CURRICULUM VITAE

Name: **NANA**

Forename: **Bonaventure**

Born: **1**4 January 1973

At: Kekem

Nationality: Cameroonian

Study area: PHYSICS

Specialty 1:   ELECTRONICS

Specialty 2:   MATERIAL SCIENCES

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EDUCATION:

❖ **2008/2010.** Stand-in at the University of Yaoundé I, University of Bambili and at the Université des Montagnes of Bagangté.

❖ **2008** Ph.D. Thesis, «*SYNCHRONIZATION IN A NETWORK OF VAN DER POL ELECTRICAL OSCILLATORS. APPLICATION FOR CHAOTIC MASKING OF TELECOMMUNICATION AND POWER GENERATORS*»**.** University of Yaoundé I, Department of Physics. LaMSEBP.

❖ **2004/2007** Ph.D student and Stand-in at the University of Yaounde I, Faculty of sciences, Department of physics.

❖ **2002/2004** Ph.D student and Monitor at the University of Dschang, Faculty of sciences, Department of physics.

❖ **2000/2001** Diploma with Thesis ''D.E.A'' of Physics, « OPTIMISATION DES STRUCTURES DES ISOMÈRES DU C_{20} » Department of Physics, Faculty of Science, University of Yaoundé I, Cameroon. Option: Material Sciences. Grade: Good.

❖ **1999/2000**: Master's Degree in Physics (MS.c), « RÔLES DES QUASIPARTICULES DANS LES CORPS CONDENSÉS » Department of Physics, Faculty of Science, University of Yaoundé I, Cameroon. Option: Material Sciences. Grade: Good.

❖ **1997/1998:** Bachelor's Degree Diploma of Physics, Department of Physics, Faculty of Science, University of Dschang, Cameroon. Option Electronics. Grade: Good.

LANGUAGES

French   Oral: Good   Written: Good

English Oral: Average   Written: Average

German   Oral: School   Written: School

AREAS OF SPECIALIZATION

➢ Material Sciences

- Electronic Properties of Novel Materials - Molecular Nanostructures.
- Stability, electronic structure and reactivity of the polymerized fullerene.
- Simulations and Optimization of the atoms and molecules Cluster.
- Nanoelectronics and Semiconductors improvement.
- Quasiparticles interactions and materials properties.
- Bio photonic and lasers.

➢ Electronics

- Synchronization of coupled electronic oscillators.
- Chaotic Masking of communications using electronic devices and lasers.
- DSP Technology and Electric Motors Control.
- Nonlinear Electromechanical Devices, Robotic and Automatic Systems.
- Telecommunication, Network design and installation.
- Electric power optimization and renewable energies.
- Power electronics.
- Digital electronics.

➢ General Study

- Modeling and simulations.
- Applied Physics.
- Nonlinear systems dynamics, Numerical method and programming.
- Optic fiber, nervous fiber and biological signal analysis.
- Neuronal network.

TRIPS AND TRAINNING COURSES

o **March 1994** - Douala International airport (Monitor room and other installations)

o **March 1994** – Cimencam Cameroon Society at Douala (General Visit in the company).

o **July-September 1994** – Cameroon Breweries at Douala (electric (Installations).

o **February-August 1999** - Edea Hydroelectric dam (Power-factor improvement and power lines multiplication).

o **Avril 2001-October 2002** – (CRTv) Cameroon Radio Television (Maintenance of equipments, reception, treatment and signals emission).

PRATICAL COMPETENCES
Electronics

➢ Skilled in tracing schematics diagrams, analyzing circuits and troubleshooting many types of problems.

➢ AC/DC, A/D theories and Microwave/RF experience OJT instruction-electronics.

➢ Test and measurement equipment, scopes, spectrum analyzers, DVMs, signal generators and frequency counters, etc.

➢ Performed repair on electronic equipment, i.e. powers supplies, CCTV, microwave tx/rx, lmr, TV, VCR, CD players, and Microwave ovens.

➢ Repair, install, and program cellular phone and LMR equipment.

➢ Microprocessors and Pics programming.

➢ Installation, configuration, maintenance of routers and switches (Cisco), servers, VoIP, VLAN, VPN, Firewall (Guardogg, Sygate, IpCop), Wifi, Intranet, Ethernet

Informatics

➢ Repair computer, Network cabling, sites Web Construction, Software Construction.

➢ JetDirect print servers, DEC terminal servers, ADSL, Cable, ISDN.

Electricity

➢ Domestic and Industrial installations.

➢ Electric Motors protection and rewinding.

INFORMATIC KNOWLEDGE
Languages:

Microsoft Office (Word, Excel, Power point, Publisher), Latex, Turbo Pascal; Fortran 77 and 90; Matlab, Maple, Electronics Workbench, Wgnuplot, Mosaic, Pspice, Proteus, Java, JavaScript, XML, CSS, Dreamweaver, Flash, Director, ToWeb, Audacity, others…

Operating systems:

Unix (Linux, Solaris, FreeBSD, Mac OS-X), Windows (9X, ME, NT/2000, XP, Server 2003, Vista), VMS, MS-DOS.

Other applications:

Netscape, Mozilla Firefox, Internet Explorer, Google, Yahoo, others…

SCIENTIFIC PUBLICATIONS

1. J. C. CHEDJOU, J. P. DADA, B. NANA, C. TAKENGA, K. KYAMAKYA: **"HARMONNIC OSCILLATIONS, ROUTES TO CHAOS AND SYNCHRONIZATION IN A NONLINEAR EMITTER-RECEIVER SYSTEM". IEEE**

2. J. C. CHEDJOU, J. P. DADA, B. NANA, C. TAKENGA, K. KYAMAKYA: **"CHAOTIC MODULATION AND DEMODULATION IN UWB COMMUNICATION. AND POSITIONING SYSTEMS". IEEE**

3. J. C. Chedjou , J. P. Dada , R. Tchitnga, C. Takenga, R. Anne, B. Nana, K. Kyamakya "***On the Evaluation of Analog Simulation of the Dynamics of Nonlinear Systems for Communication***". Proceedings of the 60th IEEE Vehicular Technology Conference (IEEE VTC 2004-Fall), September 26-29, 2004, Los Angeles, California, USA.

