

CURRICULUM VITAE

NAME : Samuel Yeboah Mensah

DATE OF BIRTH : 6th August, 1955

MARITAL STATUS: Married

NUMBER OF CHILDRED : Three

NATIONALITY : Ghanaian

PRESENT ADDRESS : Department of Physics
University of Cape Coast
Cape Coast
Ghana

TELEPHONE :

HOME : 042-30769

OFFICE : 042-33837

FAX : 042-32446

E-MAIL : lafoe@ncs.gh.com
csucc@ncs.gh.com
ucclib@ucc.gn.apc.org
profsymensah @ yahoo.co.uk

EDUCATION AND STUDIES

- **Ph.D (Physics and Mathematics)**
- **Kishnev State University (U.S.S.R)**
1989
- **M.Sc (Physics and Mathematics)**
Kishnev State University (U.S.S.R)
1984
- **Presbyterian Secondary School**
(Legon) 1976 –1978
- **Konongo Odumasi Secondary School**
1970 – 1975

LANGUAGE SPOKEN AND WRITTEN

English, Russian, Akan, and Ga.

FIELDS OF SPECIAL COMPETENCE

- Solid State (Theoretical Physics)
- Semiconductor Materials and its application.
- Expert advise in Science and Technology.

ACADEMIC STATUS

Full Professor

WORK EXPERIENCE

- 1990 – 1993 Lecturer in Physics and Mathematics.
- 1993 – 1997 Senior Lecturer in Physics and Mathematics
- 1997 - 2000 Associate Professor
- 2000 to date Full Professor

- ADMINISTRATIVE EXPERIENCE:**
1. Member of Academic Board 1991 to date.
 2. Member of Faculty Board 1991 to date
 3. Member of school of Agricultural Engineering Board 1991 to date
 4. Academic Counsellor 1992 to date
Hall Counsellor 1996-dade
 5. Member Technical Committee on University Exams 2000 to date.
 6. Chairman, Disciplinary Committee(Junior Staff) 1999 to date.
 7. Chairman, Campus Security Committee 2000 to date.

8. **University Representative on National Scholarship Secretariat 2000**
9. **Board member, Atomic Energy Commission.**
10. **Board member, West Africa Examination Council.**
11. **Board member, Otumfuo Asantehene's Educational Fund.**
12. **Governing member, Asanteman Congress.**
13. **Member of the Environmental Board, 1995 to date**
14. **Editorial Member of the Journal of Applied Science and Technology, University of Cape Coast, 1995.**
15. **Member Appointment and Promotions Board Senior Members.**

PROFESSIONAL SOCIETIES:

1. **Members of Ghana Science Association.**
2. **Members of Institute of Physics, Ghana.**
3. **Members of Society of African Physics and Mathematics.**
4. **Member of Institute of Applied Mathematics, Accra, Ghana.**
5. **Member, Ghana Optics Commission**
6. **Member, The African Laser, Atoms and Molecular Network.**

7. **Member, American Physical Society.**

EXTRA CURRICULUM

1. **Moderator (Advanced Level Mathematics, West Africa Examinations Council. (1993-1997).**
2. **External Examiner, Advanced Level Mathematics, West African Examinations Council. (1993-1997).**
3. **Moderator, Senior Secondary School Certificate (Mathematics) West African Examinations Council. (1993-1997).**
4. **External Examiner, Senior Secondary School Certificate Mathematics West African Examination Council. (1993-1997).**
5. **Chairman, Parent Teacher Association, Flowers Gay School. (1999 to date).**

AWARD AND HONOURS

1. **U.S.S.R. and Ghana Government Scholarship 1979 - 1984.**
2. **U.S.S.R. and Ghana Government Scholarship 1985 – 1989.**
3. **Regular Associate, Abdus Salam International Centre for Theoretical Physics 1992-1995.**
4. **Regular Associate, Abdus Salam International Centre for Theoretical Physics 1996-2002.**
5. **Distinguished Leadership Award. 1997. (American Biographical Institute)**
6. **Man of the Year Award. 1998. (American Biographical Institute).**
7. **International Who is Who of Intellectual's Award for Distinguished**

Achievements. 1999. (Cambridge Biographical Institute).

