

**Iruka N. Okeke**

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**Scholarly interests**

Bacterial genetics, Bacterial pathogenesis, epidemiology and antibiotic resistance of enteric *Escherichia coli*, Biomedical laboratory science in West Africa.

**Education**

- Post-doctoral.** Dept. of Microbiology and Immunology and Center for Vaccine Development, University of Maryland School of Medicine, Baltimore, MD, USA. 1998-2000
- Doctor of Philosophy.** Obafemi Awolowo University, Ile-Ife, Nigeria (Awarding institution) & University of Maryland School of Medicine, Baltimore, USA. 1994-1998
- Master of Science (Pharmaceutics).** Obafemi Awolowo University, Nigeria. 1992-1994
- Bachelor of Pharmacy.** Obafemi Awolowo University, Nigeria. 1985-1989

**Academic appointments**

- Associate Professor of Molecular Microbiology, Department of Biology and Adjunct Associate Professor, Program in African Studies and Tricollege Program in Environmental Studies.** Haverford College, Pennsylvania, USA (Assistant Professor from August 2002-June 2008). Aug 2002 - date
- Visiting Scientist.** Pharmaceutical Microbiology Laboratory, Faculty of Pharmacy and Department of Medical Microbiology and Parasitology, Faculty of Medicine, Obafemi Awolowo University, Ile-Ife, Nigeria Aug 2005-date
- Visiting Scientist.** Team 100 (Tropical Bacteriology), The Wellcome Sanger Institute, Wellcome Genome Campus, Hinxton, Cambridge, UK and Department of Microbiology, University of Ghana Medical School, Accra, Ghana Nov 2005-July 2010
- Lecturer, Grade B.** (From 2002); **Career Development Lecturer.** Department of Biomedical Sciences, University of Bradford, UK. Dec 2000 – Aug 2002
- Research Fellow:** Advisor: Professor Ola Sköld. Division of Pharmaceutical Biosciences, Biomedical Centre, Uppsala Universitet, Sweden. Mar-Jun 1998
- Grade 2 Lecturer.** (From 1994); **Junior Training Fellow.** Faculty of Pharmacy, Obafemi Awolowo University, Ile-Ife, Nigeria 1992-1998
- Demonstrator-intern.** Obafemi Awolowo University, Nigeria. 1989-1990

## Fellowships and Awards

<b>Fellowship, Wissenschaftskolleg zu Berlin</b> (Institute for Advanced Study, Berlin). <i>Focus group on 'Professional Dilemmas of Medical Practice in Africa'</i>	2010/11
<b>Mellon 23 Life Cycle of the Student Scholar Award</b> for early curricular initiatives that serve to build the foundations of student scholarship	2009
<b>Branco Weiss Fellowship.</b> Society in Science, Eidgenössische Technische Hochschule (Swiss Federal Institute of Technology) Zürich.	2004-2009
<b>Fellowship, International Program for Chemical Sciences.</b> Uppsala Universitet, Sweden	1998
<b>Fulbright Pre-doctoral Fellowship.</b> University of Maryland Medical School.	1996-1997
<b>Nigerian Universities Postgraduate Thesis Award.</b> National PhD thesis award – Science category.	2001
Junior Chamber Outstanding Great Ife Alumnus Young Persons Academic Leadership Award, Ile-Ife, Nigeria.	1998
<b>Bachelor's degree prizes. Faculty Prize:</b> best graduating student, Faculty of Pharmacy, Obafemi Awolowo University, Ile-Ife, Nigeria; <b>Boots Pure Drug Prize:</b> best graduating student in Pharmaceutics; <b>Ciba Prize:</b> best part IV B. Pharm. Results; <b>L. Duro-Emmanuel Prizes:</b> best B Pharm part III and IV.	1989

## Research grants

### *Individual and collaborative extramural awards*

<b>National Science Foundation Research at Undergraduate Institutions (RUI) Project grant</b> "RUI: Aggregation and Colonization Mediated by Bacterial Surface Factors" Award #I329248. \$536,235	Sept 2013- Aug 2016
<b>Pennsylvania Department of Health Commonwealth Universal Research Enhancement, (CURE) grant for health-related research:</b> Pathoadaptivity of cell detaching <i>Escherichia coli</i> . \$9,119	Jan 2013- Dec 2013
<b>National Science Foundation Research at Undergraduate Institutions (RUI) Project grant</b> "RUI: The role of outer membrane agglutinins in bacterial colonization" Award #0948460. \$453,558.00	Feb 2010- Jun 2013
<b>National Science Foundation Research at Undergraduate Institutions (RUI) Project grant</b> "RUI: The role of outer membrane agglutinins in enteroaggregative <i>Escherichia coli</i> colonization" Award #0516591. \$307,123.00	Oct 2005- Jan 2010
<b>Branco Weiss Fellowship.</b> "Antimicrobial resistance in West Africa: magnitude and containment". Society in Science, Eidgenössische Technische Hochschule (Swiss Federal Institute of Technology) Zürich. CHF 480,000.00 (≈\$450,000.00)	Oct 2004- Sep2009

<b>Society for General Microbiology International Development Grant</b> (Principal applicant, with Oladiipo Aboderin and Adebayo Lamikanra) to organize a two-day workshop on microbiological and molecular diagnosis of bacterial enteric pathogens in Nigeria. October 2005. £2550.00 (≈\$4,000.00)	2004-2005
<b>Food Standards Agency, UK, Project grant</b> BI4003 ‘Development and validation of diagnostic tests for enteroaggregative <i>Escherichia coli</i> ’. (Principal applicant and project leader; with Anna Snelling, Jonathan Fletcher and Peter Chapman). £230,000.00 (≈\$400,000.00)	Mar 2002- Feb 2005
<b>Travel Awards</b>	
<b>National Science Foundation</b> travel grant to attend the Genome Consortium for Active Teaching workshop on microarrays at Georgetown University, Washington DC. \$175	July 2004
<b>American Society for Microbiology (ASM)</b> Early Career Travel Grant to attend the ASM Conference on Undergraduate Education, New Orleans. \$500	May 2004
<b>Dan Charitable Fund Travel Fellowship</b> to attend an international conference on “Shiga Toxin (Verocytotoxin)-producing <i>Escherichia coli</i> infections”. Oct 29-Nov 2. Kyoto International Conference Hall, Japan	2000
<b>Contributions to Program and Consortia Grants</b>	
<b>National Science Foundation MRI Award</b> 0922653: Acquisition of molecular and cellular imaging instrumentation. <i>Senior personnel</i> , \$996,294 (PI – Robert Fairman).	2009-2012
<b>Beckman Scholars Program Grant</b> at Haverford College: <i>Contributing mentor and Lead PI from Fall 2007, inclusive of 2008 &amp; 2011 Awards: \$77, 200 ea.</i>	2005-2013
<b>Howard Hughes Medical Institute Undergraduate Institutional Grants</b> at Haverford College. <i>Participating faculty</i> (Present coordinator – Philip Meneely)	2004-2012
<b>African Studies Center consortium</b> , University of Pennsylvania, Haverford, Brynmawr and Swarthmore colleges (Supported by the US Department of education). <i>Participating faculty</i> <a href="http://www.africa.upenn.edu/asc/consortiumfac.html">http://www.africa.upenn.edu/asc/consortiumfac.html</a>	2010- 2003-2009
<b>International Program in Chemical Sciences, Sweden Program Grant NIG01</b> . Antimicrobials from natural resources and antibiotic resistance. <i>Trainee and collaborator</i> (PI – AO Ogundaini, Obafemi Awolowo University, Nigeria).	1994-2004
<b>Haverford College Intramural grants</b> Research continuity award (\$9,998.82)	Jul-Aug 2013
Mellon-supported brainstorming award in the Haverford-Bryn Mawr-Swarthmore Tri-College Consortium: microbiology across the curriculum	Dec 2012
Awards from the Center for Peace and Global Citizenship (\$1600) and the Koshland Integrated Natural Science Center (\$1075) for a World Health Day event on antimicrobial resistance in developing countries	April 2011
Faculty research support to index the book “Divining Without Seeds” \$740.00	Oct 2010

Koshland Integrated Natural Science Center support: Molecular biology research and training with Haverford students in Nigeria and Ghana.	2008-11
Peace and Global Citizenship Center and African Studies Program support: Haverford student tour to Ghana. With Thomas Lloyd [Project leader], African Studies Program and Office of Multicultural and International Programs	2006
Center for Peace and Global Citizenship support for teaching assistantships: Workshop on microbiological and molecular diagnosis of bacterial enteric pathogens in Nigeria (with Maria Nieves '06 and Nina George '06)	2005
Faculty Research Award (\$5,350.00)	2005
Center for Peace and Global Citizenship support: Haverford's participation in a Haverford-Bryn Mawr Bi-college National Workshop on Medicine in Africa (with Molly Breitbart '05 and Faith Wallace-Gadsden '05)	2004-5
Teaching with Technology grant (with Julie Miran [Principal applicant] and Jennifer Punt)	2003-04
Start-up research funding	2002

### Publications (Since 2008)

A complete list of publications and presentations is available as a separate document. Undergraduate co-authors' names are underlined.

