

## **Exploring the Intersectionality of Engineering Postdoctoral Scholars in the LEGACY Scholars Program**

### **Ms. Jameka Wiggins, The Ohio State University**

Jameka Wiggins is a graduate student at The Ohio State University, pursuing a Ph.D. in Engineering Education with a specialization in Organizational Change in Higher Education and Industry and a Master's in Engineering Management. As a scholar and advocate, she seeks to amplify the voices of underrepresented groups in engineering by exploring their experiences, encouraging student and faculty engagement through critical questioning, and supporting these groups both personally and professionally.

### **Dr. Monica Cox, The Ohio State University**

Monica F. Cox, Ph.D., is Professor in the Department of Engineering Education at The Ohio State University.

### **Dr. Ayanna Howard, The Ohio State University**

Dr. Ayanna Howard is the incoming Dean for the College of Engineering at The Ohio State University. Previously, she was the Linda J. and Mark C. Smith Professor in Bioengineering and Chair of the School of Interactive Computing at the Georgia Institute of

# EXPLORING THE INTERSECTIONALITY OF ENGINEERING POSTDOCTORAL SCHOLARS IN THE LEGACY SCHOLARS PROGRAM

---

**Jameka Wiggins**

**Dr. Monica Cox**

**Dean Ayanna Howard**

**LEGACY Scholars:**

**Drs. Daniel Ewim, Tatiana Cuellar Gaviria, Colin Hisey, Martina Leveni, Leonardo Moraes, Shawanee' Patrick, Beenish Saba**



**Collaborative Network for  
Engineering and Computing Diversity  
(CoNECD) Conference 2024**

# Overview

01

**Foundations of LEGACY  
Postdoctoral Scholars  
Program**

02

**Background on Research-  
Informed Mentoring**

03

**Importance of  
Intersectionality**

04

**Incorporation of  
Intersectionality in Mentorship**

05

**Application:  
The Model at Work**

06

**Findings & Discussion**

# Foundations of the **LEGACY** Scholars Program

# LEGACY Scholars Program

Dean Ayanna Howard of The Ohio State University presented a bold vision to increase the number of underrepresented faculty in the College of Engineering under her leadership in June 2021.

## Goals

- Build and enhance scholarly communities in their fields, college, and university
- Increase of underrepresented postdocs that transition to faculty positions
- Establish quality mentoring relationships that advance the careers of scholars
- Enhance the research, teaching, and service portfolios of scholars



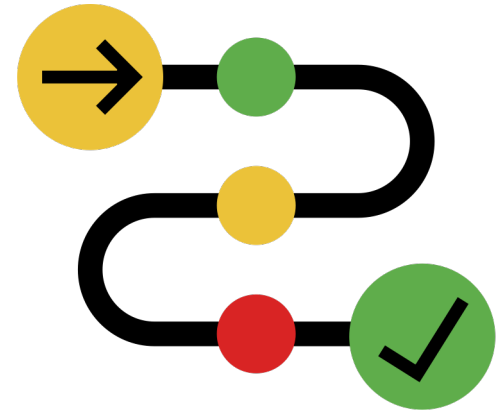
College of Engineering Dean Ayanna Howard



Dr. Monica Cox, LEGACY Program Director,  
and LEGACY Scholars

# Research-Informed Mentoring

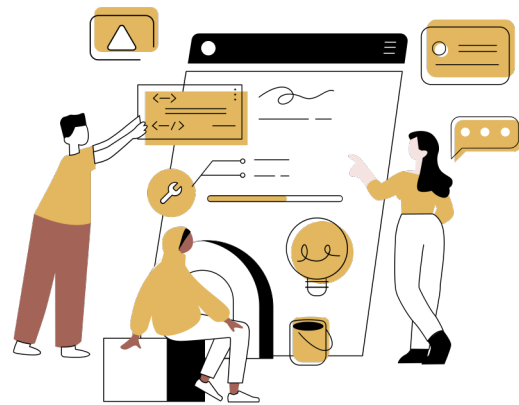
# Literature Review



The postdoctoral to professoriate pathway has become a notable means of transition (Rybarczyk et al., 2016).



Structural challenges postdocs face are due to a lack of support from their institutions (Rohn, 2011).



Studies have shown clear communication, support, and mutual respect lead to postdocs' increased productivity (Yadev et al., 2020).



The solution to postdoc challenges is structured mentoring and formal training (Davis, 2005).

