

# Workshop on Science of Cyber Security

## Session Two

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WG10.4 Meeting

Bristol, UK

# Session Two Topics

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## □ Reproducibility

- Victoria Stodden

- University of Illinois at Urbana-Champaign

## □ Relevance

- Susan Appleby

- CESG, United Kingdom

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# Reproducibility

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- Replication provides important artifacts for others
    - Validate results to deal with skepticism
    - Extend results using replicated work
  - Shared results not common in journal articles
    - Only 10-11% of journals have sharing policies
    - 62% of journals have no stated policy
    - But sharing policies are increasing
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# Reproducibility a Challenge in Computational Research

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- Requires organized repository
    - Assertions, computation approach
    - Hardware support
    - Software code, including environment
    - Analysis (statistical methods, etc)
  - Repositories emerging
    - New repositories encouraging sharing
    - ResearchCompendia web site
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# Questions on the Relevance of Cyber Security Research

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- Are we studying the right thing in cyber security science?
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  - Can we afford “basic” research when the cyber environment is constantly changing?
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# Relevance of Cyber Security Research

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- A significant gap exists between basic and applied research in cyber security
    - Applied practitioners find little relevance in academic results
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# Collaboration May be the Answer

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- Many Barriers
    - Commercial (intellectual property, “firefighting” climate)
    - Cultural (language, skill sets)
    - Ethical (data privacy)
    - Logistic (red tape, difficulty in funding)
  - UK Initiatives to Help
    - 11 Academic Centres of Excellence established
    - 3 Research Institutes in Cyber Security Research
  - Question remains: How to break down barriers
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