

CURRICULUM VITAE

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Title: Professor

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Brief Biografy

Diploma in Chemistry, University of Frankfurt am Main, Germany, 1988

Ph. D. in Biochemistry, Max Planck Institute for Biophysic, Frankfurt am Main, Germany, 1991

Postdoctoral research associate, Max Planck Institute for Biophysic, Frankfurt am Main, Germany, 1991-1994

Research associate, Biocenter Basel, Switzerland 1994-1997

Assistant Professor, Department of Chemistry, Univesity of Crete 1998-2002

Tenure Assistant Professor 2002- 2008

Associate Professor 2008-2014

Professor since 2014

Career

January 1991 - April 1994, Post-doctoral fellow , [Max Planck Institut for Biophysik, Frankfurt](#), Immunology, molecular biology and biochemistry Research project: Monoclonal antibodies against photosystem I. Crystallization of photosystem I. Isolation and characterization of cytochrome b₆f complex.

April 1994 - October 1997, Research fellow , [Biocenter, University of Basel](#), Structural analysis of membranes proteins by electron microscopy and electron crystallography

October 1997 - September 1998, Visiting Professor , [University of Crete](#), Structure and function of proteins

September 1998 - April 2002, Assistant Professor, [University of Crete](#), Structure and function of proteins

April 2002 - August 2008, Tenure Assistant Professor, [University of Crete](#), Structure and function of proteins

August 2008-October 2014, Associated Professor, [University of Crete](#), Structure and function of proteins

October 2014 Professor, [University of Crete](#), Structure and function of proteins

Education

September 1988, Diploma in Chemistry, [University of Frankfurt, Germany](#), Nitrils in the synthesis for new heterocyclic compounds. Supervisor Prof. W. Ried

October 1991, Dr., [Max Planck Institut for Biophysik, Frankfurt, Germany](#) Isolation, characterization and crystallization of Chla- containing membrane proteins. Supervisor Prof. H. Michel

Teaching

Biochemistry II 5th semester (undergraduate)

Biotechnology 7th semester (undergraduate)

Structure and function of proteins (postgraduate)

Research

Protein and protein complexes participate in all fundamental aspects of life. Owing to their sheer size, scarcity or fragility, most of these complexes are largely unexplored in

terms of their structure and molecular mechanisms, yet their crucial role in virtually all cellular processes is apparent. Our goal is not only to understand how proteins are organized in macromolecular complexes and how this affects their function but also to comprehend their roles in the inner workings of cells. An important part of our research is dedicated to the membrane proteome, i.e. the fraction of proteins integrated into the lipid bilayer of cellular membranes. Biological membranes are fascinating because everything a cell needs to live, grow and respond has to either pass through or act on them. To reach this ambitious goal, we focus on three major research fields addressing.

Protein Biochemistry: Structure and function of proteins, Protein interactions

Biotechnology: Biodegradation, Application of bacteria in the waste treatment and hydrogen generation

Membrane proteomics: Development of methods to analyse hydrophobic proteins by mass spectroscopy

Medical Applications: Intracellular pathogenic bacteria, Life cycle of pathogenic bacteria and the role of the bacterial proteins in its survive, Role of membrane proteins in the antibiotic resistance.

Keywords

- Membrane Proteins
- Protein isolation and characterisation
- Structural analysis
- Biodegradation
- Photosynthetic and pathogenic bacteria
- Proteomics

Publications (since 2010)

42) Samoilis, G., Aivaliotis, M., Vranakis I., Papadioti, A., Tselentis, Y., **Tsiotis, G.*** & Psaroulaki A. (2010)

Proteomic screening for possible effector molecules secreted by the obligate intracellular pathogen *Coxiella burnetii*.

