

BIOGRAPHICAL SKETCH			
NAME Eyitayo S. Fakunle, PhD		POSITION TITLE UNCF/MERCK Postdoctoral Fellow	
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	YEARS	FIELD OF STUDY
University of Arkansas, Fayetteville, AR	BSChE	2002	Chemical Engineering
University of Arkansas, Fayetteville, AR	PhD	2002-2006	Interdisciplinary C&M Biology (Focus in Analytical Chemistry)
University of California, San Diego,	N/A	2006-2008	Postdoctoral Fellow
San Diego State U. San Diego CA	MPH, Expected	2008- present	Public Health (Focus in Health Promotion)
Scripps Research Institute, La Jolla, CA	N/A	2009-2009	Postdoctoral Fellow
Scripps Research Institute, La Jolla CA	N/A	2009 - present	Postdoctoral fellow

A. Positions and Honors

Experience

2009 to Present- Postdoctoral Fellow, The Scripps Research Institute; Generation of Ethnically Diverse Stem Cells for Drug Screens

- Derivation of primary cultures from hair and skin of healthy subjects
- Generation, expansion and characterizations of induced pluripotent stem cells from primary cultures
- Differentiation of hepatocytes from pluripotent stem cells for drug screens
- Trained two California Institute of Regenerative Medicine Bridges interns

2008 to present: Study coordinator and external Masters of Public Health graduate student, The Scripps Research Institute, Department of Chemical Physiology, Center for Regenerative Medicine (November 2008 to present)

- Prepared IRB and Informed consents
- Recruited subjects for ethnic diversity study
- Trained two public health interns
- Community outreach

2008 to present. Masters of Public health Student, San Diego State University

- Epidemiology/Biostatistics/Environ Determinants of Human Hlth/Health Services Administration/Theoretical Foundations of H P/Motivating Health Behavior H P Com Theory & Design/Global Health Program Plan & Assessment/Research Ethics/ Women's Health

2006 to 2008 NRSA post doctoral fellow: Cardiac Mechanics Group, Department of Bioengineering, University of California, and San Diego CA

- Developed protocols for 3D culture and characterization of human embryonic stem cells in polyethylene glycol (PEG) hydrogels
- Characterized mechanical properties of PEG hydrogels
- Prepared IRB for approvals for human embryonic stem cell culture
- Trained several undergraduate students to characterize PEG hydrogels

2002-2003 Graduate student teachings assistant: Department of Chemistry and Biochemistry, University of Arkansas, Fayetteville AR

- Taught chemistry laboratory course to undergraduate students

2003-2006 Graduate student research assistant: Division of Analytical Chemistry, Electrochemical Biosensors Group, Department of Chemistry and Biochemistry, University of Arkansas, Fayetteville AR

- Designed microfluidic devices using AutoCAD/ Developed protocols for fabricating microfluidic devices on Low temperature co-fired ceramic (LTCC) materials Fabricated microfluidic devices on LTCC materials using thick film technology/Characterized electrochemical properties of screen printed gold on LTCC microfluidic devices /Developed immunoassays on LTCC micro fluidic devices/ Conducted preliminary experiments towards biosensors for detection of Traumatic Brain Injury/ Characterized LTCC materials for electrochemical detection of dopamine/Fabrication of thin film material on silicon for biosensor development

2008- Present. Founder and Director of IfaSEMB a non-profit company to address health disparities by fostering partnerships in science, engineering, medicine and beyond

Awards and Honors

2010 Travel scholarship award to 2010 Cold Springs Harbor/ Wellcome Trust Meeting in Pharmacogenomics to be held November 17-21 2010

2009 UNCF/Merck Postdoctoral Fellowship, September 2009 to present

2008 Generation of an Ethnically Diverse Panel of Pluripotent Stem Cells for Drug Screens; Bill and Melinda Gates Grand Challenge in Global Health. Contributed to grant awarded to primary Investigator: Jeanne Loring. The Scripps Research Institute, United States – US November 2008

2006 Institutional National Research Service Award (NRSA) Postdoctoral Fellowship September 2006-September 2008 , Department of Bioengineering, University of California San Diego, McCulloch Lab

2005 American Society of Biochemistry and Molecular Biology Travel Award, 2005

2004 Lab automation 2005 Travel Award

2003 Outstanding Graduate Research Poster; third place: Arkansas Academy of Science Meeting,

2003 Pittsburgh Conference Travel Award: National Science Foundation 2003

2001 Waste-management Education and Research Consortium (WERC) International Design Competition; University of Arkansas Team, First place: Las Cruces 2001

