Papa Kobina Van Dyck

kobbyvandyck.github.io
pvandyc2@nd.edu
+1 (678) 908-7486

Research Interests

Biophysics, Computational Biology, Protein Structure and Dynamics, Protein Electrostatics, Protein Engineering, Optical and Fluorescence Microscopy, and Cell Biology

Education

University of Notre Dame (IN), *Doctor of Philosophy* *08/2020 - Present*
Biophysics
Advisor: Katharine A. White
Research: *Characterizing the molecular mechanisms of pH sensitive ionizable residue networks*

DePauw University (IN), *Bachelor of Arts(Hons.)* *08/2016 - 05/2020*
Cell and Molecular Biology
Minors in Statistics and Physics
Advisor : Pascal Lafontant
Research (Major Thesis): *Cauterization as a simple method for regeneration studies in the zebrafish heart*
Advisor: Emily Guinn
Research (Honors Thesis): *The effects of histidine tags on the energy landscape of Acyl Co-A Binding Protein*

Relevant Research

pH Sensitive Proteins and Cell Behaviors
Advisor: Katharine A. White - University of Notre Dame (IN) *05/2021 - Present*

Cardiovascular Regeneration Studies in the Zebrafish
Advisor: Pascal Lafontant - DePauw University (IN) *08/2017 - 05/2020*

Cellular Environment Effects on Protein Stability and Dynamics
Advisor: Emily J. Guinn - DePauw University (IN) *08/2018 - 12/2019*

Neuroimaging Data Science
Advisor: Joshua Vogelstein - Johns Hopkins University (MD) *05/2018 - 08/2018*

Publications

[1] **Papa Kobina Van Dyck** *, Natasha Hockaden, Emma C Nelson, Alyssa R Koch, Kamil L Hester, Neil Pillai, Gabrielle C Coffing, Alan R Burns, Pascal J Lafontant.* Cauterization as a simple method for regeneration studies in the zebrafish heart *Journal of cardiovascular development and disease 7 (4), 41*

Conference Talks

[1] **Characterizing the Molecular Mechanisms of pH Sensitive Ionizable Residue Networks**
Notre Dame Biophysics Conference *10/2022*

[2] **Characterizing pH Dependent Ionizable Residue Networks in Undrugabble Targets With SH2 Domains**
26th Annual John V. O'Connor Biochemistry and IBMS Research and Education Conference *10/2022*

[3] **Belonging and Optics of DePauw University's STEM Departments**
HSTEM 2021 NSF Conference *6/2021*

Poster Presentations

[1] **Characterizing the Molecular Mechanisms of pH Sensitive Ionizable Residue Networks**
ND/Purdue MedChem Graduate Symposium 2022 *10/2022*

[2] **Characterizing the Molecular Mechanisms of pH Sensitive Ionizable Residue Networks**
IU Simon Comprehensive Cancer Center Cancer Conference *10/2022*

[3] **Characterizing pH Molecular Mechanisms of Networks of Ionizable Residues**
Midwest Tumor Microenvironment Meeting 2022 *05/2022*

[4] **Characterizing pH Molecular Mechanisms of Networks of Ionizable Residues**
Chemistry-Biochemistry-Biology Interface Annual Symposium 2022 *05/2022*

[5] **Characterizing pH Molecular Mechanisms of Networks of Ionizable Residues**
Quantitative Biology Retreat *04/2022*

[6] **Characterizing pH Molecular Mechanisms of Networks of Ionizable Residues**
Harper Cancer Research Institute Cancer Research Conference *03/2022*

[7] **Characterizing pH Molecular Mechanisms of Networks of Ionizable Residues**
Biophysical Society Annual Meeting 2022 *2/2022*

[8] **Characterizing pH Molecular Mechanisms of Networks of Ionizable Residues**
AfroBiotech Conference 2021 *10/2021*

[9] **Characterizing pH Molecular Mechanisms of Networks of Ionizable Residues**
25th Annual John V. O'Connor Biochemistry and IBMS Research and Education Conference *10/2021*