# Importance of Intersectionality in Postdoctoral Scholar Development



# Intersectionality Defined

Multiple forms of inequality or disadvantage that compound & create obstacles that often result in the theoretical erasure of multiple minoritized identities (Crenshaw, 1989)

Uses lens of power and oppression

Focuses on convergences of multiple identities & how the combination plays out in various settings (Delgado, Stefanic, and Liendo, 2012)

Racism is Ordinary

Unique Voice of Color

Interest Convergence

Core Tenets of Critical Race Theory (CRT) (Delgado et al., 2012)

Anti-Essentialism

Differential Radicalization

Intersectionality

# Intersectionality



Institutional actors often ascribe to academia's myths of meritocracy & colorblindness leading to feelings of invalidation for minoritized students (McGee, 2016; Brockman, 2021).



Being conscious of the intersectional nature of issues and individuals is essential for effective mentoring (Brown & Montoya, 2020).



Negative postdoc experiences have been tied to mentors' cultural, racial, or gender biases and distrust of identity or expertise (Karalis et al., 2022).



(Re)constructing institutional resources & acknowledging postdoc multiple identities & points of view as assets (Yadev et al., 2020).

# How LEGACY Incorporates Intersectionality into Mentorship

# LEGACY's Incorporation of Intersectionality



Intersectionality for our scholars is self-defined based on which identities (e.g., gender, race, professional status, positionality) most saliently align between them and their mentors.

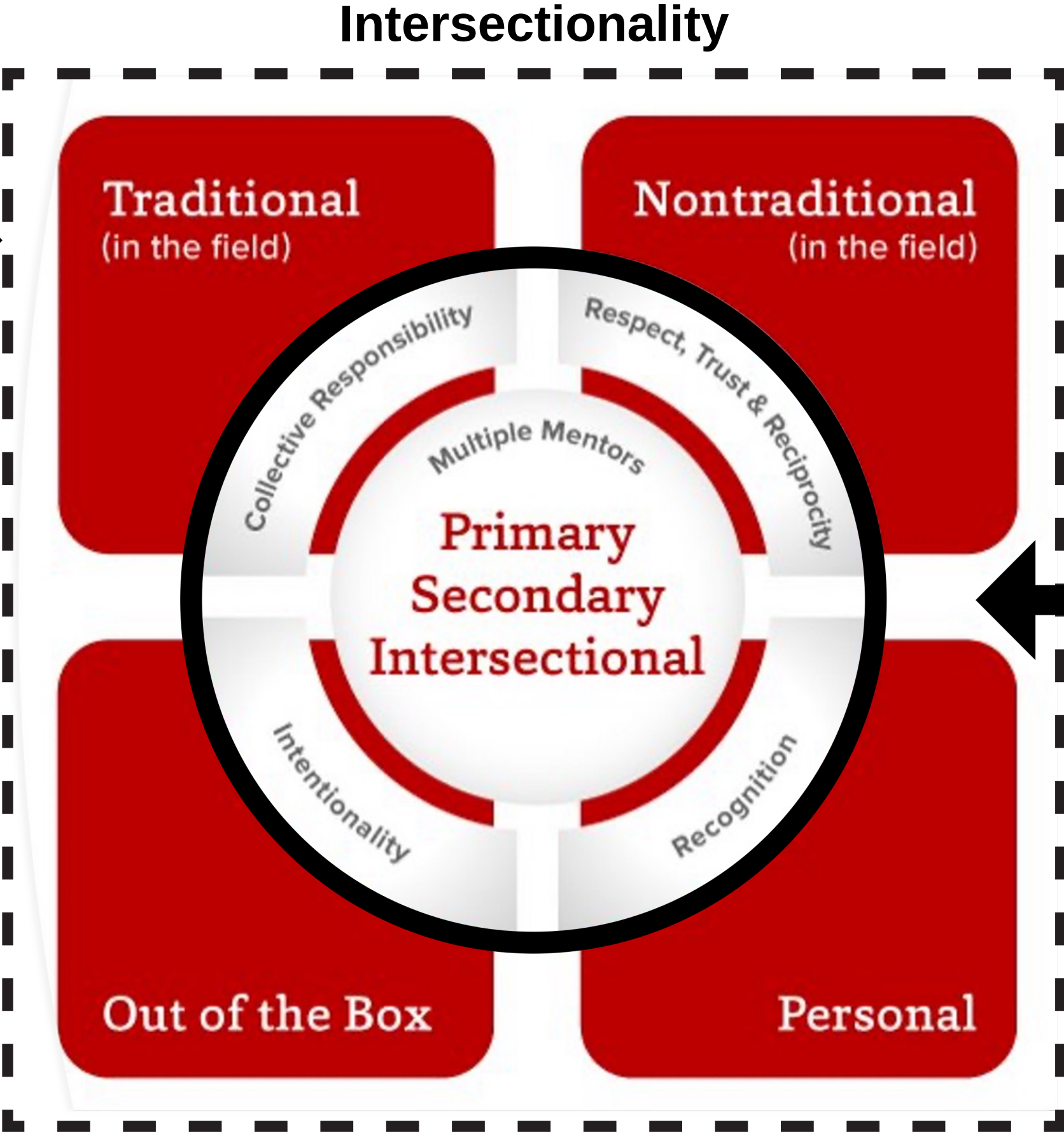


LEGACY uses intersectionality to neutralize power dynamics by working with engineering departments to aid in the matriculation of postdocs to faculty positions.