- 7. The Millennium 2000 Gold Medal Award for Distinguished Achievements. (American Biographical Institute).**

CURRENT RESEARCH

- Transport, Optical and Acoustic properties of Low dimensional material (Heterostructures, Multiple Quantum Wells, Superlattice, Quantum and Quantum Dot)**
- Kinetic, Transport, Thermo electrical and Thermo Magnetic Properties of Carbon Nanotubes**

SUPERVISION OF THESIS

M.Sc and Mphil Thesis

- 1. John Kwaku Kutor: Photostimulated Thermoelectric Effects in Nonparabolic Semiconductors, Department of Physics, University of Cape Coast. May, 1996**
- 2. Raymond Edziah: Theory of electron transport in semiconductor superlattice: Occurrence of negative differential conductivity and Bloch oscillation. Department of Physics, University of Cape Coast February, 1999.**
- 3. Eric Apem-Lassen: Design of a microprocessor-based power Conditioner. Department of Physics, University of Cape Coast August 1999.**
- 4. George Nkrumah: Evaluation of the Ground State Energy of Polaron in a Superlattice using Double-time Green functions. Department of Physics, University of Ghana, Legon. April, 2000.**
- 5. Anthony K. Twum: Dynamics of Solitons in Semiconductor Superlattice. Department of Physics, University of Cape Coast 2001.**
- 6. Ernest Boadu: Microprocessor Base Electronic Lock Department of Physics, University of Cape Coast 2001.**

7. **Van Wellington Elloh: Propagation of Ultrasound in Semi Conductor in the Presence of an Electric Field.**
Department of Physics, University of Cape Coast
2001.

PH.D THESIS

1. **George C. Ishiekwene: Non-linear Polarization Effects in a Birefringent Single Mode Optical Fibre.**
Department of Physics, University of Cape Coast
August, 2000.
2. **George Nkrumah: Electronic and Thermo Electrical Properties of Chiral Carbon Nanotubes** Department of Physics University of Ghana Legon. 2004

PROCEEDING OF INTERNATIONAL CONFERENCES

1. **Shmelev, G.M., Mensah, S.Y. and Tsurkan, G.I. Attenuation of hypersound in Superlattice in the presence of electric filed. Proceedings XI All Union Conference of semiconductor Physics (Academy of Science U.S.S.R.) Kishnev (1988) 159.**
2. **Mensah, S.Y. and Kangah, G.K., Amplification of Hypersound by a superlattice in non-quantized electric field. Proceedings from third Regional Conference in Physics (ANTSI) Gaborone Botswana, 1992 280-285.**
3. **Mensah, S.Y. and Kangah, G.K. Thermoelctrical effect in a semiconductor superlattice in a non-quantized electric field 1992 presented at the International Conference on Condensed Matter Physics and Application Isa Town Baharian.**
4. **Buah-Bassuah, P. K. and Mensah, S.Y. Differential laser for quality control of fluids of the “International Workshop on the physics and modern application of laser, Dakar, Senegal, 1992.**
5. **Mensah, S.Y. Buah-Bussuah P.K. and Yakubu, H. Amplification of hypersound in a Semiconductor under an intense Laser field. Proceedings of 2nd International Workshop on physics and Modern Application of Optics. Harare, Zimbabwe, 1993 273-276.**
6. **Yakubu, H, and Mensah, S.Y. Photovoltaic Properties of ITO. CdTe Solar Cells prepared by the spray deposition method. Journal of Energy Research and Technology: Proceedings of 5th National Symposium of Energy Research group, Cape Coast, Ghana.**

7. Buah-Bassuah, P.K. Eghan, Moses and Mensah, S.Y. Particle size analysis by laser diffraction techniques Proceedings of 2nd International Workshop on Physics and Modern Application of Optics, Harare, Zimbabwe, 1993 286-291.
8. Buah-Bassuah, P.K. Eghan, Moses and Mensah S.Y. Determination of the size of a powdering clay sample by Laser diffraction technique. Proceedings of 18th Biennial Conference of Ghana Science Association, 1993, Legon, Ghana.
9. Mensah, S.Y., DeHeer-Amissah, A.N. and Kutor J. Laser induced thermoelectric effect Proceedings of the Third International Workshop on Physics and Modern Application of Lasers 8-20 August, 1994.