B. RESEARCH ARTICLES AND PATENT

1. Eyitayo S. Fakunle and Ingrid Fritsch; Low-temperature co-fired ceramic microchannels with individually addressable screen-printed gold electrodes on four walls for self-contained electrochemical immunoassays. *Anal Bioanal Chem.* 2010 Aug 28. [Epub ahead of print]
2. Restricted ethnic diversity in human embryonic stem cell lines. Laurent LC, Nievergelt CM, Lynch C, Fakunle E, Harness JV, Schmidt U, Galat V, Laslett AL, Otonkoski T, Keirstead HS, Schork A, Park HS, Loring JF. *Nat Methods.* 2010 Jan;7(1):6-7.
3. [US Patent 20070086898] Microfluidic device utilizing magnetohydrodynamics and method of fabrication thereof Eyitayo S.O. Fakunle, Prabhu U. Arumugam, Ingrid Fritsch, Jeffery Elbert M Mincy, Fred D. Barlow, Gangqiang Wang 2008
4. Prabhu U. Arumugam, Eyitayo S. Fakunle, Emily C. Anderson, Stephanie R. Evans, Kevin G. King, Zoraida P. Aguilar, Christopher S. Carter and Ingrid Fritsch; "Redox Magnetohydrodynamic Pumping in a Microfluidic Channel: Characterization and Pumping " *Journal of the Electrochemical Society* 153 (12) 2006 E185-E194
5. Eyitayo S. Fakunle, Zoraida P. Aguilar John L. Shultz, Alan D. Toland and Ingrid Fritsch; "Evaluation of Screen Printed Gold on Low Temperature Co-fired Ceramic as a Substrate for Immobilization in Electrochemical Immunoassays" *Langmuir*, 22 (25), 10844 -10853, 2006.
6. Eyitayo S. Fakunle and Ingrid Fritsch; "Microchannel Immunoassays with Electrochemical Detection in Devices Constructed from Low Temperature Co-fired Ceramic and Screen Printed Gold", *NSTI Nanotech conference proceedings*, 2005 466-469
7. Eyitayo S. Fakunle, Jeffrey Mincy, Gangqiang Wang, Fred Barlow and Ingrid Fritsch; Fabrication and Characterization of Low Temperature Co-fired Ceramic Microchannel Devices with Integrated Screen Printed Gold Electrodes. (To be submitted)
8. Eyitayo Fakunle, Jeffery Jacot, Priya Sundaramurthy, Damian Wang, Jessica Saavedra, Stephen Lin, Alvin Cabrera and Andrew McCulloch Characterization of Polyethylene Glycol Based Hydrogels to Study the Effect of Mechanics on Human Embryonic Stem Cell Differentiation (In preparation)

C. ABSTRACTS

1. Eyitayo Fakunle, Suzanne Peterson, Victoria Glenn, Ha Tran, Candace Lynch, Kyle Nickey, Sara Abdulrahman, Gulsah Altun, Ronald Simon, James Shen, Louise Laurent and Jeanne F. Loring "Potential Application of Ethnically Diverse Induced Pluripotent Stem Cells to Study Genetic Variations

Involved in Drug Sensitivities". ISSCR, June 16-19, 2010, San Francisco

2. Victoria Glenn, Eyitayo Fakunle, Ha Tran, Suzanne Peterson, Kyle Nickey, Sara Abdulrahman, Gulsah Altun, Ronald Simon, James Shen, Louise Laurent and Jeanne Loring "Expanding the Genetic Diversity of a Pluripotent Stem Cell Database by the Derivation of Induced Pluripotent Stem Cells from People of African Descent" ISSCR, June 16-19, 2010, San Francisco

3. Kyle Nickey, Eyitayo Fakunle, Suzanne Peterson, Victoria Glenn, Ha Tran, Candace Lynch Sara Abdulrahman, Gulsah Altun, Ronald Simon, James Shen, Louise Laurent and Jeanne Loring Investigating the Expression of Hepatic Genes in Ethnically Diverse Induced Pluripotent Stem Cells towards the Development of Drug Screening Assays ISSCR, June 16-19, 2010, San Francisco

4. Eyitayo Fakunle, Ha Tran, James Shen, Ronald Simon, Danny Mulvihill, Victoria Glenn, Gulsah Altun, Louise C. Laurent and Jeanne F. Loring. Derivation of an Ethnically Diverse Panel of Pluripotent Stem Cells for Studies on Genetic Variation. Poster presentation, World Stem Cell Summit 2009, September 21-23, Baltimore Maryland

5. Eyitayo Fakunle, Ha Tran, James Shen, Ronald Simon, Louise C. Laurent and Jeanne F. Loring Derivation of an Ethnically Diverse Panel of Pluripotent Stem Cells for Pharmacogenomic applications Poster & oral presentation, UNCF/Merck fellows day, June 27- July 1, Blue Bell Pennsylvania

