

In memory of Steven Alan Orszag (1943-2011)

I first met Steve in his Fine Hall office in Princeton, back in 1992. For many years he had been one my biggest heroes and I was obviously very excited, and a bit tense at the prospect of meeting him in person. That day it all went perfectly smoothly, and so too was the case on the very many occasions we had the chance to meet again during the next twenty years, in Princeton, Boston, Yale, Maine, and occasionally Rome. The main things which struck me about Steve were friendliness, energy and speed! Steve was an amazingly sharp and fast mover whether in science or in the practical aspects of life. When organizing an appointment in the blink of an eye he would give instructions, including a hierarchy of options and "just-in-case" sub-options. In some twenty years, I take a great pride in having only missed one option for a car drive Yale to Boston. Much to my relief, forgiveness also came Steve-fast!

Steve was one of the towering figures of modern applied mathematics and computational physics during the last century, and his achievements are here to stay. Promoted to full professor at MIT at just 31, his many pioneering contributions range from his masterpiece book with Carl Bender to computational fluid dynamics and the theory of turbulence. He is probably best known for developing pseudo-spectral techniques, which have become the workhorse for computational studies of turbulence. In the early 90's, Steve became intrigued by the then new-born Lattice Boltzmann (LB) method, to which he gave a vital boost, through the importation of ideas and tools from the renormalization-group theory of turbulence that he had been developing in the late 80's in Princeton, together with Viktor Yakhot. This development proved key to launching the practical application of the LB method to real-life engineering problems, as witnessed by the success of the commercial LB software POWERFLOW. The Discrete Simulation of Fluid Dynamics (DSFD) community will sorely miss him, as one of his most inspired and prestigious leaders. A similar statement goes for the broader community of computational fluid dynamics.

Steve is no longer with us, but he cannot be and will not be forgotten.

When a dear friend goes, a piece of our life goes with him, but it remains in our power to honor his memory as best as we can. I wish therefore to take the opportunity to thank my friends and colleagues in the DSFD committee, as well as the management of CiCP who instantly endorsed the idea of dedicating this Volume to his memory. I also wish to express my personal gratitude to NVIDIA India, who generously agreed to sponsor the newly established Steven Orszag Award that will recognize outstanding work by a young investigator in DSFD. Finally, I wish to thank Steve's wife Reba and Steve's Yale colleague J. Wettlaufer, for reviewing this note.

In his very final days Steve was literally assembling GPU computers (in his home office!), which he would eventually donate to his young students. I am certain that he would be pleased to see his memory honored through a recognition of outstanding young promise in the field he contributed so deeply to launch and establish.

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