

## Curriculum vitae

Aldo F. Craievich

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**Name:** Aldo Felix Craievich

**Date and place of birth:** February 21, 1939, Zavalla, Santa Fé, Argentina

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### Titles

-Bachelor in Physics, Instituto Balseiro, Universidad Nacional de Cuyo, Bariloche, Argentina (1964).

-PhD in Physics, Instituto Balseiro, Universidad Nacional de Cuyo, Bariloche, Argentina (1969).

Thesis work performed at Laboratoire de Physique des Solides, Orsay, France (1966/1969).

-"Livres-Doctores", Instituto de Física e Química de São Carlos, Universidade de São Paulo, São Carlos-SP, Brazil (1974).

### Professional history

-1965-1969: Assistant Professor, Department of Physics, Institute of Mathematics, Astronomy and Physics (IMAF), National University of Córdoba, Argentina.

-1970-1972: Adjoint Professor, IMAF, Córdoba, Argentina.

-1973-1974: "Professor Doutor", Institute of Physics and Chemistry of São Carlos, University of São Paulo (IFQSC-USP), São Carlos-SP, Brazil.

-1975-1978: "Professor Livres-Doctores", IFQSC-USP, São Carlos-SP, Brazil.

-1979-1985: Associate Professor, IFQSC-USP, São Carlos-SP, Brazil.

-1982-1986: Full Researcher, Brazilian Center of Physical Research (CBPF), Rio de Janeiro-RJ, Brazil.

-1987-1997: Full Researcher, National Synchrotron Light Laboratory (LNLS), Campinas-SP, Brazil.

-1987-2009: Full Professor (MS-6), Institute of Physics, USP, São Paulo-SP, Brazil.

-Current position: "Professor Colaborador", Institute of Physics, USP, São Paulo-SP, Brazil.

### Administrative duties

1987-1997: Adjoint Director and Head of the Scientific Department, National Synchrotron Light Laboratory (LNLS), Campinas-SP, Brazil.

2002-2006: Head of the Department of Applied Physics, Institute of Physics, University of São Paulo.

2007-2008: President of the Committee of Research, Institute of Physics, University of São Paulo.

### Distinctions

- Research Fellow (Maximum level - IA) of the Brazilian National Science Council, CNPq (1990...).
- Member of the Academy of Sciences of São Paulo State (1980-...).
- Distinction of the Brazilian Society of Crystallography “for his contribution to the development of the National Synchrotron Light Laboratory (LNLS)”, Brazilian Society of Crystallography (July, 2000).
- Distinction of LNLS staff and users “for his important contribution to the creation, implantation and development of this Brazilian center of research” , National Synchrotron Light Laboratory (November, 1997).
- Mercosur Price of Science and Technology - 2004, RECYT/UNESCO and Brazilian Ministry of Science and Technology (May, 2005).
- Distinction of LNLS users community “as an acknowledgment to his fruitful work for the development of LNLS ” (LNLS, February, 2010).

### Current activities

- “Professor Collaborador”, Institute of Physics, University of São Paulo, São Paulo - SP, Brazil.
- Research Fellow - 1A (maximum level), CNPq-MCT-Brazil.

**Total number of published articles: ~ 250. ISI citations: ~ 2.450. h index : 24**

### List of recent articles (last three years)

#### 2008

1. “Interleukin-22 forms dimers that are recognized by two interleukin-22R1 receptor chains”. M. de Oliveira Neto, J.R. Ferreira Jr, D. Colau. H. Fischer, A.S. Nascimento, A.F. Craievich, L. Dumoutier, J.C. Renaud, I. Polikarpov. *Biophysical Journal*, 94, 1754-1765 (2008).
2. “Crystal structure and local order of nanocrystalline zirconia-based solid solutions”. I.O. Fábregas, D.G. Lamas, L.M. Acuña, N.E. Walsøe de Reca, A.F. Craievich, M.C.A. Fantini, R.J. Prado. *Powder Diffraction*, 23, S46-55 (2008)
3. “High temperature X-ray powder diffraction study of the tetragonal-cubic phase transition in nanocrystalline, compositionally homogeneous ZrO<sub>2</sub>-CeO<sub>2</sub> solid solutions”. L.M. Acuña, R.O. Fuentes, D.G. Lamas, I.O. Fabregas, N.E. Walsøe de Reca, A.F. Craievich. *Powder Diffraction*, 23, S70-74 (2008).
4. “Synchrotron X-ray powder diffraction study of the tetragonal-cubic phase transition in nanostructured ZrO<sub>2</sub>-Sc<sub>2</sub>O<sub>3</sub> solid solutions”. P.A. Abdala, D.G. Lamas, M.E. Fernandes de Rapp, N.E. Walsøe de Reca, A.F. Craievich. *Powder Diffraction*, 23, S87-90 (2008).
5. “Synchrotron X-ray powder diffraction and extended X-ray absorption fine structure spectroscopy studies on nanocrystalline ZrO<sub>2</sub>-CaO solid solutions”. I. O. Fábregas, D. G. Lamas, N. E. Walsøe de Reca, M. C. A. Fantini, A.F. Craievich and R. J. Prado. *Journal of Applied Crystallography*, 41, 680-89 (2008).
6. “All-optical switching device for infrared based on PbTe quantum dots”. E. Rodriguez, G. Kellermann, A.F. Craievich, E. Jimenez, C.L. Cesar and L.C. Barbosa. *Superlattices and Microstructures*, 43, 626-634 (2008).
7. “Melting and freezing of spherical bismuth nanoparticles confined in a homogeneous sodium borate glass”. G. Kellermann and A.F. Craievich. *Physical Review B*, 054106 (2008).

