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| Department Biochemistry & Molecular Biology  Indiana University School of Medicine  MS 4079, 635 Barnhill Dr.  Indianapolis, IN 46202 | 9020 Greenridge Way  Indianapolis, IN 46278  (317) 471-8593 h  (773) 425-6939 c |

# General Information

## *Education*

Purdue University (Indianapolis) PhD Biological Chemistry 2008

University of Illinois (Chicago) MEng 2003

Chemical Engineering & Engineering Management

University of Michigan (Ann Arbor) BSE Chemical Engineering 2000

## *Positions*

### IUPUI IPREP Program Coordinator IUPUI Office of the Vice Chancellor for Research 2016- Present

### Visiting Asst. Res. Professor Department of Biochemistry & Molecular Biology 2015- Present

Adjunct Appointment Department of Biomedical Engineering 2016-Present

### Fellowships

Indiana University School of Medicine Department of Biochemistry & Molecular Biology

Mentor: Clark D. Wells 2011-2015

Advisor: Thomas D. Hurley 2009-2015

Argonne National Laboratory Division of Material Science 2008-2009

Mentor: Millicent Firestone

Advisor: Ursula Perez-Salas

### Undergraduate Research Assistant

##### University of Michigan Department of Chemical Engineering 1999-2000

Advisor: Henry Wang

University of Michigan Medical School Medical Education Department 1996-2000

Advisor: Larry Gruppen

## *Awards & Honors*

# Biophysical Society Student Travel Grant 2008

# LSAMP Indiana & Midwest Crossroads AGEP Joint Conference 1st Place Poster 2006

# IUPUI Graduate Student Organization Travel Award 2005

## *Professional & Scholarly Associations*

# Biophysical Society (BPS) 2007-Present

# American Chemical Society (ACS) 2007-Present

Preparing Future Faculty (PFF) IUPUI Summer Institute 2007

Preparing Future Faculty (PFF) HUTEP Summer Institute 2006

Underrepresented Professional and Graduate Student Organization (UPnGO) 2004-2007

National Organization of Black Chemists and Chemical Engineers (NOBCChE) 1996-2011

# Teaching

## Indiana University - Purdue University Indianapolis

# Chem. & Chemical Biology Department – Visiting Lecturer 2006

Department – Part-Time Instructor 2002-2006

Chemistry Department – Tutor 2002-2006

Mathematical Science Department – Tutor & Supervisor 2002-2003

# Service

## *University*

NIH IPREP Grant (Student Selection Committee) 2014-Present

Underrepresented Professional and Graduate Student Organization (UPnGO)

President 2005-2007

Treasurer 2004-2005

## *Professional*

# American Chemical Society (ACS)

Committee on Minority Affairs - Chair Communications Subcommittee 2014-Present

Committee on Minority Affairs (National, Associate) 2011-Present

Committee on Minority Affairs Vice-Chair Communications Subcommittee 2013-2014

Symposium Organizer “The Impact of Diversity and Inclusion” Fall 2013

# Organization of Black Chemists and Chemical Engineers (NOBCChE)

## Midwest Regional Conference Advisory Board 2008-2011

## Indianapolis Biotechnology Conference Planning Advisor 2007-2011

## Local Chapter Conference Chair 1997-1998

# Research

## *Funding*

### Current

National Institute of Health NIGMS: 5R25GM109432 (Program Coordinator) 2016-Present

“IPREP: IUPUI graduate preparation for the biomedical and behavioral sciences”

National Cancer Institute: NIH K01CA169078-01 (Principle Investigator) $482,972 2012-2017

“Defining the role of Amot lipid binding in cellular proliferation and migration”

### Pending

National Institute of Health: R21 (Principle Investigator) $275,000 2017-2019

“Regulation of Mammary Cell Polarity by Amot130”

National Science Foundation: MCB (Principle Investigator) $622,231 2017-2021

“Biophysical mechanisms of lipid organization involved in protein targeting linked to changes in cellular plasticity”

### Past

# IUPUI Summer Multidisciplinary Undergraduate Research Institute (Principle Investigator) 2016

# IUPUI Summer Multidisciplinary Undergraduate Research Institute (Co-Principle Investigator) 2015

# [Supplemental](http://www.niaaa.nih.gov/) Fellowship: NIH R01-AA18123S1 (Thomas Hurley, R01 Principle Investigator) 2009-2012