PUBLICATIONS

10. Shmelev, G.M. Nguyen Quoc Anh, Tsurkan G.I, and Mensah, S.Y. "Currentless" Amplification of hypersound in planar configuration by inelastic scattering of electrons. *Physics status solidi (b)* (1984) 121, 209-213.
11. Shmelev, G.M., Mensah S,Y and Tsurkan, G.I. Hypersound amplification by superlattice in a no-quantized electric field. *Journal Physics C. Solid State Physics*, (1988) 21 L11073.
12. Mensah, S.Y., Shmelev and G.M. Epsthtein, E,M, Optical Mixing of two electromagnetic waves in a superlattice *Soviet Journal of Physics. (Izy Vyssh Uchebn Zaved Fizika)* (1988) 6 112-113.
13. Shmelev, G.M. Chaikovskii, I.A. and Mensah, S.Y., Thermoelectrical properties of superlattice in an external fields. (*Fiz Tekh Poluprovodikov*). (1989) 23 712-715 *Soviet Physics Semiconductor*, (1989) 23 (4) 447.
14. Shmelev, G.M., Mensah, S.Y. Tsurkan, G.I. Thermomagnetic effect in superlattice in an external field. Kinetic effect in Molecular and solid systems in an external field (*Publ. Kishnev; Shtiinca*) (1990) 71-77.
15. Mensah, S.Y. Tsurkan, G.I. and Shmelev, G.M. Amplification of Hypersound in superlattice. Electronic Process in Crystals and Thin Layers (*Publ. Kishnev; Shtiinca*) (1991) 63-65.
16. Mensah, S.Y. and Kangah, G.K. Thermoelectrical effect in Semiconductor superlattice in a non-quantized electric field. *Journal Physics: Condens Matter* 4 (1992) 919-922.
17. Mensah, S.Y. The negative effect in semiconductor superlattice in the presence of external electric field. *Journal Physics Condens Matter* 4 (1992) L325-L329.

18. Mensah, S.Y. and Buah-Bassuah, P.K. Thermomagnetic effect in semiconductor superlattice in the presence of laser radiation. *Journal Physics Condens Matter*. 5, (1993) 1349-1354.
19. Mensah, S.Y. and Kangah, G.K. Amplification of hypersound by a superlattice in a magnetic field. *Journal of Discovery and Innovation*. (In Press).
20. Mensah, S.Y. and Kangah, G. K., Amplification of acoustic waves due to an external temperature gradient in superlattice. *Journal Physics; Condensed Matter* 3 (1991) 4105 – 4107.
21. Mensah, S.Y. Effect of high frequency field on the transport properties of superlattice *preprint of International Centre for Theoretical Physics*. Trieste, (1992) IC 299 1 – 7.
22. Sigali, F.B. and Mensah, S.Y. Effect of Effective mass differences on the tunneling current voltage behaviour of a resonant diode in the presence of space charge build up. *Preprint of the International Centre for Theoretical Physics*, Trieste, Italy (1992) IC 300 1 - 8.
23. Mensah, S.Y. Allotey, F.K.A. and Adjepong, S.K. Photostimulated Attenuation of Hypersound in superlattice. *Preprint of International Centre for Theoretical Physics*, Trieste, Italy (1993) IC95 1-10.
24. Mensah, S.Y., Allotey F.K.A. and Adjepong, S. K. The effect of High Frequency Electric Field on Hypersound Amplification in superlattice. *Journal Physics Condensed Matter*, (1994) 3479-3485.
25. Mensah, S.Y., Allotey F. K. A., and Adjepong S.K. Acoustoelectric effect in semiconductor superlattice. *Preprint of the International Centre for Theoretical Physics*, Trieste (1993) IC 341 1 – 5.
26. Mensah, S.Y., Allotey, F.K.A. and Adjepong, S.K. Acoustoelectric effect in semiconductor superlattice. *Journal Physics Condensed Matter* 6 (1994) 6783-6787.
27. Mensah, S.Y., Allotey, F.K.A., and Adjepong, S.K. Acoustomagnetolectric effect in superlattice. *Preprint of the International Centre for Theoretical Physics* Trieste (1994) IC289
28. Mensah, S.Y. Allotey, F.K.A., and Clement A. Effect of Ionization of impurity centres by electric field on the conductivity of superlattice. *Preprint of the International Centre for Theoretical Physics*, Trieste, (1994) IC335.
29. Mensah, S.Y. Allotey, F.K.A., and Yakubu, H. Double time Green function and the electron-phonon interaction in superlattice. *Journal of University of Science and Technology*. (1995) 15 (2) and (3) 124-128.