#### Books

1. **Okeke IN.** (2011) *Divining Without Seeds: The Case for Strengthening Laboratory Medicine in Africa.* Culture and Politics of Health Care Work Book Series, Cornell University Press. 222 p.  
*Published Reviews:*  
*Reynolds, Lucy (2012) Book Review: Divining Without Seeds. Perspectives in Public Health 132(3) 143;*  
*Birx, Deborah (2012) Improving laboratory medicine. Book review. Nature Medicine 18(4) 487;*  
*Aidoo, Michael (2011) Divining Without Seeds. Book Review. Global Public Health. 6(8) 917-919.*
2. Sosa, A Byarugaba, DK, Amabile-Cuevas, C, Hsueh, P-R, Kariuki, S, and **Okeke IN** (Editors, 2009) *Antimicrobial resistance in developing countries.* US Springer Science and Business Media, New York, XXIV, 556 p. 35 illus., Hardcover October 2009.

#### Book contributions

3. Cars, O, Hedding, A, Levy, S, Gyssens, Harbarth, S, Holloway, K, Klugman, KP, Ofori-Adjei, D, **Okeke, I**, Ombaka, EMA and Sitthi-Amorn, C (2012) Measures to ensure better use of antibiotics pg 31-48. In: *The evolving threat of antimicrobial resistance: options for action.* World Health Organization, Geneva
4. **Okeke IN** and Ojo, KK (2010) Antimicrobial resistance and use in Africa. In: Sosa et al. (Eds) *Antimicrobial resistance in developing countries.* US Springer Science and Business Media, pg 301-314.
5. **Okeke IN** (2010) Poverty and root causes of antimicrobial resistance. *Ibid*, pg 27-36.
6. Wallace-Gadsden, F and **Okeke, IN** (2010) Drug-resistant bacteria and childhood diarrhea in Africa. In Ngalamulume, K and Viterbo, P. *Health and Medicine in Africa: Multidisciplinary perspectives.* Lit Verlag, Berlin [US edition 2011, Michigan State University Press].

### Reviews and commentaries

7. **Okeke IN**, Cruz, JR, Keusch, GT, Alliance for Prudent Use of Antibiotics – Nutrition group (2013) Re: Antibiotics for uncomplicated severe malnutrition. *New England Journal of Medicine*. 368 (25) 2435-2436
8. Morgan, DJ, **Okeke IN**, Laxminarayan R, Perencevich EN, Weisenberg SA (2011) Non-prescription antimicrobial use worldwide: a systematic review. *Lancet Infectious Diseases*. 11 (9) 692 – 701.
9. Chattaway MA, Dallman T, **Okeke IN**, Wain J (2011) Enteroaggregative *E. coli* O104 from an outbreak of HUS in Germany 2011, could it happen again? *Journal of Infection in Developing Countries*. 5(6):425-36.
10. USP Council on the Convention Section on Global Public Health, **USP Council of Experts International Health Expert Committee**, USP Regionalization Team, Heyman, ML and Williams, RL (2011) Ensuring global access to quality medicines: Role of the US pharmacopeia. *Journal of Pharmaceutical Sciences*, 100(4) 1280-1287.
11. **Okeke IN**, Peeling RW, Goosens, H, Aukenthaler, R, Olmsted, SS, de Lavison, J-F, Zimmer, B, Nordqvist, K (2011) Diagnostics as essential tools for antimicrobial resistance containment. *Drug Resistance Updates*, 14(2):95-106.
12. Obadare EB and **Okeke IN** (2011) Biomedical loopholes, distrusted state and the politics of HIV/AIDS 'cure' in Nigeria. *African Affairs*, 110 (439): 191-211.
13. **Okeke IN** (2010) African scientists underrepresented. *Science*. 328 (5982) 1103.
14. **Okeke IN** (2009) Diarrheagenic *Escherichia coli* in sub-Saharan Africa: status, uncertainties and necessities. *Journal of Infections in Developing Countries*. 3 (11) 817-842.
15. **Okeke IN** (2009) The tragedy of antimicrobial resistance: recognition of necessity. *Current Science*. Society-in-Science special section. 97 (11) 1564-1572.
16. **Okeke, IN** (2009) Cholera vaccine will reduce antibiotic use. *Science*, 325 (5941) 674.
17. **Okeke IN** and Wain J. (2008) Post-genomic challenges for collaborative research in infectious diseases. *Nature Reviews Microbiology*. 6 (11) 858-64
18. **Okeke IN** (2008) Connecting loose ends: a unique linear plasmid or a new model system? *Trends in Microbiology*. 16 (5) 198-199.

### Book review

19. **Okeke IN** (2012) Africa in the time of cholera: a history of pandemics from 1817 to the present [by Myron Echenberg, Camb Univ Press]. *Emerging Infectious Diseases*. 18 (2) 362.

### Editorial

20. Nugent, R and **Okeke IN** (2010) When Medicines fail: recommendations for curbing antibiotic resistance. *Journal of Infection in Developing Countries*. 4 (6) 355-356.

### Scientific research papers

21. Marin, MA, Thompson, CC, Freitas, FS, Fonseca, EL, Aboderin, AO, Zailani, SB, Quartey, N-KE, **Okeke, IN** and Vicente, ACP (2013). Cholera outbreaks in Nigeria are associated with multidrug resistant atypical El Tor and non-O1/non-O139 *Vibrio cholerae*. *PLoS Neglected Tropical Diseases*, 7(2):e2049.
22. Aboderin, AO, Adefehinti, O, Odetoyin, BW, Olotu, AA, **Okeke IN** and Adeodu, OO (2012). Prolonged febrile illness due to CTX-M-15 extended spectrum  $\beta$ -lactamase-producing *Klebsiella pneumoniae* infection in Nigeria. *African Journal of Laboratory Medicine*. 1(1), Art. #16, 4 pages.
23. Labar, AS, Millman, JS, Ruebush E, Opintan, JA, Bishar, RA, Aboderin, AO, Newman MJ, Lamikanra, A and **Okeke IN** (2012). Regional dissemination of an integron-borne trimethoprim-resistance cassette via a successful transposable element. *PLoS One*. 7(5): e38142.
24. Thompson, CC, Freitas, FS, Marin, MA, Fonseca, EL, **Okeke, IN** and Vicente, ACP (2011). *Vibrio cholerae* O1 lineages driving cholera outbreaks during seventh cholera pandemic in Ghana. *Infection, Genetics and Evolution*. 11(8):1951-6.

