

This presentation was given at the 2023 National Cybersecurity Education Colloquium



### Intro grant



### Our model



### Accomplishments to date

- Structure
- Number of teachers reached
- Number of teachers who participated



### Our team

Videos - clips



### Our Participants



### Employer Engagement:

- Leaders in the field
- 
- Younger people
- First year: Blue Origin
- AWS Skills Center and Panel
- Diversification in Year 3



### What's next for Year 3



### Beyond Year 3

- Replicable Model
- Teacher support
- Beyond CTE
- Dual Credit – not our mission and addressing it anyway. – Be sure to visit Dr. Marc Dupuis

# NCAE Cybersecurity Highschool Innovations CHI

This presentation was given at the 2023 National Cybersecurity Education Colloquium

Multi-state collaboration presented by Morgan Zantua, Assc. Professor, City University of Seattle



# NCAE Cybersecurity Highschool Innovations Grant: Replicable Model - 10 CAEs represented across 7 states

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# CHI Grant Objectives

1. Build a replicable delivery model
2. Prepare & Support high school teachers
  - Equip teachers with tools and labs
  - Integrate career strategies and tools
  - Deliver an engaging cybersecurity curriculum to their students
3. Model the pedagogical approach for the teachers
4. Deliver three years of curriculum and summer summits



North Idaho College



University of Idaho



NDSU CYBER SECURITY INSTITUTE



CityUniversity  
of Seattle

# CHI Grant Methodologies:

## Educational Trifecta

1. Embed career assessment and guidance into classroom
2. Build out three years of curriculum, resources and summer summits
3. Model pedagogical approaches
4. Continuous Educational Units (CEU) and Professional Development Units (PDU)
5. Industry professional connections
6. Peer mentors and curriculum coaches
7. Embedded evaluation for Continuous Quality Improvement



University of Idaho



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CityUniversity  
of Seattle

Curriculum & Educational Trifecta

Curriculum Team Leads

Nina Amey  
Terry Braught

Online instructors

Nina Amey  
Terry Braught  
Paul Morris  
Victor Valgenti  
Ed Goad  
Bob Quant  
Rob Honomichl  
Morgan Zantua

In person instructors

Marc Dupuis  
Nina Amey  
Paul Morris  
Rob Honomichl  
Victor Valgenti  
Michael Haney  
Terry Braught

School Districts, Administrators, Teachers

Recruiters by State

W. Sulmeister CO  
R. Quant ID  
M. Haney ID  
C. Simpson MT  
V. Valgenti MT  
Rosi Klobberdanz ND  
R. Honomichl SD  
M. Zantua WA

Self-generative Public, Private supports to teachers

Resource Developers by State & Region

W. Sulmeister CO  
R. Quant ID  
M. Haney ID  
V. Valgenti MT  
J. Straub ND  
Terry Braught OR  
R. Honomichl SD  
M. Zantua WA

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# North Dakota's State Perspective



# Structure

1. On-line synchronous and asynchronous Flexible Instruction
2. In-person Summer Summit – in Seattle
3. Diverse participant population
4. Supported Learning structure
  1. Labs
  2. Student worker assistant
  3. Peer Mentoring