Eli Lilly Foundation Grant (Biotechnology Conference, Principle Investigator) 2008-2011

IUPUI Gateway to Graduation Departmental Grant (Principle Investigator) 2007

National Science Foundation: GAAN Teaching Fellowship (Graduate Student)2006

## *Kimble-Hill Research Group*

Lindsay Richardson (IUPUI BME Intern) 2016-2017

Seth Sears (IUPUI MURI, IUPUI UROP) 2016-2017

Cameron Peck (IUPUI MURI, IUPUI UROP) 2015-2016

## *Former Kimble-Hill Research Group Members*

Daniel Bose (IUPUI MURI) 2016

Jon Gritt (Purdue W. Lafayette) 2016

Hunter Johnson (IUPUI MURI) 2015, 2016

Rut Thakkar (IUPUI MURI) 2016

Brianna Duncan (Purpose of Life Ministries, ACS Project Seed) 2014, 2016

Piiamaria Virtanen (IUPUI MURI, IUPUI UROP) 2015-2016

Haben Gebre (American Chemical Society Project Seed, Avon High School) 2015-2016

Nawara Abufares (IUSM LHSI, IUPUI MURI, IUPUI UROP) 2014-2016

Simran Gurdasani (IUPUI MURI) 2015

Hunter Johnson (IUPUI MURI) 2015

Niha Qureshi 2015

Kaitlyn Stickel (IUPUI MURI) 2015

Sui Tin Tial (IUPUI MURI) 2015

Antoinette Timah (IUPUI DSRP) 2015

Justin Niehaus (IUSM LHSI) 2014-2015

Jaylen Ray (Purpose of Life Ministries) 2014-2015

Le’Celia Hall (Bridges to the Baccalaureate) 2013-2015

Emily Donovan (IUPUI UROP) 2013-2014

Ariane Wier (Bridges to the Baccalaureate) 2014

Amanuel Araya (Project Seed) 2014

Hakeem Bryant (Project Seed) 2014

Mai Khuu (IUSM LHSI) 2013-2014

Maria Harlan (IUSM LHSI) 2013-2014

Michael Araya (Project Seed) – Stanford C/O ’18, Gates Fellow 2013

Eniola Idowu (IUPUI DSRP) 2013

Muftau Sogbade (IUPUI Chemistry Capstone) 2012-2013

Emily Donovan (IUSM LHSI) 2012-2013

Ilse Jimenez-Segovia (IUPUI UROP) – IUSM C/O ‘19 2012-2013

Ilse Jimenez-Segovia (IUPUI LSAMP) 2012-2012

Tirra Shelton (IUPUI LSAMP) 2011-2011

Daijah Asumang (Covenant Christian High School) 2011

## *Selected Publications*

### Submitted for Review/Articles in Process

1. Kimble-Hill, A. C., Seifert, S., Petrache, P. I., Firestone, M. A., “Investigations into the lipid platform necessary for Amot-phosphatidylinositol association”. *BBA Biomembranes* (Dec. 2016)
2. Peck, C. J., Virtanen, P. S., Johnson, D. E., Hudmon, A., Kimble-Hill, A. C., “A predicted structure of the Amot coiled coil homology domain”. *J. Structural Biology*. (Dec. 2016)

### Peer Reviewed Publications

#### Johnson, M. A., Seifert, S., Petrache, P. I., Kimble-Hill, A. C., “Phase coexistence in single-lipid membranes induced by buffering agents”. Langmuir. (2014) 30 (33): 9880-9885.

#### Kimble-Hill, A. C., Parajuli, B., Chen, C.-H., Mochly-Rosen, D.**,Hurley, T. D**. "Development of selective inhibitors for aldehyde dehydrogenases based on substituted indole-2, 3-diones." Journal of Medicinal Chemistry (2014) 57(3):714–722.

#### Minner, D. E., Herring, V. L., Siegel, A. P., Kimble-Hill, A., Johnson, M. A., & Naumann, C. A. “Iterative layer-by-layer assembly of polymer-tethered multi-bilayers using maleimide-thiol coupling chemistry”. Soft Matter. (2013) 9(40):9643-9650.

#### Kimble-Hill, A. C. “A review of factors affecting the success of membrane protein crystallization using bicelles”. Frontiers in Biology. (2012) 1-12.