25. Lamikanra, A, Crowe, JL, Lijek, RS, Odetoyin, BW, Aboderin, OA, Wain J and **Okeke, IN** (2011). Rapid evolution of fluoroquinolone-resistant *Escherichia coli* in Nigeria is temporally associated with fluoroquinolone use. *BMC Infectious Diseases* 11(1):312.
26. Mancini, J, Weckselblatt, BC, Chung, YK, Durante, J, Andelman, S, Glaubman, J, Dorff, JD, Bhargava, S, Lijek, RS, Unger, KP and **Okeke IN** (2011). The heat-resistant agglutinin family includes a novel adhesin from enteroaggregative *Escherichia coli* strain 60A. *Journal of Bacteriology*, 193 (18) 4813-4820.
27. **Okeke, IN**, Macfarlane-Smith, LR, Fletcher JN and Snelling AM (2011). IS3 profiling identifies the enterohaemorrhagic *Escherichia coli* O-island 62 in a distinct enteroaggregative *E. coli* lineage. *Gut Pathogens*. 3: 4.
28. Namboodiri, SS, Opintan, JA, Lijek, RS, Newman, MJ and **Okeke, IN**. (2011) Quinolone resistance in fecal *Escherichia coli* from Accra, Ghana. *BMC Microbiology*. 11: 44.
29. **Okeke, IN**, Wallace-Gadsden, F, Simons, HR, Matthews, N, Labar, AS, Hwang, J and Wain, J. (2010) Multi-locus sequence typing of enteroaggregative *Escherichia coli* isolates from Nigerian children uncovers multiple lineages. *PLoS ONE* 5(11): e14093.
30. Hwang, J, Mattei, LM, VanArendonk, LG, Meneely, PM and **Okeke IN**. (2010) A pathoadaptive deletion in an enteroaggregative *Escherichia coli* outbreak strain enhances virulence in a *Caenorhabditis elegans* model. *Infection and Immunity*, 78(9):4068-76.
31. Opintan, JA, Bishar, RA, Newman, MJ and **Okeke, IN**. (2010) Carriage of diarrhoeagenic *Escherichia coli* by older children and adults in Accra, Ghana. *Transactions of the Royal Society of Tropical Medicine and Hygiene*. 104, 504–506.
32. Scaletsky, ICA, Souza, TB, Aranda, KRS and **Okeke IN**. (2010) Genetic elements associated with antimicrobial resistance in enteropathogenic *Escherichia coli* (EPEC) from Brazil. *BMC Microbiology*, 10: 25.
33. Snelling AM, MacFarlane-Smith LR, Fletcher JN and **Okeke IN**. (2009) The commonly-used DNA probe for diffusely-adherent *Escherichia coli* cross-reacts with a subset of enteroaggregative *E. coli*. *BMC Microbiology*. 9, 269.
34. Bhargava, S, Johnson, BB, Hwang, J, Harris, TA, George, AS, Muir, A, Dorff, J and **Okeke, IN**. (2009) The heat resistant agglutinin I is an accessory enteroaggregative *Escherichia coli* colonization factor. *Journal of Bacteriology*. 191: 4934-4942
35. Saldaña Z, Erdem AL, Schüller S, **Okeke IN**, Lucas M, Sivananthan A, Phillips AD, Kaper JB, Puente JL, Girón JA (2009) The *Escherichia coli* common pilus and the bundle-forming pilus act in concert during the formation of localized adherence by enteropathogenic *E. coli*. *Journal of Bacteriology*. 191: 3451-3461 (Cover article).
36. Salinger, N, Kokona, B, Fairman, F and **Okeke IN**. (2009) The plasmid-encoded regulator activates factors conferring lysozyme resistance on enteropathogenic *Escherichia coli* strains. *Applied and Environmental Microbiology*. 75: 275-280.
37. Opintan, JA, Newman MJ, Nsiah-Poodoh, OA, and **Okeke IN**. (2008) *Vibrio cholerae* O1 from Accra, Ghana carrying a class 2 integron and the SXT element. *Journal of Antimicrobial Chemotherapy*. 62, 929-933.

### **In Process Manuscripts**

38. Meneely, P, Hoang, R, **Okeke I** and Heston, K. *Evolution, Genomes & Genetics*". Textbook under contract with Oxford University Press. In Preparation.
39. **Okeke IN**, Manning, RS, Pfeiffer, T. Diagnostic schemes for reducing time to detection of African viral hemorrhagic fever outbreaks. Research paper, In preparation.
40. Dutilh, BE, Thompson, CC, Vicente, ACP, Marin, MA, Lee, C, Silva, GGZ, Schmieder, R, Andrade, BGN, Chimetto, L, Cuevas, D, Garza, DR, **Okeke, IN**, Aboderin, O, Spangler, J, Ross, T, Dinsdale, EA, Thompson, FL, Harkins, TT and Edwards, RA. Genomic landscape of *Vibrio cholerae* connects genotype and phenotype across habitat, space and time. Research paper in preparation.
41. Glaubman, J, Bonney, ME, Park, S, Ramos-Falcón, LI, Chung, YK and **Okeke, IN**. Self-association motifs in the enteroaggregative *Escherichia coli* heat-resistant agglutinin. Research paper in preparation.

42. Sumrall, E, Gallo, EB, Aboderin AO, Lamikanra, A and **Okeke IN**. Dissemination of the transmissible quinolone-resistance gene *qnrS1* by incX plasmids in Nigeria. Research paper in preparation.

#### **Newsletter, newspaper and weblog contributions**

43. **Okeke, I**. Nigeria: A hub for substandard publishing in biomedical science? 31 Oct 13. [http://www.nigeriahealthwatch.com/2013/10/nigeria-hub-for-substandard-publishing.html?utm\\_source=feedburner&utm\\_medium=email&utm\\_campaign=Feed%3A+NigeriaHealthWatch+%28Nigeria+Health+Watch%29](http://www.nigeriahealthwatch.com/2013/10/nigeria-hub-for-substandard-publishing.html?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+NigeriaHealthWatch+%28Nigeria+Health+Watch%29)
44. **Okeke, I**. A polio-free Nigeria as a critical step to a polio-free world. Nigeria Health Watch. 12 Apr 2013. [http://www.nigeriahealthwatch.com/2013/04/a-polio-free-nigeria-as-critical-step.html?utm\\_source=feedburner&utm\\_medium=email&utm\\_campaign=Feed%3A+NigeriaHealthWatch+%28Nigeria+Health+Watch%29](http://www.nigeriahealthwatch.com/2013/04/a-polio-free-nigeria-as-critical-step.html?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+NigeriaHealthWatch+%28Nigeria+Health+Watch%29)
45. **Okeke, I**. Laboratory medicine matures in Africa: How should Nigeria translate talent to impact? Nigeria Health Watch. 20 Dec 2012. <http://www.nigeriahealthwatch.com/2012/12/laboratory-medicine-matures-in-africa.html>
46. **Okeke, I**. Biomedical Science in Africa, on Wallotstraße. Wissenschaftskolleg zu Berlin yearbook. 2010/11.
47. **Okeke, I**. From premonition to precision: Africa's pressing need for laboratory diagnostics and appropriate surveillance. *APUA Newsletter Vol 29(2) September 2011*.
48. **Okeke I**. On Academic Authorship. Nigeria Biomedical and Life Scientists online. 9 Jun 2011.
49. **Okeke, I**. Resistant *Salmonella* Concord from Ethiopia. Superdrugs and Drugs Blog. 25 Feb 11. <http://superbugsanddrugs.blogspot.com/2011/02/resistant-salmonella-concord-from.html>
50. **Okeke, I**. Nigeria, the Global Fund and the Antimalarial Programme. The Guardian Newspaper (Lagos, Nigeria) Monday 19<sup>th</sup> July 2010.
51. **Okeke, I**. [multiple contributions]. Should the development of antibiotics be a public health priority? Globalization and Health Systems Community Forum 15 Feb – 5 Mar 2010. <http://globalaccesstohealth.net/?2g27ntjz>.
52. **Okeke, I**. A "Giant" ignored. <http://nigeriahealthwatch.blogspot.com/2009/07/giant-ignored.html> Nigeria Health Watch. 17 July 09. *On the demise of Nigeria's leadership role in African health research.*
53. **Okeke, I**. Indecent dressing and the National Assembly. The Guardian Newspaper (Lagos, Nigeria), Wednesday, 13 Feb 2008. *A criticism of the debate in the Nigerian National assembly to create legislature that would make it possible to arrest and prosecute women who are "indecently" dressed.*

#### **Presentations (Selected, since 2008)**

\*Undergraduate presenter co-authors names are underlined

#### **Conference Abstracts**

1. Adeleke, O, Odetoyin, B, Aboderin, A and Okeke I. The role of extended-spectrum beta-lactamase producing gram-negative bacilli in clinical infections in a Nigerian University Hospital. 1<sup>st</sup> International Conference of the African Society for Laboratory Medicine (ASLM), December 1-7, 2012, Cape Town, South Africa.
2. Afshinjavid, S, Cluny, N, **Okeke, I** and Javid, FA (2012) The effect of enteroaggregative *Escherichia coli* on 5-Hydroxytryptamine, carbachol and electrical field stimulation -induced contraction in the rat ileum. 6<sup>th</sup> European Congress on Pharmacology EPHAR 2012, Granada, Spain. Jul 17-20, 2012. Published Br J Pharmacology, PA2, Vol 10, Issue 3.
3. Laboratory in Microbiology and Molecular Biology, Pesce, A-R, Hamid, Y, Martin, NB, Morgan, M, Meneely, PM and **Okeke IN**. Complete sequence of the large virulence plasmid from enteroaggregative *Escherichia coli* strain 60A. 112<sup>th</sup> American Society for Microbiology General Meeting, San Francisco. June 2012. Poster #2742.