# Lessons Learned Year 1 to Year 2 Curriculum Design

## Instructional Design

### Lessons Learned Between Y1 and Y2

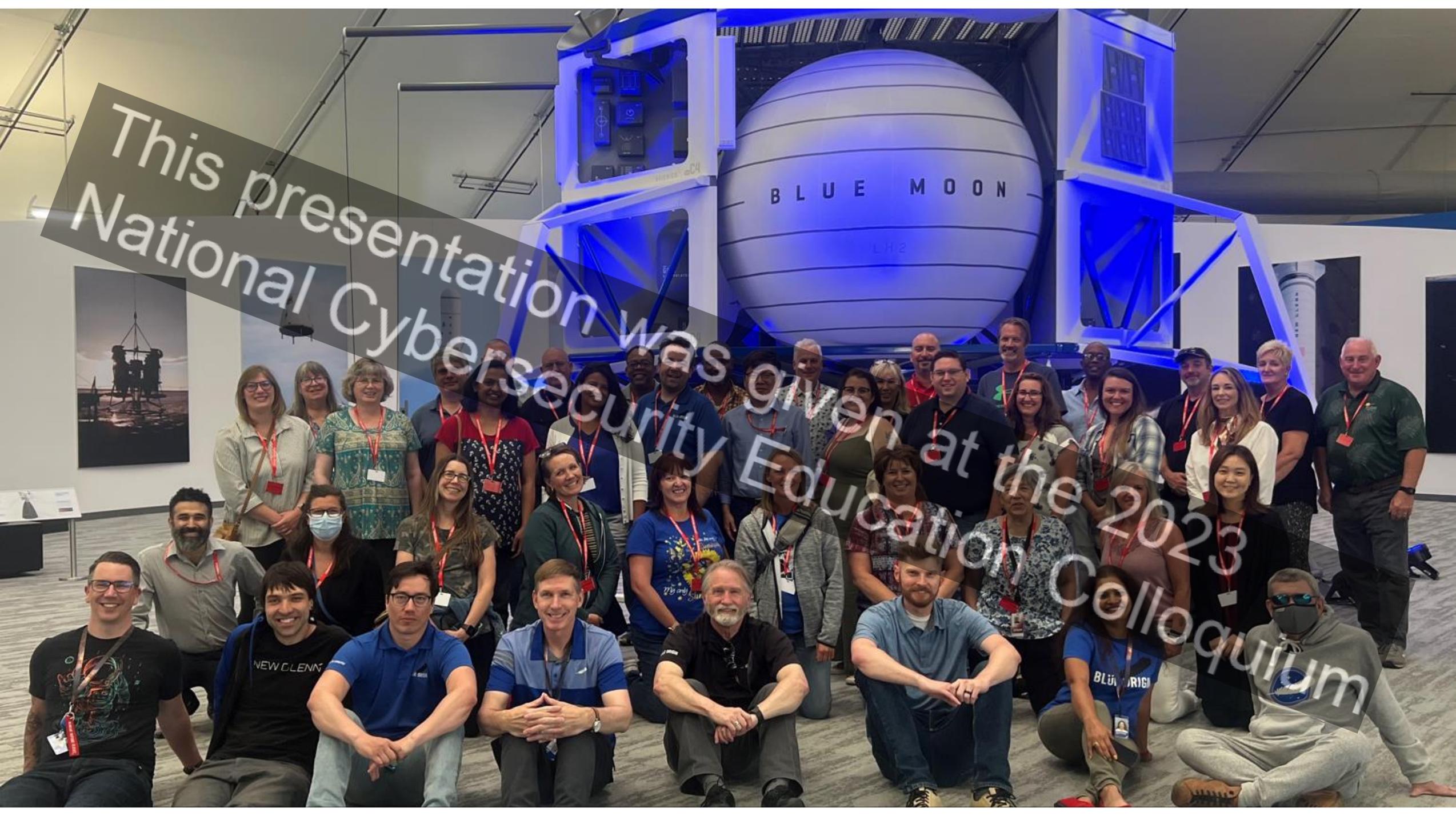
|  |  |
|--|--|
| Content Delivery Resourced versus Packaged | Variation between first & second year participants |
| Dedicated instructors                      | Instructional Teams                                |
| Industry Expert - Sages                    | Young Professionals - relatable                    |



# Year Two – Teaching SEC +

|                        |   |
|------------------------|---|
| Lab Implementation     | School, District, IT considerations   |
| Career Counseling      | Classroom & Subject focus<br>Connect learning to careers<br>Resource allocation |
| OER                    | Eager to Explore CLARK  |
| Business Collaboration |   |





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CISSE™

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## Will Longman

**2022 Industry Leadership of the Year**

Will Longman is the Chief Information Security Officer at [Blue Origin](#). Will has over 20 years of experience in successfully empowering organizations through strategic leadership and tactical excellence in security governance, risk management, and compliance programs.

