

## YACOUBA MOUMOUNI, Ph.D



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### 1. **REGISTRY OFFICE**

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Date of Birth: January 1st, 1975

Nationality: Citizen of Niger

Marital status: Married

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#### i) Graduate profile

- **Ph.D, Electrical and Computer Engineering, December 2015**

Major: Power and Renewable Energy

Minor: Solid State Electronics and fluids/Thermosciences

Dissertation Title: Designing, building, and testing a solar thermoelectric generation, STEG, for energy delivery to remote residential areas in developing regions

- **Master of Science, Mechanical Engineering, May 2012**

Option: Fluid and Thermosciences/Solar Energy

Thesis Title: Buffering PV Output during Cloud Transients with Energy Storage

#### ii) Undergraduate profile

- **Bachelor of Engineering, Electrical and Computer**

Minor: Computer Engineering and Networking

Senior Design Title: Design and Construction of an Automatic Door Control

#### **Domain of competencies**

- Energy-Production, Storage and management
- Renewable energy/Solar, Wind, Hydroelectric, Geothermal, etc.
- Various ways of Solar Energy applications/Computational aspects of Solar Engineering
- Analysis of Heat Transfer Methods (Conduction, Radiation and Convection)
- Total understand of Conventional power plants (Nuclear, Coal, Gas-turbine, etc.)
- Electronics/Circuit Design Layout and Simulation --Analog and Digital--
- Solid State Electronics (Magnetic Materials and Devices, Microchip Manufacturing, Advanced Semi-conductors I & II, and Device fabrication & Memory testing)
- Electricity/ Power system stability and control/Power Electronics/Power System Analysis/ Power Distribution System Engineering/Smart Grid/Energy economics and Analysis
- Control Theory/Optimization-Deterministic and Stochastic
- Radio broadcasting/Maintenance of Radio Station
- Laboratory management

#### **Independent skills**

- System engineering , Radiation safety Training, Chemical Hygiene Training, Hydrofluoric Training, Etc.

#### **Software**

- Stella; Energy 10; Electric; EasyPower; LTSPICE; PSPICE; PSCAD; MATLAB; PV Watt; Comsol, and, more...

## 2. Education

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- Fall 2012 to Fall 2015, Ph.D. Electrical and Computer Engineering  
University of Nevada, Las Vegas, UNLV
- 08/2010 to 05/2012, Master of Science in Mechanical Engineering  
University of Nevada, Las Vegas, UNLV
- Systems Engineering short course certificate on 14<sup>th</sup> January, 2011  
Nevada NASA Space Grant Consortium
- 01/2010 to 07/2010 Certificate of English as a Second Language & Academic English Certificate  
Arizona State University, ASU
- 1999 to 2002, Bachelor of Engineering in Electrical and Computer  
Federal university of technology, Minna Niger State
- 2002 (six months), Diploma in Hardware and Maintenance in Computer  
Khemsafe Computers and Communication LTD, Kaduna Nigeria
- 1998 (six months), Certificate of Proficiency in English Language Studies  
Alvan Ikoku College of Education, Owerri Nigeria
- 1995 to 1997, “Baccalaureat de l’Enseignement Secondaire serie C” (High School Diploma)

