



Fall Virtual First2 Conference 2023

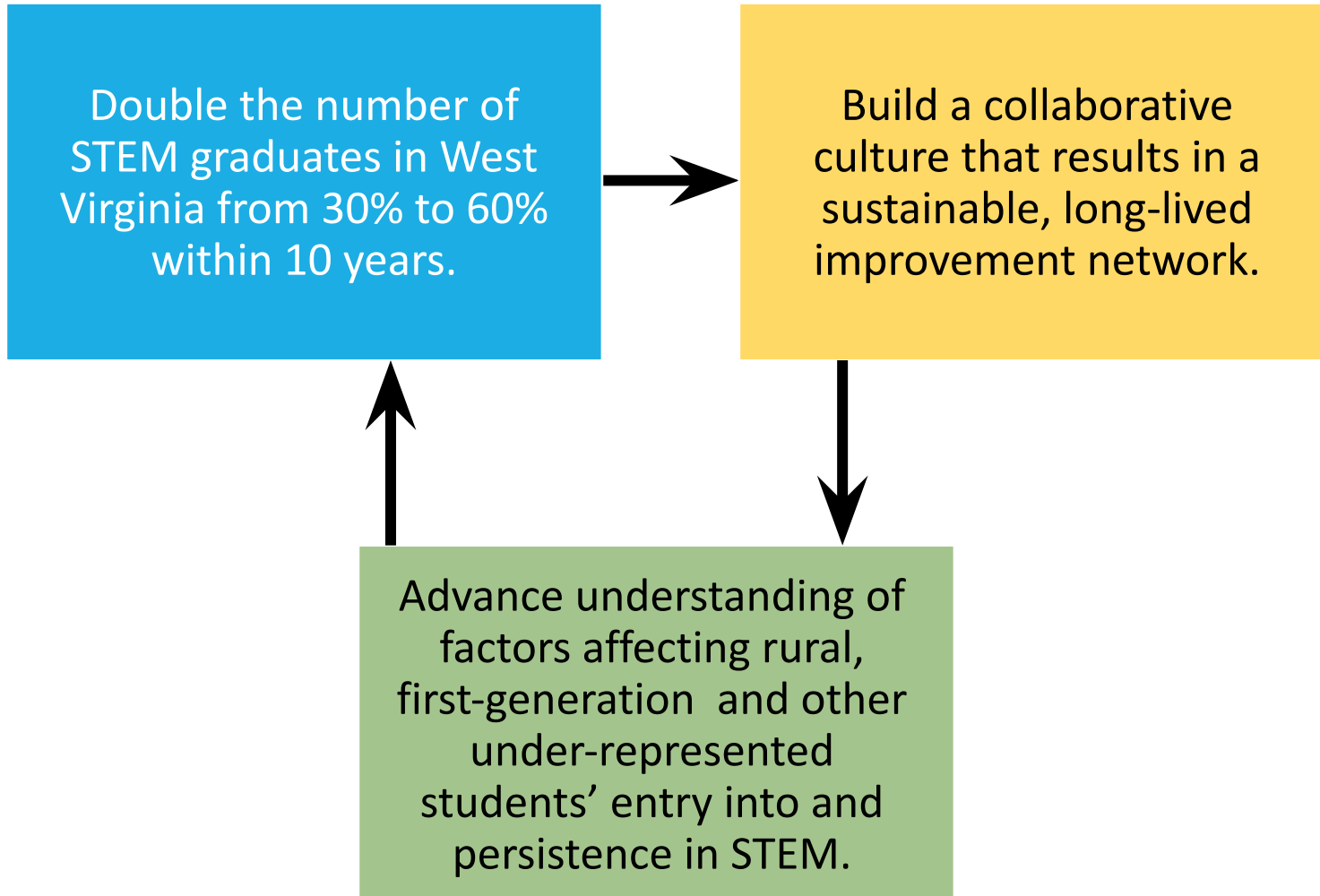
WELCOME

MC Dr. Heather Arnett



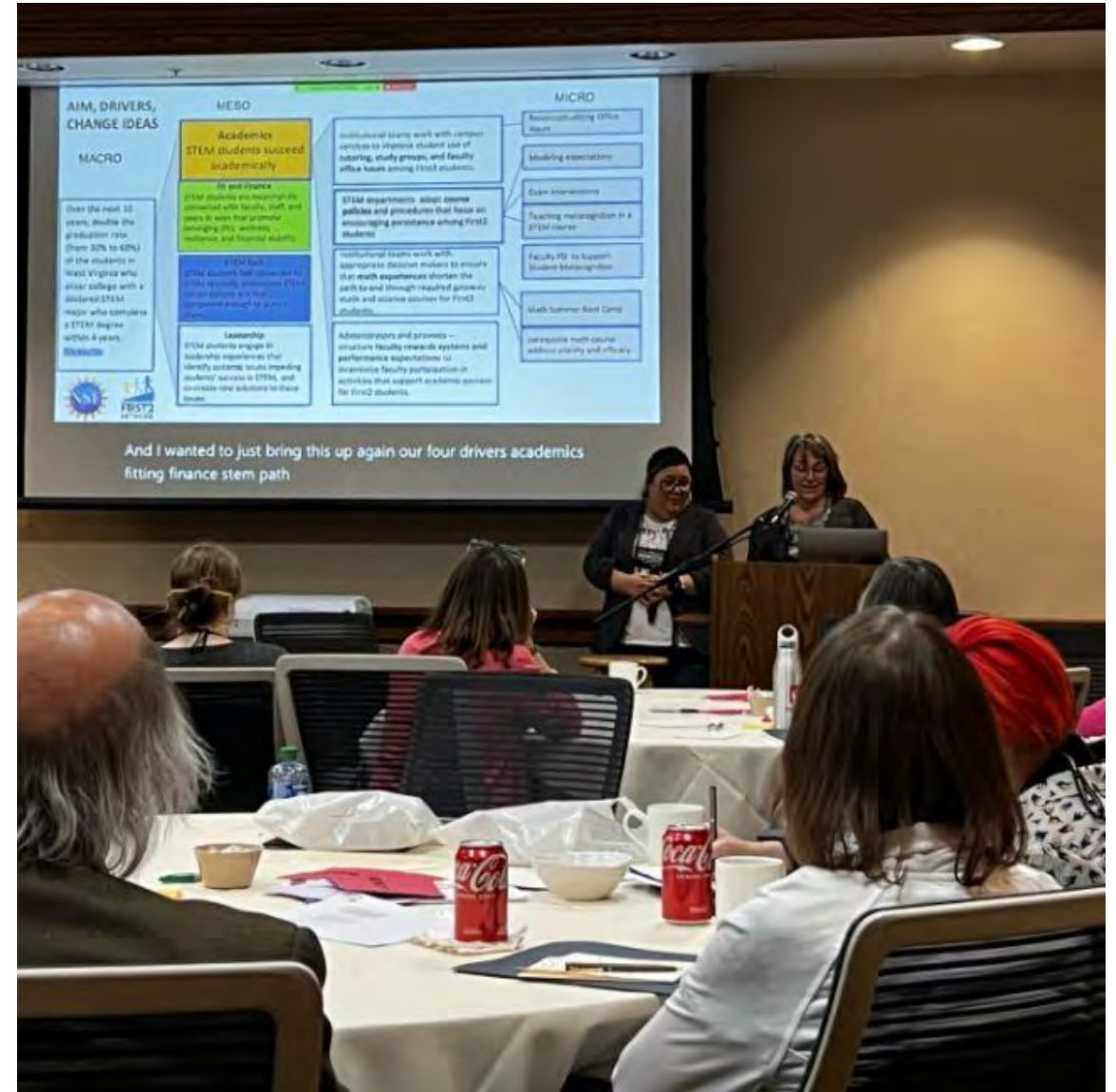


THE MISSION OF THE FIRST2 NETWORK



OUR PURPOSE

- **Learn** how to effectively engage and retain rural, first-generation and other underrepresented STEM students
- Work with institutions of **higher education and industry leaders** create opportunities for students early
- Work with college faculty and students across the state to
 - **drive changes to higher ed systems** that
 - These systems do not normally work well for first-generation and other underrepresented STEM students





LEARNING FROM STUDENTS: INVESTING IN PEER-LEADERSHIP FOR RETENTION

Students know failure points and fixes that “adultier adults” and systems don’t know

Students report willingness to persist when serving in leadership roles for others

Students report greater willingness to ask for help – and to do so sooner – with resourced peers



CHANGING THE NARRATIVE: WORKING ACROSS SILOS TO MAKE CHANGE

Student
Leadership

Campus
Engagement

Immersive
Experiences

College
Readiness

Industry
Advisory
Board

Student
Alumni

RURALITY, OPPORTUNITIES AND IMPACT



More rural; fewer cultural STEM opportunities.



