



## Vanderlei Salvador Bagnato



**Date of Birth** 28 September 1958

**Place** Sao Carlos (Brazil)

**Nomination** 27 September 2012

**Field** Physics and Material Science Engineering

**Title** Professor

### Most important awards, prizes and academies

SRE Scientific Prize 2011, IV Simpósio de Reabilitação Esportiva USP-RP; Personalidade da Tecnologia Prize 2011, Sindicato dos Engenheiros no Estado de São Paulo – SEESP; Physics Prize 2010 of the CBPF, Centro Brasileiro de Pesquisas Físicas; Galeno Prize 2010 for Work with Humans, Faculdade de Medicina de Ribeirão Preto – USP; Paulo Freire Prize 2009, elected best professor of 2008 by the students of the Degree in Exact Sciences 2005, Instituto de Física de São Carlos; Official Guest of the Town Council of Ilha Solteira 2009; Horácio Carlos Panepucci Prize 2008, best professor of 2007, IFSC/USP, São Carlos, Instituto de Física de São Carlos; Marco da Paz Trophy 2008, CONSEG - Conselho de Segurança do Estado de São Paulo / ACISC; Abilux Empresarial de Design Prize 2007; Commander of the National Order of Scientific Merit 2007, Presidency of the Republic of Brazil; Troféu Executivo / Personalidade Trophy 2005 – Imprensa Dr. Mário de Cico Trophy, 2005 edition, Associação de Bocha Feminino de São Carlos; Diploma of Public Recognition 2005, for work in science, Poder Legislativo São-carlense; 24th José Reis Prize 2004 for Scientific Diffusion, CNPq; Imprensa Trophy 2003, with the tribute of the Government of the State of São Paulo, Associação de Bocha Feminino de São Carlos; José Favoretto ZI Trophy 2003 e Comenda do Governo do Estado de São Paulo, Associação de Bocha Feminino de São Carlos; Tribute of the Federal Senate in the person of Senator Pedro Simon, 2003, Associação de Bocha Feminino de São Carlos; Imprensa Trophy 2000 – Oscar São-carlense – Scientist of the Year, Cidade de São Carlos, Associação de Bocha Feminino de São Carlos; 2001 Distinguished Citizen of Cidade de São Carlos, Câmara Municipal de São Carlos; Excellence Award in Meteorology 2001, Sociedade Brasileira de Metrologia; First Prize in Science and Technology of São Carlos, 2000, Prefeitura Municipal de São Carlos / Secret. Munic. de Ciência, Tecnol. e Desenvolv. Econômico; CPFL PLUS Prize 1994 in recognition of scientific work carried out in Physics, CPFL; Gleb Wataghin Prize 1988 for Young Researchers – Fundação de Amparo à Pesquisa do Estado de São Paulo/FAPESP; Tribute for the awarding of the Gleb Wataghin Prize 1988, Instituto de Física e Química de São Carlos / USP; First place in the 1980 competition for scientific work IV CBECIMAT; Young Paulista Scientists Prize 1976, Rotary Club São Carlos; Comendador Trophy 1975, Instituto de Educação Dr. Álvaro Guião. Academies: Member, Brazilian Academy of Sciences, 2005; Adjunct Faculty Member at PIEAS, Pakistan Institute of Engineering and Applied Sciences, 2008; Member, Third World Academy of Sciences (TWAS), 2009; Corresponding Member, Academia Paraense de Ciências, Belém, Pará, 2009; Member, Technical Scientific Council CTC, National Observatory, Rio de Janeiro, 2010.

### Summary of scientific research

Professor Bagnato's activities are based on laser cooling and trapping of neutral atoms and applications of optics and laser to health science. He has pursued pioneering work in the field of atomic and molecular physics with worldwide recognition. He has studied Quantum Turbulence involving atomic superfluid, and time and frequency metrology with the construction and evaluation of the first atomic clock developed in Latin America and the first pilot plant for the production of high precision microscopes. Recently the research group under his guidance implemented for the first time in Brazil the clinical use of Photo-Dynamic-Therapy for the treatment of cancer and microbiological control. A strong relation between basic research and industry is one of the characteristics of the work carried out by Bagnato, resulting in the implementation of high technology industries

in the field of optics. During his academic life, he has supervised over 60 graduate students and he is presently supervising 21 graduate students involved in several research programs as well as many undergraduates. He maintains close international relations with many institutions around the world. Diffusion of science organizing a special TV channel and public exhibitions are part of his activity.

### **Main publications**

Professor Bagnato has published over 350 papers in international journals with more than 3000 citations. Books: Bagnato, V.S., Perussi Filho, S., Milori, D.M.B.P., Martin Neto, L., Ferreira, E.C., Pereira, F.M.V., Castro Neto, Jarbas Caiado de, Yasuoka, F.M.M., Ribeiro, F.M., *Óptica e Fotônica: Da Ciência à evolução e as perspectivas no pólo tecnológico de São Carlos*. 1. ed. São Carlos: Compacta Gráfica e Editora, 2009. v. 1. 221p.; Bagnato, V.S., *Laser: e suas aplicações em ciência e tecnologia*. 1. ed. São Paulo: Livraria da Física, 2008. v. 1. 87p.; Bagnato, V.S., *Novas técnicas ópticas para as áreas da saúde*. 1. ed. São Paulo: Livraria da Física, 2008. v. 1. 239p.; Marcassa, L.G. (Org.); Bagnato, V.S. (Org.), Helmerson, K. (Org.), *Atomic Physics 19: XIX International Conference on Atomic Physics, ICAP 2004*. 1. ed. Melville, NY: American Institute of Physics, 2005. v. 1. 414p; Marcassa, L.G. (Org.), Telles, G.D. (Org.), Muniz, S.R. (Org.), Bagnato, V.S. (Org.). *International Conference on Atomic Physics, 19: abstracts of contributed papers*. São Paulo: 2004. v. 1. 281p; Telles, G.D. (Org.), Bagnato, V.S. (Org.), Marcassa, L.G. (Org.). *Workshop on Mixtures of Ultracold Atoms: abstracts*. São Carlos: 2004. v. 1. 46p.; Bagnato, V.S., Nunes, F.D., *Comunicação óptica - uma visão para o futuro*. Editora Renovarum Ltda, 2002. v. 1. 100p.; Bagnato, V.S., Marcassa, L.G., Marcassa, J.C., Cestari, G., Ferreira, J., Kurachi, C., *Guia prático de terapia fotodinâmica pra o tratamento de tumores*. 1. ed. São Carlos: IFSC/USP, 2002. v. 1.