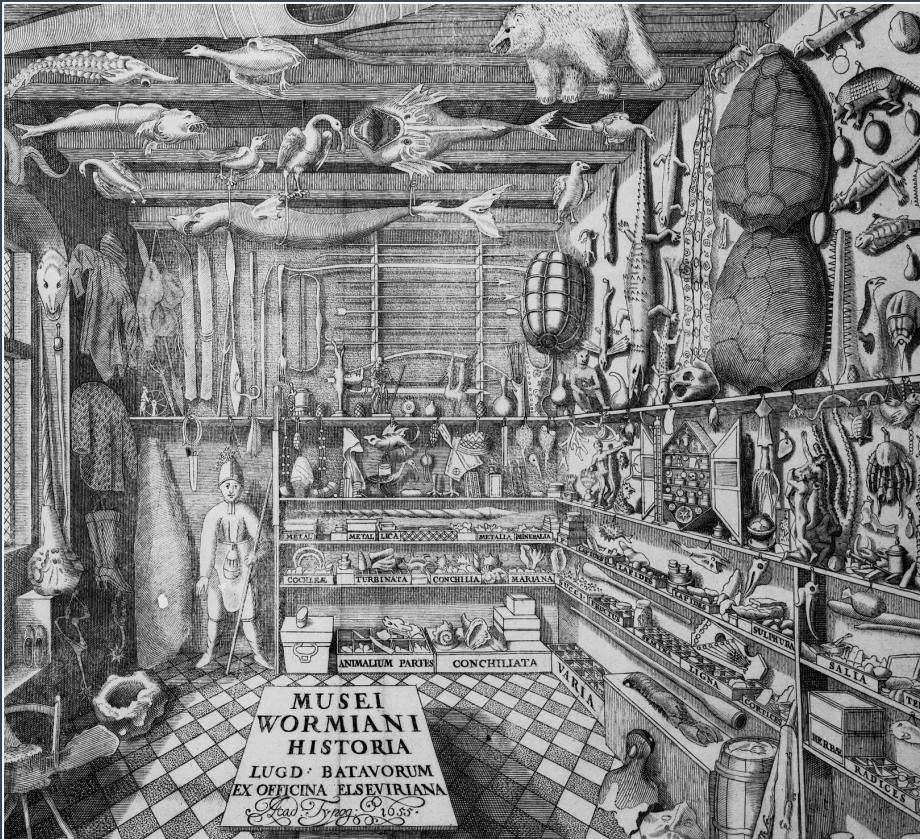


Uncovering Hidden Figures of Natural History Collections Using Digital Data Sleuthing & Storytelling

Authored by The Hidden Figures Working Group

"Musei Wormiani Historia" Ole Worm's Cabinet of Curiosities, ca. 1600



<https://wellcomecollection.org/works/mzvgyzb>

Meet the Hidden Figures Working Group



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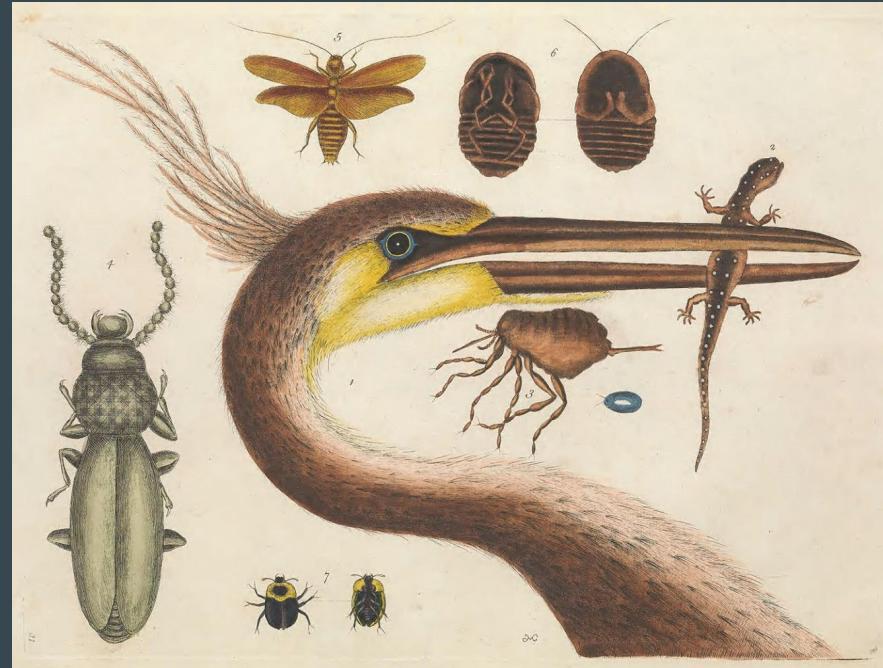
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Tennessee Tech
University



