

tivity profiles and nuclear data uncertainties, which will be determined for the neutron responses, will be used to guide and optimise the design of the benchmark experiment.

Besides the research aimed at supporting the development of JET and the ITER, the Jožef Stefan Institute also takes part in the design of more “distant” fusion power-plant reactors. **Dr Matjaž Ravnik** from the **Reactor Physics Department** is a member of the DEMO Working Group. The main objective of his collaboration and participation is contributing to topics related to conventional nuclear power-plant technology, in particular to topics related to nuclear safety and nuclear-waste treatment. One of them, a review of the report on the categorization of activated material, prepared as the basis for various power-plant conceptual design alternatives, has already been investigated.

The LECAD laboratory at the University of Ljubljana (Prof Dr Jože Duhovnik), has been chosen as a partner to provide an insight into the design problems of stellarator Wendelstein W7-X, another type of toroidal fusion device. The results of the analysis pointed to potential problems by providing an insight into zones of excessive plasticity, which might lead to fractions or collapse of the structure. LECAD currently continues to provide engineering solutions for Wendelstein W7-X by performing additional parametric analyses of the supports in new projects. LECAD also designed and manufactured new tools for the manufacturing of the vacuum vessel sectors of ITER.

The areas of the fusion programme of the SFA:

- plasma-surface interaction in ITER-relevant conditions
- integrated tokamak modelling
- development of nuclear diagnostics for JET
- development and irradiation testing of new ceramic materials for fusion reactors
- analysis of TBM neutronics experiments and validation of EFF nuclear cross-section data
- development of special tools for the construction and production of ITER parts
- structural mechanical analyses and evaluations to support the ITER and Wendelstein 7X projects
- collaboration in the DEMO Working Group
- fusion-related experimental methods at the TRIGA Reactor

20 Years of the Science Supplement in the Newspaper DELO

Credibility is the Key for Us

By Boris Čerin

It is generally the case that leading national newspapers build their image on correct reporting, which in view of the complexity of the various events in the majority of today's societies is demanding and responsible work. You have to be up to the task, or in terms of individual journalists, they must be capable of analysing comprehensively the issue they are presenting to the reader. Nor can we forget the reader's trust. This trust is conditioned to a great extent by the overall image of the individual newspaper and how readers sense the individual newspaper. And this brings us to the entirety. An overly narrow orientation puts off the more demanding reader. For this reason leading newspapers like to show that no subject is too difficult for them and that they can delve into all fields – including science, which readers take to be the most difficult of all.

Of course a point such as this is just one aspect of the whole. Science delves into so many areas that affect us, that is, each individual, that there most certainly exist a whole range of topics that might draw our attention. It offers much fascination. Yet we quickly face a dilemma of what form of reporting and writing about scientific achievements is most suitable for the individual newspaper. And this is the area covered by the individual editor.

At the most eminent Slovenian daily paper, *Delo*, responsibility for this lies with Gregor Pucelj, editor of the weekly supplement *Science [Znanost]*. He talked to us for this article.

QUARK: We might say that over the years the Science supplement has been formulating its appearance. What was going on in the initial thinking? The readers, most probably. And a sufficiently wide circle of correspondents?



Gregor Pucelj, editor of the weekly supplement *Science [Znanost]*.

PUCELJ: Our supplement, which was then called Znanje za razvoj [Knowledge for Development], first came out precisely two decades ago, on 30 September 1986. There was simply a growing awareness and need at that



Gregor Pucelj,
editor of the
weekly supplement
Science
[*Znanost*].

time to offer our readers some rather more expanded and in-depth information on developments in the widest area of science, technology and medicine. Others were aware of this, too, since “science” supplements started appearing with other outstanding daily papers, such as *The Guardian* and *The New York Times*.

Ultimately of course it was also a time – whether or not we were socialist or capitalist – when researchers gradually started being aware of the need to communicate with the widest possible audience. There was gradually sharper scrutiny over the issue of financing the wide variety of research programmes, and the public demanded explanations and answers about what taxpayers were putting their money into... Of course this did not come easily or overnight. At first researchers found it hard to reveal the secrets with which they were dealing. But when they started to realise that they had to open up to the public, we ran into another problem – they did not know how to explain simply what they were doing and what new things they had discovered.

