

ING. PROF. PRINCE YAW ANDOH

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Contact Address: College of Engineering
KNUST, Kumasi

Marital Status: Married with three (3)
children

Date of Birth: 15th December, 1964

AREA OF RESEARCH: Prediction and Control of Machining–induced Damage of composite Laminates.

CERTIFICATES: Ordinary level in Science, Advance Level in Science, BSc (Engineering), MSc (Mechanical Engineering) and PhD (Mechanical Engineering)

ACADEMIC BACKGROUND

University of Science and Technology-Kumasi, Ghana
1991 Bachelor of Science in Agricultural Engineering.
Honors: Second Class, Upper Division

North Carolina A&T State University- Greensboro, USA

2001 Master of Science in Mechanical Engineering

North Carolina A&T State University- Greensboro, USA

2005 Doctor of Philosophy in Mechanical Engineering

TEACHING and RESEARCH INTERESTS:

1. My interest in teaching undergraduate and postgraduate courses in Mechanical Engineering includes Design, Manufacturing and Applied Mechanics
2. My primary research interests include modeling, identification and control of mechanical and manufacturing systems, tribology of manufactured surfaces, and integration of design and manufacturing. Specifically, my work has included:
 - i. The development of quantitative parameter for characterization, a model for prediction and control of delamination area for composite laminates, 2001 to date.
 - ii. The development of factorial design for the planning, conducting, analyzing and interpreting experiments so that a sound and valid conclusions can be drawn efficiently, and economically, 2003 to date
 - iii. Designing a facility layout for small scale palm oil processing factory, 2008 to date

- iv. Processing and characterization of bamboo to serve as a composite, 2010 to date

PROFESSIONAL EXPERIENCE

1. Associate Professor: Kwame Nkrumah University of Science and Technology, Kumasi, August, 2016 to Date
2. Senior Lecturer: Kwame Nkrumah University of Science and Technology, Kumasi, October, 2011 to July, 2016
3. Adjunct Lecturer: Mechanical Engineering Department, School of the Engineering, Kumasi Polytechnic, September, 2007 to June, 2009
4. Lecturer: Kwame Nkrumah University of Science and Technology, Kumasi, September, 2005 to September, 2011
5. Graduate Teaching & Research Assistant: North Carolina A&T State University, September, 1999 to May, 2005
6. Mathematics Tutor (Senior Superintendent): Kaneshi Secondary Technical School, Kaneshi, January, 1997 to August, 1999
7. Science/Mathematics Tutor (Superintendent): Juabeso Senior Secondary School, Juabeso, November, 1992 to December, 1996
8. Maintenance/Workshop Engineer Ministry of Food and Agriculture, Sekondi, Ghana, November, 1991 to August, 1992
9. Mathematics Tutor: Sefwi Wiawso Secondary School, Wiawso, November, 1986 to July, 1987

RESPONSIBILITIES AND POSITIONS HELD

1. Head, Science Department, Juabeso Senior Secondary School, Juabeso, April, 1993 to December, 1996
2. Senior House Master, Kaneshi Secondary Technical School, Kaneshi, August, 1998 to June, 1999
3. I have taught undergraduate courses in Mechanical Engineering including Strength of Materials, Machine Design, Dynamics of Machinery and Instrumentation, August 2005 to date
4. I have taught postgraduate courses in Mechanical Engineering including Advance Manufacturing Process, Stress Analysis, Fracture Mechanics, Finite Element Method, Instrumentation and Controls and Quality Assurance, August 2005 to date
5. Member, College Board: August, 2006 to July, 2008
6. Member, Faculty Board: August, 2006 to July, 2008