[10] **Belonging and Optics of DePauw University's STEM Departments**
HSTEM 2021 NSF Conference *6/2021*

[11] **Examination of the effect of a Histidine tag and pH on the energy landscape of ACBP.**
Experimental Biology Conference *4/2020*

[12] **Cautery Injury Response in Zebra Fish**
Indiana Physiological Society Annual Meeting *3/2020*

[13] **Examination of the effect of a Histidine tag and pH on the energy landscape of ACBP**
Midwest Conference on Protein Folding, Assemblies, & Molecular Motions 5/2019

[14] **Structure, Development, and Functional Morphology of the Cement Gland of the Giant Danio**
Indiana Physiological Society Annual Meeting *3/2019*

Leadership & Outreach

Black In Biophysics (Grad Student Volunteer)	*01/2023-Present*
Berthiaume Institute for Precision Health (BIPH) (Molecular Recognition-Student Leader)	*09/2022-Present*
Being Human in STEM- Notre Dame (Course Planning)	*07/2022-Present*
Grad Student Government Stipend Ad Hoc Committee	*07/2022-Present*
University Committee for Libraries (Grad Student Representative)	*07/2022-Present*
University Council for Academic Technologies(Grad Rep)	*07/2022-Present*
Graduate Student Government (Academic Affairs Chair)	*06/2022 - Present*
DePauw Alumni Panels- Physics and Mathematics	*05/2022*
Biophysics Interview Weekend (Organizer)	*01/2022-01/2023*
Biophysical Society Student Chapter (Co-Founder)	*04/2021- Present*
Biophysics Student Selected Seminar Speaker (Organizer)	*04/2021*
Black Graduate Student Association (Treasurer)	*12/2020 - 09/2022*
Students of Color in STEM (Co-Founder)	*8/2018 - 05/2020*
First Year Experience Program	*05/2019 - 05/2020*
Being Human in STEM- DePauw Chapter	*01/2020 - 05/2020*

Mentoring

Elijah Gorski- Washington High School '24	*6/2022 - Present*
Eduarda Tartarella- Saint Mary's College'25	*6/2022 - Present*

Joshua Abebe- University of Notre Dame'23 *10/2022 - Present*

Achievements

Honors and Awards:

26th Annual John V. O'Connor Biochemistry and IBMS Research and Education Conference Presentation Award	*10/2022*
10th Annual Harper Cancer Research Day Poster Contest Award	*03/2022*
Biophysical Society Travel Grant	*11/2021*
Prindle Prize (Science Thesis Award)	*05/2020*
Douglas A. & Phyllis G. Smith Student Faculty Collaborative Award	*04/2019*
Winner- Science Ethics Bowl	*08/2017*
Science Research Fellowship	*08/2016*
Deans List (Fall 2016 - Spring 2020)	

Scholarships:

John S. & Dorothy M. Medaris Scholarship	*04/2017*
Dr. Hakki B Ogelman Endowed Scholarship (Physics Award)	*04/2017*
Bonner Scholarship	*04/2016*
Ubben DePauw Trust Scholarship	*04/2016*

Memberships

Biophysical Society

American Society for Biochemistry and Molecular Biology

Teaching Experience

DePauw University (IN)
Teaching Assistant

CHEM120: Structure and Properties of Organic Molecules (Fall 2018, Spring 2019, Fall 2019)

BIO241: Intermediate Cellular Biology (Spring 2020)

Academic Resource Center - Quantitative Tutor

Biology- Introductory Courses, Cell Biology, Molecular Biology, Genomics, Biostatistics, Bioinformatics

Chemistry- General Chemistry, Organic Chemistry

Physics- Introductory Courses, Modern Physics, Nuclear Physics, Classical Mechanics

Mathematics- Calculus 1-3, Introductory Statistics, Mathematical Statistics, Experimental Design & Statistical Methods, Statistical Computing, Statistical Model Analysis

Updated: January 24, 2023