CURRICULUM VITAE

Savvas N. Savvides

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PERSONAL

Birth: August 13th, 1972. Nicosia, Cyprus. **Nationality:** Cyprus
Familial status: Married, 3 children.
Languages: Greek (native language), English (proficient), Dutch (proficient), French (intermediate), German (elementary).

UNIVERSITY EDUCATION

May 2000 *Ph.D. in* Biophysics
Cornell University, Ithaca, New York, USA.

May 1995 *Bachelor of Arts:* - Biological Sciences *(cum laude)*
- Chemistry
Cornell University, Ithaca, New York, USA.

ACADEMIC APPOINTMENTS

Oct 2005 - present **Professor of Structural Biology and Biophysics**
Biochemistry, Physiology and Microbiology, Ghent University, Belgium.

Jan 2004 – Sep 2005 **Lecturer and Group Leader in Structural Biology**
Biochemistry, Physiology and Microbiology, Ghent University, Belgium.

Aug 2002 – Dec 2003 **EMBO Research Fellow**
Department of Ultratructure, *Vrije Universiteit Brussel*, Belgium.
Collaborators: Prof. Lode Wyns and Dr. Patrick Van Gelder.
Research: Structural and biophysical studies of bacterial type II secretion.

May 2000 – Jul 2002 **Postdoctoral Research Fellow**
Biochemistry and Molecular Biophysics, Washington University School of Medicine, USA.
Advisor: Prof. Gabriel Waksman.
Research: Structural studies of bacterial type IV secretion and pathogenesis.

Sep 1995 - Apr 2000 **Doctoral candidate**
Program in Biophysics, Cornell University, USA.
Advisor: Prof. P. Andrew Karplus.
Doctoral dissertation: Crystal structure of the hematopoietic cytokine Flt3 ligand and structural studies of glutathione reductase modified by physiologic nitric oxide carriers.

Sep 1998 - Apr 2000 **Research Assistant**
Biochemistry and Biophysics, Oregon State University, USA.
Advisor: Prof. P. Andrew Karplus.
Resarch: Crystal structure of the hematopoietic cytokine Flt3 ligand and structural studies of human and P. falciparum glutathione reductases.

AWARDS & HONORS

2003	Science Writing Prize of the European Molecular Biology Organization (EMBO).
2002-2003	European Molecular Biology Organization (EMBO) Research Fellow.
1999	Eli Lilly & Company Award, The Protein Society, USA.
1999	Finn Wold Award, The Protein Society, USA.
1997	Computational Crystallography Fellowship, Pittsburgh Supercomputer Ctr, USA.
1997	Crystallography Fellowship, International Center for Diffraction Data, USA.
1997	Finn Wold Award, The Protein Society, USA.
1995	*Cum Laude* honors in the Biological Sciences, Cornell University, USA.
1994-1995	Howard Hughes Research Fellowship in Biochemistry, Cornell University, USA.
1992-1995	International Student Scholarship, Cornell University, USA.
1992-1995	Fulbright Scholarship, USA.

RESEARCH INTERESTS

Protein structure, Macromolecular structure-function relationships, Structural/Functional genomics, Hematopoietic cytokine-receptor interactions, Bacterial secretion, Bacterial and Parasite pathogenesis, Bacterial and parasite oxidoreductases, Structure-based drug design, Methodologies in X-ray crystallography, Synchrotron radiation/technology, Microcalorimetry, Biophysical methods.

RESEARCH PUBLICATIONS (peer-reviewed in journals of the ISI Citation Index-SCI)

Top 5 publications [†first co-authors, *co-senior and corresponding author]

Pauwels, K., Wyns, L., Tommassen, J., **Savvides, S.N.*** and Van Gelder, P*. (2006) Structure of a membrane-based steric chaperone in complex with its lipase substrate. ***Nature Structural and Molecular Biology*** 13, 374– 375. **[SCI: 11.5]**

Savvides, S.N.†, Yeo, H-J.†, Beck, M.R., Blaesing, F., Lurz, R., Lanka, E., Buhrdorf, R., Fischer, W., Haas, R. and Waksman, G. (2003). VirB11 ATPases are dynamic hexameric assemblies: New insights into bacterial type IV secretion. ***EMBO Journal*** 22, 1969-1980. **[SCI: 10.5]**

Hye-Jeong Yeo†, **Savvides, S.N.†**, Herr, A.B., Lanka, E. and Waksman, G. (2000). Crystal structure of the hexameric traffic ATPase of the *Helicobacter pylori* type IV secretion system. ***Molecular Cell*** 6, 1461-1472. **[SCI: 16.7]**

Savvides, S.N., Boone, T. and Karplus, P.A. (2000). Flt3 ligand structure and unexpected commonalities of helical bundles and cystine-knots. ***Nature Structural Biology*** 7, 486-491. **[SCI: 12.3]**

[This paper was featured in a News &Views article: C. Wiesman & A.M.de Vos (2000). Variations on ligand-receptor complexes. ***Nature Structural Biology*** 7, 440-442]

