway to surmount some of the difficulties awaiting future Mars explorers are presented in this issue's fascinating ***Interview*** *(p.* ***40****).*

Another of the great challenges in urgent need of attention is climate warming – to bring it under control we above all need to grasp its underlying causes. One key piece of this global puzzle, i.e. the role the oceans play in shaping the world's climate, is outlined in our article ***The Big Mix*** *(p.* ***20****).*

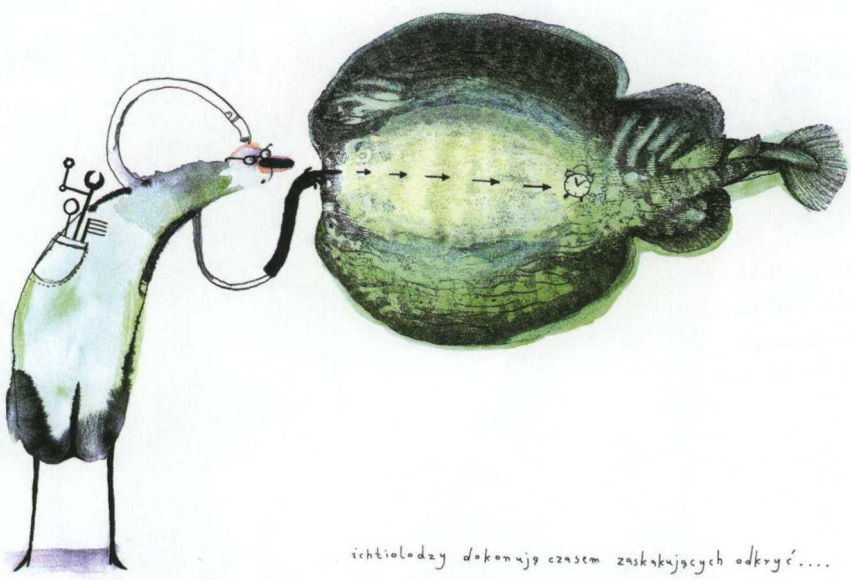
As for tackling the challenge of disease, vast hopes have been pinned on genetic engineering techniques to pave the way to new treatment methods. Yet gene therapy has proven to be significantly more difficult than anticipated – on p. ***4*** *we take a hard look at whether it truly offers a bright beacon of* ***Hope for the Future****.*

The social domain is likewise full of urgent challenges. For instance, how can animosities be defused and dialog fostered between ***Christianity and Islam****? See p.* ***12*** *for a glimpse at the future of relations between these two great civilizations. Another example can be found in Poland's recent history: one of the most greatly-anticipated socioeconomic hurdles in recent years was how Polish farmers would cope with EU accession. Indeed they turn out to have done surprisingly well, and have in a sense come* ***Home at Last*** *(p.* ***8****).*

Often an old, familiar challenge can be successfully tackled from a new angle. For instance, counting the total number of species in the world, which only recently seemed an insurmountable task due to the sheer number of biologists required, has now been made significantly more realistic by the new technique of ***Biological Barcodes*** *(p.* ***31****).*

Nevertheless, every resolved challenge simply opens up many more for the kind of intrepid researchers who do not balk at daunting tasks!

ACADEMIA staff



The essence of research work consists in ceaselessly asking questions. The real trick lies in posing questions that lie just at the edge of what we know. But how can we study something we do not yet know? That, indeed, is where the core challenge of science lies. Illustration: "Fish" by Agata Dudek, first prize winner in a "draw the scientific researcher" contest organized as part of the 2007 Science Festival