CURRICULUM VITAE

NAME	LOUODOP FOTSO Patrick Hervé
ADDRESS	University of Dschang, Faculty of Sciences, Department of Physics, Research Unit on Condensed Matter Electronics and Signal Processing (URMACETS), P.O.BOX: 67 Dschang Cameroon
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MARITAL STATUS	Married + 04 Children
DATE and PLACE OF BIRTH	04-04-1981 Bafoussam Cameroon
PASSPORT N°.	AA146410 *Date of issue*: 16/02/ 2022, Valid *up to*: 16/02/ 2027, *Place of issue*: Bafoussam
DOMICILE	Foto – Dschang - Cameroon
FIELDS OF INTEREST	Nonlinear Dynamics: Chaos, Bifurcation, Control and Synchronization Complex Systems : Networks, Electronic circuits, Biological systems
SUPERVISORS/ADVISORS	*Prof. Hilda Alicia CERDEIRA* (Brazil) *Prof. FOTSIN Hilaire Bertrand* (Cameroon) *Prof. Fernando FAGUNDES FERREIRA* (Brazil) *Prof. BOWONG Samuel and Prof. WOAFO Paul* (Cameroon)
MEMBERSHIP	*2018 – 2021: Cameroon Academy of Young Scientists (CAYS)* *2021 – Nowadays: American Physical Society (APS)*

ACADEMY COURSES

Postdoctoral position: Instituto de Fisica teorica/UNESP, ICTP-SAIFR (Fapesp 2011//11973-4), Brazil Ap. 2015 – Ap. 2017
Doctorat/PhD: *"On the nonlinear controllers based synchronization of chaotic systems and their application in secure communication: Influence of perturbations and delays". Dept. of Physics* University of Dschang Oct. 2009 – Sept. 2014
M.Sc. Physics: *"Control and synchronization of chaos in tunnel diode based chaotic systems". Dept. of Physics* University of Dschang Oct. 2006 – Sept. 2008
B.Sc. Physics.. *Dept. of Physics* University of Dschang Oct. 2004 – Sept. 2005

JOB EXPERIENCE

Since December 2019	Associate Professor in the Department of Physics of the University of Dschang, Cameroon.
Ap. 04 – May 04 2019	Short Term Visit to Condensed Matter and Statistical Physics (CMSP) section of the International Centre for Theoretical Physics (ICTP), Italy
Oct. 2018 – Oct. 2021	Member of the Cameroon Academy of Young Scientists (CAYS)
May 2015 – Dec. 2019	Senior Lecturer in the Department of Physics of the University of Dschang, Cameroon.
Ap. 2015 – Ap. 2017	Postdoctoral position at the Institute od Theoretical Physics (IFT) of Sao Paulo State University (UNESP), Brazil (***ICTP-SAIFR (Fapesp 2011//11973-4)***).
Feb. 2012 - Dec. 2015	*Assistant Lecturer* in the Department of Physics of the University of Dschang, Cameroon.
March 2010 - Dec. 2011	Technical and Teaching Assistant in the department of Physics of the University of Dschang, Cameroon.
Domains of interest	1 – Nonlinear Dynamics: Synchronization, Control theories, Ecological and biological dynamics (Control of expansion) and Epidemiological systems (Control of expansion) 2 – Networks: Collective and coherent motion, Chimera states, Mobile systems and Swarmalators

TEACHING EXPERIENCE

Neuronal Networks	2021 – Nowadays
Graph theory	2018 – Nowadays
Automatics	2014 – 2015, 2017 – 2020
Magneto – statics and quasi – steady state	2012 – 2015
Electrostatics and steady state	2012 – 2015, 2017 – 2021
Dynamical systems and chaos	2021 – 2022
Linear and continuous control	2021 – Nowadays
Electronics	2012 – 2015, 2017 – Nowadays