7. Vacation Training Officer: August, 2008 to July, 2014
8. Transport Engineer: March, 2008 to October, 2010
9. Member, Welfare Services Board Member: March, 2008 to October, 2010
10. Member, Transport Organization Management Committee Member: 2008 to October, 2010
11. Member, Security Services Management Committee Member: 2008 to October, 2010
12. External Moderator/ Examiner, Mechanical Engineering Department, School of the Engineering, Kumasi Polytechnic, 2010 to date
13. External Moderator of Examinations, NABTEX 2010 to 2012
14. Sectional Head, Applied Mechanics and Automobile, August, 2012 to date
15. Departmental Field Trip organizer November 2012 to July 2014.
16. External Assessor, Appointments/Promotion Board, University of Education, Winneba, September, 2013
17. Research Reviewer, Journal of Science and Technology (JUST), 2014 to date
18. External Examiner, Department of Mechanical and Electrical Technology, University of Education, Winneba, January, 2015 to date
19. College Internship Coordinator: August, 2015 to date
20. Departmental Postgraduate Coordinator August, 2015 to date.
21. Member, Central Undergraduate Admissions Committee, September, 2015 to Date.
22. Member of the Automotive Industry Working Group to review the Automotive Industry Concept Note and Policy Road Map, March, 2016 to date.
23. Panel Member, Assessment of B. Sc. Mechanical Engineering Programme at Ashesi University College, Berekuso, Eastern Region, June, 2016
24. Panel Member, Assessment of HND. Mechanical Engineering Programme at Koforidua Polytechnic, Koforidua, Eastern Region, August, 2016
25. Panel Member, Assessment of HND/B. Tech. Mechanical Engineering Programme at Cape Coast Polytechnic, Cape Coast, Central Region, February, 2017
26. Panel Member, Assessment of HND/B. Tech Mechanical Engineering Programme at Koforidua Polytechnic, Takoradi, Western Region, February, 2017
27. Head, Department of Mechanical Engineering, Faculty of Mechanical and Mechanical Engineering, College of Engineering, KNUST, Kumasi, August, 2017 to July, 2018
28. Chairman, College Construction Project Committee, 2020 to date

RESEARCH WORKS

- i. The Study of Environmental Implication on Annum Valley Irrigation Project-Final Year Project (July 1991).
- ii. Development of A Quantitative Parameter for Non-Destructive Evaluation of Laminated Composite Parts -Masters Thesis (December 2001).
- iii. Monitoring and Control of Delamination in the Drilling of Carbon/Epoxy Composite Laminates-Doctoral Dissertation (May, 2005)

PUBLICATION ARISING OUT OF RESEARCH

1. **P. Y. Andoh**, C. K. K. Sekyere, G. K. K. Ayetor, M. N. Sackey, June 2021, "Fabrication and Testing of a Low-Cost Wind Turbine Blade using Bamboo Reinforced Recycled Plastic", Journal of Applied Engineering and Technological Science, Vol 2(2) : 125-138
2. **P. Y. Andoh**, A. Agyei-Agyemang, P. O. Tawiah, C. K. K. Sekyere, C. M. Asante, June 2021, "Development of Composite Material for Wind Turbine Blades", Journal Of Applied Engineering and Technological Science, Vol 2(2) : 139-150
3. G.K. Ayetor, Innocent Mbonigaba, M.N. Sackey, **P.Y. Andoh**, May 2021, "Vehicle Regulations In Africa: Impact On Used Vehicle Import And New Vehicle Sales", Transportation Research Interdisciplinary Perspectives,
4. Akowuah, E., Ampofo, J., **Andoh, P. Y.**, 2019, "Evaluation of Ramp-Induced Vibration Exposure Level for a Pregnant Woman commuting along Urban Roads in Ghana", African Journal Of Applied Research, Vol. 5, No. 1, Pp. 60-73
5. Akowuah, E., **Andoh, P. Y.**, Ampofo, J., 2019, "Development of Biomechanical Model and Fea Modal Analysis of the Gravid Human Uterus Exposed to Ramp-Induced Vibration", African Journal Of Applied Research, Vol. 5, No. 1, Pp. 46-59
6. M. K. Boadu, **P. Y. Andoh** , A. Agyei-Agyemang, P. O. Tawiah, (2017), "Model for the Prediction and Optimization of Flaws and Material Removal Rate during Machining of Shafts in Ghana:", Journal of Science and Technology, Vol. 37, No. 3, Pp32 -45
7. Braimah, S. R., Kukurah, J.D., **Andoh, P. Y.**, (2017), "Optimization of Lemon Grass Oil Extraction Process using Factorial Design Technique", African Journal of Applied Research, Vol. 3, No. 1, Pp. 95-105