Journal of Proteome Research, 9, 1619–1626

43) Kouyianou, K., Aivaliotis, A., Gevaert, K., Karas, M. & **Tsiotis, G.*** (2010)
Membrane proteome of the green sulfur bacterium *Chlorobium tepidum* (syn. *Chlorobaculum tepidum*) analyzed by gel-based and gel-free methods

Photosynth. Res. 104, 153-162

44) Vranakis I., De Bock, P.J., Papadioti, A., Tselentis, Y., Gevaert, K, **Tsiotis, G.*** & Psaroulaki A. (2011)

Identification of Potentially Involved Proteins in Levofloxacin Resistance
Mechanisms in *Coxiella burnetii*
Journal of Proteome Research, 10, 756–762

45) Papadioti, A., Markoutsas, S., Vranakis, I., Tselentis, Y., Karas, M., Psaroulaki, A. & **Tsiotis, G.*** (2011)
A proteomic approach to investigate the differential antigenic profile of two *Coxiella burnetii* strains
Journal of Proteomics, 74, 1150-1159

46) Kouyianou, K., De Bock, P.J., Müller, S.A., Nikolaki, A., Rizos, A., Krzyżánek, V., Aktoudianaki, A., Vandekerckhove, J., Engel, A., Gevaert K. & **Tsiotis, G.*** (2011)
The Chlorosome of *Chlorobaculum tepidum*: mass, size and protein composition revealed by electron microscopy, dynamic light scattering and mass spectrometry-driven proteomics
Proteomics, 11, 2867–2880

47) Vranakis I., De Bock, P.J., Papadioti, A., Samoilis, G., Tselentis, Y., Gevaert, K., **Tsiotis, G.*** & Psaroulaki A. (2011)
Unraveling persistent host cell infection with *Coxiella burnetii* by quantitative proteomics
Journal of Proteome Research, 10, 4241-4251

48) Kouyianou, K., De Bock, P.J., Colaert, N., Nikolaki, A., Aktoudianaki, A., Gevaert, K. & **Tsiotis, G.*** (2012)
Subproteome protein profiling of *Chlorobaculum tepidum* by N-terminal proteomics
Proteomics, 12, 63-67

49) Vranakis I., De Bock, P.J., Papadioti, A., Samoilis, G., Tselentis, Y., Gevaert, K., **Tsiotis, G.** & Psaroulaki A. (2012)
Quantitative proteome profiling of *C. burnetii* under tetracycline stress conditions.
PLoS ONE 7(3): e33599. doi:10.1371/journal.pone.0033599

50) Sandalakis, V., Psaroulaki, A. De Bock, P.J., Christidou, A., Kris Gevaert, K., **Tsiotis, G.*** & Tselentis, Y. (2012)
Investigation of rifampicin resistance mechanisms in *Brucella abortus* using MS-driven comparative proteomics.
Journal of Proteome Research, 11, 2374–2385

51) Papadioti, A., De Bock, P.J., Vranakis, I., Tselentis, Y., Gevaert, K., Psaroulaki, A. & **Tsiotis, G.*** (2012)
Study the whole cell lysate of two *Coxiella burnetii* strains using peptide-centered proteomics
Journal of Proteome Research, 11, 3150–3159

52) Vranakis I., Papadioti, A., Tselentis, Y., Psaroulaki A. & **Tsiotis, G.*** (2013)
The contribution of proteomics towards deciphering the enigma of *Coxiella burnetii*
Proteomics-Clinical Applications, 7, 193-204

53) Vranakis I., Goniotakis, I., Psaroulaki A., Tselentis, Y., Gevaert, K. & **Tsiotis, G.*** (2014)

Proteome studies of bacterial antibiotic resistance mechanisms
Journal of Proteomics, 97, 88-99

54) Nikolaki, A., Papadioti, A., Arvaniti, K., Kassotaki, E., Langer, J.D. & **Tsiotis, G.***
(2014)

The membrane complexome of a new *Pseudomonas* strain during growth on lysogeny broth medium and medium containing glucose or phenol
EuPA Open Proteomics, 4, 1-9

55) Kudryashev, M., Aktoudianaki, A., Dedoglou, D., Stahlberg, H. & **Tsiotis, G.***
(2014)

The ultrastructure of *Chlorobaculum tepidum* revealed by electron tomography
BBA-Bioenergetics, 1837, 1635-1642,

56) Arvaniti, K., Papadioti, A., Kinigopoulou, M., Theodorou, V., Skobridis, K. and **Tsiotis, G.*** (2014)

Global Proteome Quantification of Imatinib and Novel Imatinib Derivatives in K562 Human Chronic Myeloid Leukemia Cells
Proteome, 2, 363-381

* Corresponding author