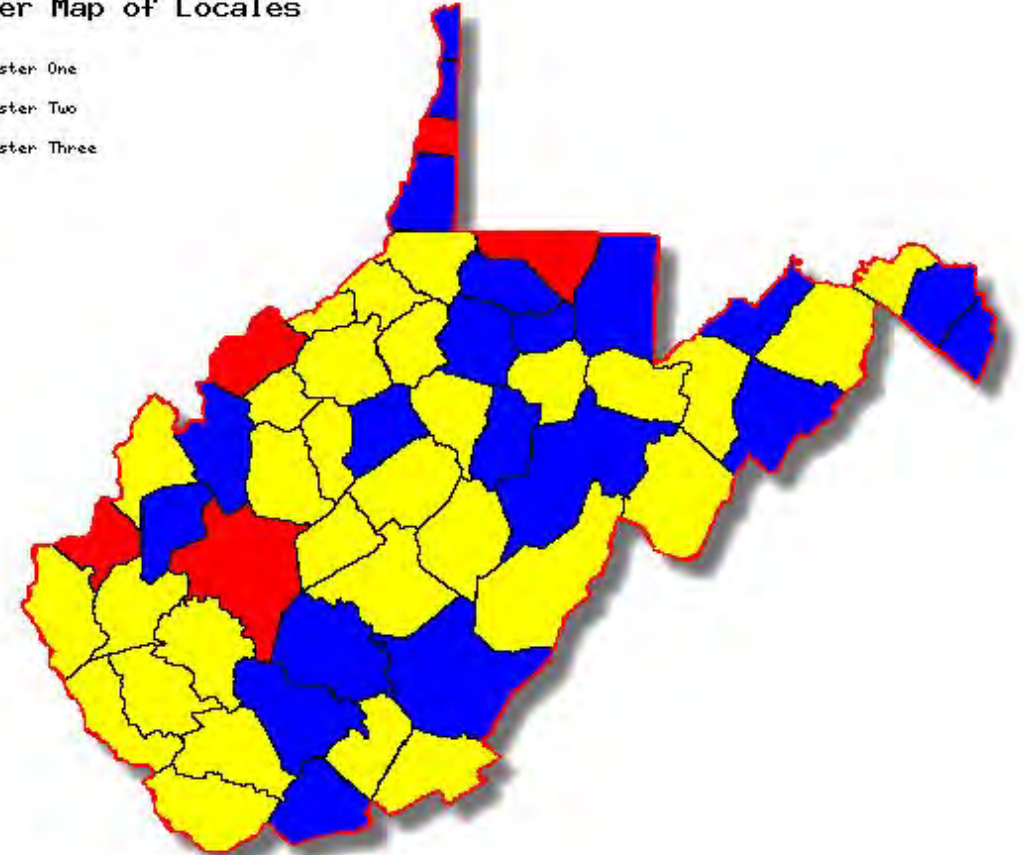
Lack of civic facilities depresses AP credit and High School GPA which in turn depresses college GPA.



College GPA influences persistence

Cluster Map of Locales

- - Cluster One
- - Cluster Two
- - Cluster Three



Source: diymaps.net (c)

BUILDING PARTNERS AND SUPPORT

Partners

Higher Education



Industry



Non-Profit



Government



Other Organizations



WHAT IS WORKING?

A 70% STEM persistence rate among the first cohort.

78% reported in year 3.

Statistically significant improvements following participation in First2 summer research immersion experiences:

- . School Belonging
- . STEM Identity
- . Knowledge About Research
- . Attitudes and Behaviors
- . About Research
- . Personal Skills
- . Research Skills



Connectivity and Growth through Improvement Science and Mentoring

- Conference Goals
 - Career connections, support, and mentoring
 - Improvement science expansion to focus on sharing ideas and data, as well as understanding outcomes and learning