It was here that the positive side of a supplement such as ours was demonstrated. On the one hand we were educating readers to keep abreast of domestic and foreign research achievements. On the other hand – and this is

still an important part of my work today – we were teaching the researchers how to write simply and comprehensibly. And believe me, this was not easy, at least for the first few years.

QUARK: The simple transfer of the practices of leading world newspapers was probably not the ideal thing, since in Slovenia we have our own peculiarities.

PUCELJ: Exactly. Owing to some of our peculiarities – we have a relatively small research community that goes with the small size of the Slovenian population – we have to balance up differently the great research and technological achievements and events that are taking place on the global level and chiefly in the research superpowers such as the USA, Japan, the UK, Germany and France with domestic developments “taking place” in our research institutes, laboratories and industry. Here we stick to the simple rule of journalism: writing about the consequences of a small flood in the local environment is much more important than a tsunami in another part of the world. In the figurative sense, of course.

Of course we are also lucky in that many Slovenian researchers are also working successfully abroad. In today’s world of the Internet and e-mail we are thus right up to date on what they are doing and of course we are also writing about this.

Yet there is at least one other peculiarity that distinguishes us from similar supplements in the “big” world papers. That is language. The point is, we live in a time when English is relentlessly conquering the world – especially in the research community. So on the one hand we have a limitation, whereby we have to translate everything that is accessible on the extremely numerous sources of information. On the other hand we have the advantage and mission of cultivating and promoting the development of popular “scientific” Slovenian. This is not always easy, since some researchers’ terminology has succumbed entirely to English, and they do not know how to “translate” it into Slovenian. Still, through joint efforts we ultimately always succeed.

QUARK: Adapting to the needs of readers has influenced editorial work. Have the readers’ demands changed much over the years?

PUCELJ: Mainly the readers have less and less time and patience. They receive the majority of information via electronic media in effect as soon as it happens. So newspapers such as *Delo* and especially a supplement

such as *Science* find themselves in a schizophrenic situation. On the one hand we are aware that we must publish shorter articles carrying a wealth of pictorial material, thereby “making” television out of a newspaper. On the other hand we are also aware that our readers are not entirely ordinary – in our supplement they expect a slightly more in-depth explanation of what they caught in passing on the radio or television. So we combine. We print many things as briefly as possible, but we give a thorough treatment to more interesting topics, even if this means the article runs to over half a page. Such hot topics now are for instance cloning, climate change, astronomic discoveries and similar.

But the fact is that we are becoming increasingly a “picture book” with shorter and shorter texts. This is most obvious if I look back at old issues of *Science* from 10 or 15 years ago and compare them with what we have now.

QUARK: Tell us about your cooperation with the correspondents, or rather the experts in various fields who are published in your columns. In the years that you have been editor, the circle of external contributors has probably increased. Are the scientists and experts in various fields becoming increasingly proficient at writing?

PUCELJ: It is undoubtedly quite different today and – at least for me as editor of *Science* – much easier than it was in the first years. Researchers, university professors, doctors and engineers have got used to reporting and writing about their work and achievements in our supplement. Here we combine our own, in other words journalistic, writing – for the most part interviews – with articles and commentaries written by the “actors”, in other words the researchers themselves. In this way around 200 external writers are featured on our pages in one year. Some of them are by now fairly permanent contributors who write several articles each year, since they report on new features from their field that have emerged for instance on the world level. Others write exclusively about their own work. In this way every Thursday we fill 3-4 pages of *Delo*.

There are of course major differences between writers. Technologists in particular frequently find it harder to formulate popular texts that are not riddled with figures and tables. But things have improved over time. They have got better and better at heeding my advice. I can offer praise especially to the younger researchers and experts

in general who tend to write better than their older colleagues.

It is also perhaps at least evident in some way that in many environments increasing attention is paid to what is called public communication. Younger researchers also participate in workshops organised several times a year by the Slovenian Science Foundation, at which I myself speak a little about my experiences.

QUARK: You are assisted by four other journalists in your editorial office. Are you a good team?

