

MOVERS

Gerd Kempermann, professor, Center for Regenerative Therapies, Dresden, Germany



2000-07: Group leader, Max Delbrück Center for Molecular Medicine, Berlin, Germany

1998-2000: Resident and senior scientist, Department of Neurology, University of Regensburg, Germany

Gerd Kempermann took up science for the thrill of discovery and found success by tackling biology's complexity head-on rather than trying to circumvent it.

Kempermann trained as a medical doctor at the University Medical Center Freiburg in his native Germany and, fascinated with the brain, he pursued graduate work in neuropathology. His decision to do a postdoc with Fred Gage at the Salk Institute in San Diego, California, proved pivotal. Gage had developed a method to manipulate neurons in disease models. But Kempermann's proposed grant work based on this methodology seemed passé; signs of adult stem-cell formation, or neurogenesis, were more tantalizing. So Kempermann sought direct proof. Working with Gage, he stumbled on a way to study how physical activity, as well as genetics, affects neurogenesis. "I came to the right lab with the wrong proposal," he says.

Together with Robert Williams at the University of Tennessee Health Science Center, he investigated the natural variation seen in adult neurogenesis.

"Gerd launched into a massive undertaking," says Williams. The four-year, 50-strain panel screening for the genetic basis of variation in neurogenesis could have been a career-killer, he adds. "Most scientists, particularly postdocs, like to find a unique phenotype in one strain of engineered mouse and get a top paper quickly." Although they didn't identify the genes responsible for neurogenesis variation, they found evidence for the complex structure of genetic networks controlling the process.

Back in Germany, Kempermann continued describing how exercise and the environment direct neurogenesis, first at Regensburg University, then at Max Delbrück Center for Molecular Medicine. This month, he will take up a professorship studying the genomics of regeneration at the Center for Regenerative Therapies in Dresden — a collaborative collective of local research groups. "The opportunity to enter a pioneering situation, building a new institute, is one that you rarely get," he says.

Kempermann is pragmatic about the ethical problems connected to human embryonic stem cells. An adviser on stem-cell policy to the German government, Kempermann tempers the current focus on engineering stem cells by advocating research that will help unravel the complex biological puzzles of tissue development. "Gerd is able to navigate the dangerous hype-infested waters of this research area — he's a sceptical optimist," says Williams. ■
Virginia Gewin

NETWORKS & SUPPORT

Order of merit

Authorship order is of increasing importance for scientific careers and the success of collaborations. This is especially true in biological sciences, where the first author typically makes the greatest contribution and the last has a leadership role. The process of choosing the order needs to foster understanding and accountability, while recognizing each author's contribution. This can be difficult. So how does a group get it right? We have devised a model for finding the best order, avoiding conflict and promoting long-term collaborations. First step: you need to discuss authorship before starting the project, and again while you prepare the manuscript and make revisions.

Using a multi-criterion decision making (MCDM) approach, a group of potential co-authors decides on a set of items — such as figures, tables, text and ideas — that comprise a manuscript. They score each person's contribution to each item as a percentage. Types of contribution vary across publications, but a group of co-authors is well placed to make judgements. As they may not always agree exactly, a range can be assigned that they can 'agree to disagree' on.

The group should then assess the relative importance of each item and put them in categories, in order of importance to the manuscript. For

example, category A (the most important) might constitute a 15% weighting, category B 10% and category C 5%. This way, each item is given a weighting that represents its importance to the whole work. Finally, each author's relative contribution to each item is calculated.

It's important to work out authors' contributions to each item first, as this is likely to be simpler than assessing categories and weighting. A culture of understanding and agreement about the relative importance of different activities will help the process to run smoothly. In our system, co-authors are encouraged to appreciate different perspectives and negotiate on criteria. This process should enhance scientific best practice and increase researcher accountability.

The MCDM approach enables a rational, project-specific account of all factors that led to the publication. It's of particular use for multidisciplinary work and for teams with different experiences and at different stages of their careers. Focusing on items one at a time helps to resolve potential conflict, encourages authors to value other perspectives and helps to clarify any ambiguity over contributions. ■

Christine Beveridge and Suzanne Morris are plant scientists at the University of Queensland in Brisbane, Australia.

POSTDOC JOURNAL

Isolation

I had mixed feelings about maternity leave last time I had a baby, and I still do. Of course, it is absolutely necessary for a healthy recovery and for attachment to your new child. However, I felt the extreme isolation.

I have always worked, which has shaped my self-image. The absence of work, coupled with new associations with non-working mothers, made me feel like a stranger in a strange land. What made it worse was that I felt guilty for wanting to put my child in another person's care so I could return to work, even though this was undoubtedly the right choice for me. I had to brave comments wondering why I'd had children if I hadn't planned on raising them — a heartless statement! I had to hide my excitement that my husband would soon be arriving home to give me some time away from the baby. I didn't talk about how I longed to have an adult conversation that doesn't centre on baby issues of any kind.

Maternity leave isn't relaxing or magical for me. I am never more than a few feet from a helpless, crying baby. I do love children, though, and the fact that babies grow up is one reason I chose to be a parent. But I look forward to returning to work — and I look forward to showing my kids that mothers work just as much as fathers. ■

Moir Sheehan is a postdoc in plant breeding and genetics at Cornell University.