Connection*Inclusion*Support



Connectivity and Growth through Improvement Science and Mentoring

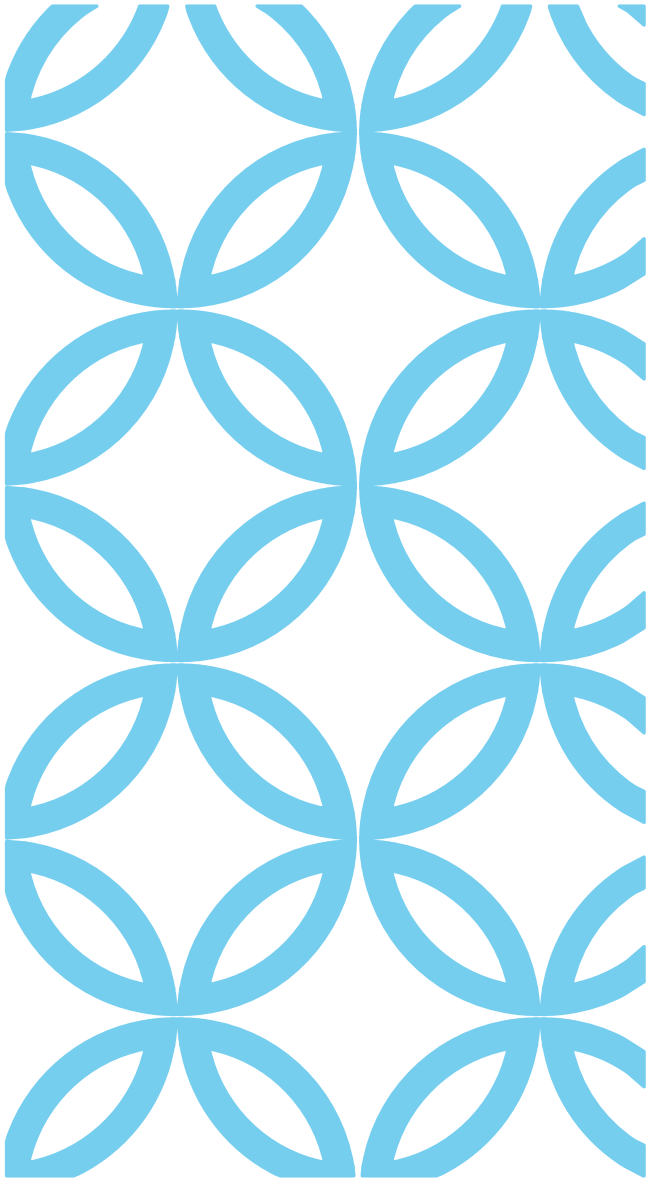
- Conference Goals

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Today's Goal

Connection*Inclusion*Support





Blue Ridge Community and Technical College

Fairmont State University

Glenville State University

Marshall University

University of Charleston

West Virginia University

West Virginia University Institute of Technology

INSTITUTIONAL TEAM UPDATES

FIRST2 NETWORK FALL 2023 VIRTUAL CONFERENCE

Presenter:

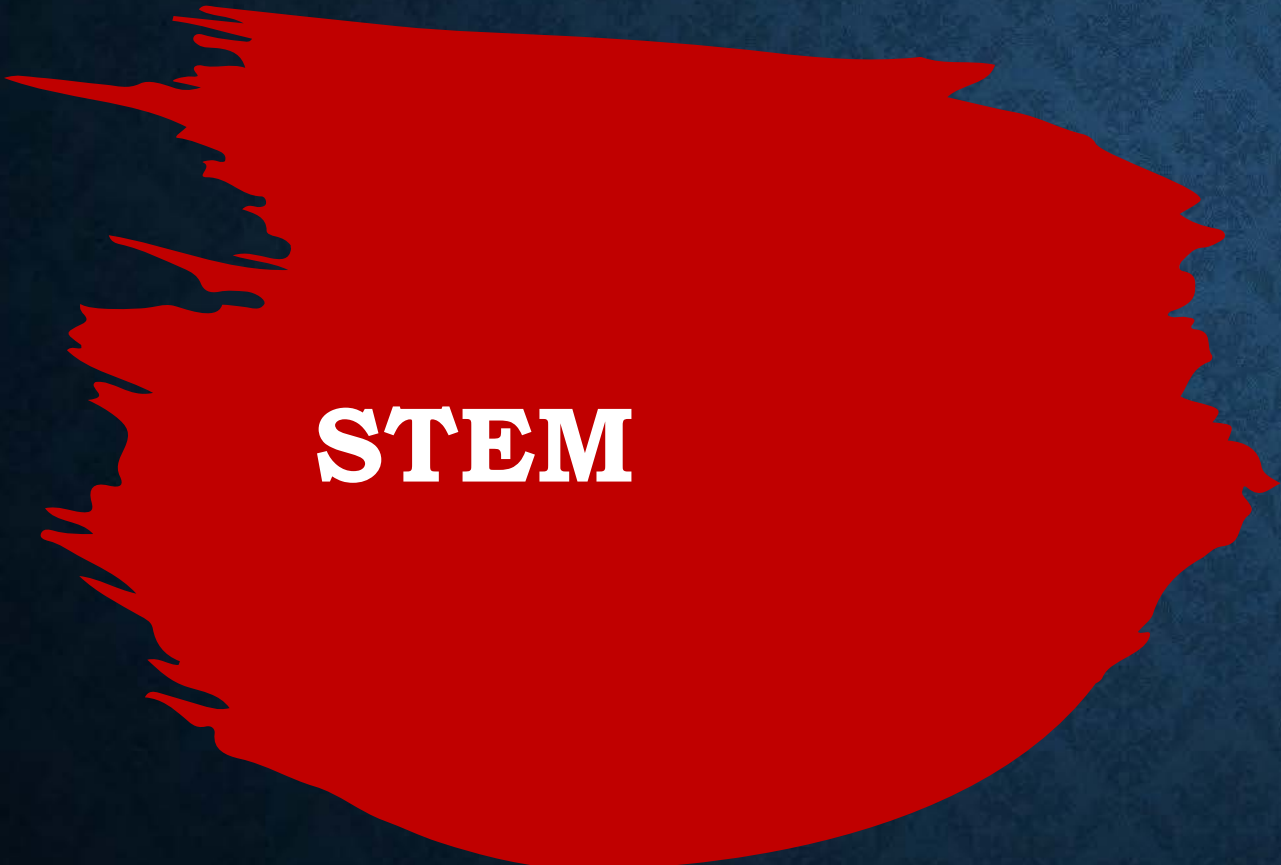
Anna Thayer (Software Development Engineering Faculty)



