

## Open Science Talk No. 45 (2022) Open Science – A Croatian Perspective : a computer-generated transcript <sup>1</sup>

00:00:09 Per Pippin Aspaas

Open Science Talk, the podcast about open science. My name is Per Pippin Aspaas and I'm joined today by Jadranka Stojanovski from Croatia. Welcome to the program, Jadranka.

00:00:23 Jadranka Stojanovski

Thank you.

00:00:25 PPA

We are here at the Munin Conference on Scholarly Publishing and I think I've seen you here before, but this year you were a keynote speaker and you were talking a very broad talk about equity and sustainability in research infrastructures. But I thought: today we will talk more specifically about your background, namely Croatia. What kind of a country is Croatia in this open science landscape, would you say?

00:01:00 JS

Croatia is, first of all, a very small country with a little bit more than 3.5 million citizens and seven public universities, two private universities, about 15 polytechnics – most of them are public – and about 25 colleges – most of them are private. Besides higher education institutions, we have also approximately 25 research institutes and the biggest one is in Zagreb, Ruđer Bošković Institute, where I work part-time in the library.

00:01:49 PPA

And you also work at the University of Zadar.

00:01:54 JS

Yes. 12 years ago I moved from the position of director of the Ruđer Bošković Library – I moved to the academic community, to a professor at the Department of Information Sciences at the University of Zadar.

00:02:15 PPA

Your name is all across Europe at different kinds of projects. You've been very active in taking part in those projects that tend to change the landscape of open science, but as I said, I will try and at least start this talk in Croatia. You came into the university library sector in the 1990s, is that right?

00:02:41 JS

Actually, earlier – I'm much older. So I started to work in the library immediately after I graduated in physics. So actually, I started to work in the library when libraries were very traditional. I thought that it would be temporarily, but I liked this job and especially when computers arrived. I don't know how it's in Norway, but we got the first computer in the late 80s in the library. Soon we got an Internet connection and what was somehow a big event in the library is when we got our first server. That was

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in 1994, and actually the web was invented at that time, and we started to build our website and new possibilities opened for us, without any boundaries.

00:03:51 PPA

Yes. So, you've actually experienced both the removal of the Iron Curtain and the arrival of the Internet, but you also found your role there quite early. I mean, you started using the Internet, looking for ways that the library could redefine its role somehow?

00:04:13 JS

Yes, and actually at that time, it was a very difficult time for us because the war started in 1991 in Croatia, but at the same time we were very creative and very advanced and also we implemented the Internet quite early in the academic community in Croatia and what is important is that at that time the Ministry of Science and Education recognized libraries as central Information centers at the institution, so when in the beginning you had a limited number of Internet access points at some institutions, the first connection was in the library and we were very proud of that at that time.

00:05:09 PPA

Yeah. And you were using it for new purposes. I mean, you told me before we started recording this interview that you actually were instrumental in putting up a repository before the word even was invented.

00:05:30 JS

For a library, it's very important to collect the knowledge which is created in the community surrounded by the library. When we are speaking about a research library – like, the Ruđer Bošković Institute has researchers – and at universities, also researchers and teachers and students are creating content too, so it's very important that libraries collect these, describe them, organize them and offer them to the world as unique collections. So, we started this work with a national repository, the creation of National Bibliography started to work in 1995, but the first launch was in 1997 and at that time, I was sure that in 2–3 years all content will be collected, organized and openly available, but I need to admit that at that time we had strong support from the ministry and some deputy ministers were very advanced and looking into the future, so that that was good combination: our ambition and their support. This somehow managed to go beyond traditional collections focused on journals, books, graduation theses and conference papers. So, in 1997 we introduced “everything goes open”. The concept was around self-archiving. At that time, nobody spoke about self-archiving and we allowed authors to store everything, whatever they created, not only journal articles, books, but also reports – I'm not happy with the term grey literature, but we are still using this term – and also software. It was open also for data, but at that time nobody stored, actually, research data. It was not so.

00:08:14 PPA

But this repository, then the content that has been put into there since 1997, is it still available there?

00:08:25 JS

Yeah, it's still available and we have 600,000 or 700,000 records. So, everything is – the position of digital object is not mandatory, is optional, but a lot of the content is available and openly available.

00:08:57 PPA

The right to put things in there is for researchers, then, affiliated to any Croatian Institute or is it just the Ruđer Bošković Institute?

