Pupa Gilbert's Publications

Books

P.U.P.A. Gilbert and Willy Haeberli "Physics in the Arts", Elsevier, accepted for publication in 2007.

Refereed Publications:

1. T. Parasassi, G. De Stasio, A. Miccheli, F. Bruno, F. Conti and E. Gratton, Abscisic Acid Induced Microheterogeneity in Phospholipid Vesicles. A Fluorescence Study, Biophys. Chem. **35**, 65-73 (1990).
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88. Mark A. Nicholls, G. Michael Bancroft, Masoud Kasrai, Peter R. Norton, Bradley H. Frazer, Gelsomina De Stasio. Improvement of PEEM images from thick inhomogeneous antiwear films using a thin Pt coating. Tribology Letters **18**, 453-462 (2005).

89. Gavin Pereira, Andreas Lachenwitzer, Mark A. Nicholls, Masoud Kasrai, Peter R. Norton, Gelsomina De Stasio. Chemical characterization and nanomechanical

properties of antiwear films fabricated from ZDDP on a near hypereutectic Al-Si alloy. Tribology Letters **18**, 411-427 (2005).

90. Gelsomina De Stasio, Deepika Rajesh, Patrizia Casalbore, Matthew J. Daniels, Robert J. Erhardt, Bradley H. Frazer, Lisa M. Wiese, Katherine L. Richter, Brandon R. Sonderegger, Benjamin Gilbert, Sebastien Schaub, Rachel J. Cannara, John F. Crawford, Mary K. Gilles, Tolek Tyliszczak, John F. Fowler, Luigi M. Larocca, Steven P. Howard, Delio Mercanti, Minesh. P. Mehta, and Roberto Pallini, Are Gadolinium Contrast Agents Suitable for Gadolinium Neutron Capture Therapy? Neurological Research **27**, 387-398 (2005).

91. Gelsomina De Stasio, Margaret A. Schmitt, Samuel H. Gellman, Spectromicroscopy at the Organic-Inorganic Interface in Biominerals, in Quantitative approaches towards biogeochemistry: processes, scaling and interfaces, invited book chapter, American Journal of Science **305**, 673-686 (2005).

92. P.U.P.A. Gilbert, Bradley H. Frazer and M. Abrecht. The organic-mineral interface in biominerals. Reviews in Mineralogy and Geochemistry. In: Molecular Geomicrobiology. Vol 59. JF Banfield, KH Nealson, J. Cervini-Silva (eds), Mineralogical Society of America, Washington DC, p 157-185 (2005).

93. Mark A. Nicholls, Peter R. Norton, G. Michael Bancroft, Masoud Kasrai, Gelsomina De Stasio, Lisa M. Wiese. Spatially resolved nanoscale chemical and mechanical characterization of ZDDP antiwear films on aluminum-silicon alloys under cylinder/bore wear conditions. Tribology Letters **18**, 261-278 (2005).

94. Gavin Pereira, Andreas Lachenwitzer, Mark A. Nichols, Masoud Kasrai, Peter R. Norton, and Gelsomina De Stasio. Chemical characterization and nanomechanical properties of antiwear films fabricated from ZDDP on a near hypereutectic Al–Si alloy. Tribology Letters **18**, 411-427 (2005).

95. Gelsomina De Stasio, Deepika Rajesh, Judith M. Ford, Matthew J. Daniels, Robert J. Erhardt, Bradley H. Frazer, Tolek Tyliszczak, Mary K. Gilles, Robert L. Conhaim, Steven P. Howard, John F. Fowler, François Estève, and Minesh P. Mehta. Motexafin-Gadolinium Taken Up in Vitro by at Least 90% of Glioblastoma Cell Nuclei, Clinical Cancer Research **12**, 206-213 (2006).

96. Gavin Pereira, Andreas Lachenwitzer, David Munoz-Paniagua, Masoud Kasrai, Peter R. Norton, Mike Abrecht, Gelsomina De Stasio. The role of the cation in antiwear films formed from ZDDP on 52100 Steel. Tribology Letters 23, 109-119 (2006).

97. Anirudha V. Sumant, David S. Grierson, Andrew R. Konicek, P. U. P. A. Gilbert, Mike Abrecht, James E. Butler, Tatyana Feygelson, Shlomo S. Rotter, Robert W. Carpick. Surface Composition, Bonding, and Morphology in the Nucleation and Growth of Ultra-thin, High Quality Nanocrystalline Diamond Films. Diamond and Related Materials, in press, Feb. 2007.

98. P. U. P. A. Gilbert and Willy Haeberli. Experiments on Subtractive Color Mixing with a Spectrophotometer. Am. J. Phys., in press March 2007.