LEGACY uses intersectionality to challenge oppressive engineering department cultures by intentionally engaging departments in the mentorship of postdocs.

# Intersectional Mentorship Model

Marriage Mentor Model  
(Cox, 2015)

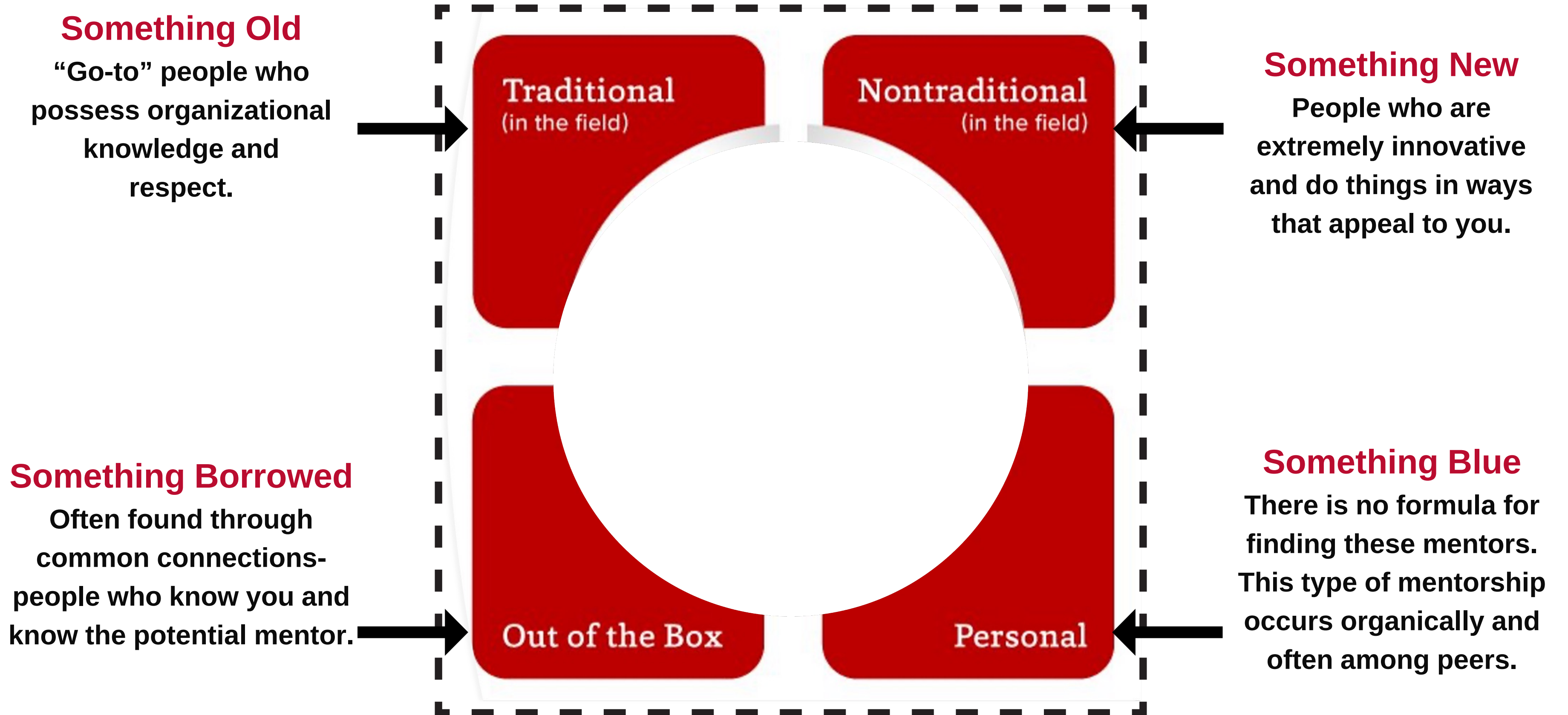


Multiple  
Apprenticeship  
Model  
(Walker et al., 2008)



# Marriage Mentor Model (Cox, 2015)

10



# Multiple Apprenticeship Model (Walker et al., 2008)

Each of these features should shape the relationship between the scholar and their mentors.

