

## FIRST PERSON

# First person – Aleksandar Vještica

First Person is a series of interviews with the first authors of a selection of papers published in Journal of Cell Science, helping early-career researchers promote themselves alongside their papers. Aleksandar Vještica is first author on 'A toolbox of stable integration vectors in the fission yeast *Schizosaccharomyces pombe*', published in JCS. Aleksandar is a post-doctoral fellow in the lab of Sophie G Martin at the University of Lausanne, Switzerland, where he discovered and continues to investigate fungal re-fertilization blocks.

### How would you explain the main findings of your paper in lay terms?

Modern genetics critically relies on the ability of researchers to manipulate the genome of a model organism. This involves not only modifying a host gene but also introducing novel, artificial genes. In the work published here, we made a set of tools that can do exactly that and deliver foreign DNA sequences into the fission yeast genome in a precise, reliable and reproducible manner.

### Were there any specific challenges associated with this project? If so, how did you overcome them?

I am yet to see a biology project without challenges and surprises. So yes, we faced a problem: our approach to stably introduce heterologous sequences at one genomic locus worked out of the box. We then tried to use the same strategy and deliver sequences to one more locus, but this completely failed. Instead of trying to understand why the experimental strategy failed, we decided to try and target three additional loci, hoping that one of them would work. We were happy to see that all three worked perfectly.

### When doing the research, did you have a particular result or 'eureka' moment that has stuck with you?

When using the previously available tools to introduce sequences into the fission yeast genome, I came across the problem that there was a considerable amount of variation between different transformants. This approach often suffices to make solid conclusions but, in several instances, I found it to complicate the interpretation of experimental results. Thus, I decided to develop and characterize the rather simple molecular toolbox published here, thinking that it will serve only to help overcome several challenges in my own work. I got truly excited when other members of the lab started to use it and found that it also increased the efficiency and reliability of their work. In that moment, I realized that there is a real scientific value in simple solutions and that we should share the improvements we made with the wider yeast community. We decided to put in a common effort and expand on my initial findings, which gave rise to this publication.

### Why did you choose Journal of Cell Science for your paper?

Journal of Cell Science publishes solid work that has gone through rigorous peer-review to ensure its quality. We felt that the strong focus of JCS on reliability and reproducibility of research will result



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in appreciation of the molecular toolbox we developed here. The journal's visibility will be very helpful to share our methodology with other fission yeast labs and, hopefully, prove itself as useful in their work as it has been in ours.

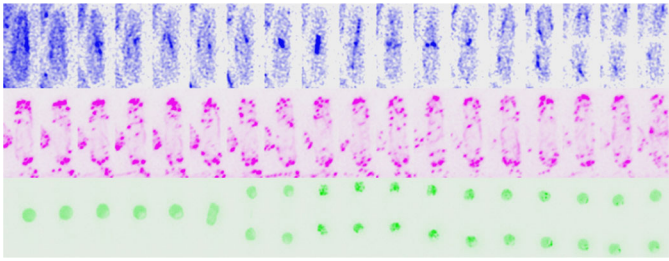
### Have you had any significant mentors who have helped you beyond supervision in the lab? How was their guidance special?

In my case, growing into a researcher involved nurture and guidance from quite a few people. Indeed, my immediate supervisors, Snezhana Oliferenko (Crick Institute, UK) during my PhD and Sophie Martin (UniL, Switzerland) during my postdoc, had the most pertinent effect, especially in learning to develop a research project. Luckily, I also had an excellent PhD supervision committee who helped anchor my work. My experimental skills came from closely working with colleagues, technical staff and other PIs who were better acquainted with a particular methodology. I am also very grateful for the time spent with Greenfield Sluder (UMass, USA) who helped me put the work we do in a social context and establish clear views on topics of scientific ethics.

### What motivated you to pursue a career in science?

My first close encounter with science happened during high-school when I spent a month in a youth research station called Petnica, in my home country Serbia. It's an inspiring institution that aims to encourage kids to participate in scientific projects. I managed to get into a program where we developed and carried out tiny research projects with the help of senior visiting scientists. I still remember my project on effects and limits of vector size for *Agrobacterium* mediated plant transformation. It was a little glimpse into what research is about. That experience triggered my curiosity and shaped it into motivation for a career in science.

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Time-lapse of fission yeast cells expressing three different fluorophores.

### What's next for you?

I am very excited to share the good news that I recently received: I was awarded funding from the Swiss National Science Foundation

to start an independent research group. (Yay!) So I will be staying in academia to share my experiences with the next generation of scientists, and to pursue my interest in how fertilization triggers zygotic cell fate using fission yeast as a model system.

### Tell us something interesting about yourself that wouldn't be on your CV

I make state of the art Mimosa cocktails with analytical grade ingredients.

### Reference

Vještica, A., Marek, M., Nkosi, P. J., Merlini, L., Liu, G., Bérard, M., Billault-Chaumartin, I. and Martin, S. G. (2020). A toolbox of stable integration vectors in the fission yeast *Schizosaccharomyces pombe*. *J. Cell Sci.* **133**, 240754. doi:10.1242/jcs.240754