4. Remaly, ER, Park, S, Glaubman, J, Bonney, M, Andelman, S and **Okeke, IN**. Identification of novel autoaggregation motifs by comparative analysis of outer membrane agglutinins. 112<sup>th</sup> American Society for Microbiology General Meeting, San Francisco. June 2012. Poster #717.
5. Odetoyn, BW, Labar, AS, Aboderin, AO and **Okeke, IN**. Fecal reservoir of *Escherichia coli* Clonal Group A in Ile-Ife, Southwest Nigeria. 112<sup>th</sup> American Society for Microbiology General Meeting, San Francisco. June 2012. Poster #2761.
6. Dutilh, B, Thompson, C, Vicente, A, Marin, M, Lee, C, Silva, G, Schmieder, R, Andrade, B, Chimento, L, Cuevas, D, Garza, D, **Okeke, I**, Aboderin, O, Spangler, J, Ross, T, Dinsdale, E, Thompson, F, Harkins, T and Edwards, R. Genomic landscape of *Vibrio cholerae* connects genotype and phenotype across time, space and habitat. 112<sup>th</sup> American Society for Microbiology General Meeting, San Francisco. June 2012. Updated version of poster #2101.
7. Aboderin, AO, Quartey, N, Odetoyn, BW, Zailani, SB and **Okeke IN**. Antimicrobial Resistance in *Vibrio cholerae* O1 from the 2009-2011 Cholera Outbreak in Nigeria. 46<sup>th</sup> annual meeting of the United States and Japanese Panels on Cholera and Other Bacterial Enteric Infections. Hyatt Regency Hotel, Kolkata, India, 13-15 December 2011.
8. Laboratory in Microbiology and Molecular Biology, Meneely, PM and **Okeke IN**. Complete sequence of the large virulence plasmid of enteroaggregative *Escherichia coli* strain 60A. 60<sup>th</sup> Annual meeting of the American Society of Tropical Medicine and Hygiene, Philadelphia, Dec 4-8, 2011. Control Number 11-A-1350-ASTMH. 11-A-1781-ASTMH
9. Chattaway, M, Jenkins, C, Cheasty, T, Wain, J and **Okeke, I**. Population structure of enteroaggregative *Escherichia coli*. 60<sup>th</sup> Annual meeting of the American Society of Tropical Medicine and Hygiene, Philadelphia, Dec 4-8, 2011. Control Number 11-A-1350-ASTMH.
10. Thompson, CC, Marin, A, Freitas, FS, Fonseca, ÉL, Aboderin, AO, **Okeke IN** and Vicente, ACP. *Vibrio cholerae* driving outbreaks in West Africa. *Vibrio 2011: 4<sup>th</sup> Conference on the biology of Vibrios*, Santiago de Compostela, Nov 2-5, 2011.
11. Odetoyn, BW, Labar, AS, Aboderin, AO and **Okeke, IN** Characterization of antimicrobial resistance in faecal *Escherichia coli* from mother and child pairs in Ile-Ife, south western Nigeria. First Global Forum on Bacterial Infections: Balancing Treatment and Access in Antibiotic Resistance. India Habitat Center, New Delhi, India. 3-5 October 2011.
12. Adeleke, O, Odetoyn, BW, Aboderin, AO and **Okeke IN**. Extended-spectrum beta lactamase-producing Gram negative bacilli in a Nigerian University Hospital. First Global Forum on Bacterial Infections: Balancing Treatment and Access in Antibiotic Resistance. India Habitat Center, New Delhi, India. 3-5 October 2011.
13. Quartey, N, Aboderin, AO, Odetoyn, BW, Zailani, SB and **Okeke IN**. Genetic Basis for Antimicrobial Resistance in *Vibrio cholerae* O1 from the 2009/2010 Cholera Outbreak in Nigeria. First Global Forum on Bacterial Infections: Balancing Treatment and Access in Antibiotic Resistance. India Habitat Center, New Delhi, India. 3-5 October 2011.
14. DuBow, JW, VanArendonk, LG, Quellette, TD and **Okeke IN**. Colonization factors of enteroaggregative *Escherichia coli* strain 042. 111<sup>th</sup> American Society for Microbiology General Meeting, New Orleans. May 2011. Abstract 2088.
15. Aboderin, AO, Odetoyn, BW, Quartey, N, Zailani, SB and **Okeke IN**. Antimicrobial Resistance in *Vibrio cholerae* O1 from the 2009/2010 Cholera Outbreak in Nigeria. 111<sup>th</sup> American Society for Microbiology General Meeting, New Orleans. May 2011. Abstract 1133.
16. Aboderin, AO, Adefehinti, O, Odetoyn, BW, Olotu, A, **Okeke, IN** and Adeodu, OO. Prolonged febrile illness due to ESBL-producing *Klebsiella pneumoniae* in Nigeria. 111<sup>th</sup> American Society for Microbiology General Meeting, New Orleans. May 2011. Abstract 119.
17. Chattaway, M, Jenkins, C, Cheasty, T, Wain, J and **Okeke, I**. Defining the population structure of enteroaggregative *Escherichia coli* for the development of next generation diagnostic testing. Health Protection-2010, University of Warwick, 14-15 September, 2010.
18. Mancini, J, Weckselblatt, B, VanArendonk, LG, Durante, J, Glaubman, J and **Okeke IN**. A second *Escherichia coli* heat-resistant agglutinin contributes to adherence of

- enteroaggregative *E. coli* strain 60A. Abstract B1508. 110<sup>th</sup> American Society for Microbiology General Meeting, San Diego. May 2010.
19. Chung, Y, Glaubman, J, Laboratory in Molecular Microbiology, Hoang, R and **Okeke IN**. Bacterial autoaggregation conferred by self-associating *Wolbachia* surface proteins. Abstract N310. 110<sup>th</sup> American Society for Microbiology General Meeting, San Diego. May 2010.
  20. Obadare, EB and **Okeke, IN**. Ambiguous Actor, Biomedical loopholes, Distrusted State: Jeremiah Abalaka and the Politics of HIV Infection and Cure in Nigeria. International Workshop on Urban Health in sub-Saharan Africa. Point Sud, Bamako, Mali. January 12-15, 2010.
  21. Afshinjavid, S, Cluny, N, **Okeke, I** and Javid, FA (2009) The effect of enteroaggregative *Escherichia coli* on 5-Hydroxytryptamine, carbachol and electrical field stimulation -induced contraction in the rat ileum. 2009 Neurogastroenterology and Motility Joint International meeting. August 27–30, Chicago, Illinois. Abstract 249, Poster 217. [http://www.fbgweb.org/ngm09\\_program.pdf](http://www.fbgweb.org/ngm09_program.pdf)
  22. Hwang, J, Mattei, LM, VanArendonk, LG, Meneely, PM and **Okeke, IN** (2009) A pathoadaptive mutation in an enteroaggregative *Escherichia coli* outbreak strain enhances virulence in a *Caenorhbditis elegans* model. Abstract C-239. 109<sup>th</sup> American Society for Microbiology General Meeting. 17-21 May, 2009, Philadelphia.
  23. Millman, JS, Morris, M, Lamikanra, A and **Okeke, IN** (2009) Characterization of the *dfrA7*-bearing plasmid from a multiply-resistant fecal *Escherichia coli* isolate from Nigeria. Abstract A-044. 109<sup>th</sup> American Society for Microbiology General Meeting. 17-21 May, 2009, Philadelphia.
  24. Welsh, MS, Laboratory in Molecular Biology Class, **Okeke IN** and Dawes-Hoang, RE (2009) Investigating the relationship between *Wolbachia* surface proteins and *Wolbachia* localization patterns in embryos from a range of *Drosophila* species. Abstract N-050. 109<sup>th</sup> American Society for Microbiology General Meeting. 17-21 May, 2009, Philadelphia.
  25. Lijek, RS, Crowe, J, Lamikanra, A, Wain, J and **Okeke IN** (2009) Molecular basis for quinolone resistance in *Escherichia coli* from southwestern Nigeria. Abstract A-042. 109<sup>th</sup> American Society for Microbiology General Meeting. 17-21 May, 2009, Philadelphia.
  26. Opintan, JA, Bishar, R, Newman, MJ and **Okeke, IN** (2009) Carriage of diarrheagenic *Escherichia coli* by older children and adults in Accra, Ghana. Abstract C-239. 109<sup>th</sup> American Society for Microbiology General Meeting. 17-21 May, 2009, Philadelphia.
  27. Adige, SU, Bloch, PJ, Bretscher, HS, Crowe, JL, Dao, KA, Gandhi, SJ, Graves, SE, Gupta, P, Harlow, JM, Harris, RA, Huff, AM, Hwang, J, Jones, LN, Kim, JN, Laganosky, DD, Land, HS, Mancini, J, Millman, JS, Mulqueen, MF, Ouellette, TD, Pennington, LF, Perkins, LC, Philip, NH, Rabinowitz, EC, Rahman, NT, Reid, WA, Subhas, AV, Vidal, SJ, Welsh, MS, Wexler, BB, Eghbal, M, **Okeke IN** and Hoang, R (2008) "Bugs" within bugs: Investigating the relationship between *Wolbachia* Surface Proteins and localization patterns in *Drosophila* species. 5<sup>th</sup> Micronet Undergraduate research symposium, Swarthmore College, PA, July 17<sup>st</sup> 2008. (Also presented at the Regional HHMI Undergraduate research symposium, Haverford College, 27 September 2008).
  28. Namboodiri, S, Opintan, JA, Lijek, RS, Newman, M, and **Okeke IN** (2008) Genetic basis for quinolone resistance in *Escherichia coli* isolates from Ghana. 108<sup>th</sup> American Society for Microbiology General Meeting June 1-5, 2008, Boston. Abstract A086.
  29. Ruebush, E, Morris, M, Opintan, JA, Bishar, R, Newman, MJ and **Okeke IN** (2008) High prevalence of class I integrons bearing *dfrA7* cassettes among fecal *Escherichia coli* isolates from Nigeria and Ghana. *ibid*. Abstract A087.
  30. Dorff, J, Bonney, M, Andelman, SM, Johnson, BB, Muir AA and **Okeke IN**. (2008) Comparative functional analysis of the agglutinin family of outer membrane proteins. *ibid*. Abstract B009.
  31. J. Hwang, Bhargava, S, Mattei, LM and Johnson, BB, and **Okeke IN**. (2008) Heat-resistant agglutinin I is an accessory colonization factor of enteroaggregative *Escherichia coli* strain 042. *ibid*. Abstract B008