Becker, K.†, **Savvides, S.N.†**, Keese, M., Schirmer, R.H. and Karplus, P.A. (1998). Enzyme inactivation via sulfhydryl oxidation by physiologic NO-carriers. ***Nature Structural Biology*** 5, 267-271. **[SCI: 12.3]**

[This paper was featured in a News &Views article: J.S. Stamler & A. Hausladen (1998). Oxidative modifications in nitrosative stress. ***Nature Structural Biology*** 5, 247-249]

Complete list of publications [†first co-authors, *co-senior and corresponding author]

28. Van Petegem, F., De Vos, D., Savvides, S.N., Vergauwen, B., Van Beeumen, J. (2007). Understanding Nicotinamide Dinucleotide Cofactor and Substrate Specificity in Class I Flavoprotein Disulfide Oxidoreductases: Crystallographic Analysis of a Glutathione Amide Reductase. ***Journal of Molecular Biology*** 374, 883-889.
27. Greco, M.N., Hawkins, M.J., Powell, E.T., Almond, H.R. Jr., Garavilla, L., Hall, J., Minor, L.K., Wang, Y., Corcoran, T.W., Di Cera, E., Cantwell, A.M., **Savvides, S.N.**, Damiano, B.P., Maryanoff, B.E. (2007). Discovery of potent, selective, orally active, nonpeptide inhibitors of human mast cell chymase. ***Journal of Medicinal Chemistry*** 50, 1727-30.
26. **Savvides, S.N.** (2007). Secretion superfamily ATPases swing big. ***Structure*** 15, 255-257.
25. Stout, S., De Smet, L., **Savvides, S.N**.*, Van Beeumen, J.* (2007). X-ray crystallographic analysis of the sulfur carrier protein SoxY from Chlorobium limicola f. thiosulfatophilum reveals a tetrameric structure. ***Protein Science*** 16, 589-601.
24. Kyndt, J.A., **Savvides, S.N**., Memmi, S., Koh, M., Fitch, J.C., Meyer, T.E., Heyn, M.P., Van Beeumen, J. and Cusanovich, M.A. (2007). Structural role of Y98 in PYP: effects on fluorescence, gateway and photocycle recovery. ***Biochemistry*** 46, 95-105.
23. Stout, S., De Smet, L., Panjikar, S., Weiss, M.S., **Savvides, S.N**.*, Van Beeumen, J.* (2006). Crystallization, preliminary crystallographic analysis and phasing of the thiosulfate-binding protein SoxY from *Chlorobium limicola f. thiosulfatophiluym*. ***Acta Crystallographica F*** 62, 1093-1096.
22. van den Hemel, D., Brigé, A., **Savvides, S.N.***, and Van Beeumen, J.* (2006) "Ligand-induced conformational changes in the capping subdomain of a bacterial OYE homologue and conserved sequence fingerprints provide new insights into substrate binding". ***Journal of Biological Chemistry***281, 28152-28161.
21. Pauwels, K., Wyns, L., Tommassen, J., **Savvides, S.N.*** and Van Gelder, P*. (2006) Structure of a membrane-based steric chaperone in complex with its lipase substrate. ***Nature Structural and Molecular Biology***, 13, 374– 375.
20. De Vos, D., Collins, T., Nerinckx, W., **Savvides, S. N.**, Claeyssens, M., Feller, G. and Van Beeumen, J. (2006) Oligosaccharide binding in family 8 glycosidases: crystal structures of active site mutants of the β-1,4-xylanase pXyl from *Pseudoalteromonas haloplanktis* in complex with substrate and product. ***Biochemistry*** 45, 4797-4807.
19. De Smet, L. †, **Savvides, S.N. †**, Ellen Van Horen, E., Pettigrew, G., and Van Beeumen, J. (2006) New insights into structure-function relationships in bacterial di-heme cytochrome c peroxidases from structural and mutagenesis studies on the enzyme from *Rhodobacter capsulatus*. ***Journal of Biological Chemistry*** 281, 4371-4379.
18. Collins, T., De Vos, D., Hoyoux, A., **Savvides, S.N.**, Gerday, C., Van Beeumen, J. and Feller, G. (2005). Study of the active site residues of a glycoside hydrolase family 8 xylanase. ***Journal of Molecular Biology* 354**, 425-434.
17. Agapay, R.C., **Savvides, S.N.**, Van Driessche, G., Devreese, B.,Van Beeumen, J., Jongejan, J., and Hagen, W. (2005) Expression, purification, crystallization and preliminary crystallographic analysis of a stand-alone RAM domain with hydrolytic activity from the hyperthermophile *Pyrococcus furiosus*. ***Acta Crystallographica F* 61**, 914-916.
16. De Vos, D., Hulpiau, P., Vergauwen, B., **Savvides, S.N**., Van Beeumen, J. (2005). Expression, purification, crystallization and preliminary X-ray crystallographic studies of the aspartate

carbamoyltransferase from the psychropiezophile *Moritella profunda.* ***Acta Crystallographica F* 61**, 279-281.

