

Anthony Andrews (PhD)

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Education

- Ph.D. Materials Engineering (2009), University of the Witwatersrand, South Africa
- M.Sc. Materials Engineering (2005), University of the Witwatersrand, South Africa
- B.Sc. (Hons.) Metallurgical/Materials Engineering (2002), KNUST, Ghana

Experience

- August 2019 – present: **Associate Professor**, Department of Materials Engineering, KNUST, Kumasi - Ghana
- August 2013 – July 2019: **Senior Lecturer**, Department of Materials Engineering, KNUST, Kumasi.
- Mar 2009 – July 2013: **Lecturer**, Department of Materials Engineering, KNUST, Kumasi, Ghana
- Aug 2008 – Feb 2009: **Senior Research Scientist**, Element Six (Pty) Ltd., South Africa
- Jan 2004 – June 2008: **Tutor/Demonstrator**, University of the Witwatersrand, South Africa

Specialization

- Corrosion Engineering and Management
- Mineral Processing/Extractive Metallurgy Engineering
- Ceramic Processing and Characterization
- Physical Metallurgy

Current Research Interest

- Electrochemical study of minerals and surface coated materials
- Tribology
- Refractory materials
- Metallurgical and domestic waste characterization, recycling and disposal
- Development of cupels from local materials
- Development of composite materials for the construction industry
- Mineral processing

Society Membership

- Member, Ghana Institution of Engineers (Membership No. 08260)
- Member, IGS, Ghana (Membership No. 10996)

Teaching

- Undergraduate courses handled:

- Physical Metallurgy, Assaying; Mineral Processing; Phase Transformation of Materials; Materials Characterization Techniques; Engineering Ceramics; Waste Management; Composite Materials; Corrosion of Engineering Materials; Surface Treatment of Materials; Metallurgical Plant Design and Operations
- Postgraduate course handled:
 - Environmental Degradation of Materials
 - Ceramic Materials

Other professionally related experience

- International workshop on tribocorrosion techniques, University of Johannesburg, South Africa, 11-15 January 2016.
- 2nd African Regional Conference on Geosynthetics, Accra – Ghana, 18-20th November 2013.
- *Workshop* for GHANJOL and online publishing training organised by INASP and CARLIGH, Balme Library, University of Ghana, Legon, Accra, 3-5th October 2012
- *Workshop* for male senior members on mentorship organised by the office of Dean of students at Conference Hall, KNUST, Kumasi, 28-29th March, 2012.
- *Workshop* on the use of geosynthetic liners in engineering applications organised by International Geosynthetic Society (IGS) at Engineers Center, Accra, 13-14th March, 2012.
- *Workshop* on the role of patents and the patent cooperation treaty in knowledge transfer and commercialisation of technology, organised by the World Intellectual Property Organisation (WIPO) in collaboration with Registrar General's Department, Ghana and the African Regional Intellectual Property Organisation (ARIPO), KNUST, Kumasi, Ghana, 2nd December 2010

Some Selected Publications

- i. M. Owusu, **A. Andrews**, K. Mensah-Darkwa, F. Davis, P. Phelan, Effect of transient low-grade solar heat on liquid thermogalvanic cells, *Materials Today: Proceedings*, (2020), In press.
- ii. E. Nsiah-Baafi, **A. Andrews**, Fabrication of mullite from lithomargic clay via spark plasma sintering, *Ceramic International*, 43(16), 2017, 14277-14280
- iii. F. Davis, M.N. Sackey, **A. Andrews**, S. P. Owusu-Ofori, Realistic friction coefficient model between a rolling cylindrical element and a deformable flat surface, *Tribology International*, 109, 2017, 252-257
- iv. **Anthony Andrews**, Gabriel Amoah, Sam Anaman, Simon Gawu, Fabrication of lightweight anorthite bodies from lithomargic clay, *International Journal of Applied Ceramic Technology*, 2016, 1-5 (DOI:10.1111/ijac.12525)
- v. Babatunde A. Obadele, **Anthony Andrews**, Mxolisi B. Shongwe, Peter A. Olubambi, Tribocorrosion behaviours of AISI 310 and AISI 316 austenitic stainless steels in 3.5% NaCl solution, *Materials Chemistry and Physics*, 171, 2016, 239-246
- vi. Babatunde A. Obadele, Peter A. Olubambi, **Anthony Andrews**, Sisa Pityana, Mathew T. Mathew, Electrochemical behaviour of laser-clad Ti6Al4V with CP Ti in 0.1 M oxalic acid solution, *Journal of Alloys and Compounds*, 646, 2015, 753-759

- vii. Babatunde Abiodun Obadele, **Anthony Andrews**, Peter Apata Olubambi, Mathew T. Mathew, Sisa Pityana, Tribocorrosion Response of Laser Clad TiNiZrO₂ Composite Coatings On Ti6Al4V, Materials Science Forum, 828-829, 2015, 345-350
- viii. Babatunde Abiodun Obadele, **Anthony Andrews**, Mathew T. Mathew, Peter Apata Olubambi, Sisa Pityana, Improving the tribocorrosion resistance of Ti6Al4V surface by laser surface cladding with TiNiZrO₂ composite coating, Applied Surface Science, 345, 2015, 99-108
- ix. **Anthony Andrews**, Simon K. Y. Gawu, Peter A. Olubambi, Fireclay bricks produced from lithomargic clay, Journal of Ceramic Processing Research. 16 (1), 2015 37-40
- x. Babatunde Abiodun Obadele, **Anthony Andrews**, Peter Apata Olubambi, Mathew T. Mathew, Sisa Pityana, Effect of ZrO₂ addition on the dry sliding wear behavior of laser clad Ti6Al4V alloy, Wear, 328-329, 2015, 295-300
- xi. Peter A. Olubambi, Kenneth K. Alaneme, **Anthony Andrews**, Mechanical and tribological characteristics of tungsten cermet composites sintered with Co-based and zirconia mixed powders, *International Journal of Refractory Metals and Hard Materials*, 50 (2015) 163-177.

Professional Services Rendered

1. **Chairman**, University Safety Committee (September 2019 to July 2021)
2. **Head**, Department of Materials Engineering, College of Engineering, KNUST (Nov. 1, 2017 – July 31, 2019)
3. **Non-Professorial Representative**, College Board, College of Engineering
4. **Member**, Ghana Institution of Engineers (Membership No. 08260)
5. **Member**, Panel of Assessors of Materials Engineering Programme at Sunyani Polytechnic, Ghana (9th February 2016)
6. **Member**, Ghana Institution of Engineers (Membership No. 08260)
7. **Member**, Panel of Assessors of Minerals Engineering Programme at University of Mines and Technology, Tarkwa, Ghana (8th – 12th September, 2015)
8. **Member**, Failure investigations of Golden Star Prestea/Bogoso Mines BIOX tanks
9. **Principal investigator**, Refractory failure at SA Mint (Pty)
10. **Online Associate Editor**, Journal of Science and Technology (JUST)
11. **External Examiner**, Department of Minerals Engineering, University of Mines and Technology, Tarkwa (2015/2016 to 2017/2018)
12. **External Examiner** (MSc thesis), Tshwane University of Technology, South Africa
13. **External Examiner** (BSc course programme), University of the Witwatersrand, South Africa
14. **Member**, Engineering Guest House Management Board
15. **College Examinations Officer**, College of Engineering, KNUST, Kumasi, Ghana
16. **Reviewer**, Material Science and Engineering A, Waste Management and Journal of Asian Ceramic Society, all Elsevier Journals
17. **Vacation Training Officer**, Department of Materials Engineering, KNUST, Kumasi, Ghana