## Invited oral presentations

1. *Unmasking of a bacterial surface adhesin: Our biography of the heat-resistant agglutinin I*: Cedar Crest College, Allentown, PA, 26 Feb 2013.
2. *Antimicrobial resistance in Developing Countries*. 1<sup>st</sup> International Conference of the African Society for Laboratory Medicine (ASLM), December 1-7, 2012, Cape Town, South Africa.
3. *Colonization is not just adherence: Interplay of bacterial surface proteins of enteroaggregative Escherichia coli*. Williams College, MA, 9 Nov 2012.
4. *The case for strengthening laboratory medicine in Africa*. Centers for Disease Control. May 2012.
5. "Toward a Global Lab: Building Science Capacity in Developing Countries" American Association for the Advancement of Science (AAAS) annual meeting in Vancouver. Feb 16-20, 2012.
6. *Aggregative adherence: defining phenotype or multifactorial phenomenon?* Hofstra University Medical School. 6 Feb 2012. <http://libguides.hofstra.edu/content.php?pid=301908&sid=2474396>
7. *Access and inappropriate use of antimicrobials in enteric infections*. First Global Forum on Bacterial Infections: Balancing Treatment and Access in Antibiotic Resistance. India Habitat Center, New Delhi, India. 3-5 Oct 2011.
8. *Accurate, appropriate and accepted diagnostics for fever: current status and future directions*. *Ibid*.
9. *Drivers of resistance and the role of diagnostics in resource-limited settings*. 51<sup>st</sup> Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC). Sept 17 - 20, 2011 in Chicago, IL.
10. *Divining Without Seeds: The Case for Strengthening Laboratory Medicine in Africa*. Keynote speech at the African Initiative Group meeting, 23 May 11, Convention center, New Orleans.
11. *Medical dilemmas in Africa: General observations*. Workshop on Medical Dilemmas in Africa, Wissenschaftskolleg zu Berlin: Institute for Advanced Studies, Berlin. May, 2011.
12. 'Big science', African biomedical scientists and health-related outcomes. Donnerstagskolloquium, Wissenschaftskolleg zu Berlin: Institute for Advanced Studies, Berlin. Dec 2, 2010.
13. *Multilocus sequence typing in clinical microbiology: Why and How*. Department of Medical Microbiology, University of Ghana Medical School, July 2010.
14. *Perspectives on rational use and access: A scientist's perspective*. Plenary session 1: The global need for effective antibiotics: moving towards concerted action. 6-8 September 2010, Uppsala, Sweden.
15. *Mobilizing for the Development of New Diagnostics*. Workshop 3. Co-chair (with Katarina Nordquist) and panellist. The global need for effective antibiotics: moving towards concerted action. 6-8 September 2010, Uppsala, Sweden.
16. *Emergence of quinolone resistance in West Africa (Networks, sentinel laboratories and developing country researchers)*. At "Applying new technologies to the epidemiology, prediction, and control of antibiotic resistance in developing countries". Wellcome Trust Frontiers Meeting, Stellenbosch, South Africa 11-13 Feb, 2010.
17. *Disease prevention and antimicrobial use*. Global Antibiotic Resistance Partnership – South Africa Inaugural meeting. Stellenbosch, South Africa 8-9 Feb, 2010.
18. *What only molecular biology will tell us: DNA science in clinically relevant research*. Department of Medical Microbiology and Parasitology, Obafemi Awolowo University, Ile-Ife Nigeria. 18 Jan 2010.
19. *Antimicrobial resistance in West Africa: Magnitude, containment and trajectory of a Branco Weiss Fellow*. 16-17 Nov 2009, Collegium Helveticum, ETHZ, Zürich, Switzerland.
20. *Overview of the global threat of drug resistance including a snapshot of the drug resistance problem from a West African perspective*. Plenary 3: The threats of global drug resistance and collective action recommendations to tackle it. Commonwealth Pharmacists Association Meeting. 4-9 August, 2009, Accra, Ghana.
21. *Emergence and spread of quinolone resistance in West Africa*. 6<sup>th</sup> Branco Weiss Fellows' Meeting, 15-17<sup>th</sup> December 2008, Collegium Helveticum, Zürich, Switzerland.
22. *Diagnostic insufficiency: the case for strengthening laboratory medicine in Africa*. Health and humanities seminar, University of Kansas. November 21, 2008
23. *Functional characterization of enteroaggregative Escherichia coli agglutinin genes*. Bryn Mawr College, October 31, 2008.

## **Media, Outreach and Public presentations**

1. Biomedical research in Africa. Interview with Marie Hougaard of the Danish Broadcasting Corporation. 16 Feb 2012, Vancouver.
2. Connecting microbiology research to public health and health policy. Public Health Seminar series for Biomedical Science Graduate Program at the University of Pennsylvania. 13 Dec 11.
3. Radio interviews to discuss the book: *Divining Without Seeds: The Case for Strengthening Laboratory Medicine in Africa*. Seventeen interviews (April 27<sup>th</sup> 2011- June 22<sup>nd</sup> 2011). Full list available on request.
4. 3 Questions for Biology Professor Iruka Okeke (2011). Haverford College's communications office talks to Okeke about her new book *Divining without Seeds*.  
<http://www.haverford.edu/news/stories/4811151>  
<http://news.haverford.edu/blogs/haverblog/2011/02/28/a-new-book-for-professor-okeke/>
5. The race against drug resistance (2010). Interviewed for the documentary on bacterial antimicrobial resistance. Back to Earth Films and Center for Global Development.  
[http://www.cgdev.org/section/initiatives/\\_active/drugresistanceglobalhealth](http://www.cgdev.org/section/initiatives/_active/drugresistanceglobalhealth)
6. A teaching and research career at a Liberal Arts College. PENN-PORT Postdoctoral Program University of Pennsylvania, 26 Mar 2010, with Andrea R Morris.
7. American Society for Microbiology: Minority Microbiology Mentor Newsletter December 2009 Spotlight on Minority Microbiology Scientists: Iruka N. Okeke Vol. 4, No. 12  
[http://www.asm.org/index.php?option=com\\_content&view=article&id=91251&Itemid=341#SPOT](http://www.asm.org/index.php?option=com_content&view=article&id=91251&Itemid=341#SPOT)
8. 'How we know what we know: Hypothesis-driven research in molecular biology'. An interactive session with students of biochemistry at Obafemi Awolowo University, Nigeria, Aug 2009.
9. 'Peer review is tiresome but formative: how other writers shape my writing'. Writing Materials Series. Haverford College Writing Center. 9 April 2009.
10. Antimicrobial resistance in Africa: *Voice of America* Portuguese service to Africa. Interview by Renato Bittencourt. December 2008.
11. "Genetic information-sharing by bacteria". At "Celebrating 175 years, preparing the next generation" Haverford College Family and Friends Weekend. Nov 1, 2008.
12. Presentation of D Holmes Morton, MD for the degree of Doctor of Science, *honoris causa* at Haverford College Commencement, May 2008.
13. Member, Student-invited Education Panel. "Human rights day". Shipley school, Bryn Mawr, PA. 13 Mar 08.