4. B. NANA AND P. WOAFO**: "*SYNCHRONIZATION IN A RING OF FOUR MUTUALLY COUPLED VAN DER POL OSCILLATORS: THEORY AND EXPERIMENT*". PHYS. REV. E. 74, 046213 (2006).

5. B. NANA AND P. WOAFO**: "*POWER IN AN ARRAY OF VAN DER POL OSCILLATORS COUPLED BY A RESONAN CAVITY»* Physica A 387 (2008) 3305–3313.

6. B. NANA, P. WOAFO AND S. DOMNGANG**: "*CHAOTIC SYNCHRONIZATION WITH EXPERIMENTAL APPLICATION TO SECURE COMMUNICATIONS".* Commun Nonlinear Sci Numer Simulat 14 (2009) 2266–2276.

7. B. NANA AND P. WOAFO : **"SYNCHRONIZED STATES IN A RING OF FOUR MUTUALLY COUPLED OSCILLATORS AND EXPERIMENTAL APPLICATION TO SECURE COMMUNICATIONS ".** Commun Nonlinear Sci Numer Simulat(In press).

8. B. NANA, P. WOAFO AND S. DOMNGANG**: "*EXPERIMENTAL SECURED COMMUNICATION USING CHAOTIC SYNCHRONIZATION*" PHYS. REV. E (**In press**).**

9. R. TCHITNGA AND B. NANA: "*CHAOS IN A R-C CIRCUIT USING NONLINEAR DIODES COMPOSITE". Annales de la Faculté des Sciences Université de Yaoundé I. 2010, série Physique, Vol.37 No*1*, pages 1-11*

10. C.A. KITIO KWUIMY, B. NANA, P. WOAFO "**EXPERIMENTAL BIFURCATIONS AND CHAOS IN A MODIFIED SELF-SUSTAINED MACRO ELECTROMECHANICAL SYSTEM**" Journal of Sound and Vibration 329 (2010) 3137–3148.

BOOKS

- ➢ **«ANALOGUE ELECTRONICS PRINCIPLE».** B. NANA AND P. WOAFO.
- ➢ **«MÉCATRONIQUE».** B. NANA AND P. WOAFO.
- ➢ **«SYSTEMES AUTOMATIQUES».** B. NANA AND P. WOAFO. (In building).
- ➢ **«BOBINES NON LINEAIRES: APPLICATION AUX TRANSFORMATEURS ET MACHINES ELECTRIQUES».** B. NANA, R. TCHITNGA AND P. WOAFO (In building).

SEMINARS AND SCHOOLS

- ❖ **April 19, 2006**: School on Protons and rare gas implantation in semi-conductors and insulators: functional nanocavities and their application (University of Yaoundé 1, Faculty of science, Department of physics). By Professor **Esidor NTSOENZOK,** Université d'Orléans and CNRS, Orléans, France.

- ❖ **March 2006**: school on modeling of transcriptional regulation networks (university of Yaoundé 1, Faculty of science, Department of Physics), by Professor **Jacques Alexandre Sepulchre**, Institut Non linéaire de Nice, France.

- ❖ **March 2006**: school on modeling of the onset of virulence of a pectinolytic bacteria (University of Yaoundé 1, Faculty of science, Department of physics), by Professor **Jacques Alexandre Sepulchre**, Institut Non linéaire de Nice, France.

- ❖ **March 2006**: School on linear response of chaotic systems and transmission of signals in a dynamical network (University of Yaoundé 1, Faculty of science, Department of physics), by Professor **Jacques Alexandre Sepulchre**, Institut Non linéaire de Nice, France.

- ❖ **March 2008**: Seminar on experimental chaos secure of communications (University of Yaoundé 1, Faculty of science, Department of physics), by **Bonaventure Nana,** Laboratory of Modelling and Simulation in Engineering System and Biological Physics, University of Yaounde I.

- ❖ **June 2008**: Seminar on new nanomaterials and technical distribution. (University of Yaoundé 1, Polytechnic high school, by **Bonaventure Nana,** Laboratory of Modelling and Simulation in Engineering System and Biological Physics, University of Yaounde I.

- ❖ **December 2008**: Seminar on Active learning in Optic and Photonic. (University of Douala, Faculty of sciences.

- ❖ **December 2009:** International conference in Low cost physics and program developing country, organized in Cameroon by the Cameroon Physical Society, University of Yaounde 1.

AFFILIATIONS:

- ▪ Member of the Cameroon Physical Society (CPS).
- ▪ Member of the GENOO foundation.

REFEREES:

- ❖ **Professor Paul. WOAFO,** University of Yaounde I, department of Physic. «Laboratory of Nonlinear Modelling and Simulation in Engineering and Biological Physics». Tel : 99 98 05 67. pwoafo1@yahoo.fr

- ❖ **Professor Samuel. DOMNGANG,** University of Yaounde I, department of Physic, Tel : 99 84 32 82 sdomngang@yahoo.fr

- ❖ **Doctor Robert TCHITNGA,** University of Dschang, department of Physic. Tel : 77 71 48 85. tchitnga@yahoo.fr

HOBBY

Sport (Football, Handball, gymnastic).

Music, Reading, Cinema, Draughtboard.