McKenzie Mabry
Florida Museum of
Natural History

Overview

1. Introduction to the problem
2. Making history personal through storytelling
3. Data sleuthing: brief workflow overview
4. Educational activities
5. Additional opportunities



Catesby and Edwards, 1771. *The natural history of Carolina, Florida, and the Bahama Islands*
<https://www.biodiversitylibrary.org/page/52786375>



Credit: Chip Clark/Smithsonian National Museum of Natural History



Roxie Laybourne. Credit: Chip Clark/Smithsonian National Museum of Natural History



Credit: The Trustees of the Natural History Museum, London



Credit: Chip Clark, Kristen N. Quarles/Smithsonian National Museum of Natural History

1. Introduction to the problem



1. Introduction to the problem



TASK **TUTORIAL**

Collected By

NEED SOME HELP WITH THIS TASK?

Collector Number

NEED SOME HELP WITH THIS TASK?

Month

Select...

Day

Select...

Year

Select...

NEED SOME HELP WITH THIS TASK?

Back **Done & Talk** **Done**



wedigbio.org

1. Introduction to the problem



Ex HERB. MRS. STILES M. RUST,

FILICES.

Marked *Pteris palmata*, Willd.
P. hastata, Raddei !?

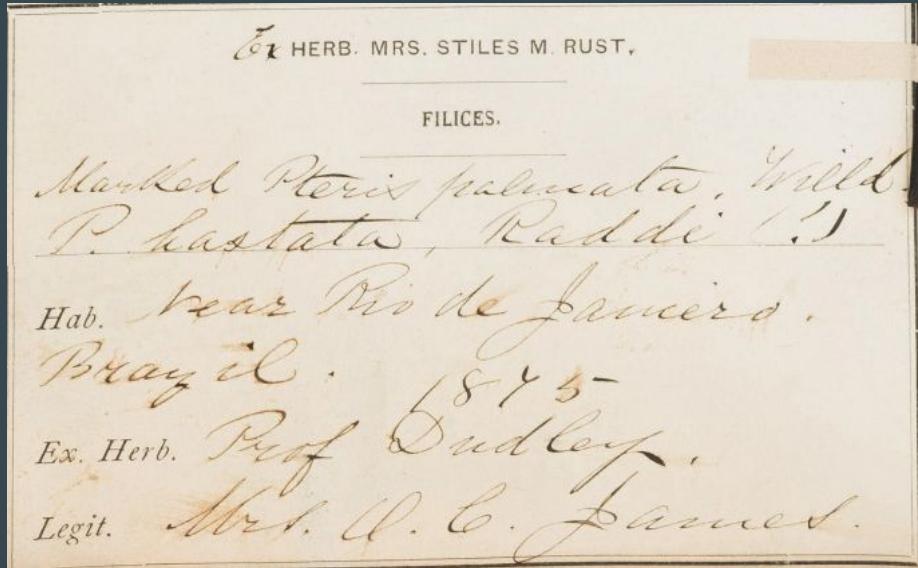
Hab. near Rio de Janeiro.
Brazil. 1875-

Ex. Herb. Prof. Dudley.