30. Mensah, S.Y., Allotey, F.K.A. Mensah, N.G. and Twum, A.K. Soliton excitation in superlattice. *Preprint of International Centre for Theoretical Physics Trieste (1995) IC336.*
31. Mensah, S.Y., Allotey, F.K. and Adjepong, S.K. Acoustomagnetolectric effect in a superlattice *Journal Physics: Condensed Matter* 8, (1996) 1235-1239.
32. Mensah, S.Y. Allotey, F.K.A., and Clement, A. Effect of Ionization of impurity centres by electric field on the conductivity of superlattice. *Journal Superlattices and Microstructures*, (1996) 19 (2) 151 –158.
33. Mensah, S.Y. Allotey, F.K.A. Adjepong, S.K. Mensah N.G. and Brown C. Acoustoelectric current in the presence of non-quantised electricfield. *Preprint of International Centre for Theoretical Physics, Trieste (1996) IC140 1 – 8.*
34. Mensah, S.Y., Allotey, F.K., Adjepong, S.K. and Mensah N.G. Photostimulated attenuation of hypersound in *Superlattices and Microstructures*, (1997) 22 (4) 453 – 457.
35. Mensah S.Y. Dikande, A.M., Allotey F.K.A., and Mensah N.G. Interaction of Kink-lattice solitons with small-amplitude waves infinite-size superlattice. *Preprint of International centre for Theoretical Physics Trieste (1999) IC138 1-8.*
36. Mensah S.Y. Allotey F.K.A. and Mensah N.G. Excitation of Breathers in superlattice. *Preprint of International Centre for Theoretical Physics Trieste (1999) IC116 1-10.*
37. Mensah S.Y., Allotey, F.K.A. and Mensah N.G. Excitation of Breather (Bion) in Superlattice. *Physica Scripta* (2000) 62 213 – 215.
38. Mensah, S.Y. Allotey, F.K.A. and Mensah, N.G. Nonlinear acoustoelectric effect in a superlattice . *Journal Physics. Condensed Matter* 12, (2000) 5225-5232.
39. Mensah, S.Y., Dikande A.M., Allotey F.K.A. and Mensah N.G. Interaction of kink-lattice solutions with small amplitude waves in finite-size superlattices. *Superlattices and Microstructures* (2000) 27 (1) 31-37.
40. Ishiekwene G.C., Mensah S.Y. and Brown C.S. Polarization instability shift in Birefringent single Mode Optical Fibres. *Preprint of International Centre for Theoretical PhysicsTrieste (2000) IC97 1-7.*
41. Ishiekwene G.C., Brown C.S., Mensah S.Y. and Bak A.E. The use of Lorentz Group Formalism in solving Polarization Effects of a

