

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

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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.

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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

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Dean Ayanna Howard

LEGACY Scholars:

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



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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



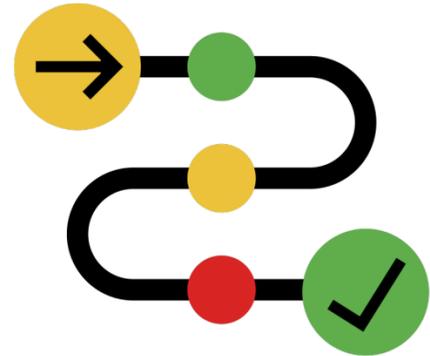
College of Engineering Dean Ayanna Howard



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.

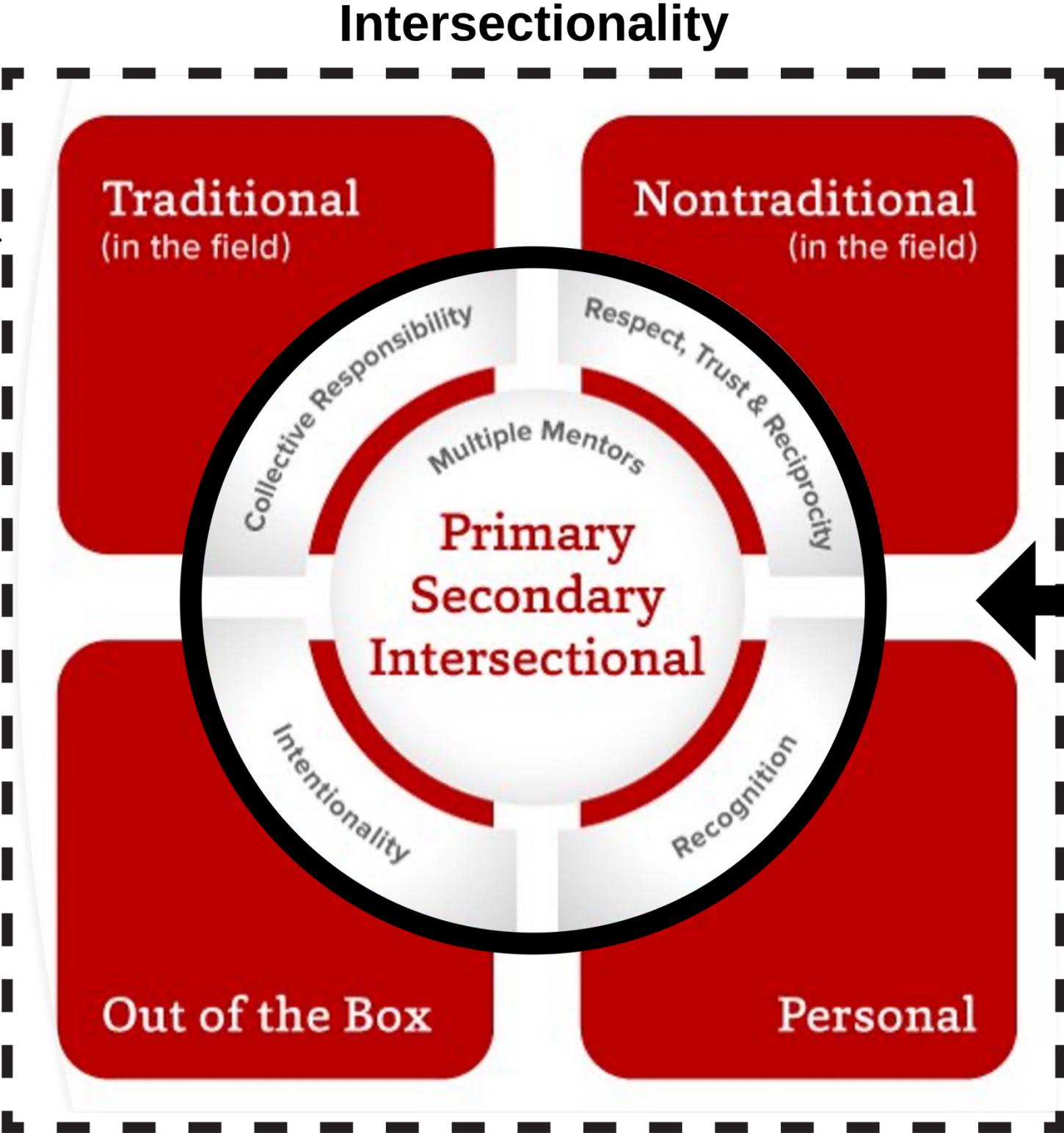


LEGACY uses intersectionality to neutralize power dynamics by working with engineering departments to aid in the matriculation of postdocs to faculty positions.