Legit. Mrs. C. L. Lanned.

Who are these collectors?

1. Introduction to the problem



“Mrs. O. C. James”



A recent finding by Siobhan
via data sleuthing

The problem is actually much bigger...



George Forrest's team of local Naxi people, included women. In his letters he described their toughness and practicality for the task of collecting.

<https://natsca.blog/2020/07/16/collecting-with-lao-chao-zhao-chengzhang-decolonising-the-collecting-trips-of-george-forrest/>

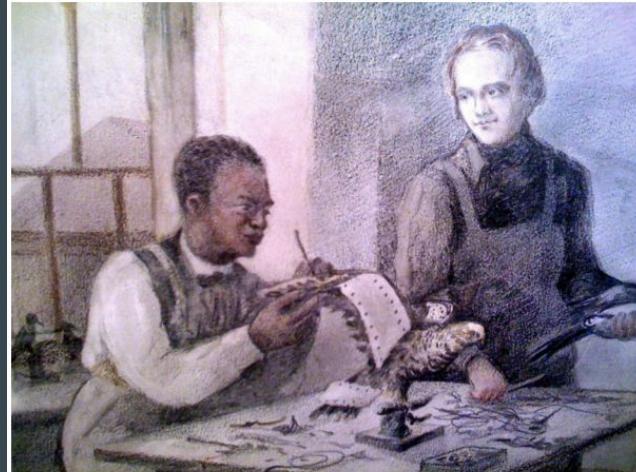
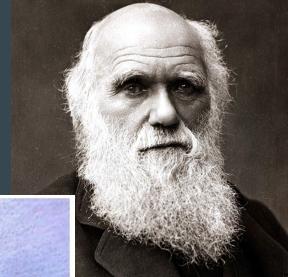


Figure 3. John Edmonstone, the freed Guyana slave who taught Charles Darwin how to preserve bird specimens.



Das, S., & Lowe, M. (2018). Nature read in black and white: Decolonial approaches to interpreting natural history collections. *Journal of Natural Science Collections*, 6, 4-14.

The problem is actually much bigger...



York

Lewis and Clark

Sacagawea

2. What can be done?

- Countless examples similar to these
 - Heros that made understanding the natural world possible
 - Future generations need to know:
 - Who these people are
 - What their stories are
 - Why it matters
- 2-part workflow
 - Connect people to their data when possible
 - If documentation is missing focus on the story.

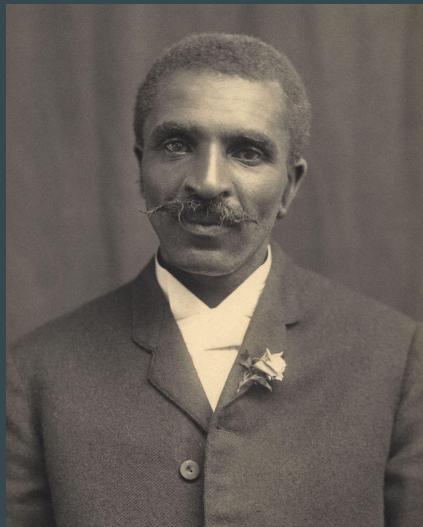


https://s.abcnews.com/images/US/roosevelt-1-gty-er-211120_1637430302601_hpMain_4x5_992.jpg

2. Storytelling

These hidden figures need their stories to be told.

Our goal is to empower students to become their storytellers.

