

Series Title: pgEd: Bringing together educators and researchers for conversations about the ethical, legal and social implications (ELSI) of genetics:

Session Title: Beyond Mendel: Leading with Complexity when Teaching Human Genetics

Date: Thursday May 11, 2023 6-7 pm ET [with discussion from 7-7:30 pm ET led by Gill McNeil]

Speakers: Shawneequa Callier, JD, MA & Eimear Kenny, PhD

Moderator: Rob O'Malley, PhD

Biographies:

Panelist: Shawneequa Callier, JD, MA

Biography: <https://elsihub.org/directory/shawneequa-callier>

Panelist: Eimear Kenny, PhD

Biography: <https://icahn.mssm.edu/profiles/eimear-kenny>

Moderator: Rob O'Malley, PhD

Biography: <https://elsihub.org/directory/robert-c-omalley>

Rob O'Malley, PhD

Link to Personal Genetics Education Project Homepage: <https://pged.org/>

Link to session one on “Exploring Difference in the Biology Classroom: How to represent wide-ranging family structures and personal identities using the latest pedigree nomenclature”:
<https://elsihub.org/video/exploring-difference-biology-classroom-how-represent-wide-ranging-family-structures-and>

Link to session two on “Engaging with Genetic Disability and Difference”:
<https://elsihub.org/video/exploring-difference-biology-classroom-engaging-genetic-disability-and-difference>

Link to session three on “What Genetic Ancestry Tests Mean (and What They Don't):”
<https://elsihub.org/video/exploring-difference-biology-classroom-what-genetic-ancestry-tests-mean-and-what-they-dont>

Shawneequa Callier, JD, MA

Link to June 2000 White House Event transcript:

<https://www.genome.gov/10001356/june-2000-white-house-event>

Link to Baker et al. (2017): <https://doi.org/10.1038/s41598-017-01837-7>

Link to Social Determinants of Health (Healthy People 2030):

<https://health.gov/healthypeople/priority-areas/social-determinants-health>

Link to Paradies et al. (2015): <https://doi.org/10.1371%2Fjournal.pone.0138511>

Link to “What DNA reveals about St Helena’s freed slaves” by Ewen Callaway:

<https://www.nature.com/articles/540184a>

Link to Rotimi and Jorde (2010): <https://doi.org/10.1056/nejmra0911564>

Link to Payne (2014): <https://www.nature.com/articles/tpj201414>

Link to Addressing Sickle Cell Disease: A Strategic Plan and Blueprint for Action:

<https://nap.nationalacademies.org/catalog/25632/addressing-sickle-cell-disease-a-strategic-plan-and-blueprint-for>

Link to Dying in the City of the Blues by Keith Wailoo (2001):

<https://uncpress.org/book/9780807848968/dying-in-the-city-of-the-blues/>

Link to “6 Charts That Dismantle The Trope Of Asian Americans As A Model Minority” by Connie Hanzhang Jin (2021):

<https://www.npr.org/2021/05/25/999874296/6-charts-that-dismantle-the-trope-of-asian-americans-as-a-model-minority>

Link to “Racial purity is ‘scientifically meaningless’ say 8,000 geneticists” (2018):

<https://bigthink.com/neuropsych/racial-purity-is-scientifically-meaningless-say-8-000-geneticists/>

Link to Caste: The Origins of Our Discontents by Isabel Wilkerson (2020):

<https://www.penguinrandomhouse.com/books/653196/caste-by-isabel-wilkerson/>

Link to NIH Center for Research on Genomics and Global Health (CRGGH):

<https://www.genome.gov/about-nhgr/Center-for-Research-on-Genomics-and-Global-Health>

Eimear Kenny, PhD

Link to “Initial sequencing and analysis of the human genome” (2001):

<https://www.nature.com/articles/35057062>

Link to “The sequence of the human genome” (2001):