Non-Refereed Publications

1. G. Margaritondo, F. Cerrina, Gelsomina De Stasio, C. Capasso, Scanning Photoelectron and Soft-X-Ray Microscopy, Workshop on Microscopy and Holography with Synchrotron Radiation, May 2-3 1990, Trieste Italy. Proceedings.
2. Gelsomina De Stasio and G. Margaritondo, Synchrotron Radiation Photoemission Spectromicroscopy and its Applications in Materials Sciences and in the Life Sciences, Atti della Prima Scuola Nazionale di Luce di Sincrotrone e Ricerca Chimica, Santa Margherita di Pula, Ed. Gilberto Vlaic, 1990.
3. Gelsomina De Stasio, Spectromicroscopia Fotoelettronica di Reti Neuronali, Atti della Seconda Scuola Nazionale di Luce di Sincrotrone e Ricerca Chimica, Santa Margherita di Pula, Ed. Gilberto Vlaic, 1992.
4. A. Cricenti, G. De Stasio, R. Generosi, P. Perfetti, M. T. Ciotti, D. Mercanti, I Neuroni su un Letto d'Oro, Sapere, Edizioni Dedalo, Dicembre 1994, p.37-40.
5. Gelsomina De Stasio, T. dell'Orto, F. Gozzo, D. Alfe', M. Bertolo, S. Fontana, M. T. Ciotti, D. Mercanti, C. Coluzza, P. Perfetti and G. Margaritondo, Imaging Photoelectron Spectromicroscopy: Biological and Materials Science Applications, Synchrotron Radiation News 7, 18-21 (1994).
6. Gelsomina De Stasio, Spettromicroscopia sui tacchi alti, Ricerca e Futuro, Rivista del Consiglio Nazionale delle Ricerche, Marzo 1998.
7. Gelsomina De Stasio, Synchrotron Radiation Spectromicroscopy: Imaging Toxic Elements in Neural Systems, Proceedings of the First International Conference on Life Science and Biotechnology, Tanaki Editor, Tokyo, p. 126-139 (1998)
8. Gelsomina De Stasio, Microchemical Analysis of Boron in Rat Brain Tumor: a Spectromicroscopy Study with MEPHISTO, X-Ray Microscopy and Spectromicroscopy, J. Thieme, G. Schmahl, D. Rudolph, E. Umbach Eds. Springer-Verlag, Heidelberg, p. 67- 75, (1998).
9. Gelsomina De Stasio, B. Gilbert, P. Perfetti, G. Margaritondo, D. Mercanti, M. T. Ciotti, P. Casalbore, L. M. Larocca, A. Rinelli, and R. Pallini, Frontiers of X-Ray Spectromicroscopy in Biology and Medicine: Gadolinium in Brain Cancer, in X-Ray and inner shell processes, R. Dunford et al. Eds, pp. 577-584, AIP Publishing, Chicago, 2000
10. Gelsomina De Stasio, B. Gilbert, P. Perfetti, G. Margaritondo, D. Mercanti, M. T. Ciotti, P. Casalbore, L. M. Larocca, A. Rinelli, and R. Pallini Gadolinium Uptake by Brain Cancer Cells: Quantitative Analysis with X-PEEM Spectromicroscopy for Cancer Therapy, in X-Ray Microscopy, Proceedings of the 6th International XRM99, Eds. W. Meyer-Ilse, T. Warwick, D. Atwood, AIP Conf. Proc. 507, p. 140-144, Melville, New York, 2000.
11. B. Gilbert, M. Neumann, S. Steen. D. Gabel, R. Andres, P. Perfetti, G. Margaritondo, and Gelsomina De Stasio, Immunohistochemistry for the MEPHISTO X-PEEM, Proceedings of the 6th International XRM99, Eds. W. Meyer-Ilse, T. Warwick, D. Atwood, AIP Conf. Proc. 507, p. 190-194, Melville, New York, 2000.
12. G. De Stasio, B. Gilbert, B. H. Frazer, P. Casalbore, D. Mercanti, M.T. Ciotti, S. Schaub, A. Rinelli, L.M. Larocca, and R. Pallini, New Perspective For GdNCT: Gd-DTPA Reaches the Nucleus of Glioblastoma Cells in Culture and in vivo,

Proceedings of the Ninth Intl. Symposium on Neutron Capture Therapy for Cancer, Osaka, Japan, October 2-6, 2000. p. 227-228.

