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FINAL PROGRAM

PURPOSE

This international conference is directed towards the research and development aspects of electronic security technology. It establishes a forum for the exchange of ideas and dissemination of information on both new and existing technology. Conference participants are encouraged to consider the impact of their work on society. The Carnahan Conference also provides a basis for long-range support and assistance to authorities and agencies responsible for security, safety and law enforcement in the use of available and future technology. A conscious effort will be made to communicate the significance of developments to other interested groups. Liaison is maintained with professional societies and information media not especially related to engineering.

CONFERENCE VENUE

Located at the heart of Central Kentucky’s famed scenic Bluegrass Region, Lexington is known around the world for champion racehorses and fine bourbon.

Lexington is the center of the world’s Thoroughbred horse industry and is where the top racehorses are bred, born, trained, officially registered, bought and sold, retired to stud and buried. In the Bluegrass, you can meet previous Derby champions - or perhaps catch a glimpse of a future winner on the world’s most famous horse farms. Keeneland Race Course, a beautiful park reminiscent of those in England, holds race meets annually in April and October and sales throughout the year. The Kentucky Horse Park, a 1,200 acre park dedicated to all breeds of horse, offers visitors a chance to interact with horses and will be the first North American host of the World Equestrian Games in 2010. Lexington truly is the Horse Capital of the World!

Nearly 100% of the world’s bourbon is produced in Kentucky! Visit the home of true Kentucky bourbon where time-honored methods developed in the early 19th century are still used today. Woodford Reserve, Buffalo Trace, Four Roses & Wild Turkey offer tours that unlock the mysteries and heritage of the United States only native spirit.

Lexington’s beauty and activities span the four seasons. Meet past and future Kentucky Derby winners and get a behind-the-scenes look at the multi-billion-dollar Thoroughbred industry on personalized horse farm tours. Visit The Kentucky Horse Park the world’s only state park dedicated to the horse. Get a taste of the racing industry with Keeneland Race Course’s early morning workouts and breakfast at the Track Kitchen. Arrange a hub-and-spoke tour to nearby Shaker Village community. Enjoy afternoon teas and garden tours while exploring a herb farm or historic homes. Explore the area’s Civil War sites or take an educational distillery tour and learn the history of bourbon. Plan an antique shopping excursion among over 200 area stores.
ICCST EXECUTIVE COMMITTEE

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2006 IEEE ICCST Program-Final

Monday, October 16, 2006

6:00–8:00pm
Registration and Reception (Radisson Hotel, Mezzanine floor)

Tuesday, October 17, 2006

8:00am–5:00pm
Registration

8:30–10:00am
Welcome Address – Mayor Teresa Ann Isaac
ICCST Opening Address – Mr. Larry Sanson, Conference Chairman, ICCST
Keynote Address: Mr. Roger Hagengruber, Chief Security Officer, Los Alamos National Laboratory

10:00–10:30am
Coffee Break

10:30–12 noon
Session 1: Sensors 1
Session Chairman: Mr. Gordon Thomas

Proximity Detection and Ranging Using a Modified Fluorescent Lamp for Security Applications
John Cooley, Al Avestruz, Steven Leeb

A Proposed Motionless Laser Scanning Architecture for Perimeter Security
Kaveh Sahba, Kamal E. Alameh, Clifton Smith

Power Options for Wireless Sensor Networks
Bradley C. Norman

Practical High-Frequency Sonar for Intruder Detection in Very Shallow Environments
Steven Younghouse

12:00-1:30pm
Lunch

1:30-3:00pm
Session 2: Sensors 2
Session Chairman: Mr. Brian Rich

A System and Method for Enhanced Psychophysiological Detection Of Deception, Assured Client Verification with Remote Processing
Colonel(USA-Ret) William I. Ames Jr., Jean Louis Gouin
Mobile RAVIN: Intrusion Detection and tracking with organic airport radar and video systems
Ann Barry, David Mazel

Force Protection Sensor Selector
Lindamae Peck, Richard Bates

Security Simulation for Vulnerability Assessment
Brian Hennessey, Bradley Norman, Robert B. Wesson

3:00-3:30pm
Break

3:30–5:00pm
Session 3: Video Advances
Session Chairman: Mr. Daniel Pritchard

Considerations for Implementing an IP Based, Video Assessment and Surveillance System
Cole Shaw, Jack Connell, Robert M. Riley

Quality Enhancement of Security Image Information
Milos Klima, Karel Fliegel, Jan Svihlik

Illegal Entrant Detection at a Restricted Area in an Open Space Using Color Features
Chin-Chuan Han, Jau-Ling Shi, Kai-Chiun Yan

Imagery Library for Intelligent Detection Systems (i-LIDS)
A Standard for Testing Vision Based Detection Systems
Paul Hosmer

Wednesday October 18, 2006

8:30–10:00am
Session 4: Biometrics I
Session Chairman: Mr. Rick Lazarick
Keynote Speaker: Mr Tom Hewett, Professor Drexel University

Biometric Access Control and Crisis Management for Athletic Events
Christos K. Dimitriadis, Despina Polemi

Implementing Ergonomic Principles in a Biometric System:
A look at the Human Biometric Sensor Interaction (HBSI)
Eric Kukula, Stephen J. Elliott

