Our Editorial Advisory Board is evolving

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Look at the very old literature and you will see that in the past researchers studied many weird and wonderful organisms. Nevertheless, most cell biologists today tend to tackle their scientific questions using model organisms such as *C. elegans* and *Drosophila* that were established by Sydney Brenner and Thomas Morgan and their co-workers in the 1960s and around 1910, respectively. I think it is fair to say that the models that rose to prominence and are still in use today have the advantage of the power of genetics, low cost and easy maintenance, fast generation times and ease of imaging. Each popular model system has its own pros and cons, but they have allowed cell biologists to understand not only how cells work, but life itself — or do they? Watch any of David Attenborough’s wonderful nature documentaries and you will be struck by the diversity of life and how it has invaded every nook and cranny of our planet in the face of seemingly impossible environments and challenges. So why do most labs still only focus on a limited number of model systems? There is also another dimension that many of us do not appreciate by studying ‘standard’ lab models – how did all these elegant cellular processes and systems evolve?

Some 25 years ago, the great electron microscopist and sage Lewis Tilney told me that, to understand something, just study the right organism, as Nature has already provided everything to make your life easier. Very wise advice, but it does take time to set up a new model in the lab and there are always the constraints of funding. Nevertheless, if the question is right, then why not? Today technological advances such as super resolution imaging, cryo-electron tomography and CRISPR-mediated genome editing have also made it even easier to study and manipulate more ‘exotic’ organisms with very different physiologies. This includes Archaea that can live and thrive in hostile environments, such as hydrothermal vents at the bottom of the sea. Armed only with their genome sequences, Archaea have already begun providing molecular insights into the evolution of fundamental cellular processes and protein function even if they cannot be grown in the lab. Other ‘omics’ approaches are also providing large data sets for gene expression profiles, proteomes and metabolomics, which can be interrogated to obtain physiological insights and comparative analysis of organisms.

More and more researchers are getting interested in evolutionary cell biology and the potential benefits of studying the weird and the wonderful. This comes as no surprise, as looking mechanistically at different organisms can provide insights into the general rules underlying cell biology and illuminate the diversity of life. However, understanding how we (or anything) evolved will also require the use of evolutionary biology approaches. I am confident there is more exciting research waiting to be discovered as cell and evolutionary biologists explore the rich diversity of life and piece together how we evolved from the sludge. To ensure that JCS is part of this exciting revolution, we have decided to appoint three key players in the evolutionary biology field, including two early-career researchers, to our Editorial Advisory Board. We made the decision to include early-career researchers on our Board not only to support the careers of this important demographic, but also because of the unique perspective they provide. You can read more about this initiative here.

We are therefore delighted to announce the appointments of Dr Gautam Dey, Dr Lillian Fritz-Laylin and Professor Snezhana Oliferenko. We welcome them to Journal of Cell Science, and look forward to working with them to ensure we publish exciting research in the field of evolutionary biology.

Gautam Dey

Gautam is a group leader in the Cell Biology and Biophysics Unit at the European Molecular Biology Laboratory (EMBL) in Heidelberg, German. Gautam’s group focusses on the ‘evolutionary cell biology’ of the nucleus: searching for fundamental principles of nuclear organisation using comparative genomics, quantitative cell biology...
and experimental evolution in multiple microbial model systems. In the longer term, they are also interested in investigating the evolutionary origins of the nucleus and its starring role in the emergence of eukaryotes from an archaeal-bacterial symbiosis billions of years ago. Gautam carried out his postdoctoral research with Buzz Baum at University College London and holds a PhD in systems biology from Stanford University, USA.

**Lillian Fritz-Laylin**
Lillian Fritz-Laylin is currently an Assistant Professor in the Biology Department at the University of Massachusetts, Amherst, USA. She is an evolutionary cell biologist who combines cell biology with comparative genomics and phylogenetics to understand the evolution and regulation of the eukaryotic cytoskeleton. Her lab studies two organisms with dynamic cytoskeletal properties and unique positions in the evolutionary tree: the amphibian-killing fungus *Brachyomyctrium dendrobatidis* and *Naegleria gruberi*, which is a non-pathogenic cousin to the fatal ‘brain-eating amoeba’.

**Snezhana (Snezhka) Oliferenko**
Snezhana (Snezhka) Oliferenko is a Professor of Evolutionary Cell Biology at King’s College London and a Group Leader at the Francis Crick Institute, London, UK. Her laboratory aims to understand the evolution of cellular processes linked to membrane function. They have pioneered the use of the fission yeasts *S. pombe* and *S. japonicus* as a composite system for evolutionary cell biology studies. The lab probes the relationship between the lipid metabolism and the evolution of cellular and organisinal properties, such as mitotic nuclear envelope remodelling or exploration of ecological niches.