PUCELJ: There are actually five of us altogether in the editorial office at the moment, and of course we also cover current events in the area of research policy and international developments, about which we write in the regular columns of the paper and in the *Saturday Supplement*. Over the years my colleagues have also become specialists in individual fields, and they can easily get to grips with the most demanding subjects. But this is frequently “bloody” work ... Although in the paper, where the text flows nicely and everything is in its right place, the reader does not notice that at all. With a few minor changes we have been together quite a number of years, so we know each other well. As editor I know what is right for each of them and what I can entrust them with. But of course this inevitably involves the usual tensions where the deadline for submission of material has passed and the articles have not even all been written. But that’s the daily fare of journalism.

QUARK: Do you get reader responses?

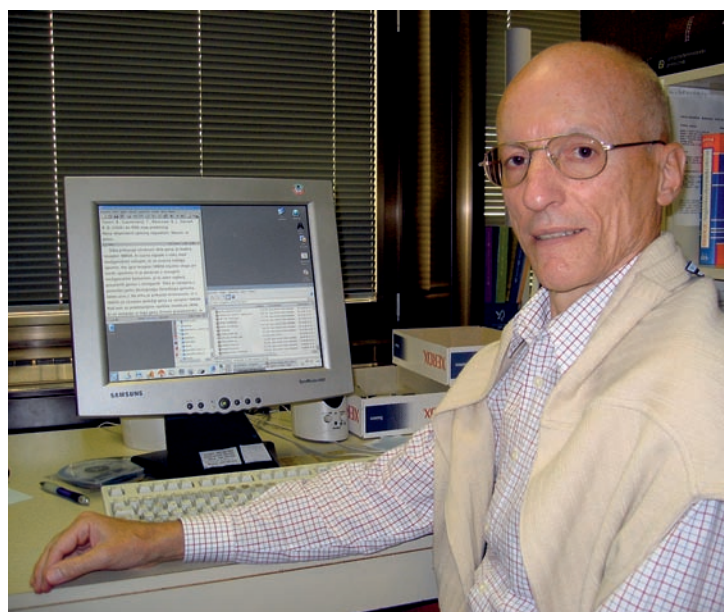
PUCELJ: To be honest, not a lot. I can explain. People’s nature is simply that if everything is all right, we are happy not to react. So occasionally I receive some thanks from external writers for a well edited article, and here and there some proposal or suggestion about what would be good to write about. But of course I immediately get a response if there is something wrong, if we produce some misprint – or rather, some mis-compute. Luckily, however, we are only rarely troubled by this.

Of course we monitor the



Jasna Kontler Salamon

readership level of the whole newspaper and of our supplement in different ways. These are extensive analyses that we carry out every few years. In the last one – I think this was just under two years ago – the *Science* supplement came out surprisingly well. Naturally we are far behind the readership level of the *Saturday Supplement*, whose political and economic topics make it the flagship of the newspaper, but we have overtaken the literary supplement (*Književni listi*), and even the Monday sports supplement and the motoring supplement. Clearly research achievements interest increasing numbers of readers. So it is with moderate optimism that we are embarking on the next two decades, if I might be facetious. Of course we must constantly



Tomaž Švagelj

be aware that around the world there are not many comparable major newspapers with a print run of 70,000 to 90,000 that could demonstrate such interest in science, and I hope that in our case it will remain so.

QUARK: And you have even received some awards for your mission ...

PUCELJ: Yes, in 2003 the Slovenian Science Foundation declared us to be a Prometheus of Science for “developing communication about science in the main Slovenian daily paper.” This was followed in 2004 by our ranking among the finalists for the Descartes Prizes 2004 – Excellence in science communication, which the European Commission had organised for the first time also in recognition of communication on science. We were in the august company of figures such as Sir David Attenborough, the universally known



Dragica Bošnjak

voice (and face) from the legendary series on science that the BBC has been producing since 1954. In the end he won the main prize.

QUARK: Given that other newspapers in Slovenia cannot provide scientific coverage on the same level as *Delo*, is this actually in the national interest?

PUCELJ: Those are rather strong words. Of course our supplement – I think primarily with credibility – plays a certain role in Slovenia. As I have said several times before, we are a bridge between the research sphere and the general public. This was the vision that was adopted back in 1986 on the founding of the supplement by its first editor, Silvestra Rogelj – Petrič, and we are faithfully pursuing that.