FORMER PhD STUDENTS

NJOUGOUO Thierry – Sainclair (2021) ***In Postdoc in Namur Universty in Belgium***	*Contribution to network analysis : dead zones, amplification and Optimal control*
SIMO Gaël Rosain (2022) ***In Postdoc in Cluj Napoca University in Roumania***	*Contribution to neuronal network analysis : Chimera state and electromagnetic*
FONKOU Rodrigue Fatou (2022)	*Dynamical behaviors of Vander Pol based pacemaker models under periodic excitations : theoretical studies and experimental simulation by microcontroller*

CONFERENCES / SCHOOLS

01	May 16 – 20, 2022	Online participation to the international workshop on Chimera States : From Theory and Experiments to Technology and Living Systems. In the Max Planck Institute for the Physics of Complex Systems (MPIPKS) in Dresden Germany. **Poster :** Chimera state in neuronal network under the action of an electrical field
02	November 25 ¬ 30, 2019	**Local Organizer** of the International Conference: «High Level Physics and Appropriate Solutions to real Life Problems in Developing Countries », 6^{TH} Edition, University of Dschang , Cameroon.
03	May 06 – 18, 2019	Participation in the "School and Workshop on Patterns of Synchrony: Chimera States and Beyond" at the Abdus Salam International Centre for Theoretical Physics (ICTP), in Trieste Italy. **Talk title:** "Coherent motion of chaotic attractors – Application of the leader – follower scheme in some living dynamics"
04	May 07-11, 2018	Participation to the international conference: "Conference on Collective Behavior" at the Abdus Salam International Centre for Theoretical Physics (ICTP), in Trieste Italy. **Poster:** Chimera dynamics in coupled Fitzhugh Nagumo oscillators based network
05	December 04¬08, 2017	Participation to the International Conference: «High Level Physics and Appropriate Solutions to real Life Problems in Developing Countries », 5^{TH} Edition, Yaoundé, Cameroon. **Talk title:** *"Coherent motion of chaotic attractors"*.
06	March 06¬12, 2017	Invited for a visit and seminar by Prof. Pablo BELENZUELA of the Universidad de Buenos Aires Argentina. **Talk title:** *"Coherent motion of chaotic attractors"*
07	January 24¬28, 2017	Invited for a visit and seminar by Prof. Luis A, AGUIRRE of the Federal University of Minas Gerais. **Talk title:** *"Chimera in a ring of Colpitts oscillators"*, Belo Horizonte Brazil.
08	Oct. 24 – Nov. 01, 2016	Participation to the conference Dynamics Days Latin America and the Caribbean, Puebla, Mexico. **Talk title:** *"Synchronization dynamics in modified relay-coupled systems"*

09	October 04 – 08, 2016	Participation to the workshop on Multistability and tipping: From th mathematics and Physics to Climate and Brain, Max-Planck-Institut for Complex systems Physics, Germany.
10	May 16 – 20, 2016	Participation to the "6 th International Conference on Nonlinear Science and Complexity", INPE Sao José dos Campos-Brazil. **Talk title:** *"Synchronization dynamics in modified relay-coupled systems"*
11	Sept. 28 – Oct. 16, 2015	Participation to School on Complex Networks and Neuroscience, IFT/UNESP, Brazil. **Talk title:** *"Synchronization dynamics in modified relay-coupled systems"*
12	July 20 – 31, 2015	Invited to the School on Mathematical Modeling and Analysis of Complex Systems, Naivasha, Kenya organised by the International Centre of Pure and Applied Mathematics. **Talk title:** *"Dynamics of relay-coupled systems and application to biology"*
13	May 5 – 7, 2015	Participation to the 1st NeuroMat Young Researchers Workshop, May, 5 to 7-Sao Paulo, Brazil.
14	June 30 – July 11, 2014	Participation to the Hands-On Research in Complex Systems School (SMR 2591) of the International Center of Theoretical Physics (ICTP), 30/06/2014 - 11/07/2014 at Trieste, Italy.
15	November 25 – 29, 2013	Participation to the International Conference: «High Level Physics and Appropriate Solutions to real Life Problems in Developing Countries », 3rd Edition, 25-29 November 2013, Yaoundé, Cameroon organized by the Cameroonian Physical Society (CPS). **Talk itle:** *"A new nonlinear controller for finite-time synchronization of Lorenz chaotic systems"*
16	Oct. 31 – Nov. 11, 2011	Participation to the International School on Non-linear Dynamics in Complex Systems organized by the Abdus Salam International Centre for Theoretical Physics. **Talk title:** "*Synchronization of uncertain multi-delayed Diode-modified Chua's oscillators using a combination of bounded nonlinear and sliding mode couplings*."