13. B. Gilbert, G. De Stasio, R. Andres, M. Neumann, and D. Gabel, The Chemical State of BSH Following Administration to Patients with Glioblastoma Multiforme, Proceedings of the Ninth Intl. Symposium on Neutron Capture Therapy for Cancer, Osaka, Japan, October 2-6, 2000.
14. D. Mercanti, P. Casalbore, F. Sanità, F. Rosi, A. Festinesi, R. Pallini, B. Gilbert, G. De Stasio, Glioblastoma, Gadolinium(III) and NCT: an in vitro Study, Proceedings of the Ninth Intl. Symposium on Neutron Capture Therapy for Cancer, Osaka, Japan, October 2-6, 2000.
15. Gelsomina De Stasio, Testing a New Therapy for Brain Cancer, The Wisconsin Physicist **7** (1), p.12-14, 2001.
16. G. De Stasio, B. H. Frazer, B. Gilbert, B. Sonderegger, K. L. Richter, C. Salt, P. Casalbore, S. Howard, D. Rajesh, J. F. Fowler, M. P. Mehta, R. Pallini, D. Mercanti, New Criteria for GdNCT Agents, Proceedings of the 10th International Congress on Neutron Capture Therapy, Essen, Germany, Sep. 8-13, 2002, in "Research and Development in Neutron Capture Therapy", W. Sauerwein, R. Moss and A. Wittig Eds., Monduzzi, Bologna, 2002, p. 813-817.
17. B.H. Frazer, B.R. Sonderegger, B. Gilbert, K.L. Richter, C. Salt, L. Wiese, D. Rajesh, S.P. Howard, J.F. Fowler, M. P. Mehta and G. De Stasio, Mapping of Physiological and Trace elements with X-PEEM, proceedings of the 2002 X-ray Microscopy Conference, J. Phys. IV France **104**, 349-352 (2003).
18. R. Kinraide, C. J. Moore, K. D. Jacobs, M. Severson, M. J. Bissen, B. Frazer, J. J. Bisognano, R. A. Bosch, D. Eisert, M. Fisher, M. A. Green, C. T. Gundelach, R. W. C. Hansen, H. Höchst, R. L. Julian, R. Keil, K. Kleman, T. Kubala, R. A. Legg, B. Pedley, G. C. Rogers, J. P. Stott, D. J. Wallace, R. Wehlitz, L. M. Wiese, J. Taylor, J. C. Campuzano, and G. De Stasio, Current Status of the Synchrotron Radiation Center, Synchrotron Radiation Instrumentation, Synchrotron Radiation Instrumentation 2003, AIP Conference Proceedings, Edited by T. Warwick et al. Volume 705, Issue 1, pp.109-112 (2004).
19. R. Reininger, G. De Stasio, M. Bissen, M. Severson, An Undulator-Wiggler Beamline for Spectromicroscopy at SRC, Synchrotron Radiation Instrumentation 2003, AIP Conference Proceedings, Edited by T. Warwick et al. Volume 705, Issue 1, pp. 305-308 (2004).

Invited Presentations at International Conferences

1. Photoelectron Microscopy of Neurons, Synchrotron Radiation Microscopy and Holography Workshop, Trieste, 1990.
2. Photoemission Enters the Life Sciences, X-90, 15th International Conference on X- Ray and Inner-Shell Processes, Hot Topics, Knoxville, Tennessee, USA, 1990.
3. X-Ray Spectromicroscopies in the 1990's: a Novel Instrument in the Life Sciences, Third European Congress on Cell Biology, Firenze, 1990.
4. Photoelectron Spectromicroscopy in the Life Sciences, Italian National Research Council Meeting on Synchrotron Radiation at Trieste and Grenoble, CNR Rome, 1991.

5. Time Resolved Experiments in the Frequency Domain Using Synchrotron Radiation, 4th International Conference on Synchrotron Radiation Instrumentation, Chester, U. K., 15-19 July, 1991.

6. Photoelectron Spectromicroscopy in the Life Sciences, NATO Advanced Study Institute: New Directions in Research with Third-Generation Soft X-Ray Synchrotron Radiation Sources, Maratea, Italy, June 28 - July 10, 1992. **3 lectures**.

7. High Resolution Photoelectron Spectromicroscopy of Neuron Networks, Tenth International Conference on Vacuum Ultraviolet Radiation Physics, Paris, July 27-31, 1992.

8. Biological Spectromicroscopy with Synchrotron Radiation: Instrumentation Aspects, Fourth International Conference on Biophysics and Synchrotron Radiation, Satellite Meeting: Advanced SR Sources and Beamline Instrumentation for Biological Studies, Kobe, Japan, August 28-29, 1992.

9. Microscopia Fotoelettronica di Reti di Neuroni, II Scuola Nazionale di Luce di Sincrotrone e Ricerca Chimica, S. Margherita di Pula (CA), Italy, September 7-11, 1992.

10. Spectromicroscopy in Biophysics, Colloquia Patavina on "Aluminum in Chemistry Biology and Medicine, Padua, Italy, 1993.

11. Synchrotron Radiation Spectromicroscopy: Systematic Results, European Symposium on Frontiers in Science and Technology with Synchrotron Radiation, Aix-en-Provence, France, April 5-8 1994.

12. Synchrotron Radiation Spectromicroscopy: Imaging Toxic Elements in Neural Systems, First International Conference on Life Science and Biotechnology, Harima Science Garden City, Japan, November 8-9 1994.

13. Imaging Synchrotron Spectromicroscopy: the Local Chemistry of Materials Is no Longer a Mystery, Materials Research Society, 1996 Spring Meeting, San Francisco, April 8-12, 1996.