8. "Growth and melting of metallic clusters in glass. A review of recent investigations". G. Kellermann, A.F. Craievich. *Crystallography reports* 53, 1241-1251 (2008).

## 2009

9. "Crystalline structure of human enamel irradiated with Er,Cr:YSGG laser". L. Bachmann, K. Rosa, P.A. da Ana, A.F. Craievich. *Laser Physics Letters* 6, 159-162 (2009).

10. "Effects of synthesis conditions on the nanostructure of hybrid sols produced by the hydrolytic condensation of (3-methacryloxypropyl) trimethoxysilane". C.V. Santilli, V.H.V. Sarmento, K. Dahmouche, S.H. Pulcinelli, A.F. Craievich. *Journal of Physical Chemistry C* 113, 14708-14714 (2009).

11. "Metastable phase diagram of nanocrystalline ZrO<sub>2</sub>-Sc<sub>2</sub>O<sub>3</sub> solid solutions". P.M. Abdala, A.F. Craievich, M.C.A. Fantini, M.L.A. Temperini, D.G. Lamas. *Journal of Physical Chemistry C*, 113, 18661-18666(2009).

12. "Metastable phase diagram of nanocrystalline ZrO<sub>2</sub>-Sc<sub>2</sub>O<sub>3</sub> solid solutions". P.M. Abdala, A.F. Craievich, M.C.A. Fantini, M.L.A. Temperini, D.G. Lamas. *Journal of Physical Chemistry C*. 113, 18661-18666 (2009).

## 2010

13. "Local atomic structure in tetragonal pure ZrO<sub>2</sub> nanopowders". L.M. Acuña, D.G. Lamas, R.O. Fuentes, I. O. Fabregas, M.C.A. Fantini, A.F. Craievich, R.J. Prado. *Journal of Applied Crystallography*. 43, 227-236 (2010).

14. "Crystallite size-dependent phases in nanocrystalline ZrO<sub>2</sub>-Sc<sub>2</sub>O<sub>3</sub>". P.M. Abdala, M.C.A. Fantini, A.F. Craievich, D.G. Lamas. *Physical Chemistry Chem. Phys.* 12, 2822-2829 (2010).

15. "Local atomic structure in tetragonal pure ZrO nanopowders". L. M. Acuña, D.G. Lamas, R.O. Fuentes, I.O. Fábregas, M.C.A. Fantini, A.F. Craievich, R.J. Prado. *Journal of Applied Crystallography*. 43, 227-236 (2010).

16. "Determination of the molecular weight of proteins in solution from a single small-angle X-ray scattering measurement on a relative scale". H. Fischer, M. de Oliveira Neto, H.B. Napolitano, I. Polikarpov, A.F. Craievich. *Journal of Applied Crystallography*. 43, 101-109 (2010).

17. "Retention at room temperature of the tetragonal t-form in Sc<sub>2</sub>O<sub>3</sub>-doped ZrO<sub>2</sub> nanopowders". P.M. Abdala, D.G. Lamas, M.C.A. Fantini, A.F. Craievich. *Journal of Alloys and Compounds*. 495, 561-564 (2010).

18. "Structure of PbTe(SiO<sub>2</sub>)/SiO<sub>2</sub> multilayers deposited on Si(111)". G. Kellermann, E. Rodriguez, E. Jimenez, C. L. Cesar, L. C. Barbosa, A. F. Craievich. *Journal of Applied Crystallography*. 43, 385-393 (2010).