15. Dolashka-Angelova, P., Dolashki, A., **Savvides, S.N.**, Hristova, R., Van Beeumen, J., Voelter, W., Devreese, B., Weser, U., Di Muro, P., Salvato, B., Stevanovic, S. (2005). Structure of Hemocyanin Subunit CaeSS2 of the Crustacean Mediterranean Crab *Carcinus aestuarii*. ***Journal of Biochemistry***, 138, 303-312.

14. Pineda, A.O., Chen, Z.W., Caccia, S., Cantwell, A.M., **Savvides, S.N.**, Waksman, G., Mathews, F.S. and Di Cera, E. (2004). The anticoagulant thrombin mutant W215A/E217A has a collapsed primary specificity pocket. ***Journal of Biological Chemistry*** 279, 39824-39828.

13. Pineda, A.O., Zhang, E., Guinto, E.R., **Savvides, S.N.**, Tulinsky, A. and Di Cera, E. (2004). Crystal structure of the thrombin mutant D221A/D222K: The Asp222:Arg187 ion-pair stabilizes the fast form. ***Biophysical Chemistry*** 112, 253-256.

12. **Savvides, S.N.**, Raghunathan, S., Futterer, K., Kozlov, G.A., Lohman, T.L. and Waksman, G. (2004). The C-terminal domain of the full length *E. coli* SSB protein is disordered even in the presence of DNA. ***Protein Science*** 13, 1942-1947.
[This paper was featured on the cover of the July 2004 issue of *Protein Science*]

11. **Savvides, S.N.†**, Yeo, H-J.†, Beck, M.R., Blaesing, F., Lurz, R., Lanka, E., Buhrdorf, R., Fischer, W., Haas, R. and Waksman, G. (2003). VirB11 ATPases are dynamic hexameric assemblies: New insights into bacterial type IV secretion. ***EMBO Journal*** 22, 1969-1980.

10. Sarma, G., **Savvides, S.N.**, Becker, K., Schirmer, R.H and Karplus, P.A. (2003). Glutathione reductase of the malarial parasite *Plasmodium falciparum*: Crystal structure and inhibitor development. ***Journal of Molecular Biology*** 328, 893-907.
[This paper was featured on the cover of the May 2003 issue of the *Journal of Molecular Biology*]

9. Pineda, A.O., **Savvides, S.N.**, Waksman, G. and Di Cera E. (2002). Crystal structure of the anticoagulant slow form of thrombin. ***Journal of Biological Chemistry*** 277, 40177-40180.

8. **Savvides, S.N.†**, Scheiwein, M.†, Böhme, C., Arteel, G., Karplus, P.A., Becker, K. and Schirmer, R.H. (2002). Crystal structure of the antioxidant enzyme glutathione reductase inactivated by peroxynitrite. ***Journal of Biological Chemistry*** 277, 2779-2784.

7. Hye-Jeong Yeo†, **Savvides, S.N.†**, Herr, A.B., Lanka, E. and Waksman, G. (2000). Crystal structure of the hexameric traffic ATPase of the *Helicobacter pylori* type IV secretion system. ***Molecular Cell*** 6, 1461-1472.

6. **Savvides, S.N.**, Boone, T. and Karplus, P.A. (2000). Flt3 ligand structure and unexpected commonalities of helical bundles and cystine-knots. ***Nature Structural Biology*** 7, 486-491.
[This paper was featured in a News &Views article: C. Wiesman & A.M.de Vos (2000). Variations on ligand-receptor complexes. ***Nature Structural Biology*** 7, 440-442]

5. Becker, K.†, **Savvides, S.N.†**, Keese, M., Schirmer, R.H. and Karplus, P.A. (1998). Enzyme inactivation via sulfhydryl oxidation by physiologic NO-carriers. ***Nature Structural Biology*** 5, 267-271.
[This paper was featured in a News &Views article: J.S. Stamler & A. Hausladen (1998). Oxidative modifications in nitrosative stress. ***Nature Structural Biology*** 5, 247-249]

4. **Savvides, S.N.** and Karplus, P.A. (1996). Kinetics and crystallographic analysis of human glutathione reductase in complex with a xanthene inhibitor. ***Journal of Biological Chemistry*** 271, 8101-8107.

3. Faerman, C.H.†, **Savvides, S.N†.**, Ponasik, J.A., Strickland, C.L., Ganem, B., Ripoll, D.R., Krauth-Siegel, R.L. and Karplus, P.A. (1996). Tricyclic ihibitors of human glutathione reductase and of

Crithidia fasciculata trypanothione reductase: a tale of two enzymes. ***Bioorganic and Medicinal Chemistry*** 4, 1247-1253.