## **Professional Service**

### **Editorial**

Editorial board: <i>Frontiers in Cellular and Infection Microbiology</i>	2012-
Editorial board: <i>African Journal of Laboratory Medicine</i>	2011-
Editorial board: <i>Frontiers in Antimicrobials, Resistance and Chemotherapy</i>	2011-
Editorial board: <i>The Open Microbiology Journal</i>	2010-
Associate editor: <i>BMC Infectious Diseases</i>	2009-
Senior Editor: <i>Journal of Infection in Developing Countries (JIDC)</i>	2007-

### **Peer review**

The Wellcome Trust: Proposal review for the Sir Henry Dale Fellowship	Mar 2013
M.J. Murdock Charitable Trust. Proposal review for the Murdock College Research Program for Life Sciences	Oct 2012
American Association for the Advancement of Science (AAAS) Review of Proposals for Saudi Science Agency	Jul-Aug 2012

National Science Foundation proposal review panel in the Division of Molecular and Cellular Biology (Molecular Genetics).	Aug-Oct 2008
Invited discussant: 'Health, Disease and Environment in Africa' paper review workshop. Department of History, Princeton University.	Oct 2008
Grant Proposal reviewer, Research Council of Norway – Programme for Global Health and Vaccination Research (GLOBVAC, <a href="http://www.rcn.no/globvac">www.rcn.no/globvac</a> ).	Jul-Aug 2007
Grant Proposal reviewer, Flemish Interuniversity Council – University Development Cooperation (VLIR-UOS, <a href="http://www.vliruos.be">www.vliruos.be</a> ).	Feb 2007
External reviewer: Confidential tenure and promotion case	2009
Ad hoc manuscript reviewer:	
<i>Science,</i> <i>PLoS One,</i> <i>PLoS Medicine,</i> <i>PLoS Neglected Tropical Diseases</i> <i>Journal of Bacteriology,</i> <i>Infection and Immunity,</i> <i>Journal of Clinical Microbiology,</i> <i>Clinical Microbiology Reviews,</i> <i>Journal of Antimicrobial Chemotherapy,</i> <i>Journal of Medical Microbiology,</i> <i>Microbiology,</i> <i>Microbiology and Immunology,</i> <i>Research in Microbiology,</i> <i>Journal of Infectious Diseases,</i> <i>Clinical Infectious Diseases,</i> <i>American Journal of Tropical Medicine and Hygiene,</i> <i>Emerging Infectious Diseases,</i> <i>Tropical Medicine and International Health,</i> <i>Transactions of the Royal Society of Tropical Medicine and Hygiene,</i> <i>Pediatrics,</i> <i>Annals of the New York Academy of Sciences,</i> <i>Foodborne Pathogens and Disease,</i> <i>FEMS Microbiology Letters,</i> <i>FEMS Immunology and Medical Microbiology</i> <i>Microbial pathogenesis</i> <i>Journal of Public Health and Epidemiology</i> <i>Comparative Immunology, Microbiology and Infectious Diseases</i> <i>The Open Microbiology Journal</i> <i>Current Science,</i> <i>Journal of Health, Population and Nutrition,</i> <i>European Journal of Epidemiology,</i> <i>International Journal of STD &amp; AIDS</i> <i>Sahara Journal [Social Aspects of HIV/AIDS Research Alliance]</i> <i>Journal of Development Economics (microbiology/ infectious disease),</i> <i>Medical Science Monitor.</i> <i>Encyclopaedia of Environmental Sciences</i>	2003-
National Science Foundation Research proposal reviewer. Proposal review panel in UMEB (Undergraduate Mentoring in Environmental Biology)	Jul 2005 – Jan 2006

Ad hoc reviewer of grant proposals. Broad Medical Research Program, the Eli and Edyth L. Broad Foundation, Los Angeles, California.	2002-
PhD thesis examiner. Lynette Crowther, University of Bradford	2002
<b>Training and mentorship (Since 2008)</b>	
'Why Nigeria needs more Clinician-Scientists and what they can be doing' Infectious Disease/ Clinical Microbiology Residents Talk. Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Nigeria	25 Jul 2012
Q & A session with post-graduate students. Department of Microbiology, Obafemi Awolowo University, Ile-Ife, Nigeria	27 Jul 2012
Judge: Student poster competition, Cell and Molecular Biology. American Association for the Advancement of Science (AAAS) annual meeting in Vancouver.	Feb 16-20, 2012
'Linking microbiology to public health'. Public Health Certificate Program, University of Pennsylvania	Dec 2011
Mentor, American Society for Tropical Medicine and Hygiene	2011-
'Transitioning from post-doc to tenure track'. At the Mentoring Breakfast at the American Society for Microbiology General Meeting in San Diego, Wednesday, May 26, 2010, 8-10 am.	May 2010
Introduction to molecular biology: An intensive, hands-on workshop. University of Ghana Medical School. With Oladiipo Aboderin, Adebayo Lamikanra, Adebayo Shittu, Amy Labar '10 and Laura VanArendonk '10.	Aug 10-12, 2009
<b>Advisory boards, working groups and pharmaceutical practice (Since 2008)</b>	
Scientific Committee. Biennial Conference of the African Society for Laboratory Medicine	2013-14
Scientific advisory board, Children's Antibiotic Resistance in Low Income Countries (ChARLI) project <a href="http://www.charliproject.org/">http://www.charliproject.org/</a>	2013-
Mellon-supported brainstorming groups in the Haverford-Bryn Mawr-Swarthmore Tri-College Consortium: Culture, Health and Society (2009-11) Microbiology (2007, 2009-10, 2013) Teaching and Research Interests in Africa (2009) History of Science, Technology and Medicine (2009)	2007-
Member, Working group on the economics and financing of febrile illness rapid diagnostic tests. Convened by the Center for Disease Dynamics, Economics and Policy, Washington DC/ New Delhi	2011-12
Advisory Board Member, Joint Science Department, Claremont McKenna, Scripps and Pitzer Colleges, Southern California.	2011-2013
Advisory Board Member, Control of Antibiotic Resistance: Situation Analysis and Needs Assessment in Uganda and Zambia (AR-SANA) APUA-Gates Foundation project.	

<a href="http://www.tufts.edu/med/apua/press_release_10-26-08.pdf">http://www.tufts.edu/med/apua/press_release_10-26-08.pdf</a>	2009-2011
Member, World Health Organization (WHO) Antimicrobial Resistance (Third Global Patient Safety Challenge) Expert Working Group <a href="http://www.who.int/patientsafety/amr/en/">http://www.who.int/patientsafety/amr/en/</a>	2009-2010
Member, Drug Resistance Working Group. Center for Global Development, Global Health Policy Research Network. <a href="http://www.cgdev.org/section/initiatives/_active/drugresistanceglobalhealth/about">http://www.cgdev.org/section/initiatives/_active/drugresistanceglobalhealth/about</a>	2007-2010
Member, International Health Expert Committee, United States Pharmacopoeia. <a href="http://www.usp.org/aboutUSP/governance/expCommitteeMembers/intHealth.html">http://www.usp.org/aboutUSP/governance/expCommitteeMembers/intHealth.html</a>	2005-2010