Mr. Longman, a Navy veteran, worked as a high school vocational education teacher for four years before entering the industry cybersecurity sector. Upon hearing about Cybersecurity Highschool Innovations (CHI) volunteered, and with his team of cybersecurity professionals, developed a ten lesson high school curriculum for teachers using Phishing as the thread to support the NSA sponsored Cybersecurity High School Innovation Grant (H98230-21-1-0160).



**CLARK**



Faculty and Attendees of Year Two



AWS Skill Center  
Career Employer  
Panel

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AWS Skill  
Center  
Career  
Employer  
Panel



# Guest Speakers



- Top Row: Mike Hamilton, Joan Ross, James Taylor, MAJ Laura Dutton, Molley Edinborough
- Bottom Row: Casey O'Brien, Shamun Mahmud, MAJ Sameer Puri

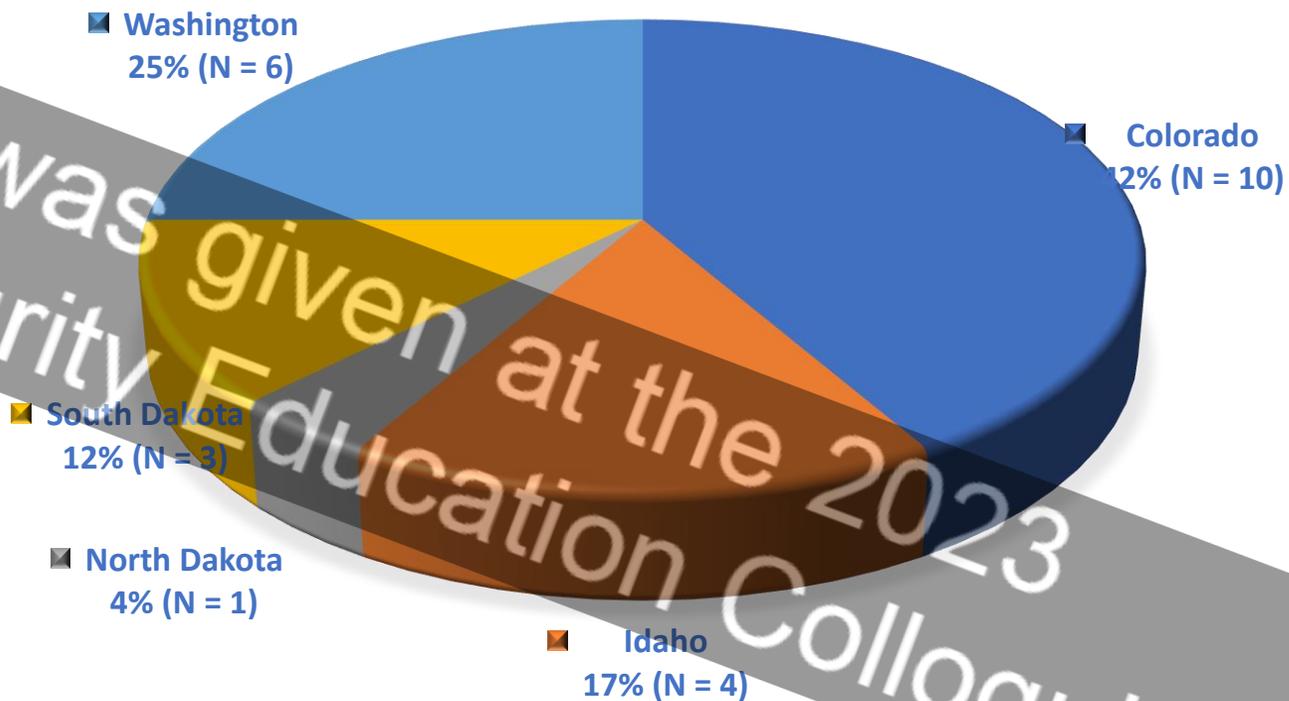
# South Dakota Teacher Perspective



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# Teacher numbers — 2022

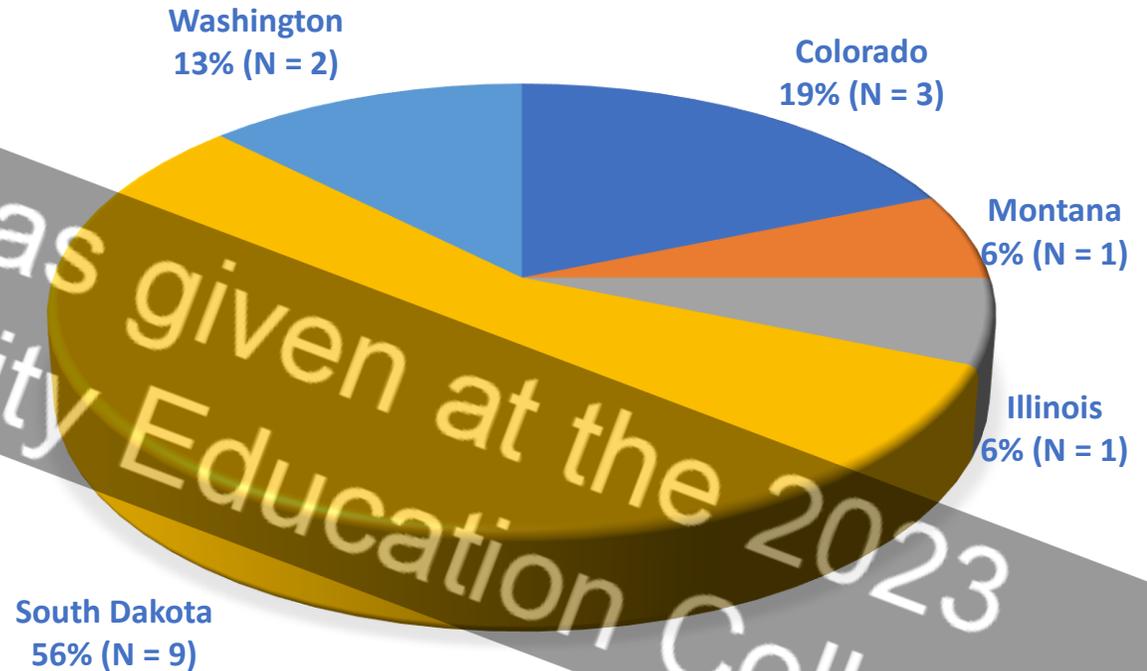
TEACHER NUMBERS (N = 24)



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# Teacher numbers – 2023 (Year One)

## TEACHER NUMBERS (N = 16)



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TEACHER NUMBERS (N = 12)

Teacher numbers  
– 2023 (Year Two)



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## Teacher Impact

- #’s reached out to

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RECRUITMENT CHALLENGE

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COVID (YR 1 OUTREACH WAS HARD) TEACHERS OVERWHELMED AND UNCERTAIN. WOULDN'T TRAVEL

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YR 2 – PENT UP OPPORTUNITIES – COMPETING AGAINST CYBER CAMPS, ETC. TEACHER BURN OUT. FAMILY VACATIONS. AMOUNT OF WORK AND RESPONSIBILITIES TEACHER HAVE IS DAUNTING. AND THEY ARE TOTALLY UNDERPAID.

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# Year 3

- Continue with Synchronous online instruction (June 10, 2024)
- Team teach together for five weeks
- Three locations for Summer Summits
- Leverage instructional resources – 3 years of content
- Model Public Private Partnerships



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Year 3 –  
After School  
Competitions/Clubs

- **Design Team**  
Paul Morris, Bob Quant, Terry Braught
- Curriculum – Crypto Kate
- Written online for coaches
- **Goals**
  - Teachers how to write their own challenges
  - Provide the club content (must be a second year teacher) Tuesday/Thursday
  - Learn how to Learn
  - Identify community-based competition coaches to assist teachers.



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Employer Teacher Engagement

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