8. Larbie, A.T., **Andoh, P.Y.**, Ampofo, J., (2017), "An Evaluation of the Impact of Public-Private Partnership on Vehicle Inspection in the Greater Accra Region of Ghana", African Journal of Applied Research, Vol. 3, No. 2 , Pp. 44-57
9. Akowuah, E., Ampofo, J. And **Andoh, P. Y.**, "Evaluation of Ramp-Induced Vibration Exposure Level for a Pregnant Woman Commuting along Urban Roads in Ghana", African Journal of Applied Research, 2019, Vol. 5(1), Pp. 60-73
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10. Akowuah, E., **Andoh, P. Y.** And Ampofo, J., "Development of Biomechanical Model and FEA Modal Analysis of the Gravid Human Uterus Exposed to Ramp-Induced Vibration" African Journal of Applied Research, 2019, Vol. 5(1), Pp. 46-59
[Http://Www.Ajaronline.Com](http://www.ajaronline.com), [Http://Doi.Org/10.26437/Ajar.05.01.2019.04](http://doi.org/10.26437/Ajar.05.01.2019.04)
11. Larbie, A.T., **Andoh, P.Y.**, and Ampofo, J., "An Evaluation of the Impact of Public-Private Partnership on Vehicle Inspection in the Greater Accra Region of Ghana", African Journal of Applied Research, 2017, Vol. 3(2), Pp. 44-57
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13. Tawiah, P. O., **Andoh P. Y.**, Agyei-Agyemang A., "Characterization of Recycled Plastics for Structural Applications ", International Journal of Science and Technology, June, 2016 Vol. 5(6), pp. 259-267, ISSN 2049-7318
14. **Andoh P. Y.**, Tawiah, P. O., Agyei-Agyemang A. "Characterization of the Mechanical Properties of Ghanaian Bamboo for Structural Applications ", International Journal of Science and Technology, May, 2016 Vol. 5(5), pp. 228-241, ISSN 2049-7318
15. Akowuah, E., and **Andoh, P. Y.**, "Effect of Speed Ramps on Fire Tender and Service Delivery: A Case Study of the Central Region, Ghana", African Journal of Applied Research (AJAR), www.ajaronline.com, March 2016, Vol.3(3), pp 69-81 ISSN 2408-7920
16. Braimah, S. R., **Andoh, P. Y.**, Tawiah, P. O., "Designing a Mechanical System that will be used to Extract and Separate Lemon Grass Oil", International Journal of Science and Technology, March, 2016 Vol. 5(3), pp. 1-11, ISSN 2049-7318
17. Akowuah, E., Ampofo, J., **Andoh, P. Y.** (October 2015), "Effect of Speed Ramps on Pregnant Women: Case Study along Kumasi-Cape Coast Road", African Journal of Applied Research (AJAR) www.ajaronline.com, Vol.2, No.2 (Pages 19-30) ISSN 2408-7920

18. F. Davis, **P. Y. Andoh**, M.N. Sackey, S. P. Owusu-Ofori, "Assessment of Friction Between a Rolling Cylindrical Element and a Deformable Flat Surface", Journal of Science and Technology, August, 2014, Vol., 34(2), pp. 26-34
19. A. Agyei-Agyemang, G.Y. Obeng, **P.Y. Andoh**, "Experimental Evaluation of the Attenuation Effect of a Passive Damper on a Road vehicle bumper", World Journal of Engineering and Technology, August, 2014, Vol., 2, pp. 192-200, Published Online August 2014 in SciRes. <http://www.scrip.org/journal/wjet>; <http://dx.doi.org/10.4236/wjet.2014.23021>
20. T. Alhassan, **P. Y. Andoh**, P. Owusu-Ansah and J. A. Frimpong, "Relationship between Vehicle Manufacturers Recommended Tyre Pressure and Tyre Pressure Used by Vehicle Owners" Research Journal of Applied Sciences, Engineering and Technology, March, 2014, Vol. 7(12): pp. 2496-2501, ISSN: 2040-7459; e-ISSN: 2040-7467 © Maxwell Scientific Organization, 2014
21. **P.Y. Andoh**, F. Davis and Y.A.K. Fiagbe, "Monitoring of Carbon Dioxide Production in a Carbonated Beverage Company using Factorial Design Technique", International Journal of Scientific & Technology Research, October 2013, Vol. 2, Issue 10, pp. 13-19, ISSN 2277-8616
22. **P.Y. Andoh**, Y.A.K. Fiagbe, F. Davis, S. Asaana, "A Mathematical Model To Predict The Quantity Of Defective Bottles In An Automated Bottle Washer Using Factorial Design Technique", International Journal of Scientific & Technology Research, October 2013, Vol. 2, Issue 10, pp. 56-62, ISSN 2277-8616
23. **P.Y. Andoh**, F. Davis, Y.A.K. Fiagbe, T. Alhassan, "Tyre Pressure Model for Predicting Fuel Consumption of Vehicles on Ghana Roads ", International Journal of Scientific & Technology Research, September 2013, Vol. 2, Issue 9, pp120-124, ISSN 2277-8616
24. S. D. Oduro, T. Alhassan, P. Owusu-Ansah and **P. Y Andoh**, "A Mathematical Model for Predicting the Effects of Tyre Pressure on Fuel Consumption", Research Journal of Applied Sciences, Engineering and Technology June, 2013, Vol. 6(1): pp. 123-129, ISSN: 2040-7459; e-ISSN: 2040-7467© Maxwell Scientific Organization, 2013
25. **P. Y. Andoh**, F. Davis, J. Antonio, "Prediction of a Delamination Area During Drilling of Carbon Composite Laminates Structures", Journal of Science and Technology, August, 2011, vol. 31, no. 2, pp.120 – 134.