14. New Possibilities Opened by Synchrotron Spectromicroscopy in Neurobiology, Third International School and Symposium on Synchrotron Radiation in Natural Science '96, Jaszowiec, Poland, May 31 - June 8, 1996.

15. MEPHISTO: a Spectromicroscope for Microchemical Analysis of Life and Materials Science Systems, International Conference on X-Ray Microscopy and Spectromicroscopy, XRM 96, Würzburg, Germany, August 19-23, 1996.

16. Imaging Synchrotron Spectromicroscopy with MEPHISTO in Neurobiology, International School on Structural Techniques for Advanced Radiation Sources, Camerino, Italy, September 1996.

17. State of the Art Spectromicroscopy of Brain Cells, Conference on image processing and technology, Santa Barbara, CA, Dec. 9-11, 1996.

18. Imaging Photoelectron Synchrotron Spectromicroscopy of Neuron Systems with MEPHISTO, Review presentation in "Biological Microanalysis and Imaging", Scanning Microscopy 1997 Meeting, Chicago IL, May 10-15 1997.

19. Spectromicroscopy with MEPHISTO at the Synchrotron Radiation Center, 1997 Users Group Meeting, Synchrotron Radiation Center, University of Wisconsin-Madison, October 24-25 1997.

20. Why we need spectromicroscopy to cure brain cancer, Annual Symposium of the Florida Chapter of the American Vacuum Society and 16th Annual Meeting of the Florida Society for Microscopy, Orlando FL, February 23-26, 1998.

21. The MEPHISTO spectromicroscope reaches 50 nm spatial resolution, Scanning 98, Baltimore MD, May 9-12, 1998.

22. MEPHISTO: a novel synchrotron imaging photoelectron spectromicroscope, X-Ray Workshop of 1998 Microscopy Society of America Conference, Atlanta GA, July 16- 19, 1998.

23. Synchrotron spectromicroscopy for the optimization of brain cancer therapy, 1998 Gordon Conference, Henniker NH, July 26-29, 1998.

24. Introductory Remarks to the International Workshop on Spectromicroscopy, 1998 Users Group Meeting, Synchrotron Radiation Center, University of Wisconsin-Madison, October 23, 1998.

25. Synchrotron Imaging Photoelectron Spectromicroscopy with MEPHISTO at SRC, International Workshop on Spectromicroscopy, Synchrotron Radiation Center, University of Wisconsin-Madison, October 23-25, 1998.

26. My Suggestions for the Future of Research in Italy, Italian National Research Council Meeting on "Research, Innovation and Enterprise", Rome, Italy, November 23-24, 1998.

27. Frontiers Of X-Ray Spectromicroscopy In Biology And Medicine, 18th International Conference on X-ray and Inner-Shell Processes, X99, Chicago, Illinois, USA, August 23 - 27, 1999, Chicago, August 23-27, 1999.

28. Biophotonics, Physics Department Centennial, University of Wisconsin, Madison, WI, October 8-9, 1999.

29. Spectromicroscopy of Trace Elements in Biology and Medicine, Swiss Light Source Workshop, Brunnen, Switzerland, October 26-30, 1999.

30. PEEM: State of the Art and Future Directions for Microchemical Analysis in Biological and Materials Science Samples, Canadian Light Source Spectromicroscopy Workshop, Saskatoon, SK, Canada, November 14, 1999.

31. Synchrotron Spectromicroscopy: from Cancer Research to Materials Science, Emerging Techniques in Screening and Imaging Sciences Workshop, Madison WI, October 19, 2000.

32. Synchrotron Spectromicroscopy: from Cancer Research to Materials Science, Workshop on Emerging Techniques in Screening and Imaging Science, University of Wisconsin, Madison, October 19, 2000.

33. 20nm Microchemical Analysis with Synchrotron Light for Cancer Therapy and other Biomedicaal Problems, First International Biophotonics Symposium, Madison, WI, Aug. 19-21, 2001.

34. Gadolinium in glioblastoma cells and tissue for GdNCT, Biological Applications in Low and Intermediate Energy Synchrotron Radiation, ISA, University of Aarhus, Denmark, 3 - 6 October3-6, 2001.

35. X-ray spectromicroscopy of gadolinium in glioblastoma cells and tissue for GdNCT, Workshop on "Applications of Synchrotron Radiation in the Life Sciences", Saskatoon, Sasckatchewan, Canada, March 22-23, 2002.

36. Synchrotron Spectromicroscopy in Cancer Research and Geology, 11th International Conference on Solid Films and Surfaces - ICSFS-11, Marseille, France, July 8-12, 2002.

