

## Anne COLLIGNON (1948-2022)

Anne Collignon was born in September 1948 in Troyes. She graduated in Pharmacy in 1971 and realized her biology internship in Paris. In 1975, she joined the Faculty of Pharmacy of the Paris-Sud University as an assistant in microbiology, and at the same time took a position as a biology assistant in the department of Pr. A. German at the Salpêtrière Hospital. In 1981, she obtained a PhD "es-sciences pharmaceutiques" entitled "Obtention and study of anti-digoxin antibodies: application to the plasmatic digitoxin dosage". Her path was marked out, and throughout her professional life she combined hospital responsibilities with university teaching and research missions in the microbiology department of the Faculty of Pharmacy at the Paris-Sud University (which became the Paris-Saclay University in 2020). She was appointed lecturer in 1984 and then full Professor in 1997 after having passed the aggregation in Bacteriology-Virology. She was nominated PU-PH in pharmaceutical disciplines in 2008.



At the university level, Anne Collignon was first of all a convinced and involved teacher, responsible for the microbiology course "Microbiology, microbial ecology, pathogenesis of infectious agents and anti-infectious therapeutics" in the master's degree "Medicines and other health products", from 2010 to 2014. She was also in charge of the "Microbiology and anti-infectious therapeutics" pole of the Doctoral School 425 "Therapeutic Innovation: from fundamental to applied" from 2004 to 2014, which gave her the opportunity to work with many researchers working on various topics. She was a member of several doctoral school juries where she has discussed and argued about projects, candidates and poles, always in a constructive manner and in the interest of the student.

Anne Collignon was also a dynamic and enthusiastic researcher, who was interested very early in bacteria-host and bacteria-bacteria interactions within the digestive ecosystem (now called intestinal microbiota), whose a major function is to act as a barrier against pathogenic microorganisms and in particular against *Clostridium (Clostridioides) difficile*. This strict anaerobic, spore-forming and toxigenic bacterium has been her favorite organism. She has worked extensively on the colonization process of the host by this pathogen and on the bacterial factors contributing to it (e.g. proteases and flagella). She was one of the pioneers in the study of the relationship between the gut microbiota and *C. difficile*, particularly in children, and also worked extensively on gnotoxenic and conventional animal models of *C. difficile* infections (CDI). In 2000, after the retirement of Pr P. Bourlioux, she took over the lead of the EA 4043 "Ecosystème Microbien Digestif et Santé" which she headed until 2014. She has supported all the thematic initiatives of her younger collaborators, on the regulation of virulence factors, mucosal vaccination by colonization factors, or the role of the inflammatory response or adaptive immunity in CDI.

Author of 118 articles, including 67 on *C. difficile*, she had an important international recognition: she participated to the organization of 13 congresses (including 4 Clostpath "International conference on the molecular biology and pathogenesis of the Clostridia" and 4 ICDS "International *Clostridium difficile* symposium") and was invited to give 24 lectures, most of them on *C. difficile* pathophysiology. In 2015, she gave the keynote lecture at the 9th Clostpath, Freiburg (Germany) on the immune response induced by *C. difficile*. She was also a member of the European study group on *Clostridium difficile* from 2001 to 2015 and of its board from 2005 to 2015.

Emeritus since 2016, Anne Collignon was still coming regularly to the laboratory until the international health crisis due to Covid. She was doing bibliographic survey, participating in the scientific discussions of the laboratory and advising all her colleagues. Her disease, diagnosed in January 2022, progressed in a lightning fashion and Anne left us on April 4, 2022 at the age of 73. Her sudden death is a shock and a great sadness. Beyond being a great scientist, she was a dynamic, generous and warm lady who infinitely loved life.

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