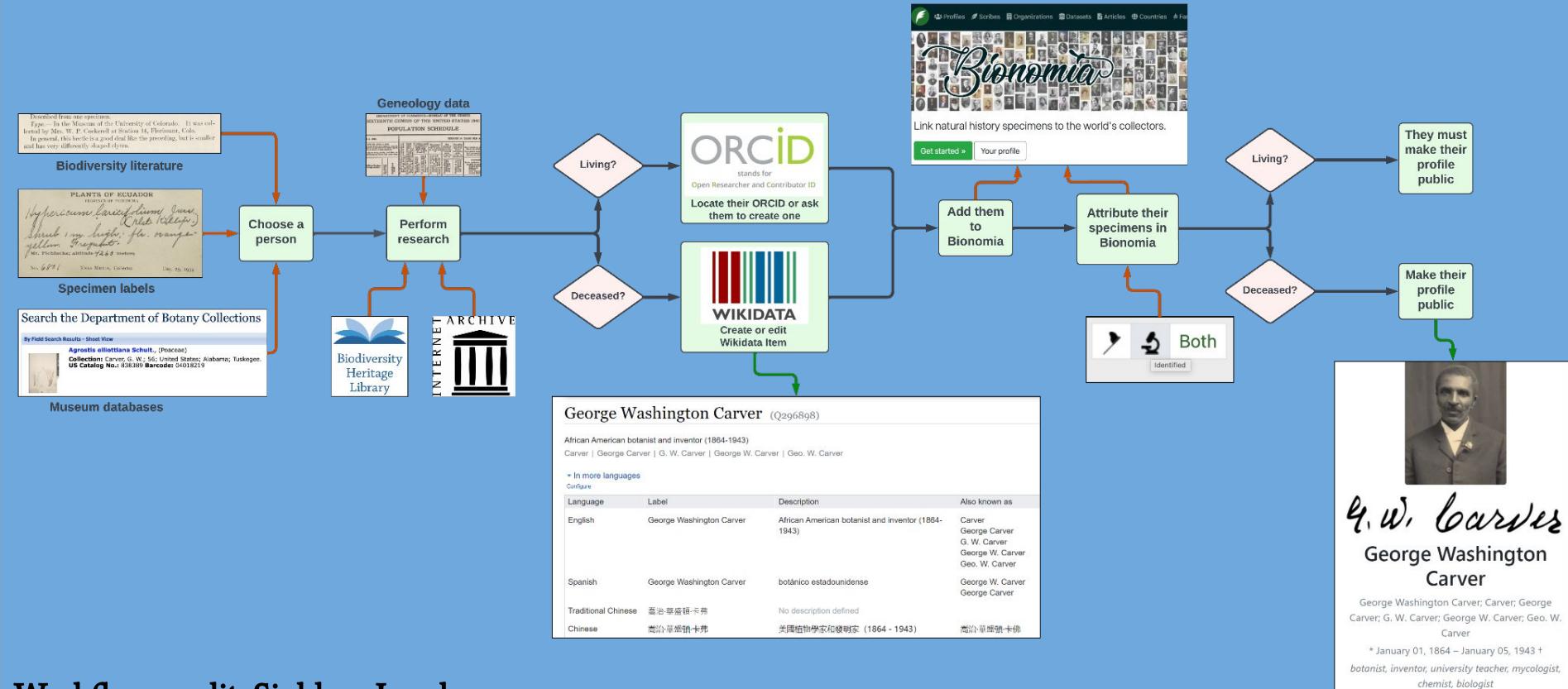


George Washington Carver,
credit: public domain



Sophie Lutterlough, credit:
Smithsonian Archives

3. Data sleuthing



Workflow credit: Siobhan Leachman

2. Storytelling

“Stories ... elicit an emotional response ... students can benefit from stories being used in courses ... to also increase their engagement with the material and thereby increasing their learning and retention of the information ... this engagement may even promote learning outside the classroom as students are inspired to continue their understanding of a topic.”

Csikar & Stefaniak, 2018. The Utility of Storytelling Strategies in the Biology Classroom. *Contemporary Educational Technology*, 9 (1): 42-60.

Even more importantly: stories provide insight into the shared experiences of marginalized groups, both historically and in present day.