Multimodal Biometric System Based on Hand Geometry and Palm-Print Texture
Miguel A. Ferrer, Carlos M. Travieso, Jesús B. Alonso

Face Recognition Using a Radial Basis Function Classifier
Marcos Faundez-Zanuy, Enric Monte-Moreno
10:00–10:30am
Break

10:30–12:00noon
Session 5: Biometrics II
Session Chairman: Mr. Michael Jonckheere

Architecture of a Search Engine for Massive Comparison in an Iris Biometric System
Judith Liu-Jimenez, Raul Sanchez-Reillo, Almudena Lindoso, John G. Daugman

Analyzing User Password Selection Behavior for Reduction of Password Space
Roman V. Yampoiskiy

Keystroke Dynamics Verification Using a Spontaneously Generated Password
Shimon Modi, Stephen J. Elliott

Aliveness Detection for Iris Biometrics
Andrezej Pacut, Adam Czajka

12:00–1:30pm
Lunch

1:30–3:00pm
Session 6: Biometrics III
Session Chairman: Mr. Alfonso Bilbao

On the Vulnerability of Fingerprint Verification Systems to Fake Fingerprint Attacks

Improvement in Security Evaluation of Biometric Systems
Raul Sanchez-Reillo, Judith Liu-Jimenez, Michael G. Lorenz, Luis Entrena

Perceptions of Retinal Imaging Technology for Identifying Livestock Exhibits
Christine R. Blomeke, Brian M. Howell, Stephen J. Elliott

Hill-Climbing and Brute-Force Attacks on Biometric Systems:
A Case Study in Match-on-Card Fingerprint Verification

3:00–3:30pm
Break
3:50–5:00pm
**Session 7: Biometrics IV**
**Session Chairman:** Mr. Mark Stroud

*An Instant Messaging Intrusion Detection System Framework: Using character frequency analysis for authorship identification and validation*
Angela Orebaugh

*A Study to Develop a Consensual Map of Security Expert Knowledge Structure*
David J. Brooks

*Evaluation of Supervised versus Non-Supervised Databases for Hand Geometry Identification*
Miguel A. Ferrer, Marcos Faundez-Zanuy, Carlos Travieso, Joan Fabregas, Jesús B. Alonso

*An Assessment of Dynamic Signature Forgery and Perception of Signature Strength*
Stephen J. Elliott, Adam Hunt

6:00–11:00pm
**Banquet**

Thursday October 19, 2006

8:30–10:00am
**Session 8: Information Protection and Assurance I**
**Session Chairman:** Mr. Clifton Smith

*CALEA Compliant Secure Voice Over IP System*
Nagaraja Thanthry, Christopher Goodrich, Ravi Pendse

*A Novel Mechanism for Improving Performance and Security of TCP Flows over Satellite Links*
Nagaraja Thanthry, M. Deshpande, Ravi Pendse

*On-Board Encryption in Earth Observation Small Satellites*
Roohi Banu, Tanya Vladimirova

*Quantifiable Security Metrics for large Scale Heterogeneous Systems*
Syed Naqvi, Prof. Michel Riguidel

10:00–10:30am
**Break**
10:30–12:00noon
Session 9: Information Protection and Assurance II
Session Chairman: Mr. So-Lin Yen

The Unexpected Value of Hybrid RMS Risk Management
Ross Paul Goeres

Asynchronous Cryptographic Hardware Design
John Teifel

An Architecture for Multi-Security Level Network Traffic
Edward L. Witzke, Steve Gossage, Dallas J. Wiener

A Product Based Security Model For Smart Home Appliances
Davar Pishva, Keiji Takeda

12:00–1:30pm
Lunch

1:30–3:00pm
Session 10: Networks
Session Chairman: Mr. Tom Wood

Security Threats in Wireless Sensor Networks
Hiren Kumar Deva Sarma, Avijit Kar

Experimental Validation of an Intelligent Detection and Response Strategy for Complex Infrastructure Attacks and False Positives Using Firewalls
Emmanuel Hooper

Virtual Perimeter Security (VPS) in Physical Protection System
Bradley C. Norman, Douglas G. Adams

Control of Perimeter Surveillance Wireless Sensor Networks Via Partially Observable Markov Decision Process
Lucas W. Krakow, Edwin K. P. Chong, Kenneth N. Groom, John Harrington and Yun Li, Brian Rigdon

3:00–3:15pm
Break
3:15–4:45pm

**Session 11: Analyses**

**Session Chairman:** Mr. John D. Veatch

*Maritime Vessel Stopping*

*Less than lethal means of stopping waterborne vessels*

Simon Peaty MSc

*Evaluating Risk from Acts of Terrorism with Belief and Fuzzy Sets*

John Darby

*Profiling Toolmarks on Forensic Ballistics Specimens: An Experimental Approach*

Clifton L. Smith

*The Study on Planning and Building a Cyber Forensic Laboratory in MJIB, Taiwan R.O.C.*

So-Lin Yen, Sou-Chan Chen

4:45–5:00pm

**Conference Closing**

Mr. Larry Sanson, Conference Chairman

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**Back-up Papers**

*Security and Information Systems for Air Company*

Rudolf Volner, Vladimír Smrz

*Intelligent Language Comprehension System for Automatic Data Analysis*

Chung-Lung Tsai, Thomas Chiang Chuang