### **Service at Haverford College**

Science faculty co-coordinator, HHMI Mentors as Student Teachers (MAST) program	2013-2014, 2004-2005
Goldwater scholarship selection committee	2013
Natural Science Representative to Academic Council	2011-2013
Member, Steering Committee, Center for Peace and Global Citizenship	2010-2011
Chair, Environmental Chemistry Faculty search	2008-2009
Co-ordinator and writer, Institutional proposal to the Arnold and Mabel Beckman Foundation	2007-2013
Member, Administrative Advisory Committee	2007-2008
Member, Presidential Inauguration Committee	2007
Faculty mentor (with Jenni Punt and Leslie Dwyer), Social Medicine Seminar	Spring 2007
Faculty elected representative, Presidential search committee	2006-2007
Member, Mathematics Search Committee: Statistics	2006-2007
Beckman Fellowship Selection Committee	2004-date
Member, International Academic Programs Faculty Committee	2004-2005
Member, Educational Policy Committee	2004-2005
Member, Laboratory Safety Committee	2004-2005
Member, Biology Search Committee: Molecular and cellular evolution	2003-2004
Biology department library liaison	2002-2004
Affiliated Faculty: African Studies Program	2003-date
Freshman and Sophomore Advisor	2003-date
Biology Major Advisor	2002-date

### **Academic and Professional Affiliations**

Fellow, Royal Society of Tropical Medicine and Hygiene (2010- )
Member, Infectious Disease Research Network (2010- )
Member, Scientists Without Borders (2008- )
Member, American Society for Tropical Medicine and Hygiene (2007- )
Member, Genome Consortium for Active Teaching (2004-2006)
Member, East Pennsylvania Regional Microbiology Educators Network (2004- )
Faculty, African Studies Consortium, University of Pennsylvania and the Tri-college consortium of Haverford, Bryn Mawr and Swarthmore Colleges (2003 - )
Member, British Society for Antimicrobial Chemotherapy (2001- )
Member, Society for General Microbiology (2001- )
Member, American Association for the Advancement of Science (1999- )
Member, Alliance for the Prudent Use of Antibiotics (1999- )
Member, American Society for Microbiology (1996- )
Registered Pharmacist, Pharmaceutical Council of Nigeria (1990- )

## **Mentored Undergraduate Research students**

Haverford College

13/14 students:

1. Ruben Monarrez '14 Biology Major
2. Wenyu Pan BMC '14 Biology Major, Biochemistry concentrator
3. Alexa Ray Santamero '14 Biology Major, Spanish Major
4. Lawrence Wang '14. Biology major, Biochemistry concentrator

12/13 students:

5. Jose Otero-Vera '14. Biology major

Lab Alumni:

6. Steven Andelman '08. Philosophy Major, Chemistry Minor, High School Teacher (2008-2009). From Fall 2009: Medical Student, Georgetown University.
7. Molly Braun '12. Biology major. Irving Finger Prize in Biology for outstanding growth and accomplishment in the major. Research Associate, Hooper lab, Harvard Medical School.
8. Rima A. Bishar BMC '08. BS Biology, HHMI Science and Society Scholar at Haverford College. (Teaching assistant for technology transfer - Ghana). Research Associate, Zhu lab, Dept of Microbiology, Univ. of Pennsylvania 2008-2010. Medical student, New York Medical College (from Fall 10).
9. Megan Bonney '08. BS. Biology with Honors, minor in Psychology and NSF-REU researcher. Research associate, University of Pennsylvania (2008-2010). Ph.D program, MIT, from Fall 2010.
10. Rebecca Bockow '03. BS. Biology with Honors, Marian Koshland Award for outstanding contributions in the major. DDS, Univ. of Washington 2006, Dental Practitioner, Seattle (2006-08). Combined residency in orthodontics and periodontics, University of Pennsylvania (from 2009).
11. Samhita Bhargava '07 BS Biology with Honors and HHMI Interdisciplinary Scholar. From Fall '07: MD Program, Robert Wood Johnson Medical School (Univ. of Medicine and Dentistry, NJ), American Society of Pediatrics research fellow, UCSF, CA (Summer 08).
12. Yoonjie K Chung '10, Biology Major, Spanish Minor. Research Associate, Pear lab, Abramson Family Cancer Research Institute, Univ. of Pennsylvania (2010-13); Medical student, University of South Florida in Tampa from 2013.
13. Olivia Colburn-Flynn '13 Biology Major at Haverford, Political Science Major at Bryn Mawr. Research associate, Fiddock Lab, Columbia University, New York.
14. Jennifer Crowe '09. Biology Major. Research Associate, Livingston Lab, Dana Farber Cancer Center, Harvard University. From Fall 2011: PhD student, Columbia University.
15. Vernon Caldwell '03. BS Biology. Teacher, Shipley School, Bryn Mawr, PA
16. Joshua W DuBow '11, BS Biology with High Honors and a minor in Psychology. Marian Koshland Award for outstanding contributions in the major. Research Associate, Rockefeller, New York.
17. Julia C Durante '11, Biology Major with a concentration in Neural and Behavioral Sciences, HHMI Multicultural Scholar
18. Elizabeth Gallo '12. Biology major, French minor. Preparing to enter Nursing school.
19. Aldo Garcia '10 Chemistry major. HHMI Multicultural Scholar, 2007
20. Anu S George, '05, BS Biology with honors, HHMI Interdisciplinary Scholar, and ASM Travel Grant Awardee. Clinical research assistant, Johns Hopkins Univ. (2005-2006), MD Program, Univ. of Maryland.
21. Nina George '06 Biology Major (Teaching assistant for technology transfer - Nigeria); Osteopathic medicine program, Philadelphia College of Osteopathic Medicine.
22. Yumna Hamid '12. Biology Major, Biochemistry Concentrator. Staff, Children's Cancer Hospital, Karachi, Pakistan
23. Tamia Harris '03. BS, *Magna cum laude*. Honors in Biology. Ariel Loewy Research Prize. Combined MD/PhD program, Johns Hopkins Univ.

24. Thomas W Holowka '07 (Summer 05) BS Biology with Honors and HHMI Interdisciplinary Scholar. Research associate in parasitology, Pearce lab, University of Pennsylvania (2007-08); Graduate Student, Department of Microbiology, Yale Univ. (2009 - )
25. Jennifer Hwang '09. Biology Major. HHMI Multicultural Scholar, 2006, 2007. Research Associate, Bushman lab, University of Pennsylvania (2009-10), Medical student, Philadelphia College of Osteopathic Medicine (from Fall 2010).
26. Brandon Johnson '04 BS Biology with Honors and Music. MD (Univ. of Pennsylvania, 2008, General Surgery Resident, University of Pennsylvania Health System).
27. Lucy M Joo '05, BS Biology with Honors, Marian Koshland Award for outstanding contributions in the major. Research Associate, Wistar Inst., Philadelphia. MD program.
28. Priya Krishnasamy '05, BS Biology with Honors. MD Program, SUNY Downstate.
29. Steven Kwak '12. Biology Major, Biochemistry Concentrator. Research associate Lewinsohn and Gold labs, Oregon Health and Science University
30. Rebecca S Lijek '07: BS Biology with High Honors, *Magna cum laude*, HHMI Interdisciplinary Scholar (2005), Beckman Scholar (2006-07), Teaching assistant for technology transfer - Ghana. Marian Koshland Award winner for outstanding contributions in the major. PhD program in Microbiology, Univ. of Pennsylvania
31. Amy S Labar '10. Biology Major, African Studies Concentrator, HHMI Interdisciplinary Scholar, Teaching assistant for technology transfer - Nigeria. Research Associate, Snoeck lab, Mount Sinai School of Medicine, New York (2010-2012). MPH program, Harvard School of Public Health (from Fall 2012).
32. Justin Mancini '09. Biology Major. Ariel Loewy Research Prize. Research associate, Whartenby lab, Johns Hopkins University Medical Institutions. From Fall 2011: PhD student, University of Maryland.
33. Lisa Mattei BMC '04. Research Associate, Univ. of Pennsylvania (2004-6); Graduate Student, Department of Microbiology, Yale Univ.
34. Sam McCrimons '11, Biology Major, Biochemistry concentrator. Graduate student, Columbia Mailman School of Public Health.
35. Elizabeth Meeks '08. BS Biology. Elsevier publishers.
36. Jennifer S Millman '09. BS Biology with a concentration in biochemistry, High Honors in biology. Medical student from fall 2010, New York University  
<http://www.nytimes.com/2010/09/03/nyregion/03medschool.html> .
37. Mary Morgan '13. BS Biology. Research Associate, Gheibreel lab, University of Pennsylvania.
38. Mzimelli Morris BMC '08 BS Biology (Bryn Mawr College). MD student, Temple Univ. (2009- )
39. Tania Mucci '04 BS Biology (Minor in Sociology). MD program, Thomas Jefferson Univ. Internist Mount Sinai Hospital.
40. Robert Mallowney '05 BS Mathematics (Chemistry Minor) and Bioinformatics Summer Institute Undergraduate Fellow. Master of Science program in Exercise and Sport Science & Athletics (Volleyball) Coach, Smith College, then United States Coast Guard Academy and Wentworth Institute of Technology.
41. Sreela Namboodiri '08. BS Biology, HHMI Multicultural Scholar and ASM Travel Grant Awardee. Staff member, AIDS institute, New York 2008-2010. MD program, University of Maryland Medical School, from 2010.
42. Maria L. Nieves Tirado '06 Biology Major, Spanish Minor (Teaching assistant for technology transfer - Nigeria) Physician assistant, Lourdes Hospital in Camden, NJ and Haverford House Fellow (2006-2007). Research associate, Burnham Institute for Medical Researchh, Orlando, FL.
43. Adaobi Nwaneshiudu '03. BS Biology. MD/PhD (Temple Univ. NRSA minority pre-doctoral fellowship), Dermatology resident, Univevrsity of Chicago, IL.
44. Timothy Ouellette '09. Biology Major, Economics minor. Research technician, Thomas Jefferson Univ Med Sch (2009-12). Tufts Medical School from Fall 2012.
45. Jason Park '08. BS Biology. NSF-REU researcher. Fitness instructor, Galvanize Muay Thai Fitness, California (2009-2011); Doctor of Physical Therapy Program, University of South California (2011- ).
46. June Park '05, BS Biology. Masters of Fine Arts program.