00:09:07 JS

We build this on the national level, so for all. In the beginning, it was for researchers, which are registered as a researcher in the Ministry's register. But later we opened it, when we could organize it with appropriate monitoring and control of entries, then we opened it to actual students and other stakeholders in the research world.

00:09:47 PPA

Yeah. So that's the repository. But I also read something completely different that you have been active in and it's – pardon my pronunciation – but it's HRČAK or something like that. Yeah. How do you pronounce that first?

00:10:06 JS

HRČAK. It's hamster in English. So yes, it was a very nice collaborative work. But just shortly to mention that before HRČAK as continuation of this CROSB I repository we also built a database on Who is Who in Science in Croatia, promoting Croatian scientists and very early we introduced the database on research equipment, Šestar, which means in English a pair of compasses. So it's, you know, this thing you are using as a student in primary and secondary school. We also wanted the database of research equipment to avoid the duplication of the equipment, more cooperation among researchers, but then in 2005 we started to work on the design of a publishing platform for Croatian journals. We realized at that time that only few Croatian journals had an online version available and they didn't have the technical knowledge, they didn't have the infrastructure at their institutions or learned societies. So, we decided to offer them a tool. It would be free of charge and easy to use, and I remember at that time our goal was 50 journals. You know, nowadays HRČAK has more than 500 journals.

00:12:08 PPA

Yeah. So less than 20 years later, you have more than 500 journals. Congratulations with that. How are these journals, then, run? They are digital, of course. But do they charge a fee for access? How is it?

00:12:26 JS

Croatian journals are mostly Diamond. We have few journals, I would say – I should admit that I don't have exact data, but no more than 20 or 30 among the 500 are charging Publishing. It's very small percentage.

00:12:55 PPA

You mean they're charging APC's – Article Processing Charges?

00:12:58 JS

There are just about 25 journals which are charging APC's. The other journals are diamond. And also, part of the journals – approximately 150 or 160, it depends on the year – are subsidized by the Ministry of Science and Education, according to the annual call. So journals are going through an Evaluation process according to some criteria defined by experts nominated by the Ministry of Science and Education. These subsidies are not so huge. It's comparing with APCs in the commercial publishing. Some journals' yearly budget is comparable to one prestigious journal with APC. But still, I think that this type of funding is very precious and should be also present in the future.

00:14:20 PPA

So where does that funding land, then? Is it for the editorial team? So, they will, then, have the money to do – I don't know – some proofreading or layout services, things like that?

00:14:37 JS

Yeah.

00:14:37 PPA

Several of the journals, I guess, are in the Croatian language as well. Is that an important factor for the Ministry when they support – that they somehow support the Croatian language? Or is it not so much?

00:14:50 JS

No, unfortunately, the Croatian language is not appreciated. There is a fact which is logical – that more than half of the 500 journals are from Social Sciences and Humanities. Because, for example, physicists are publishing exclusively in international journals, there is no national journal covering physics. And also, some disciplines in STEM are not well represented by local publishing, Croatian publishing. But Social Sciences and Humanities are really well represented, we have a lot of journals from SSH disciplines.

00:15:45 PPA

Yes, but there is no national policy, then, that they want to support Croatian as a scientific language, or a scholarly language?

00:15:55 JS

No, no.

00:15:56 PPA

The HRČAK Platform, who are maintaining it?

00:16:07 JS

We are happy that we have support from the university Computing Department at the University of Zagreb, SRCE – which means, again, heart in Croatian. And SRCE is actually beating with the community, quite synchronous. So, we are happy that we find a team at SRCE who as such are able to realize what we imagine and design. And after 20 years, we are still collaborating and developing HRČAK. They're listening to us, they're listening to the community, and they're continuously developing.

00:17:07 PPA

So, it's a special system, then. You haven't, sort of, found a system from outside and taken it?

00:17:15 JS

It's an in-house developed system, you are right.

00:17:17 PPA

But still, an in-house developed system can speak with other systems for, I mean, metadata and things like that, and also persistent identifiers are more and more important in international publishing. Do you offer that kind of support for the journals there?

00:17:37 JS

Yes, and also, because the core software of HRČAK is actually not supporting this editorial process, it's just supporting the publishing of the final version of the article, so for supporting editorial processes, we are offering journals, an open journal system by PKP and there's a really well developed interface between HRČAK and a OJS. So, for editorial work, journals are using OJS or some other platforms.