2. Ponasik, J.A., Strickland, C.L., Faerman, C.H., **Savvides, S.N.**, Karplus, P.A. and Ganem, B. (1995). Kukoamine A and other hydrophobic acylpolyamines: potent and selective inhibitors of *Crithidia fasciculata* trypanothione reductase. ***Biochemical Journal*** 311, 371-375.
1. Strickland, C., Puchalski, R., **Savvides, S.N.** and Karplus, P.A. (1995). Overexpression of *Crithidia fasciculata* trypanothione reductase: Kinetic Characterization and crystallization using a novel geometry. ***Acta Crystallographica D***51, 337-341.

Invited review articles and book chapters

3. **Savvides, S.N.** (2007). Secretion superfamily ATPases swing big. ***Structure*** 15, 255-257.
2. Stout, J., De Smet, L., Vergauwen, B., **Savvides, S.N.***, Van Beeumen, J.* (2007). Structural insights into component SoxY of the thiosulphate oxidizing multi-enzyme system of *Chlorobium limicola.* In "Microbial Sulfur Metabolism". Life Sciences (Friedrich, C. and Dahl, C. editors).
1. Schröder, G.†, **Savvides, S.N.†**, Waksman, G. and Lanka, E. (2005). The Type IV Secretion Machinery. In "Structural and Molecular Basis of Bacterial Pathogenesis". American Society for Microbiology (Waksman, G., Caparon, M.G. and Hultgren, S.J. editors).

Science Journalism

3. **Savvides, S.N.** (2004). Se i microbi si riunissero a congresso... ***KOS*** 222, March issue, 60-64.
2. **Savvides, S.N.** (1994). SOS from the green sea-turtle; Pioneering efforts to save the endangered species in the Mediterranean through the Lara turtle project. ***Ursus*** 4, 23-26.
1. **Savvides, S.N.** (1993). The Akamas wilderness: An endangered species. ***Global Student Forum*** 2, 8-9.

INVITED SEMINAR PRESENTATIONS

18. "Dissecting Old Yellow Enzymes at Atomic Resolution: Old Enzymes in a New Story" , Annual meeting of the FNRS Contact Group on Synchrotron radiation, Louvain-La-Neuve, Belgium, December 19th 2007.
17. "Structural biology of *P. falciparum*: Evaluating nucleotide kinases as potential drug-targets against malaria", Annual meeting of the Belgian Society for Parasitology, Ghent, Belgium, June 15th 2007.
16. "Introduction to Macromolecular X-ray crystallography", Spring Course on Macromolecular Structure Determination of the Belgian Biophysical Society, University of Leuven, Belgium, June 7th 2006.
15. "Structural biology of bacterial type II secretion and dissection of hematopoietic cytokine-receptor interfaces", Department of Nutritional Biochemistry, Justus-Liebig University of Giessen, Germany, September 2005.
14. "Progress towards the structural basis of inhibition of D-aminopeptidase from *O. anthropi* by beta-lactam compounds", Meeting of the Belgian Interuniversity Attraction Poles Program , Liège, Belgium, January 2005.
13. "From buckyballs to protein structures: writing for the non-scientist", EMBO Members Meeting, Killarney, Ireland, October 2003.
12. "Structural biology of bacterial type II secretion systems", Meeting of the FP5 NANOFOLDEX group, Utrecht University, The Netherlands, March 2003.

11. “Molecular snapshots of the traffic ATPase of H. pylori reveal new insights into the function and mode of action of VirB11 ATPases”, Gordon Reseach Conference on Diffraction Methods in Biology, New London, Connecticut, USA, July 2002.
10. "Crystal structure of virB11 ATPase: an hexameric ring involved in the active transport of ssDNA", FASEB Research Conference on Helicases, Vermont, USA, July 2001.
9. "Targeted structural genomics of bacterial type IV secretion: Structure of the hexameric traffic ATPase from *Helicobacter pylori* ", Advanced Light Source, Argonne National Laboratory, Argonne IL, USA, February 2001.
8. "Structure of the hexameric traffic ATPase of the *Helicobacter pylori* Type IV secretion system", Washington University School of Medicine Annual Research Retreat, Programs in Biochemistry, Bioorganic Chemistry, and Molecular Biophysics, Potosi MO, USA, December 2000.
7. "Structure of the Flt3 ligand and insights into receptor recognition", DNAX Research Institute, Palo Alto CA, USA, Spring 2000.
6. "Crystal structure of the Flt3 ligand: Implications for cytokine/receptor interactions", Department of Biochemistry and Biophysics, Oregon State University, Corvallis OR, USA, Spring 1999.
5. "Shedding light on new hematopoeitic cytokines: Structure of the FLT3-ligand", Annual Meeting of the American Crystallographic Association, Arlington VA, USA, July 18-23, 1998.
4. "Crystal structure of a new hematopoietic cytokine, FLT3-ligand", Program in Biophysics, Cornell University, Ithaca NY, USA, Summer 1998.
3. "Inactivation of glutathione reductase by physiologic nitric oxide carriers: A crystallographic analysis", Section of Biochemistry, Cornell University, Ithaca NY, USA, Spring 1997.
2. "The complex of glutathione reductase with a xanthene inhibitor: Implications for structure-based drug design", 10th Annual Research Forum, Cornell University, Ithaca NY, USA, April 1995.
1. "Understanding protein structure-function relationships through 3-D visualization", Hughes Scholars Program, Cornell University, Ithaca NY, USA, June 1994.