REFEREE OF THE JOURNALS

Mathematical Problems in Engineering (Hindawi Publishing corporation), Physica Scripta (PHYSSCR), Nonlinear Dynamics (NODY), Journal of Vibration and Control (JVC), IEEE Transactions on Systems, Man and Cybernetics: Systems, IEEE Transactions on Circuits and Systems II: Express Briefs.

PUBLICATIONS

Qty	Years	Papers references
3	2022	1- Synchronization in a multilevel network using the Hamilton-Jacobi-Bellman (HJB) technique, *Thierry Njougouo, Victor Camargo, Patrick Louodop, Fernando Fagundes Ferreira, Pierre K. Talla, and Hilda A. Cerdeira*, Chaos 32, 093133 - (2022); 2- Dynamical behavior of cardiac conduction system under external disturbances: simulation based on microcontroller technology, *Rodrigues Fonkou, Patrick Louodop, Pierre K. Talla*, Physica Scripta. DOI: 10.1088/1402-4896/ac47ba 3- Analysis of the dynamics of new models of nonlinear systems with state variable damping and elastic coefficients, *R. F. Fonkou, Patrick. Louodop, P. K. Talla and P. Woafo, Heliyon, DOI :* 10.1016/j.heliyon.2022.e10112
5	2021	1- Chimera states in a neuronal network under the action of an electric field, *Gael R. Simo, Thierry Njougouo, R. P. Aristide, Patrick Louodop, Robert Tchitnga and Hilda A. Cerdeira, Physical Review E* 00, 002300 (2021)