A large, vibrant red brushstroke graphic with a rough, hand-painted edge, extending from the left side of the slide towards the center. It serves as a background for the 'PDSAs' text.

PDSAs

- ☐ VR Escape Room - Dec 1
- ☐ Game Day - Dec 1
- ☐ SDE Project Showcase -
Dec 7



STEM

- ☐ Speakers –
- workplace success
- ☐ Offered Ham Radio Day last semester - may revisit
- ☐ Field trip - Dune marathon
- ☐ Student directors offering student support
- ☐ Pi day - March 14
- ☐ One credit internship
- ☐ course



Fairmont State University Institutional Team Presentation

First2 Network Virtual Conference

November 17-18, 2023

Fairmont PDSAs 2023-24

- Immersion Bridge Program
- SciTech Social
- Campus Club
- Mentoring Program
- Student Leaders as Change Liaisons

New after supplement grant

- Introductory STEM Study Week
- Embedded Help Sessions in Intro STEM courses
- Understanding STEM Student Cultural Perspectives

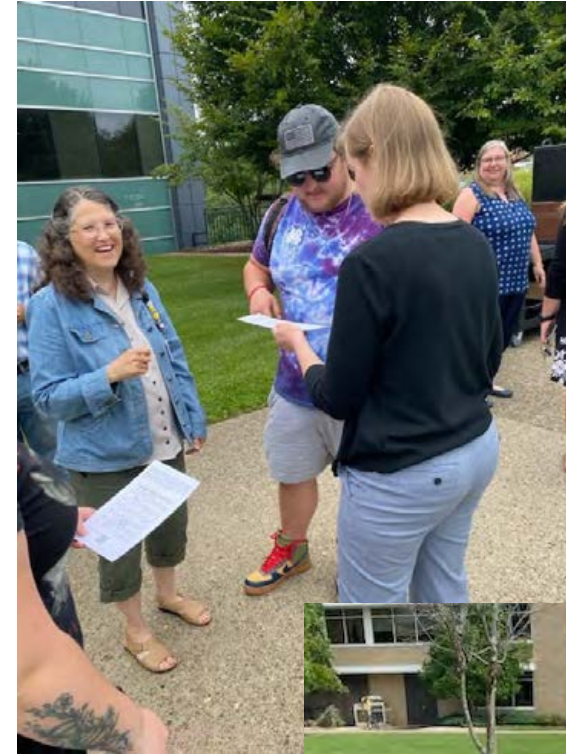
Immersion Bridge Program

- Fairmont modified the research immersion program from the past years into a 4-day bridge program for incoming freshman the week before the fall semester began
- Students engaged in college-prep activities which introduced them to campus resources and useful study skills
- In the evenings, students engaged in social activities led by student mentors, including making dinner together and playing mini-golf
- Overall, students reported that they enjoyed meeting other students and faculty and felt more prepared to begin college as a result of the program



SciTech Social

- The second iteration of the SciTech Social occurred during the first week of classes this fall
- Students and faculty interacted over a casual outdoor lunch
- Students were encouraged to interact with faculty in order to fill out Bingo cards to be entered for a raffle prize
- About 120 students attended the SciTech Social
- We still received limited data, but of the students who filled out the survey, freshman and first-gen students reported feeling more comfortable approaching professors for help as a result of the event



Student Leaders as Change Liaisons

- All scholars and directors are being challenged to identify an issue on campus that is a barrier to student well-being and success, and think about how to address the problem
- The students are coming up with great ideas, and there are several ideas already executed, in progress, or planned for the spring:
 - Invite a financial aid representative to a club meeting to share information about the FAFSA (already executed)
 - Identify accessibility barriers on campus - collect student input through surveys and bring the results to the attention of the administration, brainstorm how to raise money for equipment to improve accessibility (in progress)
 - Spread awareness about the tutoring center on campus by visiting intro STEM classes (planned for spring)
 - Report on student summer internship opportunities at a club meeting (planned for spring)