CONFERENCES, SYMPOSIA, WORSKHOPS

Participation

24. Annual meeting of the FNRS Contact Group on synchrotron radiation, Louvain-La-Neuve, Belgium, December 19th 2007.
23. Symposium of the Belgian Biophysical Society on “Proteins and membranes: a joint venture”, Brussels, Belgium, December 7th 2007.
22. EMBO Fellows Laboratory Management Course: “The Art of Leadership-fewer conflicts, more results”, Heidelberg, Germany, September 24-26 2007.
21. EMBO Workshop on “The Chemistry and Biochemistry of Catalysis by Biological Systems”, Hamburg, Germany, June 20-22 2007.
20. Annual Symposium of the Belgian Society for Parasitology, Ghent, Belgium, June 15th 2007.
19. Annual Meeting of the NWO-CW Study Groups for Chemical Sciences and the Dutch Royal Union for Crystallography, March 19-20th 2007, Lunteren, The Netherlands.
18. Belgian Synchrotron Radiation and Neutrons Meeting, February 15th 2007, Brussels, Belgium.
17. Joint Dutch-Belgian Workshop for users of Synchrotron and Neutron Radiation, The Hague, The Netherlands, October 12th 2006.

16. 5th International NCCR Symposium on New Trends in Structural Biology, Zurich, Switzerland, September 15-16th, 2006.
15. 23rd European Crystallography Meeting, Leuven, Belgium, August 6-11 2006.
14. Spring Course on Macromolecular Structure Determination of the Belgian Biophysical Society, University of Leuven, Belgium, June 7th 2006.
13. Annual Meeting of the Dutch Union for Crystallography, Lunteren, The Netherlands, March 2006.
12. Annual Symposium of the Belgian Biophysical Society, Brussels, Belgium, December 16th 2005.
11. EMBL Workshop on Protein Crystallization, Hamburg, Germany, November 2005.
10. EMBL Conference: 'Structural Biology at Crossroads', Hamburg, Germany, September 15-17 2004.
9. Gordon Research Conference on Diffraction Methods in Biology, New London CT, USA, July 14-19 2002.
8. Gordon Research Conference on Microbial Adhesion and Secretion, Newport RI, USA, Jul 28-Aug 4th 2001.
7. FASEB Research Conference on Helicases, Vermont, USA, July 2001.
6. Midwest Crystallography Workshop, Columbia MO, USA, August 11 2000.
5. 13th Symposium of the Protein Society, Boston MA, USA, July 24-28 1999.
4. Annual Meeting of the American Crystallographic Association, Arlington VA, USA, July 18-23 1998.
3. 11th Symposium of the Protein Society, Boston MA, USA, July 12-16 1997.
2. Practical course on Phasing and Refinement methods in Macromolecular Crystallography, Pittsburgh Supercomputer Center, USA, Spring 1997.
1. XVII Congress and General Assembly of the International Union of Crystallography, Seattle WA, USA, August 8-18 1996.

Poster Presentations

20. Remans K., Pauwels K., Decanniere K., **Savvides S.N.** and Van Gelder P. Lipoprotein biogenesis in *Pseudomonas aeruginosa*: characterisation of Lol components. FEBS – EMBO ADVANCED LECTURE COURSE on CELLULAR AND MOLECULAR BIOLOGY OF MEMBRANES, June 18 – 29 2007, Cargèse, Corsica, France.
16. Theunissen, S., De Smet, L. , Van Beeumen, J., Devreese B., Van Gelder, P., **Savvides, S.N.** Structure - function studies of the agglutination protein, AggA, from *S. oneidensis: an outer-membrane protein important for biofilm formation.* VII European Symposium of the Protein Society, May 12-16 2007, Stockholm, Sweeden.
13. Stout, J., De Smet, L., Vergauwen, B., **Savvides, S.N., and** Van Beeumen, J. Structural insights into the SoxY protein from Chlorobium limicola f. thiosulfatophilus" 23rd European Crystallography Meeting, Leuven, Belgium, August 6-11 2006. [Abstract: *Acta Crystallographica* **A62**-supplement].
12. Stout, J., De Smet, L., Vergauwen, B., Van Beeumen, J., and **Savvides, S.N.** "Insights into sulfur oxidation from the structure of the SoxY protein from Chlorobium limicola f. thiosulfatophilus " Annual Meeting of the Dutch Union for Crystallography, Lunteren, The Netherlands, March 2006.
10. **Savvides, S.N.,** Vandenbroucke, K., De Vos, D., Carpentier, W., and Van Beeumen, J. "Getting the most out of a trip to the synchrotron: Structure of a putative bacterial dehalogenase." EMBL Conference: Structural Biology at Crossroads, Hamburg, Germany, September 15-17 2004.