37. Micro-XANES of cells tissue and minerals, CAMD Workshop on Biological Applications of Synchrotron Radiation, Baton Rouge, LA, June 2-6, 2003

38. Knights of the Periodic Table, American Association of Physics Teachers, Madison, WI, August 4-6, 2003.

39. Recent SPHINX Results in Cancer Therapy and Geomicrobiology, 86th Conference of the Canadian Society for Chemistry and 39th Congress of the International Union of Pure and Applied Chemistry (IUPAC), Ottawa, Ontario Canada, August 10-15, 2003.

40. Iron at the L-edge: spectromicroscopy of Fe minerals and Fe oxidizing bacteria, American Geological Union, December 2003.

41. How synchrotron radiation can help cancer therapy and geomicrobiology, Second International Conference on Materials for Advanced Technologies (ICMAT 2003), Singapore, December 2003 (cancelled).

42. Detectors for experiments at synchrotron light sources. International Committee for Future Accelerators (ICFA), Instrumentation School, Rio de Janeiro, Brazil, December 2003 (cancelled).

43. Organic-inorganic templates in biomineralization. From Solid State to Biophysics II, Cavtat, June 26-July 2, 2004.

44. Spectromicroscopy of cells, tissues and minerals at the 10-100 nanometer scale. Frontier Science Using Soft X-Rays, Advanced Photon Source, Argonne, Il, August 5-6, 2004.

45. Cells, tissues and minerals: a fresh look with X-PEEM. Workshop on Frontiers in Soft X-ray, VUV and Infrared Research. The Pyle Center, Madison, WI, September 16-18, 2004.

46. Summary on the past, present and future of soft-x-ray spectromicroscopy. Workshop on Frontiers in Soft X-ray, VUV and Infrared Research. The Pyle Center, Madison, WI, September 16-18, 2004.

47. The organic-inorganic interface in biominerals: spectromicroscopy of templates at the molecular level, Tutorial invited talk, SRC Users' Meeting, October 15-16, 2004.

48. The past, present and future of soft-x-ray spectromicroscopy. Report from the Workshop on Frontiers in Soft X-ray, VUV and Infrared Research. Workshop on Frontiers in Soft X-ray, VUV and Infrared Research. SRC Users' Meeting, October 15-16, 2004.

49. Biophotonics in cancer therapy. Wisconsin life Sciences and Venture Conference, Inside the Labs at UW-Madison, Where Science Spawns Novel Therapies. Monona Terrace, Madison, WI, Nov. 16-17, 2004.

50. Analysis with a Synchrotron X-Ray Microscope. Symposium on Microspectroscopic Characterization of Materials Using Synchrotron Radiation, Pittsburgh Conference 2005, Orlando, FL, Feb. 27-March 4, 2005.

51. Organic-inorganic templates in biomineralization of shells, bone, teeth, and bacterial biofilms. American Physical Society March Meeting, Los Angeles, CA, March 21-25, 2005.

52. Curing incurable cancers. Celebrating Women in Science Symposium, University of Wisconsin at Madison, Chemistry Department, April 9, 2005.

53. Organic-inorganic interface in biominerals. 2005 Meeting of the Microscopical Society of Canada, McMaster University, Hamilton, Ontario, Canada, May 18-20, 2005.

54. The organic-inorganic interface in biominerals. Imaging Nanoscale Structure in Biominerals: New Results and Challenges, National Synchrotron Light Source, May 23, 2005.

55. What photoelectron spectromicroscopy could do for paleontology and archaeology. Synchrotron Radiation Techniques in Palaeontology and Archaeology Workshop, Canadian Light Source, Saskatoon, Sasketchewan, November 19, 2005

56. The organic-mineral interface in biominerals. Mineralogical Society of America, short course on Molecular Geomicrobiology, Berkeley, CA, Dec 3-4, 2005.

57. Soft-x-ray spectromicroscopy of pristine tissues: biominerals, prions and cancer therapies. "Molecular Form and Function: Probing Intact Tissues using Synchrotron Light" Workshop, Canadial Light Source, University of Saskatoon, Saskatchewan, Canada, June 16, 2006.

58. High-resolution spectromicroscopy of proteins and biominerals. Frontier Applications of X-Ray Science in Biology with an ERL X-Ray Source, Cornell University, Ithaca, New York, June 21-22, 2006.

59. X-PEEM in Nanobiology and Nanomedicine. PhotoElectron Emission Microscopy (PEEM) Workshop, Diamond Light Source, Oxfordshire, UK, July 11-12, 2006.

60. XANES in Nanobiology. 13th International Conference on X-ray Absorption Fine Structure (XAFS13). Stanford University, Stanford, California, USA, July 9-14, 2006.

61. P.U.P.A. Gilbert, Rebecca A. Metzler, Mike Abrecht, Ronke M. Olabisi, Daniel Ariosa, Christopher J. Johnson, Bradley H. Frazer, Susan N. Coppersmith. Crystallographic Order and Disorder in Nacre. Poster selected as **Hot Topic** for invited plenary presntation. Gordon Research Conference on Biomineralization, Colby-Sawyer College, New London, New Hampshire, July 30 - August 4, 2006.