<b>Intentionality</b>	Faculty with scholarly and professional expertise help students <b>self-reflect</b> upon the process of creating scholarly ideas and communicating them to others in their field.
<b>Multiple Relationships</b>	Students engage with <b>numerous</b> intellectual mentors.
<b>Collective Responsibility</b>	All parties <b>share responsibility</b> for the development of students' learning.
<b>Recognition</b>	Allow individuals to learn mentoring techniques and be <b>recognized and rewarded</b> for demonstrating these techniques.
<b>Respect, Trust, Reciprocity</b>	Within a community, <b>individual differences are taken into consideration</b> and are acknowledged.

# Application: The Model at Work



# LEGACY Scholar: Dr. Colin Hisey



**Dr. Colin Hisey was in the first cohort of Scholars.**

*University of Dayton*

- Bachelor of Chemical Engineering (2010)
- Master of Science in Chemical Engineering (2011)

*University of Auckland*

- Hub for Extracellular Vesicle Investigations Research Fellow (2021)

*The Ohio State University*

- Master of Science in Biomedical Engineering (2014)
- Doctor of Philosophy Biomedical Engineering (2018)
- (Program Name) Postdoctoral Scholar (2021)

# Applied Intersectional Mentoring Model

## Traditional



**Dr. Zachary Shultz**  
(Chemistry & Biochemistry)



**Dr. Eduardo Reátegui**  
(Chemical & Biomolecular Eng.)

## Non-Traditional

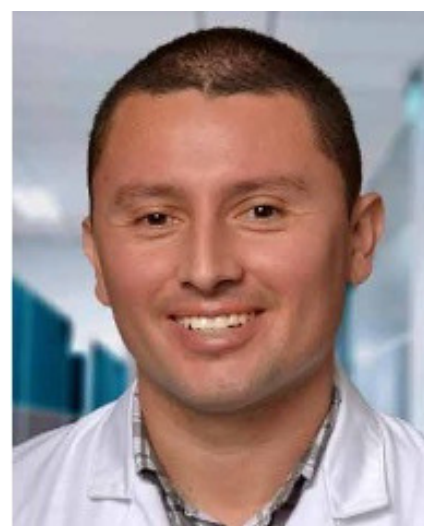


**Dr. Derek Hansford**  
(Biomedical Engineering)



**Dr. Tanya Nocera**  
(Biomedical Engineering)

## Out of Box



**Dr. Daniel Gallego-Perez**  
(Biomedical Engineering)



**Dr. Natalia Higuera-Castro**  
(Biomedical Engineering)



**Dr. Andre Palmer**  
(Chem. & Biomole. Eng.)

## NIH MOSAIC & Personal



**Dr. Russell Debose-Boyd,**  
(Molecular Genetics)



**Dr. Xia Ning**  
(Computer Sci. & Eng.)

# Findings & Discussion

# Findings

Intersectionality present across all elements of the model

Use an asset-based perspective and presume competence

Encourage scholars to facilitate the meetings and discussions versus dictating the conversation

Intersectional Mentorship Model elements rely on intersectionality and collective responsibility (i.e., multiple mentors)

Being attention to unique needs and identities of scholars

Provide space for authentic discussion, vulnerability, and collaborative learning

---

# Discussion

Our primary feedback to practitioners and researchers is to be attentive to unique needs and identities of scholars and the co-development of their experiences.

Features of the Intersectional Mentorship Model align with intersectionality, celebrate scholars, and encourage collective responsibility versus individualistic ideals.

# Future Work

Conduct interviews with Program mentors to examine their experiences and knowledge of mentorship.

Investigate more deeply Program postdoc scholars' experiences to examine the influences of multiple identities on matriculation to faculty positions.

LEGACY Website



**Thank you for listening!**

References



# EXPLORING THE INTERSECTIONALITY OF ENGINEERING POSTDOCTORAL SCHOLARS IN THE LEGACY SCHOLARS PROGRAM

Please feel free to contact us or visit our website:

## **LEGACY Postdoctoral Scholars Program**

Program Director Monica Cox, Ph.D.: [cox.1192@osu.edu](mailto:cox.1192@osu.edu)

Graduate Research Associate: [wiggins.195@buckeyemail.osu.edu](mailto:wiggins.195@buckeyemail.osu.edu)

Website: <https://engineering.osu.edu/legacy-scholars-program>

## **Jameka Wiggins**

Ph.D. Candidate

Graduate Research Associate

Engineering Education

The Ohio State University