26. **P. Y., Andoh**, W. A., Agyare, J Dadzie, Selection of an Ideal Mesh Size for the Cracking Unit of a Palm Kernel Processing Plant, *Journal of Science and Technology*, December, 2010, vol. 30, no. 3, pp.109 – 118.
27. **P. Y. Andoh**, F. Davis, S. Owusu-Ofori, "Development of a Control Strategy for Monitoring the Delaminating Damage in Drilling of Carbon Composite Laminates", *Journal of Science and Technology* August, 2010, vol. 30, no. 2, pp. 142-156
28. S. M. Sackey, **P. Y. Andoh**, F. Davis, S. P. Owusu-Ofori", An Overview of Practical Statistical Methods for Evaluating Quality Characteristics", 7th College of Engineering Research Retreat (CERR 7), Koforidua, eastern Region, Ghana July 21-24, 2009, pp. 21-26.
29. S. P. Owusu-Ofori, F. Davis, **P. Y. Andoh**, S. M. Sackey, "Time Series Models for Dynamic Analysis of Product Quality", 7th College of Engineering Research Retreat (CERR 7), Koforidua, Eastern Region, Ghana July 21-24, 2009, pp. 14-20.
30. F. Davis and **P. Y. Andoh**, "Effects of Turning Variables on Acoustic Emission's Energy Response using Factorial Design Method", 7th College of Engineering Research Retreat (CERR 7), Koforidua, Eastern Region, Ghana July 21-24, 2009, pp. 1-13.
31. **P. Y. Andoh**, F. Davis, J. Antonio, "Effect of Cutting Parameters on Acoustic Emission Signal Response during Drilling of Laminated Composites", *Journal of Science and Technology*, December, 2007, vol. 3, no. 27, pp.98 – 106.
32. F. Davis, S. P. Owusu-Ofori, **P. Y Andoh**, L.E. Ansong, "Quasi-Automatic Monitoring System for Turning Operation Using Acoustic Emission Signal Response and Factorial Design Method", *Journal of Science and Technology*, December, 2007, vol. 3, no. 27, pp.107 – 121.
33. **P. Y. Andoh**, and S.P. Owusu-Ofori, "A Quantitative Parameter for Non-Destructive Evaluation of Drilled Laminated Composite Parts", *Transaction of North America Manufacturing Research Institution of SME*, Charlotte, June, 2004.
34. **P. Y. Andoh**, S.P. Owusu-Ofori, J. Sankar, "Acoustic Emission Measurements to determine the Effects of Boundary Conditions on Drilling of Polymeric Composites", *ICCE/10*, New Orleans, July 2003, pp 849-850.
35. **P. Y. Andoh**, S.P. Owusu-Ofori, J. Sankar, "A Parameter for Characterization of changes in Structural Integrity of Composite Laminates", *ICCE/9*, San Diego, July 2002, pp. 25-26.
36. **P. Y. Andoh**, "The Importance and Strategic Method of Irrigation in Ghana", submitted to Ministry of Food and Agricultural in February 1992

REFERENCE

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