

**Silvia Cileni Rodrigues Catharino**

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**Education**

<i>Dr. rer.nat</i> ( <i>Ph.D</i> )	2001-2005	Biophysics - Technical University of Munich – Germany; under the supervision of Prof. Dr. Johannes Buchner
<i>M. Sc</i>	1997-1999	Physical Chemistry, Campinas State University (Unicamp), Brazil under the supervision of Prof. Dr. Marco-A de Paoli
<i>B. Sc</i>	1993-1996	Chemistry, Campinas State University(Unicamp), Sao Paulo, Brazil

**Research Experience**

2006 – present *Post-Doctoral Research Associate at Institute of Neurodegenerative Diseases under supervision of Nobel laureate Dr. Stanley Prusiner and Dr. Fred Cohen, University of California, San Francisco, San Francisco, CA.*

I am studying PrP conformations associated with Prion Diseases. Several methods are used: AFM, SPR, CD and MS.

2006 *Post-Doctoral Research Associate at University of Toronto, Toronto, Canada under supervision of Dr. Aled Edwards*

Using High-throughput protein purification and characterization, I have been involved in all steps related to protein production for crystallization at the Structural Genomics Consortium. The work involved protein from different classes like sulfotransferases and kinases

2001 - 2005      *Teaching Assistant combined with PhD degree under the supervision of Prof. Dr. Johannes Buchner (Chemistry Department, Technical University of Munich, Garching, Germany).*

I have been involved in 3 different projects:

\*Purification, characterization and crystallization of an Fc antibody fragment (1 paper published and 1 paper to be submitted as co-author).

\*Purification and characterization of the yeast prion protein URE2 (1 paper published and 2 other papers to be submitted – first authors). This work also involved the purification of chaperones, protein interaction studies with prion protein and preparation of protein for NMR studies.

\*Biofunctionalization of diamond surfaces for biosensors. I designed this project, which was performed at a Physics group from TUM. I was mentoring students of physics on this project. The work results in a nature materials paper.

During my PhD, I applied a variety of methods: AFM, Fluorescence Spectroscopy, Chromatography, CD, MS, Calorimetry, Centrifugation and X-ray fiber diffraction.

1999 - 2000      *Research Guest at group of Prof. Dr. Roland Bodmeier at Pharmaceutical Technology Department, Free University of Berlin, Berlin, Germany*

I proposed a project to Prof. Bodmeier and he invited me to be researcher in his lab. The work had been incorporated in a patent later on. Methods used: Calorimetry, Raman and NIR-spectroscopy and X-ray Powder Diffraction.

### ***List of published papers***

1. F. Vinci, S. Catharino, S. Frey, J. Buchner, G. Marino, P. Pucci and M. Ruoppolo; Hierarchical formation of disulfide bonds in the immunoglobulin Fc fragment is assisted by PDI; *.Biol.Chem.*,2004(15)279,15059
2. A. Härtl, E. Schmich, J. Garrido, J. Hernando, S. Catharino, S. Walter, P. Feulner, A. Kromka, D. Steinmüller and M. Stutzmann.; Protein modified nanocrystalline diamond thin films for biosensor applications: *Nature Materials*, 2004 (3) 736
3. S Catharino, S Walter, J Buchner ; Characterization of Ure2p fibrilization pathway *Biophysical Journal*, 2004 (86)1, 506
4. S. Catharino, J. Buchner and S. Walter; Soluble oligomeric species as intermediate in the Ure2p aggregation pathway; *Biological chemistry* (2005) 386(7)633-641

### **Manuscripts in Preparation**

5. Effect of fibrilization conditions on Ure2p structure (to be submitted as first author)
6. Susceptibility of yeast prion strain to temperature (to be submitted as first author)
7. A.Schmidt, B. Boesl, S. Catharino, S. Walter; The yeast transcription factor Gln3p is an unfolded protein (resulted from a cooperation work - already accepted in Biochemistry)

### **Language Skills**

<i>Portuguese</i>	Mother tongue
<i>Spanish</i>	Fluent
<i>English</i>	Fluent
<i>German</i>	Fluent

### **Teaching Skills**

I have taught classes for undergraduate students of different areas (physics, chemistry and biochemistry in different countries).

### **Invited Research Talks**

2008	University of California Berkeley – To be given
2006	University of California Berkeley – Prof. C. Bustamante Group
2006	Campinas State University – Prof. M. Kleinke Group
2005	University of California Los Angeles – Prof. D. Eisenberg Group
2004	Technical University of Munich – Prof. M. Stutzman Group
2003	Max Delbruck Center- Berlin - Prof. Bernd Reif Group

### **Technical Skills**

<i>Bioanalytics</i>	Several analytical and biophysical techniques for protein characterization
<i>Protein production</i>	Several protein expression systems, cell culture and isolation methods
<i>Informatics</i>	Computer programming, Sufficient in Windows and Adobe programs