There are also some publishing platforms developed inside the academic community in Croatia, which are quite popular among journals, and it's not very expensive, so journals can afford it.

00:18:47 PPA

But does each and every article then get an identifier of its own? Or how does it work?

00:18:52 JS

Yes, and we are also working a lot like in global scholarly publishing, PDF is the most represented format, but we are really investing a lot of efforts and editors are responding really well to also introduce XML as a format which is then really easy to be converted in different formats more appropriate for future usage.

00:19:37 PPA

It seems to me from what you've told so far, that actually the Croatian academic community may be small in international light, but you're actually quite well prepared for big policy changes such as Plan S because you have so much infrastructure: you have a repository, you even have open journals who are now implementing XML slowly. So, I mean, you are actually better positioned than many other countries. How about datasets? I mean the research data. Briefly mentioned, are there some services helping researchers making their data as FAIR as possible? Findable, Accessible, Interoperable, Reusable – these FAIR principles, how are they treated? Or is that something for the future?

00:20:25 JS

So, speaking about data and why we are not maybe more advanced. What we really miss in Croatia is a national open science policy. We didn't have a national Open Access policy and we still don't have a national open science policy, and this is really something very important. So, we have been working for the last 10, or more than 10 years, on the policy but without any success. So now we are really seriously working to offer the Ministry a strategy for open science implementation in Croatia and then we will have really strong support and with the policy we will have a kind of mandate for researchers to deposit their research outcomes, not only journal articles, but also other types to a bigger extent. Croatian researchers are not very ready. We have the infrastructure. Because we are a small country, we always build a national infrastructure because this is much more appropriate than every institution developing its own solutions. So, we developed recently another animal, DABAR – beaver in English – it's an infrastructure for institutional repositories, also free of charge and easy to be used. A library or any other entity at an institute or university can create an institutional repository very easy.

00:22:47 PPA

So that's a national infrastructure for grey literature, for theses, for postprint articles?

00:22:55 JS

Everything. Yes.

00:22:57 PPA

But you also say that this infrastructure is more or less ready for taking in datasets. So, the infrastructure is there, what you miss is the national policy?

00:23:10 JS

Yes. So, we have the infrastructure, we are missing a national policy, and we are missing consequently researchers' willingness to deposit the data. Also, it's not appropriate just to ask researchers to deposit the data to you: we need to work with them, we need to educate them, we need to offer appropriate support. It's not easy to use, depositing data is not just copying a file with your data in

some repository. You need a lot of work to prepare the data to be shared and to describe it well. Of course, we have already worked with researchers, but without some systematic support, this just couldn't be based on enthusiasm and volunteerism – it should be supported more officially. On the other side, Croatian researchers are a little bit afraid of sharing their data. Because they think we are very small and slow community: “now I will share my data, then some company, pharmaceutical or whatever in some other country will quickly use this and commercialize it in a way so we are not sure that we want to take part ...”. Of course, there are obstacles, but on the other side, the benefits of sharing research data are so strong and logical that we need to find a way to overcome possible obstacles, which certainly present themselves.

00:25:27 PPA

Is there anything else you would like to add towards the end of this podcast?

00:25:33 JS

So, I shortly described that we are working on open science infrastructure for a few decades but now we are – what we are trying to – like, for example, EOSC is at European level trying to organize and to coordinate all infrastructure which was built in the previous years, we are now trying to connect and improve on already created infrastructure in Croatia. So, we are building a national CRIS system now, which will be fully open and the level of interoperability between data will be much higher. I'm included in a few communities – for example, OPERAS, OpenAIRE was a turning point for us, when we joined OpenAIRE in 2013. This was really an impetus for us in Croatia. I'm a member of the ENRESSH Community for Evaluation Research in Social Sciences and Humanities, and also, national infrastructure for open science in Europe, dealing with onboarding services to EOSC. And the community working on all these projects somehow gives me strength and optimism. It's good that we are discussing also issues which are present in open science and obstacles, like, for example, sharing research data. But I'm sure that we will overcome this.

00:27:34 PPA

I certainly hope you are right. Jadranka, it has been such a pleasure to have you on this podcast. So, thank you very much indeed.

00:27:41 JS

Thank you.

00:27:45 PPA

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