Option: Mathematics and Physics

Arewa High school (Lycée Aréwa) of Dogon Doutchi, Niger

## 3. Work Experience

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- Spring 2016 (**Current**): Adjunct Professor at UNLV for CPE - 100 Digital Logic Design I
- Fall 2015: Teaching Assistant at UNLV for EE 220 Electric Circuit I
- Summer 2015: Worked with the City of Fallon Municipal Electric Distribution on **Dispersed Storage and Generation**, under the Demonstration of Energy & Efficiency Developments (**DEED**) scholarship funded by the American Public Power Association (**APPA**)
- Summer 2011: Internship with iDE, Intl. Development Enterprises, located in Denver, CO on the use of Solar Energy for irrigation. Web Site: [www.ideorg.org](http://www.ideorg.org)
- From August 2010 to Today, work as Research Scientist and Teaching Assistant in the Centre for Energy Research (C.E.R) at UNLV, NV
- 04/09/2006 to 12/01/2010, worked at the High School, Lycee Français La Fontaine, Niamey Niger as Applied Physics/Chemistry teacher
- 2009 to 01/2010, worked as Consultant and teacher (Electricity and Efficient use of Energy) at the NGO “Afrique foundation Jeunes”, Niamey Niger.
- 11/2003 to 12/2006, National Youth Service at the “Complexe d’Enseignement Secondaire” (C.E.S) Say Niger as Computer Laboratory manager and Physics/Chemistry teacher.
- 09/2005 to 09/2007, worked at the Radio “voice of the Tapoa”, Say Niger as maintenance Engineer and managing director of the Station.
- In 2005, received training by A. I. F (Agence Internationale de la Francophonie, Canada) at Tessaoua, Niger on the following:
  - Sound forge
  - Studio BPM
  - Radio Assisted by Computer (R.A.C)
  - Radio report tools such as Mini cd driver, Marantz, etc.
- From 21<sup>st</sup> February, to 24<sup>th</sup> February, 2006, received training on Maintenance of Radio equipment by A. I.F at Guidan Romdji, Niger.

- From 26<sup>th</sup> October, to 25<sup>th</sup> December, 2007, worked as Computer Science teacher (Level Primary and secondary) at Victory International School, Niamey.
- From 22<sup>nd</sup> January, to 25<sup>th</sup> January, 2007, received training on Scientific Investigation Method at Secondary School, Dakar SENEGAL by AEFÉ “l’Agence pour l’Enseignement Français a l’Etranger”.
- August 2006: Lecturer in Computer/Internet 1 during the 9<sup>th</sup> edition of T.I.G.V (Tournoi International des Grandes Vacances), held at Dogon Doutchi, Niger.
- August 2007: Lecturer in Introduction to Computer Engineering/Internet 2 during the 10<sup>th</sup> edition of T.I.G.V, held at Dogon Doutchi, Niger.
- From 24<sup>th</sup> March, to 27<sup>th</sup> March, 2009, received training on TICES (Technology of Information and Communication in Education of Sciences «Physics»), Dakar SENEGAL by AEFÉ “l’Agence pour l’Enseignement Français a l’Etranger”.

#### 4. Membership of NGOs

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- Member of Engineers Without Border/Student Chapter at UNLV
- Founder member of the CAP (Club des Amis pour le Progres)
- Founder member of P.T.P.T (Projet Technologie Pour Tous)
- Member of the NGO “ Afrique Fondation Jeunes”
- Founder member of AJD-NTIC/ER “Association Jeunesse et Développement- Nouvelles Technologies de l’Information et de Communication/Energies Renouvelables »

#### 5. Other Information

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Languages: *French:* spoken and written: very well; *English:* spoken and written: very well; *Arabic:* fair;

Travel: I visited the following countries: Nigeria, Cote D’Ivoire, Burkina Faso, Mali, Benin, Morocco, and Senegal. I live currently in the United States of America, USA.

#### 6. Awards

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- **Research and Teaching Assistant at UNLV** starting Spring 2014 to Fall 2015
- **Fulbright Student and Scholar** from January 2010 to May 2012
- **Urban Sustainability initiatives grantee (Funded by NV Energy)** from fall 2012 to 2013
- Outstanding Academic Achievement, University of Nevada, Las Vegas on 11th of May, 2012
- Outstanding Academic Achievement, University of Nevada, Las Vegas on 13th of May, 2011
- Employee Bravo Award 2009 for promoting Sciences in the French Educational System, Lycee La Fontaine Niamey
- Thanks Awards 2007 – 2009 T.I.G.V Dogon Doutchi

#### 7. Presentations

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- I presented a poster entitled: “*Assessment of Grid-tied Photovoltaic Systems: The Municipality of Fallon, NV*” at the 2016 American Public Power Association (APPA) Engineering & Operations Technical Conference held in Minneapolis (3-6 April 2016), Minnesota USA
- I presented two lectures at the 8<sup>th</sup> IEEE Clemson University Power System Conference 2016, South Carolina USA
- I presented at the IEEE 58<sup>th</sup> International Midwest Symposium on Circuits and Systems held in Fort Collins, Colorado: 1) two lectures and 2) two posters
- I presented at the 94<sup>th</sup> Annual meeting of AAAS, Pacific Division held in Las Vegas, Nevada (16-19 June 2013) on “Open Access” publishing:
  - ✓ Graduate students and their publishing future
- I presented at the 9<sup>th</sup> Annual IEEE Consumer Communication & Networking Conference, CCNC 2012 held in Las Vegas, Nevada USA (January 14-17, 2012) the paper:

