



## Lifeline



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### What has been the greatest achievement of your career?

I am honoured and humbled to receive this year's Dreifuss-Penry Epilepsy Award from the American Academy of Neurology for early-stage clinician researchers. However, one of the things that gives me great satisfaction is mentoring students and trainees in clinical research and nurture enthusiasm in the next generation of researchers. Therefore, one of my proudest moments was when a high school student that I mentored was selected as a finalist in the Intel Science Talent Search, the oldest and largest science competition for high school students in the USA. The achievement was mostly the result of his brilliance and dedication, but I was nonetheless thrilled when he went to the White House and met President Obama for the awards ceremony.

### If you had not entered your current profession, what would you have liked to do?

I have always enjoyed visual arts—photography, drawing, illustration, graphic design—and at some point considered a career in this field before I met working artists and understood immediately that I was outclassed by their talent and drive. While I still take photographs, I mostly focus my visual expression into making graphs and figures for papers.

### What is your favourite book or film, and why?

I have always enjoyed reading Anton Chekhov's short stories because, while the text is brief, they have ability to evoke the interior world of the characters and their world that stays in your imagination for days. The film I probably have rewatched the most is the 1984 Zucker, Abrahams, and Zucker comedy *Top Secret!*, because it is essentially 90 min of continuous silly jokes and sight gags, and sometimes you really need to laugh a lot at the end of a hard day.

### What is your idea of a perfect day?

I get to sleep in, make breakfast with my kids, go on a long bicycle ride in the country or a hike in the woods, then go out to a nice dinner with my wife and, all the while, my email inbox remains empty.

### What was your first experiment as a child?

I do not completely recall the details, but it involved household appliances, a hammer, and screwdriver. It probably did not end well, but it was a probably the earliest expression of my desire to figure out how things work.

### What is the best piece of advice you have received?

"Make yourself useful."

## Focal Point

### The journal behind the nodes of Ranvier?

Louis Ranvier (1835–1922) first described the histological structure of the myelin-sheath gap and named it "*étranglement annulaire*" in a note presented by Claude Bernard to the French "Académie des Sciences" in 1871.<sup>1</sup> But, although Ranvier used this terminology throughout his life, node of Ranvier is the designation used nowadays.

In the French medical literature, this structure was called "*étranglement annulaire*" until the second part of the 20th century. Santiago Ramón y Cajal also used this term, both in French and in Spanish ("*estrangulaciones de Ranvier*"). Similarly, in the German literature, the term *Einschnürungen* was commonly used. In the English literature, it was translated into annular constriction but, strangely, the term node then gradually obscured the use of annular constriction. For example, in 1875, the Scottish physiologist William Rutherford wrote "*Ranvier's node may be readily seen in the course of the fibers*".<sup>2</sup>

In April 6, 1872, *The Lancet* highlighted Ranvier's observations, using the terms annular constrictions and constricting annulus, but also a rather mysterious sentence: "...the cylinder axis in the internodes (if we may so term them) remains uncolored...".<sup>3</sup> To our knowledge, this is the first time in which the term node was implicitly used to describe the annular constriction. Morphologically, the structure resembles a constriction more than a knot. However, we think that an explanation for its use stems from botany. Indeed, at that time, the term internodes, anglicised from the Latin word *internodium* used by Pliny the Elder,<sup>4</sup> referred to the segment between two joints (or nodes) along the stem of a plant; interestingly, this term was also used by Theodor Schwann in his description of phytogenesis.<sup>5</sup> This similarity between the myelinated fibre and the stem of a plant, combined with the influence of a famous journal, probably contributed to the diffusion of the use of nodes of Ranvier in the medical literature.

Stéphane Mathis, Jean-Michel Vallat

- 1 Ranvier L. Contributions à l'histologie et à la physiologie des nerfs périphériques. *C R Acad Sci* 1871; 73: 1168–71.
- 2 Rutherford W. Outlines of practical histology. 1st ed. London: J & A Churchill; 1875.
- 3 *The Lancet*. Histology of the nerves. *Lancet* 1872; 99: 477–78.
- 4 Plinii Secundi. Histoire naturelle de Pline. Paris: Panckoucke CLF; 1831: 122.
- 5 Schwann T. Microscopical researches into the accordance in the structure and growth of animals and plants. London: The Sydenham Society; 1847: 231–68.