Glenville State University

Fall Update

- First year as a FIRST2 Institution
- Task Force is meeting regularly
- Student Directors have completed all the GSU paperwork and the FIRST2 club is approved, planning a study meeting for finals week
- Tried the Rock Your Stem Major intervention in our introduction to college course, GSU 100
 - Difficulties in implementation and participation; GSU 100 may not be the best home for this
 - Evaluating student and instructor responses to determine the next step

Glenville State University

Spring plans

- Club activities- social event with faculty, meeting with administrators, fun activities
- PDSAs: Metacognition interventions in an introductory biology course; Math anxiety interventions in a Math course
- Faculty retreat for all SciMath faculty to plan study skills and metacognition integration into introductory courses.

Marshall First2 Network PDSAs

We completed another successful Faculty Networking Dinner PDSA with a total of 18 students and faculty. We are currently working on developing our Semester Research Immersion PDSA for next semester with 6 different research projects in physics, biochemistry, chemistry, and biology.



Marshall First2 Network Campus Club

Our campus club meets weekly to focus on team building, gaining hands-on experiences, giving back to our community, and learning from graduate students or industry professionals. This semester, we had a group of 4 medical students share their application experience with any student in the College of Science. We also volunteered for the American chemistry Society's Science Fair at Heritage Farm.





Math Rocks Boot Camp – Part I - Fractions

Please answer the following questions, with 1 being the lowest and 10 being the highest:

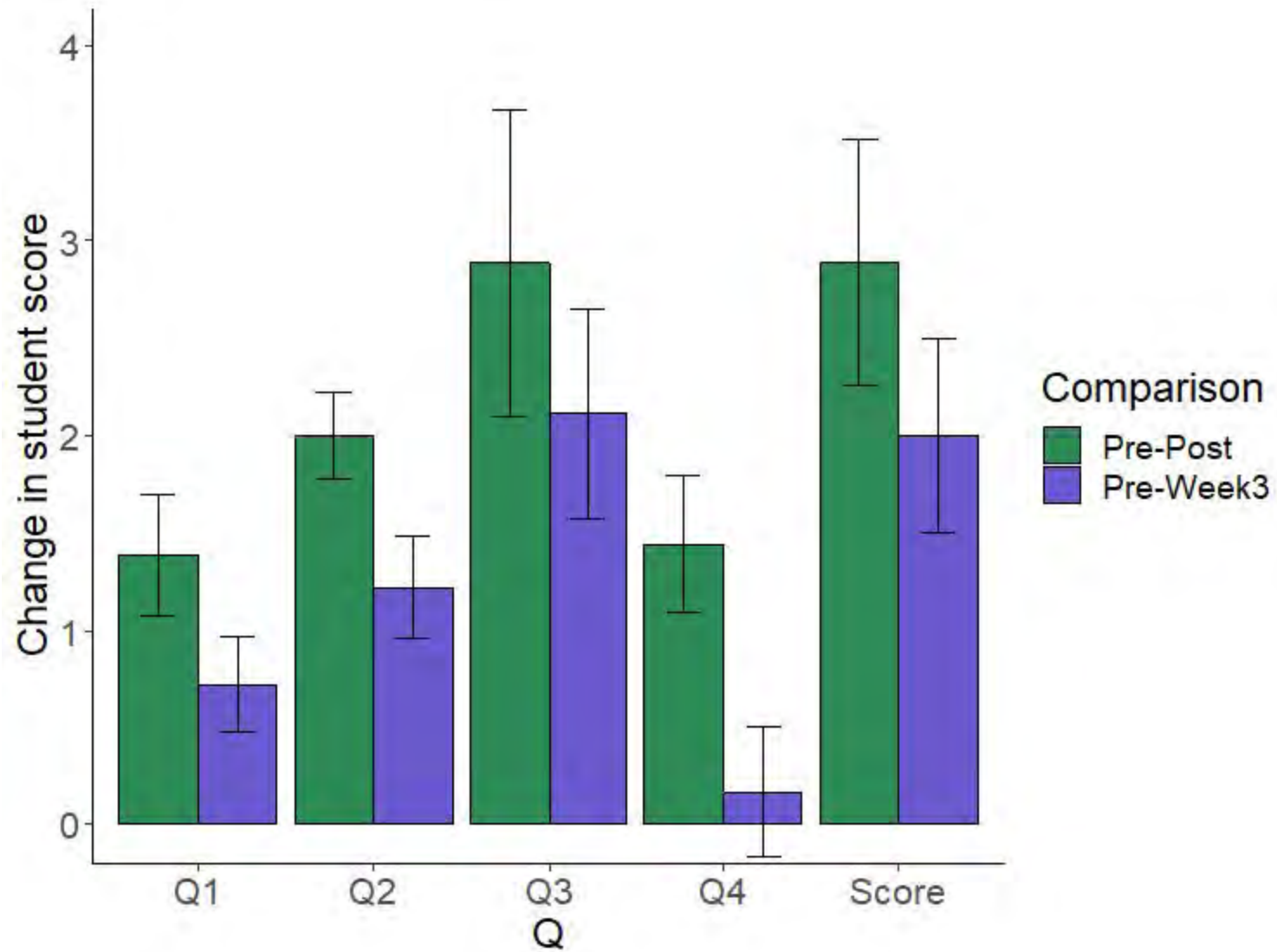
Q1. I feel confident in my math abilities:

Q2. I feel confident in my fraction abilities:

Q3. I like working with fractions:

Q4. If I were given 4 fraction problems (1 addition, 1 subtraction, 1 multiplication, and 1 division), I feel confident that I could solve them correctly.

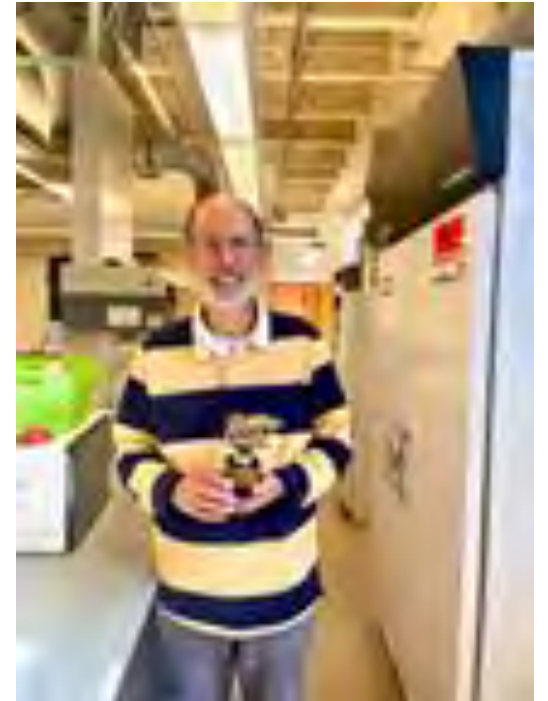
Math Rocks Boot Camp – Part I - Fractions



Impromptu Lecture PDSA



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WVU-First2 Institutional Team Fall 2023 Functioning



“Student voice and working together with students as leads and/or co-leads is critical to IT functioning.”

What Are We Doing?

- 6 PDSAs from 2022-23 closed out
- 5 PDSAs for 2023-24 received coaching and have begun
- 1 connection is fully formed (First Gen Office)
- 3 additional connections have begun
 - Foundational STEM Collaborative
 - REACH Center
 - Honors College

Who Is Involved?

- 2 Student Co-Chairs (Tier 4)
- 5 Student Directors (Tier 3)
- 6 Faculty/Staff
- 5 Student Scholars (Tier 2)
- 11 Student Scholars (Tier 1)
- **29 Total Institutional WVU Team Members!**

Fall 2023 Highlights

- October Pittsburgh Zoo cohort building trip
- Director-led professional development workshops – Career Services (resume/interviewing), Honors College Opportunities, WVU Resources and upcoming EXCEL workshop (next semester)
- Weekly First2 Campus Club meetings
- Mountainlair tabling during nationwide First Gen Week – distributed “20 Things I Wish I Knew as a Freshman” flyer
- September PDSA training and onboarding with First2 reps
- WVU-First2 IT Meetings – 3 each in Sept, Oct, and Nov
- Embedded student reports (Gen Chem I) – 573 Pre-Surveys & 3,135 Student Weekly Reports
- Listserv emails – sent ~11 biweekly emails with opportunities of interest to students
- Successfully applied for \$42,450 of funding to support non-students for First2 IT work
- Math anxiety working group & NSF IUSE grant submission “TRIUMPH – Techniques to Reduce Math Anxiety Using Mindful Persistence and Hard Work”.