9. Sarma, G., Faber, R., **Savvides, S.N.**,Becker, K., Schirmer, H., and Karplus, P.A. "Crystallographic analysis of *Plasmodium falciparum* glutathione reductase", West-coast protein crystallography workshop, Asilomar, California, USA, March 2003.
8. **Savvides, S.N.**, Hye-Jeong Yeo , Moriah R. Beck, Franca Blaesing, Rudi Lurz, Erich Lanka, Renate Buhrdorf, Wolfgang Fischer, Rainer Haas & Waksman, G. "Nucleotide-dependent conformational changes in the hexameric trafic ATPase of *Helicobacter pylori:* implications for VirB11 ATPases.", Gordon Research Conference on Diffraction Methods in Biology, New London CT, USA, July 14-19 2002.
7. **Savvides, S.N.**, Hye-Jeong Yeo, Herr, A.B., Lanka, E., Waksman, G. "Structure of the hexameric traffic ATPase of the *Helicobacter pylori* type IV secretion system", Gordon Research Conference on Microbial Adhesion and Secretion, Newport RI, USA, July 28-August 4 2001.
6. **Savvides, S.N.**, Boone, T., & Karplus, P.A. " Flt3 ligand structure and unexpected commonalities of helical bundles and cystine-knots ", Midwest Crystallography Workshop, Columbia MO, USA, August 11 2000.
5. **Savvides, S.N.**, Boone, T., & Karplus, P.A. "A new, early-acting hematopoietic cytokine: Structure of the Flt3 ligand", 13th Symposium of the Protein Society, Boston MA, USA, July 24-28 1999. [Abstract: *Protein Science* **8**-supplement 1, 117 (1999)]
4. **Savvides, S.N.**, Boone, T., & Karplus, P.A. "Shedding light on new hematopoietic cytokines: structure of the Flt3-ligand", Meeting of the American Crystallographic Association, Arlington VA, USA, July 18-23 1998.
3. **Savvides, S.N.**, Becker, K., Keese, M., Schirmer, R.H., & Karplus, P.A. "Inactivation of glutathione reductase by naturally occuring nitric oxide carriers: A crystallographic analysis at 1.7 Å resolution", 11th Symposium of the Protein Society, Boston MA, USA, July 12-16 1997. [Abstract: *Protein Science* **6**-supplement 2, 84 (1997).]
2. **Savvides, S.N.** and Karplus, P.A. "Characterization of a non-competitive inhibitor of human glutathione reductase", XVII Congress and General Assembly of the International Union of Crystallography, Seattle WA, USA, August 8-18 1996. [Abstract: *Acta Crystallographica* **A52**-supplement, pc206.]
1. Faerman, C.H., **Savvides, S.N.**, Ponasik, J.A., Strickland, C.L., Ganem, B., Ripoll, D.R., Krauth-Siegel, R.L., & Karplus, P.A. "Tricyclic inhibitors of human glutathione reductase and of *Crithidia fasciculata* trypanothione reductase: a tale of two enzymes", 3rd Annual Meeting for Computer-Aided Drug Design, San Francisco CA, USA, May 1996.

RESEARCH FUNDING

Total funding to date: 1,818, 910 €

Research Grants

June 2007 — Faculty Commission for Scientific Research, Ghent University, Belgium.
Project: 'Analytical and semi-preparative liquid chromatography for protein research'.
(Investigators: S. Savvides, B. Devreese and N. Callewaert, L-ProBE, Ghent Un.)
Equipment 42,000 €

Jan 2007 – Dec 2011	Fund for Scientific Research, Flanders (*FWO*), Belgium. Project:' Structural and thermodynamic characterization of hematopoietic cytokine/receptor interactions: towards the rational development of agonists with improved binding characteristics. Investigator: S. Savvides-Ghent Un. Equipment and research costs 143,000 €
Jan 2007 – Dec 2012	Fund for Scientific Research, Flanders (*FWO*), Belgium Program for Scientific Research Networks Coordinator/Investigator: S. Savvides-Ghent Un. Participants: R. Loris-VUB, L. Van Meervelt-KUL, S. Strelkov-KUL, J. Wauters-UNamur, P. Charlier-ULiège, J.-P.DeClercq- UCL, M. Weiss (EMBL-Hamburg), A. Perrakis (NKI), P. Gros (Utrecht Un.) Project:' Macromolecular Crystallography: Methods and Applications' Conference/workshop costs, travel, speaker honoraria 62,500 €
Mar 2006 – Mar 2010	*IWT*, Program for Strategic Basic Research, Belgium. Project: 'Glycodirect: Microcalorimetry-based directed evolution platform for development of a generic glycosylation technology'. Investigators: W. Woetaert-Ghent Un., S. Savvides-Ghent Un., Vivactis N.V., total budget 2,910,346 €) Personnel, equipment and research costs 793,410 €
Jan 2006 – Jan 2010	Ghent University (BOF program), Belgium Project: 'Structural biology of proteins from the malaria parasite *P. falciparum:* a first step towards the development of novel antimalarial therapeutics. Investigator: S. Savvides-Ghent Un. Personnel and research costs 168,000 €
April 2006	Ghent University, Belgium Start-up funds for new faculty 10,000 €