62. X-ray linear dichroism in biominerals. Canadian Chemistry Conference, Winnipeg, Manitoba, May 26-30, 2007.

Contributed Presentations at International Conferences

1. Phospholipid vesicles phase domains interconversion detected by the time evolution of laurdan emission, FEBS '89, Rome Italy, July 1989.

2. A photophysical model for 1,6 - diphenyl - 1,3,5 - hexatriene decay, FEBS '89, Rome Italy, July 1989.

3. Photoelectron microimaging and reduction x-ray lithography tests with MAXIMUM at Wisconsin, March Meeting of the American Physical Society, Anaheim, California, USA, 1990.

4. Neuron Networks: High-Resolution Scanning Photoelectron Microscopy with MAXIMUM, Fourth International Conference on Biophysics and Synchrotron Radiation, Tsukuba, Japan, August 30-September 5, 1992.

5. PLASTQUE: A Synchrotron Radiation Beamline for Time Resolved Fluorescence, Fourth International Conference on Biophysics and Synchrotron Radiation, Satellite Meeting: Advanced SR Sources and Beamline Instrumentation for Biological Studies, Kobe, Japan, august 28-29, 1992.

6. Photoemission Spectromicroscopy of Neurons, Fourth International Conference on Biophysics and Synchrotron Radiation, Tsukuba, Japan, August 30-September 5, 1992.

7. Synchrotron radiation spectromicroscopy: application in neurobiology, Engineering Foundation Symposium on Nanofabrication and Biosystems, Hawaii, May 1994.

8. Local Chemistry of Neuron Systems. 1994 SRC User's Group Meeting, Stoughton, WI, USA, 1994.

9. Boron Uptake In Neural Systems, 5th International Conference on Biophysics and Synchrotron Radiation, Grenoble, August 1995.

10. An Electron Imaging Approach To Soft-X-Ray Transmission Microscopy In Biophysics, 5th International Conference on Biophysics and Synchrotron Radiation, Grenoble, August 1995.

11. Synchrotron Spectromicroscopy: Results In Neurobiology, 5th International Conference on Biophysics and Synchrotron Radiation, Grenoble, August 1995.

12. Gelsomina De Stasio, T. Droubay, G. F. Lorusso, R. Andres, D. Mercanti, M. T. Ciotti and G. Margaritondo, Brain cell cultures after Incineration: Their Chemical

Composition as Revealed by Synchrotron Spectromicroscopy, Seventh International Symposium on Neutron Capture Therapy for Cancer, 4-7 September 1996, Zurich, E-35.

13. Gelsomina De Stasio, G. F. Lorusso, R. Andres, D. Mercanti, M. T. Ciotti and G. Margaritondo, A Synchrotron Spectromicroscopy Study of Boron Uptake by Brain Cells, Seventh International Symposium on Neutron Capture Therapy for Cancer, 4-7 September 1996, Zurich, H-5.

14. Gelsomina De Stasio, D. Mercanti, M. T. Ciotti, A. Cricenti, R. Generosi, P. Perfetti and G. Margaritondo, AFM of Decapped and Undecapped Neurons in Primary Culture, in "Scanning Probe Microscopy of Intact Cells", Scanning Microscopy 1997 Meeting, Chicago IL, May 10-15 1997.

15. Gelsomina De Stasio, P. Perfetti, B. Gilbert, G. Margaritondo, R. Pallini, P. Casalbore, D. Mercanti, M. T. Ciotti, Gadolinium Uptake by Brain Cancer Cells: Quantitative Analysis with X-PEEM Spectromicroscopy for Cancer Therapy, X-Ray Microscopy and Microanalysis XRM99, Berkeley, CA, August 2-6, 1999.

16. Gelsomina De Stasio, P. Perfetti, B. Gilbert, G. Margaritondo, Charging Artifacts in X- PEEM. First Spectromicroscopy Proof of Their Origin. X-Ray Microscopy and Microanalysis XRM99, Berkeley, CA, August 2-6, 1999.

17. Microlocalization of Gd in Cell Nuclei: Key for the Success of Brain Cancer Therapy, ICESS 8, Berkeley, CA, August 8-12, 2000.

18. The Multidisciplinarity of Spectromicroscopy: from Geomicrobiology to Archaeology, ICESS 8, Berkeley, CA, August 8-12, 2000.

19. New Perspective For GdNCT: Gd-DTPA Reaches the Nucleus of Glioblastoma Cells in Culture and in Vivo. Ninth Intl. Symposium on Neutron Capture Therapy for Cancer, Osaka, Japan, October 2-6, 2000.

20. Gadolinium Neutron Capture Therapy, Canadian Chemical Society, Montreal, Canada, May 30, 2001.

21. Gelsomina De Stasio, B. Gilbert, B. H. Frazer, T. Franz, C. Koziol, E. Bauer, The new X-PEEM at SRC Reaches 5.5 nm Resolution, 12th US National Synchrotron Radiation Instrumentation Conference, Madison, WI, Aug. 22-24, 2001.