4. Educational activities

- **BIOME** Summer Workshop 2022: Sparking IDEAS: Inclusive, Diverse, Equitable, and Accessible Communities in STEM Classrooms
- **BIOME** Fall working groups
- Continued through spring working on a CURE supported by **BCEENET**



SPARKING IDEAS
BIOME Institute 2022

Inclusive, Diverse, Equitable, and Accessible Communities in STEM Classrooms



4. Educational activities

Course-based Undergraduate Research Experience (CURE)

● Introductory module highlights:

- What are natural history collections and why are they needed?
- Read Das & Lowe 2018
- Learn how to annotate academic literature
- Class discussion on issues including scientific racism, decolonial views of natural history collections

● Intro to ORCID highlights:

- Why does it matter?
- Student Activity: Get yourself an ORCID!

Nature Read in Black and White: decolonial approaches to interpreting natural history collections

Subhadra Das^{1*} and Miranda Lowe²

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Citation: Das, S. and Lowe, M., 2018. Nature Read in Black and White: decolonial approaches to interpreting natural history collections. *Journal of Natural Science Collections*, 6, pp.4-14.

WORKING LIFE

By Johana Goyes Vallejos

What's in a name?

“I think it is ready to submit,” one of my Ph.D. committee members said. I was incredulous; the manuscript overflowed with red ink. But she was my biggest fan and my harshest critic; if she said it was ready, then it must be true. Now I needed to ask the question that had been nagging me since I began to work on the manuscript: “How should I publish my name?” “However you want,” she replied. “It is time for people to understand that Latin American scientists have two last names.”

Since I moved to the United States to pursue my Ph.D., my colleagues have had trouble pronouncing my first name; let alone my two very Hispanic-sounding surnames—my father’s first and then my mother’s, as is standard in most Spanish-speaking countries. And English-language publishing systems are often not designed for two last names. Using just one surname or connecting them with a hyphen, as many Hispanic scientists publishing their work in English do, would certainly make matters “easier.” But easier for whom? Growing up, I never met anyone whose last name was hyphenated. I have always been proud to use my two surnames, honoring both of my parents and my cultural heritage.



“I worried that I would face a career-long battle to publish my name as I want it.”

for not following my advice.” An editor-in-chief made a similar comment, stating, “You decide how your name should be spelled, but the options are your two surnames with a hyphen or just one of them.” I refused and ultimately published without the hyphen. Still, in the journal’s table of contents, my name appears incorrectly as “Vallejos, J.G.” And because other researchers sometimes cite my name incorrectly, my metrics—for example on Web of Science, Scopus, and Google Scholar—vary greatly, which could affect future job prospects and promotions.

“Two last names are too much for ‘them’ to handle, and they will butcher them anyway,” my Latin American friends say when explaining why they hyphenate or simply drop one of their

ORCID
stands for
Open Researcher and Contributor ID

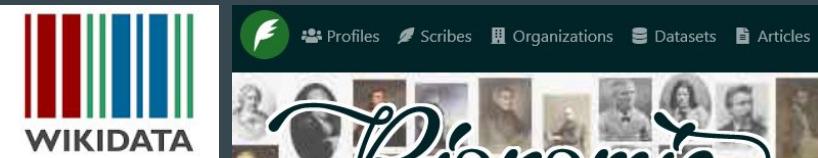
Goyes Vallejos, J. (2021, May 14). What's in a name? *Science*. <https://doi.org/10.1126/science.372.6543.754>

4. Educational activities

Course-based Undergraduate Research Experience (CURE)

- **On the horizon:**
 - The Importance of Stories In Science
 - Becoming An Internet Sleuth
 - An Introduction To BIONOMIA
 - Editing or Creating a Wikidata item
- **Another related educational resource (just out!):**

The screenshot shows the front page of an academic article. At the top, it says "Natural Sciences Education". Below that is a red banner with "ORIGINAL ARTICLE" and "Open Access". There are icons for CC BY-NC-ND and a person. The main title is "Student-focused, career-driven exploration in natural history museums through experiential education and mentorship: A model to intentionally increase the racial and ethnic diversity of students". The author's name is Adania D. C. Flemming. At the bottom, it says "First published: 12 December 2022 | <https://doi.org/10.1002/nse2.20097>".