Funding for (post)doctoral training

Dec 2007 – Dec 2011	IWT-Flanders, Belgium. Project: *Structural and molecular basis for the interaction of the Flt3 receptor with medically important protein ligands.* Ph.D. fellowship to B. Remmerie and research costs 150,000 €
Oct 2007 – Sep 2011	Fund for Scientific Research-Flanders (*FWO*), Belgium. Project: *Structural, thermodynamic, and kinetic characterization of the interaction of CSF-1 with CSF-1R ligand-receptor interaction.* Ph.D. fellowship to J. Elegheert and research costs 150,000 €
Dec 2006 – Dec 2010	IWT-Flanders, Belgium. Project: 'S-glutathionylation in cellular antioxidant responses' Ph.D. fellowship to G. Buysschaert and research costs 150,000 €
Oct 2005- Oct 2009	Fund for Scientific Research-Flanders (*FWO*), Belgium Project: 'Structural and energetic characterization of the interaction between the helical hematopoetic cytokine Flt3L and its receptor Flt3R.' Ph.D. fellowship to K. Verstraete and research costs 150,000 €

PROFESSIONAL ACTIVITIES

Science/Research administration

- 2006-present Council member, Belgian National Committee for Crystallography.
- 2007-present Coordinator, Research Network on Macromolecular Crystallography of the Fund for Scientific Research (FWO), Belgium.
- 2007-present Belgian representative to the CW-NWO Study group for Chemical Sciences, the Netherlands.
- *'Ad-hoc'* reviewer for the following peer-reviewed journals:
  - Nature Structural and Molecular Biology - Journal of Molecular Biology – Structure - Acta Crystallographica Section D - Acta Crystallographica Section F.
- *'Ad-hoc'* evaluator for Framework Program 7 of the European Union.
- *'Ad-hoc'* evaluator for the European Research Council.
- *'Ad-hoc'* evaluator for the Wellcome Trust, UK.

Academic administration and Education

- 2004-present Council of the Department of Biochemistry, Physiology and Microbiology, Ghent University.
- 2007-present Chairman, Ph.D. Examination Commission of the program 'Biochemistry and Biotechnology', Ghent University.
- 2007-present Council of the Doctoral School for the Natural Sciences, Ghent University.
- 2006-2007 Vice-Chairman, Academic commission for Biochemistry, Ghent University.
- 2006-present International affairs committee of the program 'Biochemistry and Biotechnology', Ghent University.
- 2006-present 'Ad-hoc' member of selection committees of the IWT-Flanders, Belgium for Ph.D. and post-doctoral fellowships.
- 2006-present Advisor, Ghent University program for 'Belgian-American Educational Foundation' (BAEF) and Fulbright fellowships.

Conferences, Symposia, Workshops

- Co-chair and Organizer, Session on Membrane Proteins at the 23rd European Crystallography Meeting (ECM-23), August 4-11 2006, Leuven, Belgium.
- Program Committee for the Annual Symposium of the Study Groups for Protein Crystallography of the Dutch Royal Union for Crystallography, 2007, Lunteren, The Netherlands.

Scientific Memberships and Affiliations

- Member, International Union of Crystallography
- Member, Belgian Biophysical Society.
- Member, Dutch Crystallographic Association.
- Member, Belgian Society for Parasitology.

TEACHING

Lecture Courses

2007 - present *Structure and function of macromolecules*
Master program in Biochemistry and Biotechnology, Ghent University.

2007 - present *Experimental Structural Biology*
Master program in Biochemistry and Biotechnology, Ghent University.

2007 – present	*Protein Engineering and Design* Master program in Biochemistry and Biotechnology., Ghent University.
2007 – present	General *Biochemistry* Bachelor program in Chemistry, Ghent University.
2004 – 2007	*Structure-function relationships of proteins* Licentiate Program in Biochemistry, Ghent University.
2004 – 2007	*Macromolecular X-ray Crystallography* Licentiate Program in Biochemistry, Ghent University, Belgium.
2001	*Macromolecular Crystallography (Bio5456)* Graduate Program in Biophysics, Washington Un. School of Medicine, USA.
1999	*Advanced Biophysics (BB483/583)* Program in Biochemistry and Biophysics, Oregon State University, USA.
1997	*Principles of Biochemistry (BioBM 331)* Undergraduate program in the Biological Sciences, Cornell University, USA.

Laboratory Courses and Tutorials

2007-present	*Research rotations in structural biology and biochemistry* Master program in Biochemistry and Biotechnology, Ghent University.
2007-present	*Research rotations in experimental biochemistry* Bachelor program in Biochemistry and Biotechnology, Ghent University.
2003-2004	*Protein Chemistry* Program in Bioengineering, Free University of Brussels (VUB),Belgium.
1994-1997	*Proteins and macromolecular structure* Cornell Institute for Biology Teachers, Cornell University, USA.
1994-1995	*J.S. Knight Writing Program in the Biological Sciences* Cornell University, USA.

