



NISSSC
NATIONAL INSTITUTE OF
SCIENCE, SPACE & SECURITY CENTERS

Annual Progress Summary

To: technicalreports@afosr.af.mil

Subject: Annual Progress Statement to Dr. Robert Herklotz, Program Manager

Contract/Grant Title: Network Information and Space Security Center
(aka NISSSC/CHS FY'04/'05)

Contract/Grant #: FA-9550-04-1-0239

Reporting Period: 1 October 2005 to 31 August 2006

Annual accomplishments: Overview: The primary focus of the Center for Homeland Security (CHS – formerly Network Information Space Security Center) is on target to meet the needs of USNORTHCOM in research, education and training. As the needs of this new Command have evolved, so have the Center's support of the Command.

Areas of Educational Outreach: (1) Continued development and delivery of homeland security certificate program to USNORTHCOM personnel; (2) Initial development of a Ph.D. in Homeland Security and a Master of Arts in Public Administration on Homeland Security/Defense as initiated by USNORTHCOM request; (3) Developing an undergraduate certificate in homeland security/defense.

Areas of research: (1) Techniques/tools for supporting secure information sharing and collaborative work; (2) Improving measurable performance under cyber threats by information fusion; (3) Improving NASA Engineering processes involving vehicle management systems; (4) Dynamic data fusion network and tiered video streaming for video surveillance; (5) Better fuel cell membrane to support U.S. energy security; (6) Trauma intervention for first responders; (7) Clinical psychological evaluations of dangerous world leaders; (8) Multi-agency model for Bi-national cooperation along US/Mexico border; (9) Exploring the roots of support for Islamic terrorism: A terror management theory approach; (10) Homeland security education: Cross-functional management systems approach; (11) Developing theories that enable DoD industry to create Disruptive Capabilities for the GWOT; and (12) Focusing on Energy Security and alternate sources of energy.

Changes: (1) Principle Investigator change FROM Rogers Redding TO Jeremy Haefner; (2) Name change FROM Network Information Space Security Center TO Center for Homeland Security; (3) Personnel change – Director of Center for Homeland Security FROM Dr. Bill Ayen TO Dr. Terry Pierce; (4) Created the National Institute for Science, Space and Security Centers (NISSSC) as umbrella organizational unit containing Center for Homeland Security.

Archival publications (published) during reporting period:

- (1) **Pierce, Terry**. “Disruptive Military Innovation and Perfect Opponents”. *Defense & Security Analysis* (June, 2006).
- (2) Spiegel J, Bennett S, Hattersley L, **Hayden MH**, Kittayapong P, Nalim S, Wang D, Zielinski-Gutierrez E, and Gubler D. (2005). Barriers and bridges to prevention and control of dengue: the need for a social-ecological approach. *EcoHealth* 2 (4): 273-290
- (3) Zielinski-Gutierrez EC and **Hayden MH**. (2006) A model for defining West Nile virus risk perception based on ecology and proximity. *EcoHealth* 3(1): 28-34
- (4) Moreno R, **Hayden MH**, Janes C, and Anderson G. (in press). A web-based multimedia spatial information system to document *Aedes aegypti* breeding sites and dengue fever risk along the US-Mexico border. *Health and Place*
- (5) Terrance Boulton, Dennis Ippoliti, and **Xiaobo Zhou**. HPPD: A Hop-Count probabilistic Packet Dropper. General Symposium, Proc. of IEEE International Conference on Communications (ICC 2006), 6 pages.
- (6) Yu Cai, Edward Chow, and **Xiaobo Zhou**. An Integrated Approach with Feedback Control for Robust Web QoS Design. *Computer Communications*, Elsevier House. Vol 29, Issue 16, pp 3158-3169, Oct 2006.
- (7) **Pyszczyński, T.** Cultural trauma in America and Iraq: Understanding the psychological underpinnings of crusades and jihads. *Social Research* 2005
- (8) **Pyszczyński, T.** What are we so afraid of? A terror management theory perspective on the politics of fear. *Social Research* 2005
- (9) **Pyszczyński, T.**, Abdollahi, A., Solomon, S., Greenberg, J., & Weise, D. Mortality salience, martyrdom, and military might: The Great Satan versus the Axis of Evil. *Personality and Social Psychology Bulletin*, 32, 525-538. 2006.
- (10) **Pyszczyński, T.**, Abdollahi, A, Greenberg, J, & Solomon, S. Crusades and Jihads: An Existential Psychological Perspective on the Psychology of Terrorism and Political Extremism. *Terrorism and the Social Sciences: Proceedings from the 2005 NATO Conference on Terrorism*. J. Victoroff (Ed.). Dordrecht, The Netherlands: Kluwer. (in press).
- (11) Kosloff, S., Solomon, S., Greenberg, J., Cohen, F., Gershuny, B., Routledge, C., & **Pyszczyński, T.** Fatal distraction: The impact of mortality salience on dissociative responses to 9/11 and subsequent anxiety sensitivity. *Basic and Applied Social Psychology*. (in press).

Changes in research objectives, if any: CHS shifting its focus to Energy Security Challenges. Working closely with the Department of Energy, Director of Intelligence.

Change in AFOSR program manager, if any: None.

Extensions granted or milestones slipped, if any: Not applicable.