Intentional Recruitment: at the heart of the model is "intentional recruitment" which will vary by institution but should ensure the target audience is made aware of the opportunities within the course model and encouraged to take the course.

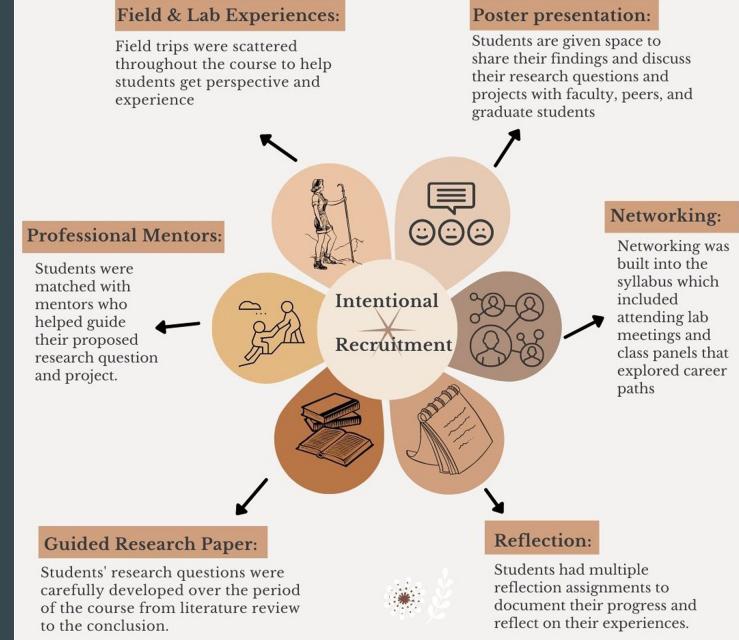
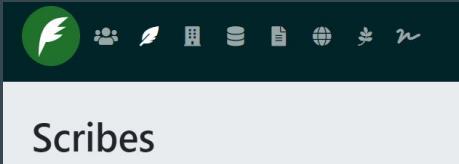


Figure 1: Introduction to Natural History course model components. Credit: A. Blackwell, CC BY-NC A. Flemming and A. Blackwell.

5. Additional opportunities

Become a scribe with Bionomia



Black in Natural History Museums

Get involved with BiNHMs by suggesting people to feature or by writing a profile
Email: blackinnhm@gmail.com

Contact us if you would like to be kept updated on module releases and other opportunities! Email: molly.phillips@bioquest.org

Consider participating in BioQUEST 2023

[https://qubeshub.org/
community/groups/
summer2023](https://qubeshub.org/community/groups/summer2023)



Share with your peers: get involved with SISRIS





Publish your Life Discovery Conference Materials on QUBES



LDC and BioQUEST are partnering this year to pilot a conference support resource. We want to make it easy for everyone who is presenting at LDC to publish their work in the QUBES OER Library.

When you publish On QUBES you get:

- A publicly accessible record of your scholarship with a full citation including a digital object identifier (doi)
- Your resource will be listed within the collection of LDC products on ESAs group page on QUBES.

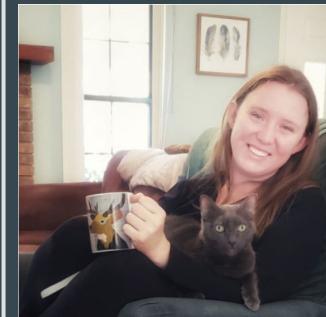


Scan me for everything
you need know

Learn More



- Scan the QR code or visit <https://tinyurl.com/s3zp8em7>
- Find Molly Phillips (BioQUEST Communications Lead) @ LDC to ask questions or get a quick demo.
- Drop by the ongoing BQ Office Hours (Weds @noon; Thurs @2 ET) <https://t.co/747FGhRhD7>
- Email info@bioquest.org with questions - we check it every day.



I am happy to help,
or to talk about
animals!

Acknowledgements

- BCEENET for support developing resources
- Working group member institutional support
- And also:
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 - Anna Monfils, Central Michigan University



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