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

Intersectional Mentorship Model

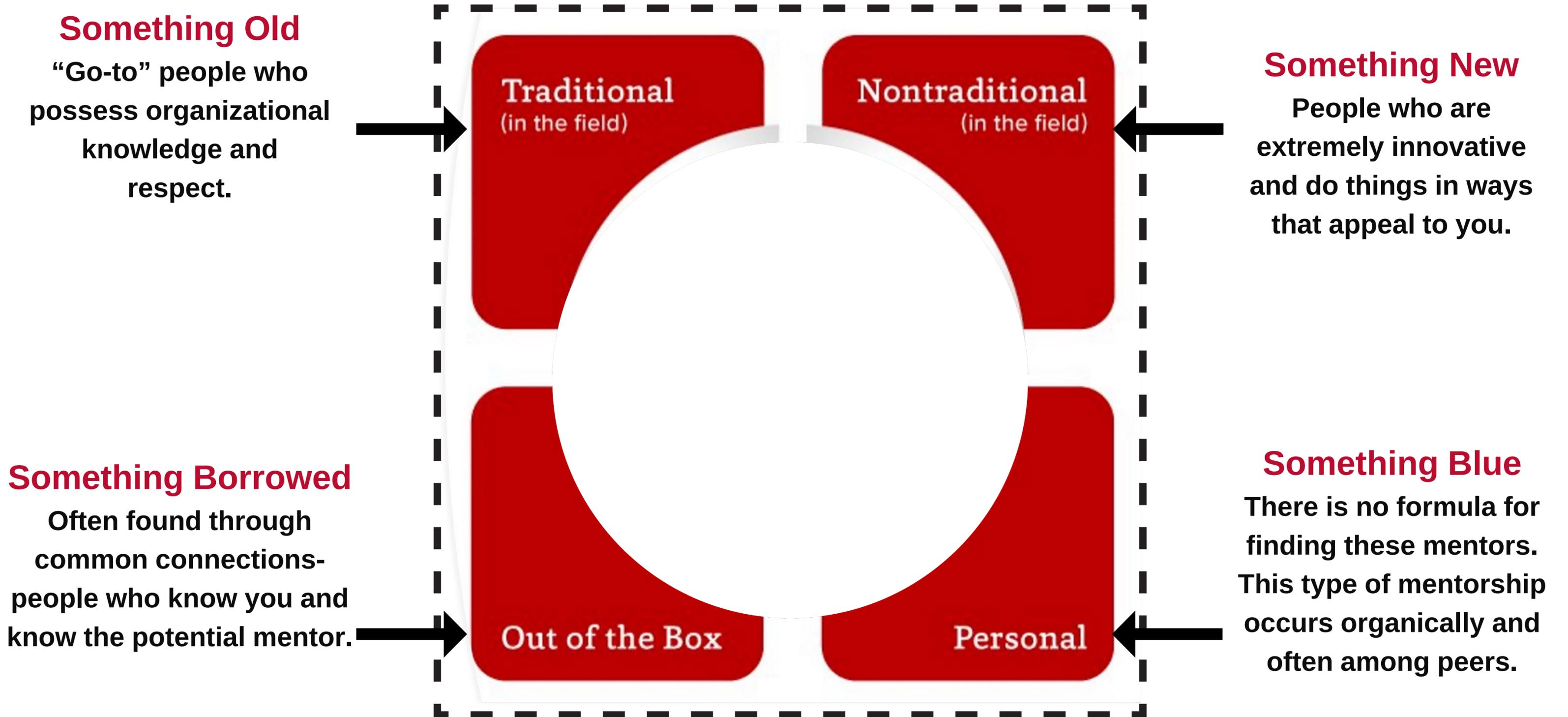
Marriage Mentor Model
(Cox, 2015)



Multiple
Apprenticeship
Model
(Walker et al., 2008)



Marriage Mentor Model (Cox, 2015)



Multiple Apprenticeship Model (Walker et al., 2008)

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

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



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Please feel free to contact us or visit our website:

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