6. Eyitayo Fakunle, Jeffery Jacot, Priya Sundarmurthy, Damain Wang, Jes Saaverdra and Andrew McCulloch, Extracellular Mechanics in Cardiomyogenesis of Human Embryonic Stem Cells on Polyethylene Glycol Hydrogels Poster Presentation, Experimental Biology 2008, April 5-9, San Diego, California

7. Jeffery Jacot, Eyitayo Fakunle, Job Van der Loo, Karen Wei, Andrew McCulloch and Jeffery Omens Substrate Mechanics and Cardiac Development, Poster Presentation, Gordon Conference 2008

8. Narasimhan, Padhmodhbhava, Y; Arumugam, Prabhu U. Oni, Joshua; Fakunle, Eyitayo S.; Schuhmann, Wolfgang ; Woodward, Donald J. and Fritsch, Ingrid "Low Temperature Co-Fired Ceramic Devices for Electrochemical Detection of Dopamine" Abstract for platform presentation 2006, Orlando, Florida

9. Yoga, Podhmodhbhava; Arumugam, Prabhu, U.; Oni, Joshua; Fakunle, Eyitayo; Schuhmann, Wolfgang, Woodward, Donald J; Fritsch, Ingrid "Electrochemical Detection of Dopamine using Microelectrodes for Neurochemistry in Rat Brains". Abstract for platform presentation 2005, Regional Meeting of the American Chemical Society, Joplin, MO

10. Fakunle, Eyitayo; Bullard, Leah; Higginbotham, Penny; Henrichs, Andrea; Aguilar, Zoriada; Fritsch, Ingrid "Close Proximity Effects in Microassays with Electrochemical Detection." * Abstract for platform presentation 2005, Regional Meeting of the American Chemical Society, Joplin, MO

11. Fakunle, Eyitayo; Aguilar, Zoriada P. and Fritsch, Ingrid "Microchannel Immunoassays with Electrochemical Detection in Devices Constructed from Low Temperature Co-fired Ceramic and Screen Printed Gold". Abstract for poster presentation NSTI Nanotech 2005, Anaheim, CA

12. Fakunle, Eyitayo; Aguilar, Zoriada P. and Fritsch, Ingrid. "Development of Microchannel Devices from Low Temperature Co-fired Ceramic and Screen Printed Gold for Electrochemical Immunoassays" Abstract for poster presentation 2005 Lab Automation, San Jose, CA
13. Fakunle, Eyitayo; Aguilar, Zoriada P. and Fritsch, Ingrid. "Electrochemical Immunoassays Involving Low Temperature Co-fired Ceramic (LTCC) Screen Printed Gold" Abstract for poster presentation 2004 Pittsburgh Conference, Chicago, IL
14. Fakunle, Eyitayo; Barlow, Fred and Fritsch, Ingrid "Low Temperature Co-fired Ceramic (LTCC) with Screen Printed Electrodes as a Platform for Micro-total Analysis Systems". Abstract for poster presentation 2004 Biomedical Research Infrastructure Network, Fayetteville, AR
15. Fakunle, Eyitayo; Aguilar, Zoriada P. and Ingrid Fritsch, Ingrid. "Low Temperature Co-fired Ceramic (LTCC) with Screen Printed Electrodes as a Platform for Micro-total Analysis Systems" Abstract for poster presentation. 2003 Pittsburgh Conference, Orlando FL
16. Fakunle, Eyitayo; Barlow, Fred and Fritsch, Ingrid "Low Temperature Co-fired ceramic (LTCC) with Screen Printed Electrodes as a Platform for Micro-total Analysis Systems". Abstract for poster presentation. 2003 Arkansas Academy of Science Meeting, Fayetteville, AR
17. Fritsch, Ingrid; Zoriada, P.; Vandaveer, Walter R., IV; Gray, Stephen R.; Pennington, Ellen; Fakunle Eyitayo "Temporal and Spatial Considerations in Developing Microelectrochemical Systems for Small Volume Analysis" Abstract for platform presentation 2003 225th ACS National Meeting, New Orleans, LA
18. Aguilar, Zoraida P.; King, Kevin G.; Evans, Stephanie R.; Clark, Emily, Arumugam, Prabhu; Fakunle, Eyitayo; Fritsch, Ingrid "Considerations in Using Magnets to induce Flow on a Small-scale ".Abstract for platform presentation 2002 224th ACS National Meeting, Boston, MA
19. Fritsch, Ingrid Aguilar, Zoraida P.; Vandaveer, Walter R., IV; Factor, Brigitte; Evans, Stephanie; Clark, Emily; Fakunle, Eyitayo; King, Kevin; Pennington, Ellen " Exploiting Electrochemistry for Analysis in and Control of Microscopic Systems" . Abstract for platform presentation 2002 224th ACS National Meeting, Boston, MA