		2- Traveling chimera patterns in two-dimensional neuronal network, *Gael R. Simo, Patrick Louodop, Dibakar Ghosh, Thierry Njougouo, Robert Tchitnga and Hilda A. Cerdeira, Physics Letters A* 409, 127519 (2021) 3- Van der Pol equation with sine nonlinearity : dynamical behavior and real time control to a target trajectory, *Rodrigue Fonkou, Patrick Louodop, Pierre K. Talla and Paul Woafo, Physica Scripta*. DOI : 10.1088/1402-4896/ac19cd (2021) 4- Dynamic Behavior of Pacemaker Models Subjected to a Arterial Pressure Excitation Simulator: Theoretical and Experimental Study by Microcontroller, *Rodrigue Fonkou, Patrick Louodop, Pierre K. Talla and Paul Woafo, Brazilian Journal of Physics*. DOI :10.1007/s13538-021-00967-8 (2021) 5- Network of Mobile systems: Mutual influence of oscillators and agents, *Venceslas Nguefoue, Thierry Njougouo, Patrick Louodop, Hilaire Fotsin, Hilda A. Cerdeira, European Physics Journal Special Topics* doi.org/10.1140/epjs/s11734-021-00355-y
9	2020	1- Various firing activities and finite-time synchronization of an improved Hindmarsh–Rose neuron model under electric field effect, *K. Marcel Wouapi, B. Hilaire Fotsin, Patrick Louodop, K. Florent Feudjio, Z. Tabekoueng Njitacke and T. Hermann Djeudjo, Cognitive Neurodynamics*, doi.org/10.1007/s11571-020-09570-0 2- Non periodic oscillations, bistability, coexistence of chaos and hyperchaos in the simplest resistorless Op-Amp based Colpitts oscillator, *R. Zebaze Nanfa'a, R. Tchitnga, Patrick. Louodop, R. Kengne, F.C. Talla, B. Nana and F.B. Pelap, Heliyon* 6 (2020) e0348223456789 3- Chimera dynamics in an array of coupled FitzHugh-Nagumo system with shift of close neighbors, *Guy Blondeau Soh, Patrick Louodop, Romanic Kengne, Robert Tchitnga, Heliyon* 6 (2020) e03739 4- Unexpected Behaviors in a Single Mesh Josephson Junction Based Self-Reproducing Autonomous System, *F. Calvin Talla, Robert Tchitnga, Patrick Louodop, Romanic Kengne, Bonaventure Nana and Anaclet Fomethe, International Journal of Bifurcation and Chaos*, Vol. 30, No. 7 (2020) 2050097 (24 pages), DOI: 10.1142/S0218127420500972 5- Effects of intermittent coupling on synchronization, *Thierry Njougouo, Gaël R. Simo, Patrick Louodop, Hilaire Fotsin and Pierre K. Talla, Chaos, Solitons and Fractals* 139 (2020) 110082, DOI: 10.1016/j.chaos.2020.110082 6- Nonlinear Resonances Phenomena in a Modified Josephson Junction Model, *Nguenang Pernel, Sandrine Takam Mabekou; Patrick Louodop, Arthur Tsamouo and Martin Tchoffo, Chinese Physics B*, DOI: 10.1088/1674-1056/aba9cd 7- Dynamics of Rössler oscillators in star network with a central node controlled by an external system, *Thierry Njougouo, Gaël R. Simo, Patrick Louodop, Fernando Fagundes Ferreira, Pierre K. Talla, Nonlinear Dynamics,* 1-11 (2020), DOI: 10.1007/s11071-020-06047-x 8- Quantum Interferometry for Different Energy Landscapes in a Tuneable Josephson Junction Circuit, *Pernel Nguenang, M. N. Jipdi, Patrick Louodop, Martin Tchoffo, Lukong Cornelius Fai, Hilda A. Cerdeira, Journal of Applied Mathematics and Physics* (2020), 8, 2569-2600 9- Dynamics of multilayer networks with amplification, *Thierry Njougouo, Victor Camargo, Patrick Louodop, Fernando Fagundes Ferreira, Pierre K. Talla and Hilda A. Cerdeira, Chaos* **30**, 123136 (2020); DOI: 10.1063/5.0025529
2	2019	1- Extreme multistability in a Josephson-junction-based circuit, *Patrick Louodop*, Robert Tchitnga, Fernando F. Fagundes, Michaux Kountchou, V. Kamdoun