22. Gelsomina De Stasio, B. H. Frazer, B. Gilbert, S. Schaub, Delio Mercanti, Patrizia Casalbore, L. M. Larocca, A. Rinelli, M. P. Mehta, and Roberto Pallini, Tumor-Specific Intracellular Delivery of Gadolinium in Glioblastoma, 43rd annual meeting, American Society for Therapeutic Radiology and Oncology, San Francisco, CA, November 4-8, 2001.

23. G. De Stasio, B. H. Frazer, B. Gilbert, S. Schaub, D. Mercanti, P. Casalbore, L. M. Larocca, A. Rinelli, M. P. Mehta, and R. Pallini, Tumor-Specific Intracellular Delivery of Gadolinium in Glioblastoma, Society of Neuro-Oncology, Sixth Annual Meeting, Washington, DC, November 15-18, 2001.

24. G. De Stasio. Reevaluating GdNCT intranuclear delivery of Gd in glioblastoma cells and tissues, 10th International Congress on Neutron Capture Therapy, Essen, Germany, Sep. 8-13, 2002.

25. G. De Stasio, B. H. Frazer, B. Gilbert, A. Cavosie and J. W. Valley. Microanalysis of inclusion in 4.4 Ga zircon, Short Course of the Mineralogical Society of America, Zircon: Experiments, Isotopes and Trace Element Investigations, Freiburg, Germany, April 3-4, 2003.

26. G. De Stasio, B. H. Frazer, B. Gilbert, A. Cavosie and J. W. Valley. Identification of sub-micrometer silicate inclusions in Archean zircons with a new nano-XANES technique: synchrotron spectromicroscopy, European Geophysical Society-American Geological Union and European Union of Geology Joint Assembly Nice, France, April 6- 11, 2003.

Seminars

1. Biological Membranes Structure and Dynamics as Revealed by Time Resolved Fluorescence, Dept. of Physics, University of Cagliari, Italy, 1988.
2. Scanning Tunneling Microscopy: Application to Biological Specimens, ENEA-Casaccia, Rome, Italy, 1988.
3. Synchrotron Radiation Techniques Applied To Solve Biological Problems, Societa' Sincrotrone di Trieste, Italy, 1990.
4. Photoelectron Spectromicroscopy Of Neuron Networks, Frascati, Rome, Italy, 1990.
5. Danni Indotti su Eritrociti da Basse dosi di Radiazioni Ionizzanti, Frascati, Roma, 1990.
6. Photoelectron Spectromicroscopy on Neuron Networks: Detection of Trace Elements by XSEM, Trieste, Italy, 1992.
7. Photoelectron Spectromicroscopy on Neuron Networks: Al and Cr Can Be Located, Centro di Studio per la Fisiologia e la Biochimica delle Emocianine e di Altre Metallo- Proteine, University of Padua, Italy, 1993.
8. Photoelectron Spectromicroscopy on Neuron Networks, Paul Scherrer Institute, Villigen, Switzerland, 1993.
9. Synchrotron Radiation Spectromicroscopy of Neural Systems, Academia Sinica, Taipei, Taiwan, September 1994.
10. Synchrotron Spectromicroscopy: Possible Applications, University of Nebraska, April 1995.
11. State of the Art Spectromicroscopy in Neurobiology, Paul Scherrer Institut, Villigen, Switzerland, January 1997.
12. Photoelectron Spectromicroscopy with Synchrotron Radiation: Principles and Application to Element Mapping in Biological Samples, Dept. Chemistry, University of Bremen, Germany, April 1997.
13. State of the Art Spectromicroscopy in Neurobiology, Physical Science Laboratory (PSL) Colloquia, University of Wisconsin-PSL, July 1997.
14. Synchrotron Spectromicroscopy, Jet Propulsion Laboratory/California Institute of Technology, March 27, 1998.
15. Synchrotron Spectromicroscopy in Biophysics, Northwestern University, Evanston, Illinois, April 1, 1998.
16. Synchrotron Spectromicroscopy in the Life Sciences, California Institute of Technology, May 4, 1998.
17. Synchrotron spectromicroscopy: a complicated name for a very simple technique that can solve so many problems in science!, Italian Science Seminar, Institute of Culture, Italian Embassy, London, UK, June 3, 1998.

18. Synchrotron spectromicroscopy of Biosystems, Northern Illinois University, Dept. of Physics, November 6, 1998.

19. Spectromicroscopy: Breaking the Boundaries between Disciplines, University of Wisconsin, Madison, March 5, 1999.

20. Spectromicroscopy: Breaking the Boundaries between Disciplines, Montana State University, Bozeman, Montana, June 4, 1999.