#### Khanna, M., Chen, C.-H., Kimble-Hill, A. C., Parajuli, B., Perez-Miller, S., Baskaran, S., Kim, J., Dria, K., Vasiliou, V., Mochly-Rosen, D.**, Hurley, T. D**. “Discovery of a novel class of covalent inhibitor for aldehyde dehydrogenases”. Journal of Biological Chemistry. (2011) 286(50):43486-94.

#### Siegel, A., Kimble-Hill, A.C., Garg, S., Jordan, R., Naumann, C. A. “Native ligands change integrin sequestering but not oligomerization in raft-mimicking lipid mixtures”. Biophysical Journal. (2011) 101(7):1642-1650.

#### Parajuli, B., Kimble-Hill, A.C., Khanna, M., **Ivanova, Y., Meroueh, S., Hurley, T. D**. “Discovery of novel regulators of aldehyde dehydrogenase isoenzymes” Chemico-Biological Interactions. (2011) 191:153-158.

### Book Chapters

Anliker, K., Breen, N., Kelley, C., Kimble-Hill, A., Malik, D., Mills, J., Nguyen, M., Wyma, R. Computational molecular modeling. *Experimental Chemistry I* (2008) 9th Ed.

## *Invited/Referred Presentations to Professional Meetings*

Northeastern University Chemistry & Chemical Biology Department's Colloquium 2016

IUPUI Biomedical Engineering Departmental Seminar 2016

University of Michigan Biophysics Departmental Seminar 2014

Selected Poster Presentation (ACS/Colloid Division) 2014, 2015

Graduate Student and Postdoctoral Researcher Symposium (ACS/Biochem Div) 2013

Biophysical Society Regional Imaging Meeting 2012

Indiana LSAMP Annual Meeting 2010

IUPUI AFRO-A106 (AFRICAN DIASPORA PERSPECTIVES) 2010

## Oral Presentations at Professional Meetings

1. Kimble-Hill, A. C., Firestone, M., Johnson, M., Petrache, H., Seifert, S. “Phase coexistence in lipid membranes induced by buffering agents and charged lipid head groups”. 59th Biophysical Society National Meeting, February 2015.
2. Johnson, M. A., Petrache, H., Firestone, M., Hurley, T., Wells, C., Kimble-Hill, A. “Phosphoinositol lipid phase separations in Amot-membrane association”. 247th American Chemical Society National Meeting, March 2014.
3. Kimble-Hill, A. C., et al. "Toward understanding the role of lysines and arginines in angiomotin lipid binding." 246th American Chemical Society National Meeting, September 2013.
4. Kimble-Hill, A., Malik, D. J., Soto, N. Using instructor and student perspectives to increase student success in general chemistry laboratories. *Abstracts of Papers, 20th Biennial Conference on Chemical Education,* 2008.