		Tamba, Carlos L. Pando, and Hilda A. Cerdeira, *Physical Review E* 99, 042208 (2019) 2- Complex dynamic behaviors in a new Colpitts oscillator topology based on a voltage comparator, M. Kountchou, V.R. Folifack Signing, R.L. Tagne Mogue, J. Kengne, *Patrick. Louodop* and Saïdou, *AEU - International Journal of Electronics and Communications* 116, (2020) 153072
2	2018	1. Synchronization dynamics of modified relay-coupled chaotic systems, *Patrick Louodop, Elie B. Megam Ngouonkadi, Paulsamy Muruganandam and Hilda A. Cerdeira, Journal of Applied Nonlinear Dynamics 7(1) (2018) 11-24* 2. A novel hyperchaotic three-component oscillator operating at high frequency, *R. Tchitnga, B.A. Mezatio, T. Fonzin Fozin, R. Kengne, P.H. Louodop Fotso and A. Fomethe, Chaos, Solitons and Fractals 118 (2019) 166–180*
3	2017	1. Coherent libration to coherent rotational dynamics via chimera like states and clustering in josephson junction array, *Arindam Mishra, Suman Saha, Chittaranjan Hens, Prodyot K. Roy, Mridul Bose, Patrick Louodop, Hilda A. Cerdeira and Syamal K. Dana, Physical Review E* 95, 010201(R) (2017). 2. Spatial splay states in coupled map lattices and Josephson junction arrays, *Joydeep Singha, Valerie Tchuyang, Patrick Louodop, Hilda A. Cerdeira, Robert Tchitnga, Neelima Gupte, Indian Academy of Sciences Conference Series* (2017) 1:1. 3. Coherent motion of chaotic attractors, *Patrick Louodop, Suman Saha, Robert Tchitnga, Paulsamy Muruganandam, Syamal K. Dana and Hilda A. Cerdeira. Physical Review E* 96, 042210 (2017).
4	2016	1. Noise effects on robust synchronization of a small pacemaker neuronal ensemble via nonlinear controller: electronic circuit design, *Elie Megam, Hilaire Fotsin, Martial Kabon and Patrick Louodop, Cognitive Neurodynamics* 10(5), 2016. 2. Optimal synchronization of a memristive chaotic circuit, *Michaux Kountchou Noube, Patrick Louodop, Samuel Bowong, Hilaire Fotsin and Jurgen Kurths, International Journal of Bifurcation and* Chaos Volume 26, Issue 06, 2016. 3. Analog circuit design and optimal synchronization of a modified Rayleigh system, *Michaux Kountchou Noube, Patrick Louodop, Samuel Bowong and Hilaire Fotsin, Nonlinear Dynamics* Vol.85(1) (2016) 399–414. 4. Bifurcation and multistability in the extended Hindmarsh-Rose neuronal oscillator, *Elie B. Megam N, Hilaire Fotsin, Patrick Louodop, Victor Kamdoum and Hilda Cerdeira, , Chaos, Solitons and Fractals* 85 (2016) 151–163.
4	2015	*1.* Chaos in a single Op-amp based Jerk circuit: experiments and simulations, *Robert Tchitnga, Tekou Nguazon, Patrick Louodop, Jason A.C. Gallas,* DOI:10.1109/TCSII.2015.2483218, *IEEE Transactions on Circuits and Systems II: Express Briefs* 2. A novel high-frequency interpretation of a general purpose Op-Amp-based negative resistance for chaoticvibrations in a simple a priori non chaotic circuit, *Robert Tchitnga, Raoul Zebaze Nanfa'a, Francois Beceau Pelap, Patrick Louodop and Paul Woafo, Journal of Vibration and Control, DOI: 10.1177/1077546315585424, 1-8, 2015.* 3. A magnetic coupling based strategy for Synchronization of a System Consisting of chaotic Modified Van der Pol-Duffing Oscillators, *Lucas K. Kana, Anaclet Fomethe, Hilaire B. Fotsin and Patrick Louodop, Journal of Nonlinear Dynamics, Volume 2014, Article ID 635925, 9 pages.* 4. *Optimization of the synchronization of a class of chaotic systems: combination of sliding mode and feedback control, Michaux Kountchou Noube, Patrick Louodop, Samuel Bowong and Hilaire Fotsin, Int. J. of Nonlinear Dynamics and Control (Accepted in November 2015)*
5	2014	1. Implementing a Memristive Van Der Pol Oscillator Coupled to a Linear Oscillator: Synchronization and Application to Secure Communication, *E B Megam Ngouonkadi, H B Fotsin and P Louodop Fotso, Physica Scripta* 89(2014) 035201. 2. Optimization of the synchronization of the modified Duffing system, *Michaux Kountchou Noube, Patrick Louodop, Samuel Bowong and Hilaire Fotsin, Journal*