<https://www.science.org/doi/10.1126/science.1058040>

“The era of fast, cheap genome sequencing is here” (2022):

<https://www.wired.com/story/the-era-of-fast-cheap-genome-sequencing-is-here/>

Link to “Ultima Genomics Delivers the \$100 Genome” (2022):

<https://www.prnewswire.com/news-releases/ultima-genomics-delivers-the-100-genome-301557756.html>

Link to “Sequencing Instrument Launches in 2022 Portend Heated Competition” (2023):

<https://www.genomeweb.com/sequencing/sequencing-instrument-launches-2022-portend-heated-competition#.ZF1hauzMIUo>

Link to “Upstart Element ratchets up race for cheaper DNA sequencing with a \$200 genome”

(2023): <https://www.statnews.com/2023/01/11/element-dna-sequencing/>

Link to “A roadmap to increase diversity in genomic studies” (2022):

<https://www.nature.com/articles/s41591-021-01672-4>

Link to Landry et al (2018): <https://doi.org/10.1377/hlthaff.2017.1595>

Link to “Clinical Trials Have Far Too Little Racial and Ethnic Diversity” (2018):

<https://www.scientificamerican.com/article/clinical-trials-have-far-too-little-racial-and-ethnic-diversity/>

Link to Tekola-Ayele and Rotimi (2015): <https://doi.org/10.1159/000433518>

Link to Abul-Husn et al (2019):

<https://genomemedicine.biomedcentral.com/articles/10.1186/s13073-019-0691-1>

Link to “Genome-wide polygenic scores for common diseases identify individuals with risk equivalent to monogenic mutations” (2018): <https://doi.org/10.1038/s41588-018-0183-z>

Link to Martin et al (2019): <https://doi.org/10.1038/s41588-019-0379-x>

Link to “Transferability of genetic risk scores in African populations” by Kamiza et al (2022): <https://www.nature.com/articles/s41591-022-01835-x>

Link to Integrating Genomics into Healthcare: A Global Responsibility by Stark et al (2019): <https://doi.org/10.1016/j.ajhg.2018.11.014>

pgEd Resources

Find pgEd lesson plans here: <https://pged.org/lesson-plans/>

pgEd’s SNAPSHOTs are bite-size modules students can work through independently in 15-20 minutes. <https://pged.org/educational-resources-for-distance-learning/>

For the latest information on pgEd resources and events, join our mailing list: <https://pged.us6.list-manage.com/subscribe?u=f35187c0d89a85435fe3981a6&id=50b463345a>

Link to additional pgEd Resources (free): <https://docs.google.com/document/d/1Ub3P8JiS4-ZwSgM7X29PJgndgLY0-dx0t-eVFngaWfY/edit?usp=sharing>

CERA/ELSIhub Resources

A curated set of resources on ELSIhub for educators: <https://elsihub.org/news/elsihub-resources-educators>

Audience Discussion

Link to “Using Population Descriptors in Genetics and Genomics Research: A New Framework for an Evolving Field” by the National Academies of Sciences, Engineering, and Medicine (2023): <https://nap.nationalacademies.org/catalog/26902/using-population-descriptors-in-genetics-and-genomics-research-a-new>

Link to BSCS' Our Pursuit Towards a More Humane Genetics Education (2022) on the work of Dr. Brian Donovan:

<https://bscs.org/news/our-pursuit-towards-a-more-humane-genetics-education/>

Link to "Genes and Environment":

https://docs.google.com/document/d/17_PfgqVDTqAuZ5Up8yie0YYhw_TvN_vyrmeR8F5pYwk/edit?usp=sharing

Link to "Place, Policy, and Type 2 Diabetes":

<https://docs.google.com/document/d/1R-TdVf22ACU0X64DUcPHFxo3BwEAKZasGY5F7wsAUaw/edit?usp=sharing>

Like to NSTA (National Science Teaching Association): <https://www.nsta.org/case-studies>