- Birefringent. Single Mode Optical Fibre. *Preprint of International Centre for theoretical Physics, Trieste* (2000) IC95 1-11.
42. Mensah, S.Y., Allotey, F.K.A., Nkrumah G. and Mensah N.G. Ground State Energy of a Polaron in a superlattice. *Preprint of International Centre for Theoretical Physics Trieste* (2000) IC151 1 – 11.
 43. Mensah S.Y., Allotey F.K.A., Mensah N.G. and Nkrumah G. Differential Thermopower of a Chiral Carbon Nanotube. *Preprint of International Centre for Theoretical Physics Trieste* (2000) IC150 1- 8.
 44. Mensah, S.Y., Allotey, F.K.A., Edziah, R. and Mensah N.G. Theory of electron transport in semiconductor superlattice occurrence of Negative Differential Conductivity and Block Oscillations. *Journal of Natural Science* (2001) 1 (2) 23-32.
 45. Mensah, S.Y. Owusu, A., Mensah N.G. and Edziah R. Determination of Effective Mass of Semiconductor Materials using Faraday Rotation. *Journal of Natural Sciences* (2001) 1 (2) 33-40.
 46. Mensah, S.Y., Allotey, F.K.A., Mensah N.G. and Edziah R. Kinetic equation for electrons and Phonons in a Laser field *Journal of Natural Sciences* (2001) 1 (2) 41-48.
 47. Ishiekwene, G.C. Mensah S.Y. and Brown C.S. Nonlinear Polarization Effects in a Birefringent Single Mode Optical Fibre. *Preprint of International Centre for Theoretical Physics Trieste* (2001) IC23 1 – 10.
 48. Mensah, S.Y., Allotey, F.K.A., Nkrumah G. and Mensah N.G. Ground State Energy of a Polaron in a superlattice. *Superlattice and Microstructures*. (2001) 29. (5) 336-345.
 49. Mensah S.Y., Allotey F.K.A., Mensah N.G. and Nkrumah G. Differential Thermopower of a CNT Chiral Carbon Nanotube. *J. Phys. : Condens Matter* 13 (2001) 5653-5662.
 50. Mensah S.Y., Allotey F.K.A., Mensah N.G. and Nkrumah G. Giant Electrical Power Factor in Single-Walled Chiral Carbon Nanotube *Preprint of International Centre for Theoretical Physics Trieste* (2001) IC143 1-8.
 51. Mensah S.Y., Allotey F.K.A., Mensah N.G. and Nkrumah G. Electronic Properties of Single-Walled Chiral Carbon Nanotube. *International Centre for Theoretical Physics* (2001) IC118 1 - 17.
 52. Ishiekwene G.C., Brown C.S., Mensah S.Y. and Bak A.E. The use of Lorentz Group Formalism in solving Polarization Effects of a Birefringent. Single Mode Optical Fibre. *Physica Scripta*. (2001) 1-4.

53. Ishiekwene G.C., Mensah S.Y. and Brown C.S. Polarization instability shift in Birefringent single Mode Optical Fibres. *Physica Scripta* (accepted).
54. S.Y. Mensah.,F.K.A. Allotey., George Nkrumah and N.G. Mensah High Electron Thermal Conductivity Of Chiral Carbon Nanotubes *International Centre for Theoretical Physics* (2003) IC1 46 1 - 13.
55. S.Y. Mensah.,F.K.A. Allotey., N.G. Mensah., H Akrobotu and G. Nkrumah. The Influence of Extenal Electric Field on Acoustoelectric Effect in a Superlattice. *International Centre for Theoretical Physics* (2003) IC1 47 1 - 10.
56. S.Y. Mensah., F.K.A. Allotey., N.G. Mensah., and V.W. Elloh. Laser Induced Amplification of Hypersound in Nondegenerate Semiconductor Superlattices. *Superlattices and Microstructures* 33 (2003) 41 – 52.
57. S.Y. Mensah., F.K.A. Allotey., N.G. Mensah., and G. Nkrumah. Giant Electrical Power Factor in Single-walled Chrial Carbon Nanotube. *Superlattices and Microstructures* 33 (2003) 173 – 180.
58. S.Y. Mensah., F.K.A. Allotey., N.G. Mensah., and V.W. Elloh. Amplification of Acoustic Phonons in a Degenerate Semiconductor Superlattice. *Physica E* 19 (2003) 257 – 262.

COURSE, INTERNATIONAL CONFERENCES AND WORKSHOPS INVITED.

