

## ***Curriculum vitae* of Christian Staehelin**

### **(i) Current address:**

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**(ii) Present academic position:** Professor of Molecular Biology and Principle Investigator at the School of Life Sciences, State Key Laboratory of Biocontrol, Sun Yat-sen University, Guangzhou, China (since 2/2005). Christian Staehelin is heading a research team interested in the *Rhizobium*-legume symbiosis.

**(iii) Academic qualifications:** PhD (1994, University of Basel, Switzerland). Principle investigator and head of a research laboratory at Sun Yat-sen University, Guangzhou.

**(iv) Previous academic positions held:** 1. Research assistant and PhD student (1989-1993, Botanical Institute of the University of Basel, Switzerland). 2. Post-doctoral research associate (1994-1998, Institut des Sciences Végétales, Centre National de la Recherche Scientifique, Gif-sur-Yvette, Paris, France). 3. Post-doctoral research associate (1/1999- 2/2000, Botanical Institute, University of Basel, Switzerland). 4. Senior researcher (“Maître Assistant”, 3/2000-2/2005, Sciences III, University of Geneva, Switzerland).

**(v) Previous research work:** Christian Staehelin (CS) studied at the University of Basel, Switzerland. His thesis, guided by Thomas Boller, described defense-related plant chitinases in the interaction between *Rhizobium* and legumes. C. Staehelin demonstrated that non-legumes are able to perceive rhizobial nodulation signals (Nod factors). Highlights of his studies on Nod factors were the findings that plant chitinases are able to cleave these molecules, thereby opening a new research field on Nod factor hydrolysis. Subsequent studies in the laboratory of Adam and Eva Kondorosi (Gif sur Yvette, France) showed that structural modifications in the Nod factors influence their stability against hydrolysis by chitinases. CS also became interested in the similarities between nodulation and mycorrhization. The early nodulin gene *enod40*, originally studied in the nodule symbiosis, was found to promote root colonization of mycorrhizal fungi. Work of CS performed at the University of Geneva (Switzerland) was focused on exopolysaccharide from *Rhizobium* sp. NGR234. CS provided genetic and biochemical evidence that exo-oligosaccharides derived from exopolysaccharide are required for nodulation in various host plants.

**(vi) Research work of Staehelin’s laboratory:** Current research work is focused on: **(a)** Function of bacterial type 3 effectors within the legume host cell: Characterization of the type 3 effectors NopT, NopL and NopM of *Rhizobium* sp. NGR234 and identification of new type 3 effectors in other rhizobial strains. **(b)** Characterization of glycosyl hydrolases of *Medicago truncatula*: Identification of the hydrolase that specifically cleaves and

inactivates Nod factors of *Sinorhizobium meliloti*. (c) Symbiotic function of rhizobial exo-oligosaccharides: Characterization of ExoK, the symbiotic glycanase of *Rhizobium* sp. NGR234 required for release of exo-oligosaccharides from exo-polysaccharide. (d) Plant-pathogen interactions between legume trees and soil fungi in subtropical forests: Characterization of *Ormosia glaberrima* seedlings infected by the pathogen *Fusarium oxysporum* under natural and laboratory conditions.