SecDef 2014 Workshop Chairs' Welcome

It is our great pleasure to welcome you to the all-new 2014 Workshop on Genetic and Evolutionary Computation in Defense, Security, and Risk Management (SecDef'14). With the constant appearance of new threats, research in the areas of defense, security and risk management has acquired an increasing importance over the past few years. These new challenges often require innovative solutions and Computational Intelligence techniques can play a significant role in finding them. The



workshop encouraged the submission of papers describing both theoretical developments and applications of Genetic and Evolutionary Computation and their hybrids to the following (and other related) topics:

- Cyber-crime and cyber-defense : anomaly detection systems, attack prevention and defense, threat forecasting systems, anti-spam, antivirus systems, cyber warfare, cyber fraud
- IT Security: Intrusion detection, behavior monitoring, network traffic analysis
- Corporate security, with special focus on BYOD policies and usability of security
- Risk management: identification, prevention, monitoring and handling of risks, risk impact and probability estimation systems, contingency plans, real time risk management
- Critical Infrastructure Protection (CIP)
- Advanced Persistent Threats (APTs)
- Design of military systems and sub-systems.
- Logistics and scheduling of military operations.
- Strategic planning and tactical decision making.
- Multi-objective techniques for examining tradeoffs in military, security, and counter-terrorism procedures.
- Automated discovery of tactics and procedures for site security, force protection, and consequence management.
- Other computational intelligence techniques for applications in the areas listed above.

The workshop invited completed or ongoing work, with the aim to encourage communication between active researchers and practitioners to better understand the current scope of efforts within this domain. The ultimate goal is to understand, discuss, and help set future directions for computational intelligence in security and defense problems.

As a first-year workshop, the organizers received and accepted four high-quality submissions from North America and Europe:

- On the Role of Multi-Objective Optimization in Risk Mitigation for Critical Infrastructures with Robotic Sensor Networks by Jamieson McCausland, Rami Abielmona, Rafael Falcon (Larus Technologies Corp., Canada); Ana-Maria Cretu (Université du Quebec en Outaouais, Canada); and Emil Petriu (University of Ottawa, Canada)
- On Botnet Behaviour Analysis using GP and C4.5 by Fariba Haddadi, Dylan Runkel, Nur Zincir-Heywood, and Malcolm Heywood (Dalhousie University, Canada)
- *Evolutionary Based Moving Target Cyber Defense* by David John, Robert Smith, William Turkett, Daniel Canas, and Errin Fulp (Wake Forest University, USA)
- *Enforcing Corporate Security Policies via Computational Intelligence Techniques* by Antonio Mora, Paloma De las Cuevas, J.J. Merelo (University of Granada, Spain); Sergio Zamarripa, and Anna I. Esparcia-Alcázar (S2 Grupo, Spain)

We would like to thank the authors for submitting these excellent papers, and strongly encourage the broader security and defense research community to prepare and submit technical papers to future SecDef workshops. In addition, we thank ACM SIGEvo and GECCO 2014 organizers, especially Per Kristian Lehre (GECCO 2014 Workshops Chair), for their assistance. Finally, we thank Sandra Peiró from S2 Grupo for designing and setting up the workshop web site.

Anna I. Esparcia-Alcazar

Co-chair S2 Grupo, Spain

Frank W. Moore

Co-chair University of Alaska Anchorage, USA