1. XI All UNION conference of semiconductor physics (Academy of Sciences (U.S.S.R.) Kishnev (1977).
2. “Third Regional Seminar In Physics by ANTSI (African Network of Scientific and Technology Institution.
3. International Workshop on the Physics and Modern Application of Laser, 22nd to 28th May, 1999, Dakar, Senegal.
4. International Conference on Condensed Matter Physics and Application. 13th-16th April, 1992, Isa Twon Bahrain.
5. Research Workshop in Condensed Matter, Atomic and Molecular Physics, International Centre for Theoretical Physics, Trieste, Italy, 22nd June –11th September, 1992.
6. Research Workshop in Laser and Fibre Optics. International Centre for Theoretical Physics, Trieste, Italy.
7. Training Workshop in Laser and Fibre Optics. International Centre for Theoretical Physics, Trieste, Italy, 18th January – 5th February, 1993.

8. **Winter College in Optics, International Centre for Theoretical Physics, Trieste, in Italy, 8th – 26 February, 1993.**
9. **13th General Conference of the Condensed Matter Division European Physics Society. Regensburg Fed. of Germany, March 29-April 2, 1993.**
10. **18th Biennial Conference of Ghana Science Association 1-4 August, 1993, Accra, Ghana.**
11. **5th National Symposium of Energy Research group, 26th – 30th July, 1993, Accra, Ghana.**
12. **The Second International Workshop on Physics and Modern Applications of Lasers, 6-14 September, 1993, Harare.**
13. **The Third International Workshop on Physics and Modern Applications of Lasers, 8th to 20th, August, 1994, Cape Coast.**
14. **International Workshop on parallel processing and its applications in Physics, Chemical and material science, International Centre for Theoretical Physics, Trieste, Italy, 5-23 September, 1994, Italy.**
15. **111 Trieste Conference on recent development in the phenomenology of particle physics, 3-7 October, 1994.**
16. **Fourth Autumn course on Mathematical ecology, 24th October – 11th November, 1994.**
17. **Theoretical and Experimental Workshop on the Physics of semiconductor microstructures, Sao Paulo, Brazil, 13 – 24 February, 1995.**
18. **Adraitico Research Conference Lower Dimensionally semiconductor systems, Sao Paulo, Brazil, 20-24 February, 1995.**
19. **Tropical Workshop on Plasma Physics: Coherent processes in Non-linear media. International Centre for Theoretical Physics, Trieste, Italy. 16 – 20 October, 1995.**
20. **College on Soil Physics. International Centre for Theoretical Physics, Trieste, Italy. 11-29 September, 1995.**
21. **Workshop on Functional Analysis and its applications to Differential equation. Atomic Energy Commission, Kwabenya, Accra. July, 1995.**
22. **Workshop on Semiconductor Physics. International Centre for Theoretical Physics, Trieste, Italy. 15 July – 9 August, 1996.**
23. **on-equilibrium statistical mechanics. International Centre for Theoretical Physics, Trieste, Italy, 12-23 August 1996.**

24. **Miniworkshop on Pattern Formation and Spatio-Temporal Chaos. International Centre for Theoretical Physics, Trieste, Italy – 28th July – August, 1997.**
25. **Miniworkshop on Quantum Wells, Dots, Wire and Self Organising Nanostructures International Centre for Theoretical Physics, Trieste Italy, 11th – 22nd August, 1997.**
26. **The teaching of Physics at the Senior Secondary /School Level Kwabenya, Accra, 3rd April, 1998.**
27. **The teaching of Mathematics at the Senior Secondary School Level, Kwabenya Accra, 5th – 23rd June, 1998.**
28. **Third Edward A Bouchet Interaction Technology for development in Africa, Botswana, Gaboronbe, 10th to 14 August, 1998.**
29. **7th Biennial workshop, Ghana Science Association University of Cape Coast, October, 1998, Lome Togo.**
30. **7th National Energy Symposium “The Economics of Alternative Generating Technologies” Sasakawa Centre, Unniversity of Cape Coast 23rd – 27th November, 1998.**
31. **Andriatico Research Conference on High Field Transport in Superlattice 9th – 13th August, 1999. International Centre for theoretical Physics Trieste, Italy.**
32. **The teaching of Physics at Secondary School level. Ghana Atomic Energy Commission Kwabenya, Accra 15 th – 25th March, 1999.**
33. **Workshop on Dynamics of non-equilibrium systems. International Centre for theoretical physics, Trieste, Italy, 1999.**
34. **Regional College on Optics Education for Tertiary Level Teachers and Researchers. University of Cape Coast 26th – 29th April, 1999**
35. **International workshop on Combustion Diagnostics and Optical Techniques Cape Coast 5th – 10th July, 1999.**
36. **Workshop on Modelling Real systems: A hands on first encounter with industrial Mathematics International Centre for Theoretical Physics, Trieste, Italy 4th – 29th October, 1999.**
37. **Training workshop on Optics and Photonics, University of Cape Coast, Cape Coast, 11-14 January, 2000.**
38. **Seventh Edward A. Bouchet Regional College on Functional Analysis and its Applications to Differential Equations, Accra, Ghana, 9-20 July, 2001.**