		of Advanced Research in Dynamical and Control Systems, Vol. 6, Issue. 2, 2014, pp. 25-48. 3. The combined effect of dynamic chemical and electrical synapses in time-delay-induced phase-transition to synchrony in coupled bursting neurons, *Elie Bertrand Megam Ngouonkadi, Hilaire Fotsin, Patrick Louodop Fotso, International Journal of Bifurcation and Chaos*, Vol. 24, No. 5, 1450069 (16 pages), *2014.* 4. Finite-time synchronization of tunnel diode based chaotic oscillators, *Patrick Louodop, Hilaire Fotsin, Michaux Kountchou, Elie B. Megam Ngouonkadi, Hilda A. Cerdeira and Samuel Bowong, Physical Review E, 89, (2014)032921(11pp).* 5. Practical finite-time synchronization of jerk systems: Theory and experiment, *Patrick Louodop, · Michaux Kountchou, Hilaire Fotsin and Samuel Bowong, Nonlinear Dynamics, Vol.78, Issue. 1, 2014, pp.597-607.*
4	2013	1- A robust observer design for passivity-based synchronization of uncertain modified Colpitts oscillators and circuit simulation, *Kammogne, S. T., Fotsin, H. B., Kountchou, N. M. and Louodop, H. P. Asian Journal of Science and Technology Vol. 5, Issue, 1, pp. 029-041, January, 2013.* 2- Effective synchronization of a class of Chua's chaotic systems using an exponential feedback coupling, *Patrick Louodop, Hilaire Fotsin, Elie Megam, Samuel Bowong, Hilda A. Cerdeira, Abstract and Applied Analysis Volume 2013, Article ID 483269, 7 pages.* 3- Synchronization of simplest two-component Hartley's chaotic circuits: influence of channel, *Robert Tchitnga, Patrick Louodop, Hilaire Fotsin, Paul Woafo and Anaclet Fomethe. Nonlinear Dynamics, Vol. 74, Issue. 4, 2013, pp. 1065-1075.* 4- Finite-time synchronization of Lorenz chaotic systems: Theory and Circuits, *Patrick Louodop, Hilaire Fotsin, Michaux Kountchou and Samuel Bowong, Physica Scripta 88(2013) 045002(8pp).*
3	2012	1- A strategy for adaptive synchronization of an electrical chaotic circuit based on nonlinear control, *Patrick Louodop, Hilaire Fotsin and Samuel Bowong, Physica Scripta 85(2012) 025002(6pp)* 2- Hartley's oscillator: The simplest chaotic two-component circuit, *Robert Tchitnga, Hilaire Bertrand Fotsin, Bonaventure Nana, Patrick Hervé Louodop Fotso, Paul Woafo, Chaos, Solitons & Fractals 45 (2012) 306–313.* 3- Adaptive time-delay synchronization of uncertain chaotic systems with disturbances using a nonlinear feedback coupling, *Patrick Louodop, Hilaire Fotsin and Samuel Bowong, Soup tewa Kammogne Journal of vibration and control. Journal of Vibration and Control Vol. 20(6) 815–826, 2014. (Accepted 10 2012 and finally published in 2014).*

Extra-Curricular Activities

Repairing television sets, Grafting of mango and avocado trees, diverse trees nurseries and cultures, Fabrication of beehives, the crop and the commercialization of honey and Hobbies: Book Reading, Various sports, Drawer, painter, Music, Comics trips and animated cartoons

Collaborators and references

NAMES	ADDRESS	EMAILS	PHONES
Pr. Hilda Alicia CERDEIRA	Instituto de Fısica Teorica-UNESP, Universidade Estadual Paulista, Rua Dr. Bento Teobaldo Ferraz 271, Bloco II, Barra Funda, 01140-070 S˜ao Paulo, SP, Brazil.	hilda.cerdeira@unesp.br	+55(11)98288-0568

Pr. Syamal DANA	CSIR-Indian Institute of Chemical Biology, Jadavpur, Kolkata 700032, India.	syamaldana@gmail.com	+91 9433580742
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