- ✓ Performance Analysis of Decode-and-Forward Multi-Hop Transmission for Vehicular Networks
- ✓ Autors : Mohamed Fathy et al. Electrical and Computer Eng., University of Wterloo, Ontario, Canada, N2L 3G1
- I presented a lecture on Greening of the Planed: Global Challenges, local Solutions at the 2011 Denver Fulbright Enrichment Seminar, February 24 – 27, 2011.

## 8. Sport

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- Practice
  - ✓ Taekwondo (athlete, Master/Coach) Black Belt No : 05368054 under Kukkiwon ;
  - ✓ Ai Ki Do second Kyu;
  - ✓ Football (Soccer)

## 9. Publications

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### Journals

- “Modeling, Simulation, and Implementation of a Solar Thermoelectric Energy Harvesting System;” accepted for publication at the *Journal of Energy and Power Engineering*. Paper No. is JEPE 16031703.
- “A System Dynamics Model for Energy Planning in Niger;” *International Journal of Energy and Power Engineering*. Vol.3. No.6, 2014, pp.308-322.
- “Buffering PV Output during Cloud Transient with Energy Storage;” ISBN 978-3-65946223-8 at LAP LAMBERT Academic Publishing, Heinrich-Bocking-Str. 6-8, 66121, Saarbrucken, Germany.

### Conferences

- “LTspice Model of a Solar Thermoelectric Generation System,” *IEEE 8<sup>th</sup> University of Clemson Power System Conference 2016, South Carolina USA*.
- “Analysis of a Residential 5kW Grid-tied Photovoltaic System,” *IEEE 8<sup>th</sup> University of Clemson Power System Conference 2016, South Carolina USA*.
- "Concise Thermal to Electrical Parameters Extraction of Thermoelectric Generator for Spice Modeling," *IEEE 58<sup>th</sup> MWSCAS 2015*.
- "Improved SPICE Modeling and Analysis of a Thermoelectric Module," *IEEE 58<sup>th</sup> MWSCAS 2015*.
- “Application of Used Electric Vehicle Batteries to Buffer PV Output Transients,” *IEEE 58<sup>th</sup> MWSCAS 2015*.
- “CPV Battery Buffer Sizing and Economic Analysis,” *IEEE 58<sup>th</sup> MWSCAS 2015*.
- “Evaluation of the impact of Partial Shading on the Performance of a Grid-Tied PV system;” *IEEE 5<sup>th</sup> International Conference on Clean Electrical Power, Italy 2015*
- “Utilization of Energy Storage to Buffer PV Output during Cloud Transients;” *International Conference on Renewable Energy Technologies, ICRET, Hong Kong 2014*.
- Power “Smoothing” of a Commercial-Size Photovoltaic System by an Energy Storage System; *IEEE Power & Energy Society, ICHQP, Romania 2014*.

## References

- R. Jacob Baker, Ph.D, PE; Professor of Electrical and Computer Engineering, UNLV, Las Vegas. Tel: 702-895-4125; email: [r.jacob.baker@unlv.edu](mailto:r.jacob.baker@unlv.edu)
- R. F. Boehm, Ph.D, P.E; Distinguished Professor, Mechanical Engineering, and Director of the Center for Energy Research, UNLV, Las Vegas. Tel: 702-895-4160, email: [bob.boehm@unlv.edu](mailto:bob.boehm@unlv.edu)
- Yahia Baghzouz, Ph.D, P.E; Professor of Electrical and Computer Engineering, UNLV, Las Vegas. Tel: 720-895-0887; Email: [ebag@egr.unlv.edu](mailto:ebag@egr.unlv.edu)
- Engr, Msc. Musa D. Abdullahi; Former Head of Electrical and Computer Engineering Dpt. Federal University of Technology Minna, Niger State (Nigeria); Email: [musadab@msn.com](mailto:musadab@msn.com) Cell: 23408034080399 or 234094131018

**Yacouba Moumouni**