



Curriculum Vitae Professor Dr Gabriel Waksman

Name: Gabriel Waksman
Born: 3 September 1957

Research Priorities: bacterial secretion systems, type IV secretion, gram-negative bacteria, pilus biogenesis, development of antimicrobial substances

Gabriel Waksman is a biologist and biochemist. His research focuses on secretion systems in bacteria, which play a major role in the ability of bacteria to survive and adapt. He helped deepen the understanding of type IV secretion in gram-negative bacteria, and his research has contributed significantly to the development of new antimicrobial substances.

Academic and Professional Career

- since 2006 Courtauld Professor of Biochemistry, Institute of Structural and Molecular Biology (ISMB), University College London (UCL), London, UK
- 2006 - 2019 Head, Department of Biochemistry and Molecular Biology (now Research Department of Structural and Molecular Biology), UCL, London, UK
- 2006 - 2019 Head, School of Crystallography (now: Department of Biological Sciences), Birkbeck College London, London, UK
- 2003 - 2019 Joint Chairperson, Structural and Molecular Biology, UCL, London, and Birkbeck College London, London, UK
- 2003 - 2019 Director, ISMB, UCL, London, UK
- 2002 - 2003 Roy and Diana Vagelo Professor of Biochemistry and Molecular Biophysics, School of Medicine, Washington University, Saint Louis, USA
- 2001 - 2002 Alumni Endowed Professorship in Biochemistry and Molecular Biophysics, School of Medicine, Washington University, Saint Louis, USA

They are thus key virulence factors i.e. they possess disease-causing properties.

The secretion systems studied by Gabriel Waksman are molecular machineries that are embedded in bacterial membranes. They play a key role in the pathogenicity of *helicobacter pylori*, a pathogen that can trigger stomach ulcers. They are also involved in the spread of antibiotic resistance genes. Gabriel Waksman's working group analyses in detail how the molecular mechanisms function. The group adopts a multidisciplinary approach, combining structural technologies, such as electron microscopy or X-ray crystallography, with molecular and cell-biology methods, such as cloning, mass spectrometry, and fluorescence microscopy.

Gabriel Waksman's research has provided definitive insights into pilus biogenesis, type IV secretion, and the development of antimicrobial substances.