## Non-Refereed Addresses, Symposia, and Poster Presentations at Professional Meetings

1. Virtanen, P., Petrache, H. I., Kimble-Hill, A. C. “Structural characterization of the ACCH domain of angiomotin family members”. 251stAmerican Chemical Society National Meeting, March 2016.
2. Peck, C., Kimble-Hill, A. C., “Determining the structure for Amot80, 130, and L2”. 251stAmerican Chemical Society National Meeting, March 2016.
3. Abufares, N., Kimble-Hill, A. C., “Targeting the role of tyrosine in Amot protein-lipid binding events”. 251stAmerican Chemical Society National Meeting, March 2016.
4. Hall, A., Abufares, N., Araya, M., Idowu, E., Jimenez-Segoia, I., Peck, C., Hurley, T. D., Wells, C. D., Kimble-Hill, A. C., “Toward understanding the role of various amino acids in Amot lipid binding”. Indiana CTSI Statewide Structural Biology Conference, March 2016.
5. Kimble-Hill, A. C., Abufares, N., Gebre, H., Petrache, H. I., Hurley, T. D., Wells, C. D. “Role of tyrosines within Amot as a driver for protein-lipid association”. 250th American Chemical Society National Meeting, August 2015.
6. Kimble-Hill, A. C., Petrache, H. I., Wells, C. D., Hurley, T. D. “Using biophysical chemistry to modulate the activity of aldehyde dehydrogenases and Amot family proteins”. 250th American Chemical Society National Meeting, August 2015.
7. Kimble-Hill, A. C., Hall, L., Johnson, M. A., Arraya, M., Idowu, E., Jimenez-Segoia, I., Firestone, M. A., Petrache, H. I., Hurley, T. D., Wells, C. D. “The Goods, the Bad, and the Ugly: Charges & their role in lipid phase separation”. Hitchhiker’s Guide to the Protein Galaxy (Purdue University), May 2015.
8. Abufares, N., Kimble-Hill, A. C., “Targeting the role of tyrosine in Amot protein-lipid binding events”. Hitchhiker’s Guide to the Protein Galaxy (Purdue University), May 2015.
9. Hall, L., Kimble-Hill, A. C. “Defining the roles of various lysines and arginines in Amot lipid binding”. 247th American Chemical Society National Meeting, March 2014.
10. Khuu, M., Kimble-Hill, A. C. “Toward understanding the role of amot130 lipid binding in cellular proliferation and migration”. Biophysical Society National Meeting, February 2014.
11. Donovan, E., Hurley, T. D., Wells, C. D., Kimble-Hill, A. C. “Toward understanding the role of amot80 lipid binding in cellular proliferation and migration”. Biophysical Society National Meeting, February 2014.
12. Harlan, M., Kimble-Hill, A.C., Hurley, T. D., Wells, C. D., “The function of Amot dimerization in lipid binding”. Biophysical Society National Meeting, February 2014.
13. Kimble-Hill, A.C., Johnson, M., Firestone, M. A., Petrache, H. I., Hurley, T. D., Wells, C. D., Seifert, S. “The role of phosphoinositol lipids in amot membrane association”. Biophysical Society National Meeting, February 2014.
14. Jimenez-Segovia, I., Firestone, M. A., Petrache, H., Hurley, T. D., Wells, C. D., Kimble-Hill, A. C. "Towards determining the structures of Angiomotin coiled-coil homology domains." 246th American Chemical Society National Meeting, September 8-12, 2013.
15. Kimble-Hill, A. C., Parajuli, B., K., Chen, C.-H., Mochly-Rosen, D.**, Hurley, T. D**. Selectively inhibiting the active site cysteine of aldehyde dehydrogenases. *Abstracts of Papers, 245th ACS National Meeting* (2013).
16. Kimble-Hill, A. C., Jimenez-Segovia, I., Firestone, M. A., Hurley, T. D., & Wells, C. D. (2013). Toward understanding the role of angiomotin lipid binding in cellular proliferation and migration. *Biophysical Journal*, *104*(17), 594.

# Kimble-Hill, A. C., Younus, H., **Ivanova, Y., Meroueh, S., Hurley, T. D**. structure based inhibition of mitochondrial aldehyde dehydrogenase (ALDH2) Activity. *Biophys. J.* (2011) 100: 215.

# Kimble-Hill, A. C., Singh, D., Laible, P. D., Hanson, D. K., Porcar, L., Butler, P., Perez-Salas, U. Detergent localization in model proteo-bicelles. *Biophys. J.* (2009) 96: 453.

1. Anliker, K., Breen, N., Kelley, C., Kimble-Hill, A., Malik, D., Mills, J., Nguyen, M., Wyma, R. Computational molecular modeling. *Experimental Chemistry I* (2008) 9th Ed.
2. Kimble-Hill, A., Garg, S., Jordan, R., Naumann, C. **Biophysical mechanisms of protein recruitment to raft domains studied using planar model membranes: Recruitment by native binding ligands versus GPI-anchored proteins**. *Biophys. J.* (2008) 94: 310.
3. Kimble-Hill, A., Naumann, C. Protein recruitment to raft domains: A planar model membrane study. *Abstracts of Papers, 233rd ACS National Meeting* (2007).
4. Kimble-Hill, A., Naumann, C. Biophysical mechanisms of protein recruitment to lipid rafts. *Poster Presentation, LSAMP Indiana & Midwest Crossroads AGEP Joint Conference* (2006).
5. Kimble-Hill, A., S. Garg, A. Siegel, R. Jordan, C. Naumann. Raft recruitment of Membrane Proteins by Native Ligands and GPI-Anchored Proteins: A Model Membrane Study, Biophys. J. (2009) 96:549.
6. Kimble-Hill, A., D. Singh, P. Laible, D. Hanson, L. Porcar, P. Butler, U. Perez-Salas. Detergent Localization In Model Proteo-bicelles, Biophys. J. (2009) 96:453.