

Curriculum vitae

Last name: **Volbeda**

First name: **Anne**

Nationality: **Dutch**



University education

- 1982: Master degree in Physical Chemistry, University of Groningen, the Netherlands
1988: PhD in Mathematics and Natural Sciences, University of Groningen, the Netherlands
2002: Habilitation as research director (HDR), Université Joseph Fourier, Grenoble, France

Scientific career

- 1988-90: Post-doctoral fellow at the European Molecular Biology Laboratory, Heidelberg, Germany
1991-present: Staff position as Ingénieur-Chercheur CEA at the Laboratoire de Cristallographie et de Cristallogenèse des Protéines: first at CEA Grenoble and since 1993 at the IBS (Institut de Biologie Structurale J.P. Ebel) in Grenoble, France

Present research interests

- Structure-function relationships of poly-nuclear metal sites in proteins
- Catalytic mechanisms and internal pathways for the transfer of gases, electrons, protons and water molecules in anaerobic gas-processing metallo-enzymes
- Biotechnological applications of hydrogenases for the production and cleavage of H₂
- Carbon fixation
- Development of methods in the determination and analysis of protein structures

Specialized techniques

- Protein crystallography
- Computer program development

Publications

51 papers in the Web of Science (26/11/2009): total citation number 3654, H index 26; 11 book chapters.

5 selected papers since 2005

- P Amara, A Volbeda, JC Fontecilla-Camps & MJ Field (2005). A quantum chemical study of the reaction mechanism of acetyl-coenzyme A synthase. **Journal of the American Chemical Society** 127:2776-2784.
- WE Walden, AI Selezneva, J Dupuy, A Volbeda, JC Fontecilla-Camps, EC Theil & K Volz (2006). Structure of dual function Iron Regulatory Protein 1 complexed with ferritin IRE-RNA. **Science** 314:1903-1908.
- JC Fontecilla-Camps, A Volbeda, C Cavazza & Y Nicolet (2007). Structure/function relationships of [NiFe]- and [FeFe]-hydrogenases. **Chemical Reviews** 107:4273-4303.
- S Démentin, F Leroux, L Cournac, AL de Lacey, A Volbeda, C Léger, B Burlat, N Martinez, S Champ, L Martin, O Sanganas, M Haumann, VM Fernandez, B Guigliarelli, JC Fontecilla-Camps & M Rousset (2009). Introduction of methionines in the gas channel makes [NiFe] hydrogenase aero-tolerant. **Journal of the American Chemical Society** 131:10156-10164.
- JC Fontecilla-Camps, P Amara, C Cavazza, Y Nicolet & A Volbeda (2009). Structure-function relationships of anaerobic gas-processing metalloenzymes. **Nature** 460:814-822.