

Vincent Hakim Biography

November 5, 2024. Patrick Charbonneau

Vincent Hakim (August 27, 1958—) was born in Boulogne-Billancourt, a western suburb of Paris, France, the son of Jacques Hakim, a medical biologist, and Claude-Marie Kreis, a psychiatrist. He attended Lycée Chaptal and then followed classes préparatoires at Lycée Louis-le-Grand, both in Paris.

Hakim entered École normale supérieure (ENS) via the mathematics exam in 1977, but followed the physics program, obtaining a Maîtrise de Physique in 1978 and a Diplôme d'études approfondies (DEA) of Physique Théorique in 1979. In 1981, he passed the Agrégation de Physique and completed a thèse de troisième cycle in physique théorique titled "Deux aspect [des] théories de jauge sur réseau: la diffusion et les séries en couplage fort" at Université Paris VI (Université Pierre et Marie Curie), under the supervision of Victor Alessandrini. He subsequently completed in 1985 a thèse d'état ès Sciences Physiques at Université Paris XI (Université Paris-Sud) titled "La morphologie des amas et la mécanique quantique dans un environnement dissipatif : deux illustrations des méthodes de la physique des phénomènes critiques", under the supervision of Victor Alessandrini and André Krzywicki. He joined CNRS in 1982 as Attaché de Recherche, at the Laboratoire de Physique des Hautes Energies at Université Paris XI. From 1983 to 1985, he was on postdoctoral leave at the Institute for Theoretical Physics, in Santa Barbara, CA, USA. He came back to France at the Laboratoire de Physique Statistique of ENS in 1985 (Chargé de Recherche de 1ère classe until 1992; 2ème classe until 2005; Directeur de Recherche de 1ère classe until 2018; classe exceptionnelle 1er échelon until 2023; 2e échelon since). He notably took a sabbatical leave in 1986-1987 at l'Unité de recherches en Génétique et Pathologie Moléculaires of INSERM, directed by Axel Kahn, and in 1993-1994 at the Department of Applied Mathematics and Theoretical Physics and at The Isaac Newton Institute, Cambridge, UK.

Hakim trained as a theoretical particle physicist, but became interested in statistical physics, nonlinear dynamics, and theoretical biophysics during and shortly after his thesis. This work notably led him to study theoretical neuroscience, including neural networks. Although he witnessed from up close the development of replica symmetry breaking ideas in the early 1980s, he did not get involved with the effort.

For his contributions, Hakim received the Bronze Medal of the CNRS (1988), the Prix Servant de l'Académie des Sciences (1991), the Prix Langevin de la Société Française de Physique (1996), and the Prix Joannidès de l'Académie des Sciences (2011). He also received the Prix des Trois Physiciens of ENS et Fondation Eugène Bloch (2019) for "ses travaux couvrant un large spectre allant de la physique quantique, à la physique non linéaire et à la modélisation en biologie". In 2021, he was further recognized as Outstanding Referee by the American Physical Society.