

# Speculations on the Future of Cyber Security in 2025

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- Security can never hold back technology
- Cyber and physical space are increasingly entangled

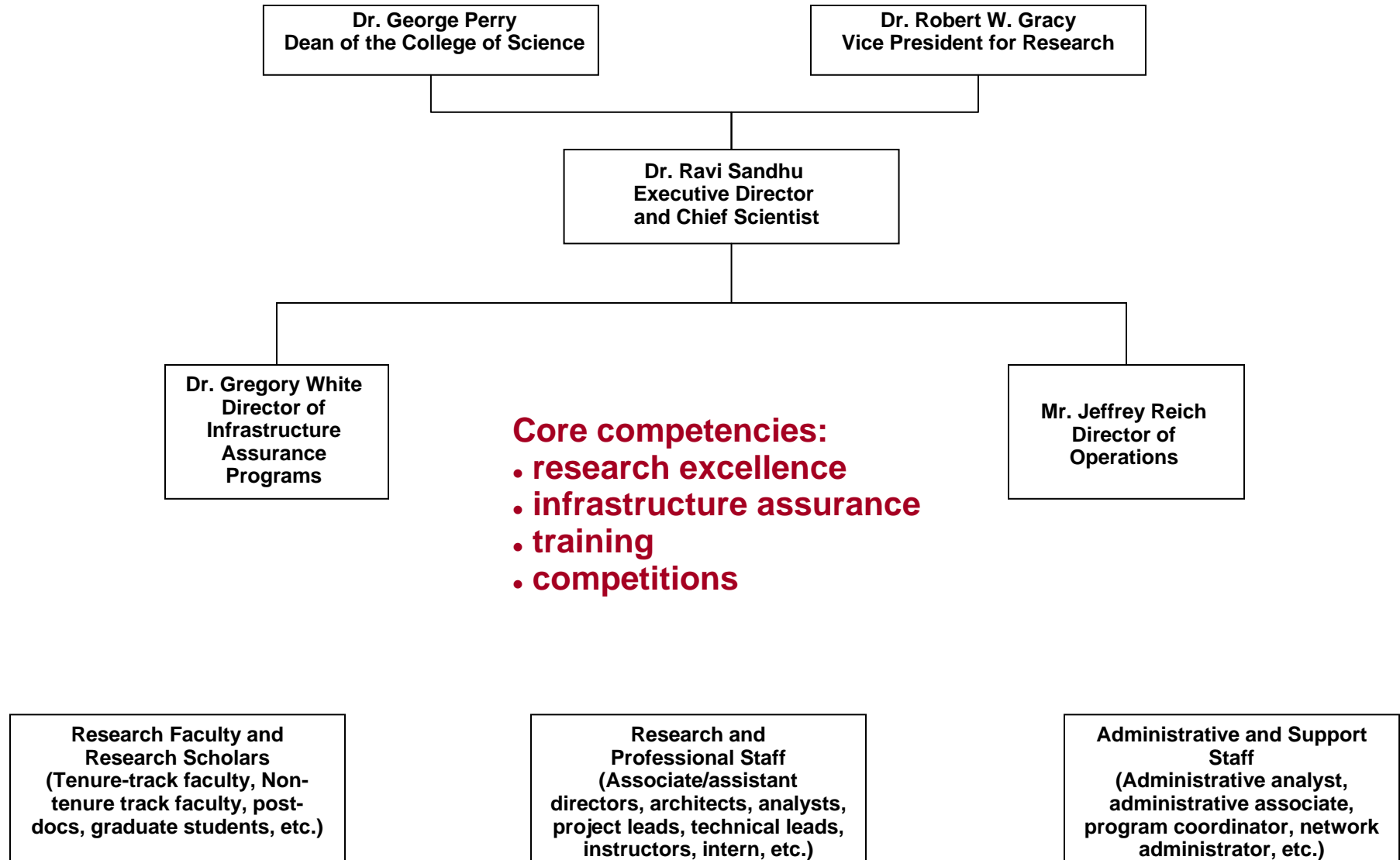
- 99% of the attacks are thwarted by basic hygiene and some luck
- 1% of the attacks are difficult and expensive, even impossible, to defend or detect

## PAST, PRESENT

- Cyber security is a young and immature field
- The attackers are more innovative than defenders
- Defenders mired in FUD (fear, uncertainty and doubt) & fairy tales
- Security is black-and-white
- Attack back is illegal or classified

## FUTURE

- Cyber security will become a scientific discipline
- Cyber security will be application and technology centric
- Cyber security will never be “solved” but will be “managed”
- Security is shades of grey
- Attack back will be an integral part of cyber security



## Research Areas

- Cloud Computing Security
- Infrastructure Assurance and Security
- Malware Mitigation
- Military Grade Security
- Secure Information Sharing
- Social Computing Security

## Research Laboratories

- FlexCloud: cloud platform
- FlexFarm: malware honeyfarm
- Community Exercises: the real real-world
- Cyber Defense Competitions: real simulated data

## Academic Collaborators Include

- Arizona State, Georgia Tech, Michigan, Penn State, Purdue, Illinois at Urbana-C, Maryland at Baltimore County, North Carolina at Charlotte, Texas A&M, Texas at Dallas, Wisconsin

## Sponsors Include

- NSF, AFOSR, ONR, AFRL, DHS