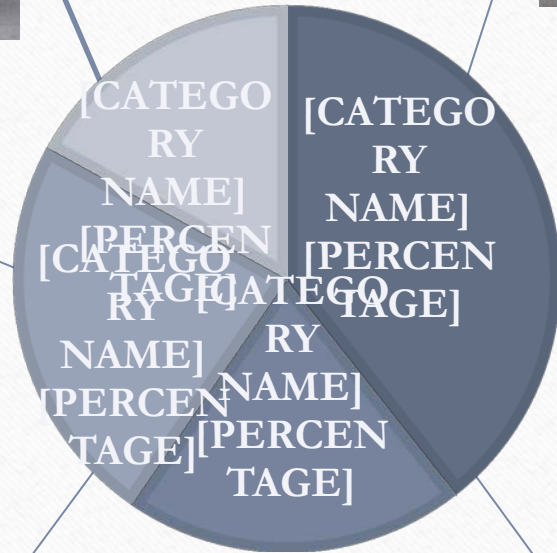


Diversifying the Geosciences

Challenges Underrepresented Minority (URM)
REU Students Face



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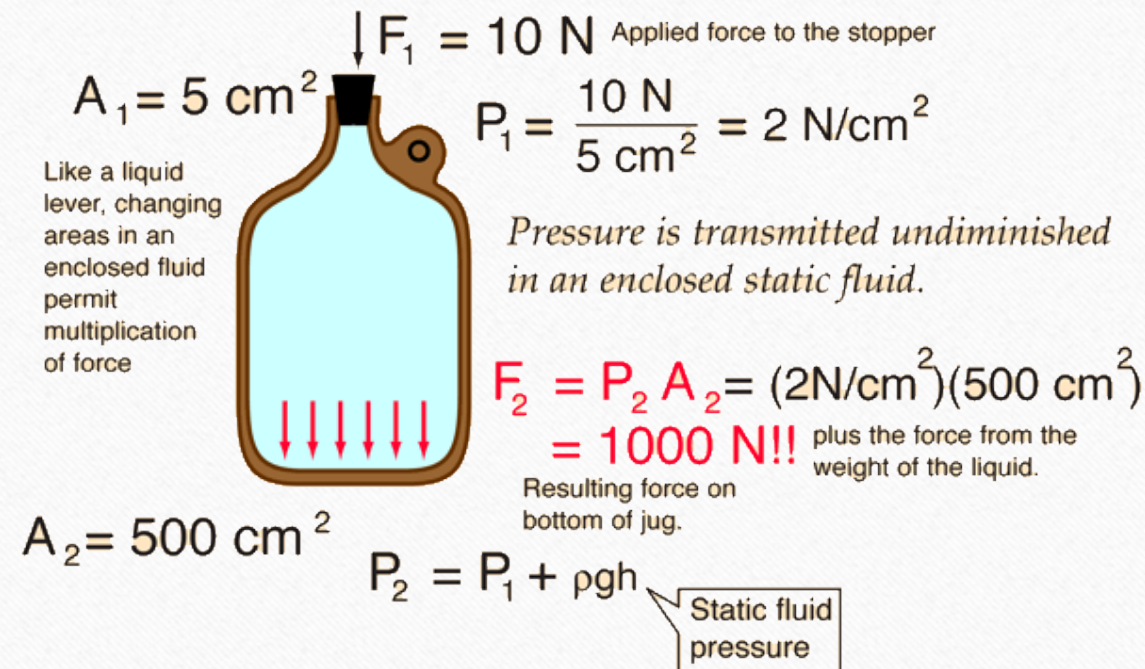
Challenges of URM REU Students (Pre-REU Program Pressure)

- Weak mathematics and science foundations (Inadequate Preparation)
- Unfamiliar with the research process
- Insecure about thinking and working independently
- Limited STEM experiences
- First Generation Students (no local support + burden of representing the group + disruption of intergenerational continuity and identity shift – one identity at home and another at school)

Introduction of Pascal's Principle

- A principle in [fluid mechanics](#) that states that a pressure change occurring anywhere in a confined incompressible fluid is transmitted throughout the fluid such that the same change occurs everywhere.
- Underlying principle for hydraulic jacks and hydraulic presses

Pascal's Principle of URM's



Challenges of URM REU Students (Psycho-Social Issues: Internalized and Manifested)

In addition to the general REU challenges

- **Stereotyping (Diversity Token ?)**
- **Unsupportive learning environments**
- **Intimidation, Disconnection, No sense of belonging to the community of scholars, Feel like an Outsider, Alienation, Marginalization, Loneliness**

Challenges of URM REU Students

(Psycho-Social Issues: Internalized and Manifested)

- **Friction between choosing a \$500/week REU program and a full-time summer job (practical bread and butter/bills dilemma)**
- **Do I have to constantly prove myself ?**

Recommendations

- Cultural Sensitivity (Provide an inviting atmosphere of inclusion and diversity)
- Exposure to STEM careers
- Stronger mentorship for URM's (tiered and peer)
- More hands on training
- Provide Enrichment Supports (Technical and non -Technical)

Recommendations

- Provide URM role models
- Do not only pay lip-service to diversity – demonstrate commitment to it !
- Recruitment: HBCUs, Tribal Colleges, HSIs, MSIs (direct recruitment – Deans and Chairpersons plus say minority students encouraged to apply)

Recommendations

- System: Provide adequate course work in high schools to provide a sense of what college-level STEM courses entail (early exposure)
- REU Program: Offer/Administer Pre-REU program Enrichment

Benefits of Pascal's Principle for URM's