21. Hard-X-Ray PEEM: a Good or a Bad Idea?, Advanced Photon Source, Argonne National Laboratory, Argonne, Illinois, December 20, 1999.

22. Spectromicroscopy: Life and Materials Science Are Using it. What's Next? The Canadian Light Source!, University of Manitoba, Winnipeg, Manitoba, Canada, April 7, 2000.

23. Microchemical Analysis of Brain Cancer, Bacteria and Rocks: the Synergy of Spectromicroscopy, Portland State University, Sigma Xi Seminar, Department of Science, Portland, OR, April 13, 2000.

24. Synchrotron Spectromicroscopy: How Medicine, Biology and Physics Can Benefit from a "Physics Technique", Portland State University, Department of Science, Portland, OR, April 14, 2000.

25. Spectromicroscopy at SRC, NSF site visit for M$25, 5 year grant renewal for the UW- Synchrotron Radiation Center, May 2000.

26. Synchrotron Spectromicroscopy: how medicine, biology and physics can benefit from a "physics technique", University of the Basque Country, Department of Physics, San Sebastian, Spain, June 30, 2000.

27. Microimaging of Gd in Glioblastoma cells and tissues, Imaging and Radiation Sciences Seminar, Department of Human Oncology, University of Wisconsin, Madison, WI, July 18, 2000.

28. Introductory Seminar on biophotonics for new Graduate Students in Physics, UW-Physics Department, September 7, 2000.

29. Gadolinium Neutron Capture Therapy, SyMBiosis Interdisciplinary Seminar, UW Medical Sciences, September 14, 2000.

30. Physics and Medicine Get Together to Cure Brain Cancer, Chaos and Complex Systems Seminar, University of Wisconsin - Madison, November 21, 2000.

31. The interdisciplinarity of spectromicroscopy: Cancer research, geomicrobiology, geology and archaeology, UW-Madison, Bio-Medical Engineering, Jan. 29, 2001.

32. Gadolinium Microimaging for Gd Neutron Capture Therapy (GdNCT), UW-Madison, Medical Physics, Feb. 5, 2001.

33. Physics and Medicine Get Together to Cure Brain Cancer, UW-Madison Physics Colloquium, March 23, 2001.

34. Low Energy Synchrotron Light in Environmental Science may be better, Meeting of the Environmental Scientists in the Midwest, Synchrotron Radiation Center, Stoughton, WI, Aug. 14, 2001.

35. Synchrotron microchemical analysis to cure brain cancer and unravel the mysteries of early Earth, Biophysical chemistry talk, UW-Madison, Department of Chemistry, October 24, 2001.

36. Biophysics, Introductory Seminars for first year graduate students in Physics and Physics majors, UW-Madison, October 26, 2001.

37. Microchemistry at the UW-Synchrotron Radiation Center, UW-Madison, Department of Chemistry, March 18, 2002.

38. Spectromicroscopy at SRC, Deans Outside Review Committee, UW-Synchrotron Radiation Center, April 2002.

39. Creativity across disciplines, Creativity Panel - University of Wisconsin Undergraduate Symposium 2002, Madison, WI, April 18, 2002.

40. Biophysics, Introductory Seminars for first year graduate students in Physics and Physics majors, UW-Madison, October 24, 2002.

41. Knights of the Periodic Table, Biological Imaging Lectrures, Madison, WI, October 7, 2003.

42. A new therapy for brain cencer. Faculty Coterie, University Club, Madison, WI, October 14, 2003.

43. Biophysics, Introductory Seminars for first year graduate students in Physics and Physics majors, UW-Madison, November 21, 2003.

44. Multidisciplinary Science at SRC: Past, Present and Future, Dean's Outside Review Committe, site visit at SRC, Feb. 27, 2004.

45. Gadolinium Neutron Capture Therapy, University of Wisconsin Comprehensive Cancer Center Retreat, March 6, 2004.

46. The SRC, our science, and where we stand compared to other synchrotrons, talk to the SRC staff, March 11, 2004.

47. Why blue and yellow don't make green: simplifying light, color, and color mixing, Center for the Integration of Research, Teaching and Learning, Delta Round Table, University of Wisconsin, Madison, Red Gym, March 23, 2004.

48. Multidisciplinary Science at SRC: Present and Future, NSF Intermin Review Committee's site visit at SRC, March 30, 2004.

49. X-Ray Photoelectron Emission Spectromicroscopy reveals that Polysaccharides Template Assembly of Nanoscale Crystal Fibers, Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences, Fuzhou, Republic of China, May 24, 2004.

50. Organic-Inorganic Templates, seminar for NSF-REU students, UW-SRC, July 20, 2004.

51. Mother of pearl: an exceptionally tough biomineral, seminar for NSF-REU students, UW-SRC, July 1, 2005.

52. Spectromicroscopy in Nanobiology and Nanomedicine. Advanced Light Source and Center for X-Ray Optics seminar, Advanced Light Source, Berkeley, California, June 7, 2006.