WVU Tech Campus Update



Upcoming/Ongoing

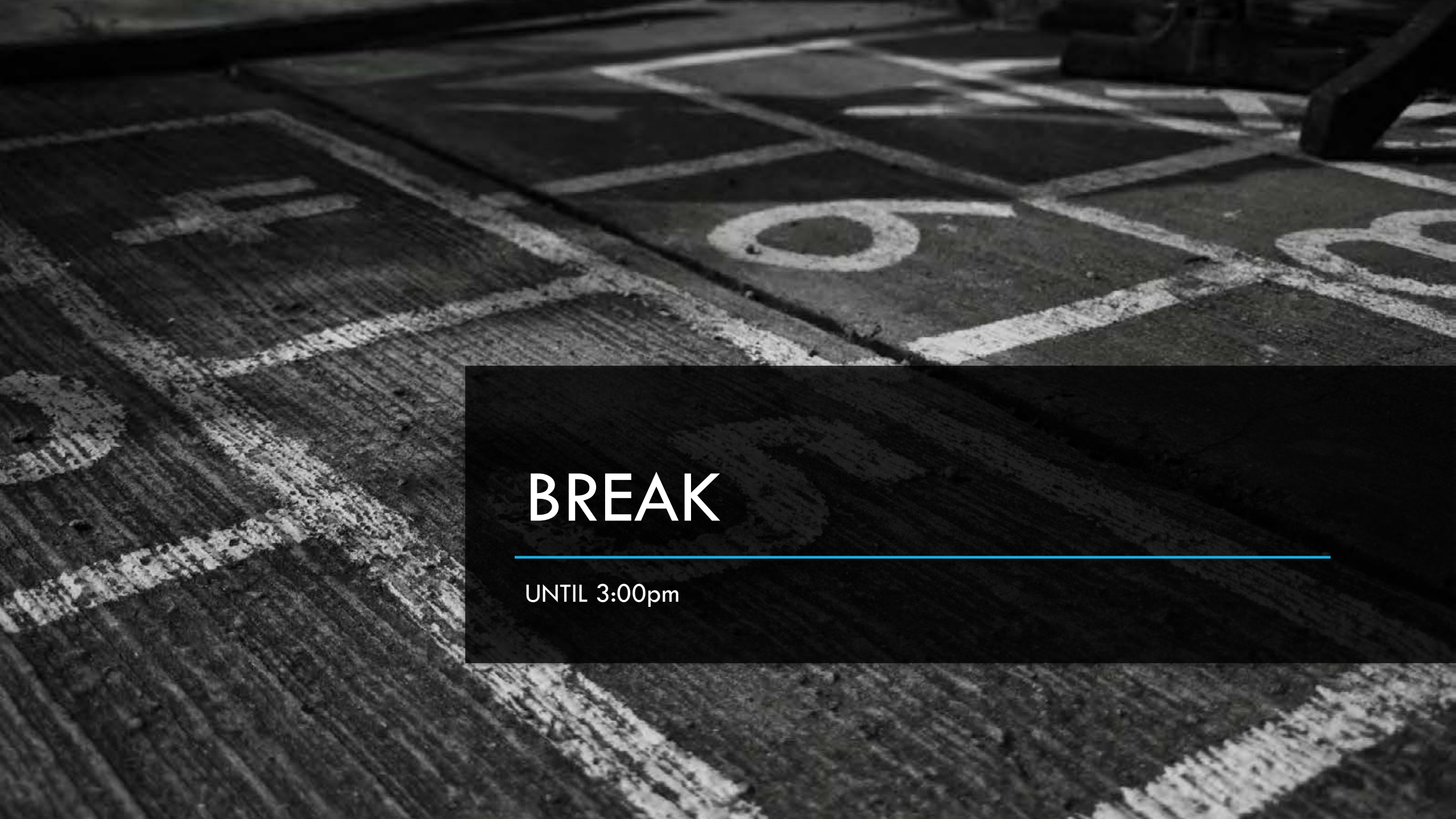
PDSAs / Change Ideas

- Exploring Campus Resources
- STEM Bingo Night
- Informing Faculty
- Campus Club
- Major-Specific Recruiting
- STEM Entrepreneurship with Launch Lab
- Undergraduate Research Promotion



Campus Club Activities

- Campus Cup Games
- Engineering Week at Clay Center
- Hiking Trips
- Trunk-or-Treat
- Launch Lab Tour



BREAK

UNTIL 3:00pm



BREAK

UNTIL 3:00pm

NETWORKING AND END OF DAY CHECK IN

Take this quick survey to let us know what is valuable from this experience



Next, head into one of our **FIVE networking rooms**. You can *move freely* between the rooms to meet and talk with our amazing professionals today. (Check your agenda and speaker sheet for more details)

- Policy
- WV Jobs
- Grad School
- Professional
- Industry

Enjoy and see you all tomorrow at
10 am!