

NEWS

Farewell Julian and welcome John

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Back in 2007, the world was a rather different place. Apple unveiled the first iPhone, an American blogger coined the term ‘hashtag’ and Julian Dow (University of Glasgow, UK) joined *Journal of Experimental Biology* as a Monitoring Editor. ‘I was delighted and honoured, as it was a chance to give back to the community by supporting the top journal in the field’, says Dow, who is stepping down from the team at the end of May 2022 after 15 years. However, Dow’s association with the journal and The Company of Biologists through Simon Maddrell, the Company’s Finance and Investments Manager, began even before he published his first paper with the journal in 1981. ‘Simon delivered the most interesting lectures of my final year [at the University of Cambridge]’, Dow says, recalling how Maddrell inspired him to join his laboratory for a PhD.

At the time, Maddrell was the world authority on the insect Malpighian tubule, so Dow investigated ion transport in the locust alimentary canal and when his funding ran out, Maddrell and The Company of Biologists came to Dow’s rescue. ‘Simon had realised that he could massively undercut the cost of commercial reprints for the Company’, says Dow, describing how he and a team of impoverished graduate students were paid to tear apart journal issues and staple together the pages of research articles to distribute as reprints. In addition, Dow advised the Company during the early years of the digital revolution, converting some of the first word processing formats into content that could be fed into the Company’s typesetting system ready to print. After receiving a prestigious Harkness Fellowship to study ion transport with Bill Harvey at Temple University, USA, Dow returned briefly to Cambridge as a College Research Fellow before being appointed in 1984 to ‘try to grow neural networks on microchips’ at the University of Glasgow. ‘But after a few years I moved back into insects, which have always held my attention’, Dow admits.

Since joining the journal, Dow has overseen the peer review of manuscripts focusing on insect physiology, ion transport, cell signalling, functional genomics and systems biology. ‘I’ve been impressed by the thoughtfulness and the thoroughness of the review process; it’s been a great learning experience’, says Dow. In addition, he has organised three symposia for the journal, with accompanying special issues, on the themes of solute and ion transport, physiological responses to stress and the opportunities presented by the current genome editing revolution. In an additional special issue dedicated to insect homeostasis, Dow and colleague Richard Skaer celebrated the career of Simon Maddrell in 2009. Attending the journal’s annual symposium and Editors’ meeting became a yearly highlight for Dow and he says, ‘I will miss the collegiality of my fellow editors and the opportunity to hear about science that would normally be outside my area’.

Dow is now looking forward to spending more time in the lab. ‘I’ve had a pretty busy couple of years – I was deputy Chair of the Life Sciences panel of the UK’s Research Excellence Framework



Julian Dow (left) is stepping down after 15 years as a JEB Monitoring Editor and John Terblanche (right) is joining the team of Editors.

exercise – and in 2022, I have been rewarded with the only sabbatical of my life’, he explains, adding that he is currently using single-cell sequencing to understand how different cells contribute to epithelial function. ‘The lab’s going to be busy for a few years yet’, he laughs.

Reflecting on the challenge of appointing a successor to take Dow’s place on the team, Craig Franklin, JEB Editor-in-chief, says, ‘Julian’s expertise is broad, so it was always going to be difficult’. However, he is now delighted to announce that John Terblanche from Stellenbosch University, South Africa, is joining the team of 11 Editors. ‘John is highly regarded for his ecophysiological research on insects but also has studied a variety of other invertebrate taxa. He will bring to the team a deep understanding and expertise across a number of JEB’s fields of study, including ecophysiology, respiration, thermal biology and conservation physiology’, Franklin says.

Growing up in Cape Town, South Africa, Terblanche remembers spending time in the bush as a child. ‘My father worked as an engineer and we got to live in places like Eswatini and the outskirts of Kruger National Park’, he says, adding that the lions were sometimes so close that he and his brother were not permitted to go out. Terblanche soon developed a love of science, but his earliest passion was physiology; understanding how humans can develop the capacity to run a marathon through training. Joining Stellenbosch University as an undergraduate, Terblanche was initially on track to become an exercise physiologist, ‘but I quickly became fascinated with human and animal physiology’, focusing on human adaptations to high altitude and hypoxia.

At this point, Terblanche encountered two formative mentors, Sue Jackson and Kathryn Myburgh, both at Stellenbosch University, who opened his eyes to the power of comparative physiology. ‘The project I tackled working with people always felt limited and constrained by the human subjects we were investigating’, he explains, adding that it is easier to control the diet and environment of insects than it is with human volunteers. During

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Terblanche's time as a Master's student, Jackson introduced him to Steven Chown, a physiological ecologist who had recently moved to the university. 'This proved to be a pivotal moment in my career', says Terblanche, recalling how Chown invited him to join a research trip to Antarctica with Brent Sinclair and Jaco Klok to study springtail cold physiology. 'I was exposed to a wonderful, albeit chilly, new world', Terblanche chuckles, adding that Chown, Sinclair and Klok were three of the finest mentors possible in comparative insect physiology.

After returning from Antarctica, Terblanche joined Chown's lab to investigate the environmental adaptations of the tsetse fly during his PhD. 'There was a lot of conflicting evidence in the literature with some studies saying tsetse were extremely high temperature and desiccation resistant and others saying that tsetse would easily die out with climate warming', says Terblanche, who discovered that the disease-carrying insects are even more vulnerable to climate warming than had been appreciated. And in 2007, during his postdoc, Terblanche received a JEB travelling fellowship, which allowed him to join Stefan Hetz at Humboldt University, Germany, to build customized sensors to measure directly the pressure inside the insect respiratory system. 'Stefan has this great philosophy: "if

you need a specialised measurement or piece of equipment, you should just build it yourself"', Terblanche explains, admitting that this is a guiding principle in his own lab.

Since establishing his research group, Terblanche has focused on abiotic stress resistance and plasticity in addition to the mechanisms underpinning phenotypic plasticity. 'I have 10 people in my research group at Stellenbosch University, plus 4 more off campus, and I joke that a lab is like the mythical Medusa; it seems to require feeding giant piles of cash to stop the snakes from biting itself', he laughs.

Reflecting on Franklin's invitation to join the JEB Editorial team, Terblanche says, 'I was totally blown away and still consider it a huge honour', adding that he is looking forward to working more closely with the authors, reviewers and Editorial Board, in addition to getting to know the journal Editors better. And, when asked whether he has any advice for his successor, Dow recommends inviting more reviewers than you could possibly imagine necessary, 'because everyone is so busy these days'. Wishing Dow all the best for the future, Franklin says, 'I have greatly valued Julian's contributions to JEB over many years', adding, 'We're going to miss his sense of humour on the JEB team'.