47. Sumin Park '13. Chemistry major, Biochemistry concentrator. Staff member, Project H.O.P.E. (Homeless Outreach Program Enrichment, Camden, NJ and Haverford House fellow.
48. Nora Proops '10 BS Biology (Teaching assistant for technology transfer - Ghana). Masters In Molecular Science, Berlin (2010-12), MD Program SUNY Buffalo (from Fall 2012).
49. Naa Kwarley E Quartey '11, BS Biology at Bryn Mawr College with a concentration in African Studies at Haverford. Valentin Y Mudimbe Award for Excellence in African Studies. Ghana National Youth Service Scheme, Accra (2011-2012).
50. Laura Ramos '12, Psychology Major, HHMI Multicultural Scholar
51. Aaron Ruby '12, Chemistry Major
52. Ellen Ruebush '07 BS Biology with a Minor in Spanish. Irving Finger Prize in Biology for outstanding growth and accomplishment in the major. High School Teacher, St Margaret's School, Tappanannock, Virginia. Master's In Social Work, UNC Chapel Hill. From Fall 2012.
53. Nina Salinger Prasanphanich '07 BS Biology with High Honors and a minor in Chemistry. HHMI Interdisciplinary Scholar. Research Associate, Zhu lab, Dept of Microbiology, Univ. of Pennsylvania 2007-2008, From Fall '08 MD/PhD student, Emory University, Atlanta. 2013 Ben Kean Travel fellow.
54. Julia Sieth '11, BS Biology
55. Catherine D. Smith '11 BS Biology. Irving Finger Prize for outstanding growth and accomplishment in the major (Teaching assistant for technology transfer - Ghana). Research Associate, Pear lab, Abramson Family Cancer Research Institute, Univ. of Pennsylvania.
56. Hannah Simons '04 BS Biology (Minor in Spanish) Masters in Urban Public Health, Hunter College, NY. Currently Doctoral Student in Epidemiology.
57. Rachel Inhae Song '07 BS Biology. Teaching English in Beijing, China. Entering MD program, Thomas Jefferson Univ. in Fall 08.
58. Brian Suh '11, BS Biology. Environmental educator, High Trails Outdoor Science School, Big Bear, CA. Teaching fellow, Marine Biology Lab, Woodshole, MA.
59. Eric Sumrall '13 BS Biology. Graduate Student, University of Zürich, Switzerland.
60. Drew Twitchell '11, BS Biology with a minor in History.
61. Katherine Unger '03. BS Biology, *Magna cum laude*. Ariel Loewy Research Prize. Research Associate, Academy of natural Sciences, Philadelphia (2003-4); Masters in Science Journalism program, Johns Hopkins Univ. (2005). Science writer NPR Science desk, Science Magazine (2005-6). Currently science writer and development editor for The Wildlife Society.
62. Laura G VanArendonk '10. Biology Major and NSF-REU researcher; Teaching assistant for technology transfer – Nigeria and Ghana. Marian Koshland Award winner for outstanding contributions in the major. PhD program in Genetics, Washington Univ.
63. Faith-Wallace Gadsden BMC '05 BS Biology (African studies minor), Mellon Mays Undergrad Fellow (BMC) and HHMI Multicultural Scholar (HC). Research associate, UC Berkeley (2005-6), Microbiology and Molecular Biology PhD. Program, Tufts Univ.
64. Brooke C. Weckselblatt, BMC '10, Biology Major. PhD program, Emory University.
65. Marina E. Zambrotta '11 BS Biology with a concentration in Neural and Behavioral Sciences. Irving Finger Prize for outstanding growth and accomplishment in the major (Teaching assistant for technology transfer - Ghana). Research Associate. Drexel Medical School 2011-2013; Medical student 2013-.
66. Bing Dao Zhang '12 Psychology Major, HHMI Multicultural Scholar
67. Pengfei 'Phil' Zhang '08 BS Mathematics (co-mentored with Rob Manning). Medical Student, Georgetown University.

University of Bradford, UK

68. Rachel Compton '03 BSc (Hons), Research microbiologist, Don Whitley Scientific, UK (2003-06); PhD Student, Univ. of Leeds (2006- ).
69. Gavin Atkinson '02 BSc National Health Service (NHS) Medical Lab Scientist, UK
70. Bilal Patel '02 BSc (Hons) Ph.D student (Biomedical sciences), Univ. of Bradford
71. Sheraz Said '02 BSc (Hons) Pharmaceutical representative, UK

72. Elizabeth H. Soars '02 BSc (Hons) NHS Medical Laboratory Scientist, UK and MSc student (Biomedical Sciences), Univ. of Wolverhampton.
73. Elizabeth Stanton '02 BSc (Hons) NHS Medical Laboratory Scientist, UK
74. Claire-Louise Crichton '01 BSc (Hons) Ph.D student (Microbiology), Bristol Univ, UK. University of Maryland (in the laboratory of James B Kaper)
75. Jade Borneman '00 B.Sc. Scientist, Osiris Therapeutics Inc, Baltimore, MD, USA

Obafemi Awolowo University, Nigeria (in the laboratories of Adebayo Lamikanra and 'Lara Orafidiya)

76. Oladipupo Ojo, B.Sc., B. Pharm. Franchise Head- Oncology, Novartis Pharma Services Lagos Nigeria
77. Obas, Kayode, B. Pharm. Community pharmacist, Nigeria.

#### **Mentored graduate research associates**

- Erin Remaly. BS Biology (Minor in Chemistry) DeSales University, Center Valley, PA, MS Biology Saint Joseph's University, Philadelphia. Research Associate 2011-
- Marie Anne Chattaway. BSc., MSc. Visiting UK Society for General Microbiology pre-doctoral fellow (enrolled at University College London). Nov-Dec 2011.
- Babatunde Wumi Odeotyin. M.Sc. Co-mentored PhD student. 2007- 2013.
- Jessica M Thomas. BS Rutgers University. Research Associate 2009-2011.
- Jessica Glaubman. BS Philadelphia University. Research Associate 2008-2009
- Justin Dorff. BS Gettysburg College. Research Associate 2006-2008. Neural and Behavioural Science graduate program, University of North Carolina, Wilmington.
- Amanda Muir BS, Drexel University. Research associate 2003-2005; Graduate Student, Environmental Science and Management Program, Duquesne, Pittsburgh.
- Louissa MacFarlane BSc (Leeds). Research associate 2002-2004. PhD (2009, Microbiology), Univ. of Bradford. Post doctoral Clinical Scientist, Health Protection Agency, Leeds, UK (2009-10) Presently Clinical Scientist Leeds General Infirmary.
- Cesar Falque BSc. Research associate 2001. Presently PhD Student (Biomedical Sciences), Univ. of Bradford
- John Kenning BSc. Master of Science student 01/02. NHS Medl Lab Scientist, UK and part-time PhD student at the University of Leeds (Denton lab).

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