39. **Fourth Regional College on the Teaching of Physics at the Secondary and Tertiary Levels. Kwabenya – Accra, Ghana 24th July to 3rd August, 2001.**
40. **Workshop on First Regional College on Frontiers of Condensed Matter Physics, University of Cape Coast, Cape Coast on 20th - 24th August, 2001.**
41. **Workshop on Radio Africa 2001. University of Cape Coast, Cape Coast, 15 – 19 October, 2001.**
42. **Workshop on “Optical Design and Application with Computers. University of Cape Coast, Cape Coast on 5th – 9th November, 2001.**
43. **3rd Regional College on Condensed Matter Physics, 17th – 24th August, 2002 (sponsored by the International Centre for Theoretical Physics (ICTP), Chamber of Commerce, and the Ministry of Education.) University of Cape Coast, Cape Coast. (Director)**
44. **Workshop on Algebraic Combinatorics University of Cape Coast. August 2003. (Director)**
45. **The First UNESCO African Regional Workshop on Training of Physics Trainers at the University Level – 1 – 6, September 2003. (Director)**
46. **9th Edward Bouchet College on Functional Analysis and its application to differentiate equations. June, 2003**
47. **College on Modeling, Simulation and Optimization, July 2003**
48. **5th Workshop on the Teaching of Maths – the Secondary and Tertiary Institutions August 2003.**
49. **7th Workshop on the Teaching of Physics at the Secondary and Tertiary Institutions August 2003.**
50. **August 2003 – College on Condensed Matter Physics, University of Cape Coast.**

FUNDAMENTAL CONTRIBUTION TO KNOWLEDGE

SCIENTIFIC PREDICTION:

THE FIRST TO PROPOSE THE USE OF SUPERLATTICE AS:

- **Efficient Thermoelement**
- **High Frequency Maser**
- **Phonon Filter**

THE FIRST TO PREDICT THAT

- **The current-voltage characteristic of superlattice should show at strong static fields an exponential rise of current due to ionization of impurities.**

SCIENTIFIC CONFIRMATION:

**THE ABOVE PREDICTIONS
HAVE BEEN CONFIRMED SEE**

- **J.O. Sofo and G.D. Mahan
Thermoelectric figure of merit
of superlattice Appl. Phys. Lett
65 (21) 2690 1994.**
- **D.M Rowe, GAO Min and V.L.
Kuznestsov, Electrical
resistivity and seebeck
coefficient hot pressed YbAl₃
over temperature range 150-
700k. Philosophical Magazine
letters 1998 Vol. 77 No. 2 105-
108.**
- **S. Winnerl, W. Seiwert, E.
Schomburg, J. Grenzer, K.F.
Renk, C. J. M. Langerak, A.F.
G. van der Meer, D.G.
Pavel'ev, Yu Koschurinov, A.A.
Ignatov B Melzer, V. Ustinov,
S. Ivanov and P.S. Ko'er
Ultrafast detection and
autocorrelation of picosecond
THz radiation pulses with a
GaAs/AlAs superlattice.
Applied Physics Letters 73 20
1998 2983 – 2985.**
- **Cavill S. A. Akimov A.V., Ouali
F.F., Challis L.J. Kent A. J. and
Heniai M, 1999 Physica B
263/264 537.**