Ph.D.-THESIS (CO-)ADVISOR

2005-present	Sofie Theunissen, Ghent University *Structure-function studies of the agglutination protein, AggA, from S. oneidensis: an outer-membrane protein important for biofilm formation.*
2005-present	Kenneth Verstraete, Ghent University *Structural and thermodynamic dissection of hematopoietic cytokine-receptor interfaces: The Flt3 Ligand-Flt3 Receptor complex.*
2006-present	An De Schryver, Ghent University. *Structural biology of the malaria parasite P. falciparum.*
2006-present	Annelies Van Hoorebeke, Ghent University. *Structural and kinetic studies of bacterial glycoside phosphorylases.*
2007-present	Géraldine Buysschaert, Ghent University. *Identification and characterization of S-glutathionylation in the response against oxidative stress*
2007-present	Bert Remmerie, Ghent University.

Structural and thermodynamic dissection of hematopoietic cytokine-receptor interfaces: The Stem Cell Factor: c-kit Receptor complex.

2007-present Jonathan Elegheert, Ghent University
Structural, thermodynamic, and kinetic characterization of the interaction of CSF-1 with CSF-1R ligand-receptor interaction.

2004-2007 Jan Stout, Ghent University
Structure-function studies of the thiosulfate binding SoxY protein of *Chlorobium limicola* f. *thiosulfatophilum.*

UNDERGRADUATE-THESIS ADVISOR

2006-2007 Jonathan Elegheert, Faculty of Sciences, Ghent University
Structure-function studies of mutants of an Old Yellow Enzyme homologue from S. oneidensis (SYE1).

2006-2007 Nicholas Taylor, Ghent University and University College of London (UCL).
Towards protein complexes of the bacterial type-IV secretion system.

2006-2007 Sevgi Ertugrul - ERASMUS Research Fellow, Ghent University.
Production of recombinant human Flt3 ligand for structural and biophysical studies.

2006-2007 Silvia Solano Peres - ERASMUS Research Fellow, Ghent University.
Production of recombinant disaccharide phosphorylases for structural studies.

2005-2006 Bert Remmerie, Faculty of Sciences, Ghent University.
Crystal structure of a glutathione-S-transferase from S. oneidensis.

2005-2006 Magali Boedt, Faculty of Sciences, Ghent University.
Expression and purification of adenylate kinase from *P. falciparum*.

PhD-THESIS EXAMINING COMMITTEES

2007 Jan Stout, Faculty of Sciences, Ghent University.
Structure-function studies of the thiosulfate binding SoxY protein of Chlorobium limicola f. thiosulfatophilum.

2006 Els Van Nimmen, Faculty of Engineering, Ghent University.
Correlations between physical and structural properties op spider silk.

2006 Karen Vandenbroucke, Faculty of Sciences, Ghent University
Functional and structural insights into three Glutathione S-transferases and a haloalkane dehalogenase from S. oneidensis.

2006 Hannes Iserentant, Faculty of Medicine and Health Sciences, Ghent University
Dissection of the interaction interface of the leptin/leptin receptor complex and insights into receptor activation.

2006 Dirk De Vos, Faculty of Sciences, Ghent University
Structural insights into extremozymes: a study of S. acidocaldarius and M. profunda aspartate carbamoyltransferases, and of P. halpoplanktis xylanase pXyl

2005 Debbie Van den Hemel, Faculty of Sciences, Ghent University.
Biochemical characterization and structure-function relationship of the four recombinant Old Yellow Enzyme homologues from S. oneidensis.

2005 Tom Desmet, Faculty of Sciences, Ghent University.
Structure-function relationships in O-glycoside hydrolases.

UNDERGRADUATE-THESIS EXAMINING COMMITTEES

2007 Jonathan Elegheert, Faculty of Sciences, Ghent University

Structure-function studies of mutants of an Old Yellow Enzyme homologue from S. oneidensis (SYE1).

2007 Nicholas Taylor, Ghent University and University College of London (UCL).
Towards protein complexes of the bacterial type-IV secretion system.

2007 Miet De Baere, Faculty of Bioscience Engineering, Ghent University.
Selection of new enzyme variants of cellobiose phosphorylase.

2006 Bert Remmerie, Faculty of Sciences, Ghent University.
Crystal structure of a glutathione-S-transferase from S. oneidensis

2006 Magalie Boedt, Faculty of Sciences, Ghent University
Expression and purification of adenylate kinase from P. falciparum.

2005 Kenneth Verstraete, Faculty of Sciences, Ghent University
Structure-function studies of human ATP-citrate lyase: a potential target for drug-design against metabolic disorders such as obesity.

2004 Elien Vandermarliere, Faculty of Sciences, Ghent University.
Structural studies of peroxiredoxin from H. influenza.