

Below please find publications coming out of the PHOCUS project or being related to it.

- [Parallel photonic information processing at gigabyte per second data rates using transient states](#) , D. Brunner, M. C. Soriano, C. R. Mirasso and I. Fischer.

*15 Jan 2013, DOI: 10.1038/ncomms2368 / NATURE COMMUNICATIONS*

- [Optoelectronic reservoir computing: tackling noise-induced performance degradation](#) , M. C. Soriano, S. Ortín, D. Brunner, L. Larger, C. R. Mirasso, I. Fischer and L. Pesquera.

*14 Jan 2013, Vol. 21, No. 1 / OPTICS EXPRESS 12*

- [Photonic Nonlinear Transient Computing with Multiple-Delay Wavelength Dynamics](#) , R. Martinenghi, S. Rybalko, M. Jacquot, Y. Chembo, L. Larger.

*2012, Vol.108, 244101 / PHYSICAL REVIEW LETTERS*

- [Reservoir computing based on delay-dynamical systems](#) , PhD thesis by Lennert Appeltant.

*May 2012, Vrije Universiteit Brussels / Universitat de les Illes Balears*

- [Photonic information processing beyond Turing: an optoelectronic implementation of reservoir computing](#) , L. Larger, M. C. Soriano, D. Brunner, L. Appeltant, J. M. Gutierrez, L. Pesquera, C. R. Mirasso and I. Fischer.

*30 January 2012 / Vol. 20, No. 3 / OPTICS EXPRESS 3241*

- [Information processing using a single dynamical node as complex system](#) , L. Appeltant, M.C. Soriano, G. Van der Sande, J. Danckaert, S. Massar, J. Dambre , B. Schrauwen, C.R. Mirasso 2 & I. Fischer.

*13 Sep 2011 / DOI: 10.1038/ncomms1476 / NATURE COMMUNICATIONS*

- [Synchronization transitions in coupled time-delay electronic circuits with a threshold nonlinearity](#) , K. Srinivasan, D. V. Senthilkumar, K. Murali, M. Lakshmanan, and J. Kurths.

*CHAOS 21, 023119 (2011)*

- [Applying the Multivariate Time-Rescaling Theorem to Neural Population Models](#) , Felipe Gerhard, Robert Haslinger and Gordon Pipa.

*NEURAL COMPUTATION 23, 1452–1483 (2011)*

- [A new look at gamma? High- \(>60 Hz\) g-band activity in cortical networks: Function, mechanisms and impairment](#) , Peter J. Uhlhaas, Gordon Pipa, Sergio Neuenschwander, Michael Wibral, Wolf Singer.

*March 2011 / Volume 105, Issues 1-2 / PROGRESS IN BIOPHYSICS AND MOLECULAR BIOLOGY*

- [Permutation-information-theory approach to unveil delay dynamics from time-series analysis](#) , L. Zunino, M. C. Soriano, I. Fischer, O. A. Rosso, and C. R. Mirasso.

*PHYSICAL REVIEW E 82, 046212 (2010)*

- [Time Scales of a Chaotic Semiconductor Laser with Optical Feedback Under the Lens of a Permutation Information Analysis](#) , Miguel C. Soriano, Luciano Zunino, Osvaldo A. Rosso, Ingo Fischer, and Claudio R. Mirasso.

*IEEE JOURNAL OF QUANTUM ELECTRONICS, Vol. 47, No. 2, February 2011.*

- [Dynamics of Nonlinear Time-Delay Systems](#) , M. Lakshmanan and D.V. Senthilkumar.

*2011. XVII, 313 p. 8, DYNAMICS*

- [Extraction of network topology from multi-electrode recordings: is there a small-world effect?](#) , Felipe Gerhard, Gordon Pipa, Bruss Lima, Sergio Neuenschwander and Wulfram Gerstner.

*07 February 2011, Volume 5, Article 4, FRONTIERS IN COMPUTATIONAL NEUROSCIENCE.*

- [PHOCUS on reservoir computing](#)

Compute Scotland, <http://www.computescotland.com/phocus-on-reservoir-computing-3104.php>

- [Experimental confirmation of chaotic phase synchronization in coupled time-delayed electronic circuits](#) , D. V. Senthilkumar, K. Srinivasan, K. Murali, M. Lakshmanan, and J. Kurths.

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- [Practical time-delay synchronization of a periodically modulated self-excited oscillators with uncertainties](#) , F. M. Moukam Kakmeni,<sup>1</sup> S. Bowong, D. V. Senthikumar, and J. Kurths.

*CHAOS 20, 043121 (2010)*

- [Current reversals and synchronization in coupled ratchets](#) , U. E. Vincent, A. Kenfack, D. V. Senthilkumar, D. Mayer, and J. Kurths.

*PHYSICAL REVIEW E 82, 046208 (2010)*

- [Characteristics and synchronization of time-delay systems driven by a common noise](#) , D.V. Senthilkumar and J. Kurths.

*THE EUROPEAN PHYSICAL JOURNAL, SPECIAL TOPICS 187, 87–93 (2010)*

- [Nonlocal Nonlinear Electro-Optic Phase Dynamics Demonstrating 10 Gb/s Chaos Communications](#) , Roman Lavrov, Maxime Jacquot, and Laurent Larger.

*IEEE JOURNAL OF QUANTUM ELECTRONICS, VOL. 46, NO. 10, OCTOBER 2010*

- [Global phase synchronization in an array of time-delay systems](#) , R. Suresh,<sup>1</sup>, D. V. Senthilkumar, M. Lakshmanan and J. Kurths.

*PHYSICAL REVIEW E 82, 016215 (2010)*

- [Scaling and synchronization in a ring of diffusively coupled nonlinear oscillators](#) , D. V. Senthilkumar, P. Muruganandam, M. Lakshmanan and J. Kurths.

*PHYSICAL REVIEW E 81, 066219 (2010)*

- [Synchronization properties of network motifs: Influence of coupling delay and symmetry](#) , O. D'Huys, R. Vicente, T. Erneux, J. Danckaert and I. Fischer.

*CHAOS 18, 037116 (2008)*

- [Optoelectronic chaos](#) , Laurent Larger and John M. Dudley.

*NATURE | Vol 465 | 6 May 2010*

- [Dynamics, correlation scaling, and synchronization behavior in rings of delay-coupled oscillators](#) , Guy Van der Sande, Miguel C. Soriano, Ingo Fischer and Claudio R. Mirasso.

*PHYSICAL REVIEW E 77, 055202(R) (2008)*