



NSF Campus Cyberinfrastructure PI and  
Cybersecurity Innovation for Cyberinfrastructure PI Workshop  
September 24 – 26, 2018 | University of Maryland, College Park, MD

**NSF Program (either CC or CICI): CC**

**Program Area: Design**

**Award Number: 1827227**

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**Project Title:** The Western South Dakota Research and Education Network



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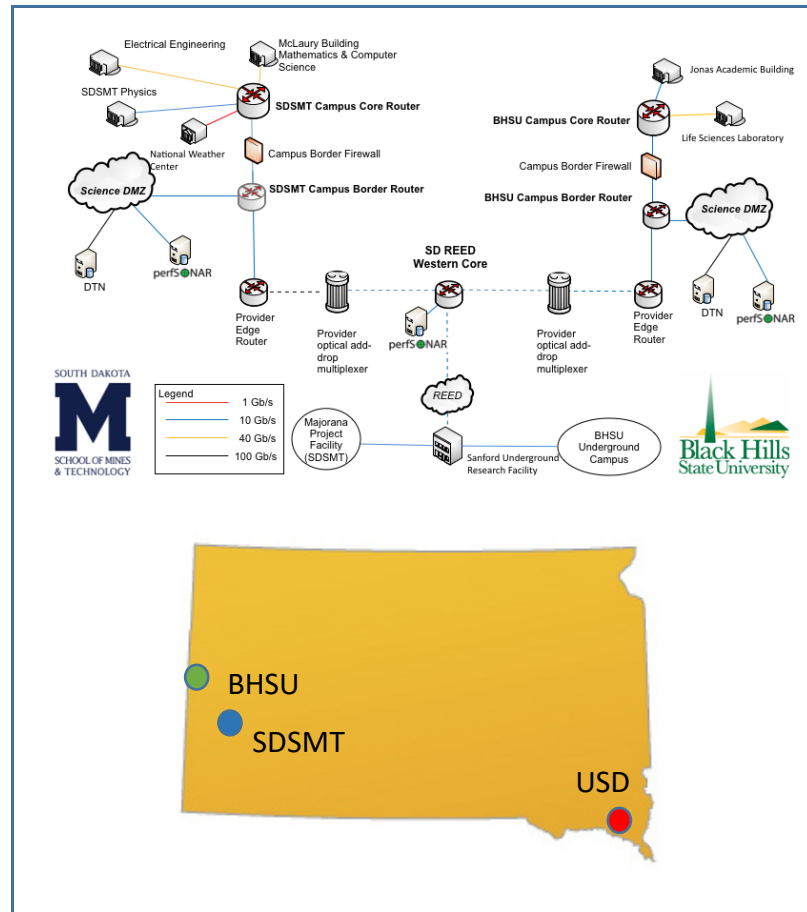
## Quad Chart for: *CC\* Design: The Western South Dakota Research and Education Network*

### Approach:

- Black Hills State University (BHSU)
- SD School of Mines (SDSMT)
- Partner: University of SD (USD)
- Prepare 2 small institutions for 100G upcoming state R&E Network upgrade

### Deliverables:

- Border, Core, Access, and Distribution network upgrades
- Science DMZ on each campus
- PerfSONAR at campus border and state network core



### Scientific Impact:

- Enables inter- and intra-state data movement
- DNA Sequencing Core Facility
- Advanced Microscopy Facility
- One-of-a-kind underground Science Facility



### Characterization of *Batrachochytrium dendrobatidis* Inhibiting Bacteria from Amphibian Populations in Costa Rica

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Amphibian declines and extinctions are occurring at an unprecedented rate. One of the major contributors to these declines is chytridiomycosis, a disease caused by the chytrid fungus *Batrachochytrium dendrobatidis* (Bd). In some cases, certain individuals and relict populations have been attributed in part to the chytrid's pathogenicity. Here, we present the first study characterizing anti-Bd bacterial isolates from Costa Rica, including the characterization of two strains showing anti-Bd activity. Transcriptional sequencing was used to identify the expression of the two previously uncharacterized strains. These two strains, comprising Bd, heat-killed Bd, and Bd, were used in three different treatments comprising Bd, heat-killed Bd, and Bd.

### Metadata tag:

- 12 weeks in
- Developing final design and budget