

# Abstracts of season school “New challenges of cyber security in the global information space”

## Session 1 - **Hardware and software tools for providing high-level cyber resilience**

Speaker - **David Gulua** (David Agmashenebeli National Defense Academy)

Within the first session centralized management of organization’s data center and IT-infrastructure is discussed. Different methods and tools of IT-management (Active Directory with group policies, network access control management, database maintenance, access management and audit of databases etc.) are presented. Special attention is paid to methods of ensuring a high level of accessibility and reliability of different components of information environment (Data center, network-, server- and data storage hardware). Main topics of session are following:

- Cyber resilience concerns
- Deployment of high-available and high-reliable data centers by means of virtualization technology
- centralized management of organization’s IT-infrastructure, based on common domain infrastructure (Active Directory)
- Planning, creation, distribution and management of group policies for organizational units within the organization.
- Access control to internal network resources within the file- and other services
- Internet access control based on Proxy-service
- Backup copying of databases
- Access management and audit in databases
- Unauthorized access to databases and methods of dealing with them

## Session 2 - **cybersecurity domain and enhancement of cyber awareness**

Speaker – **Andria Gotsiridze** (LEPL Cybersecurity Bureau of Ministry of Defense of Georgia)

Within the second session the analysis of cyber threats existing in Georgian cyberspace and the methods of their mitigation are presented. Presenter shares his experience that was acquired by the staff of the cybersecurity bureau in the process of development and implementation of cybersecurity standards. Main topics of session are following:

- Cyber threats in Georgian cyber domain
- Usage of cyberspace for propaganda and for psychological impact
- Cyberterrorism
- Malware and it's types
- PC security
- email security
- Fishing
- Password security
- Safe internet during travel
- Wireless internet security
- Security of mobile devices
- Safe online banking and shopping
- Security in social networks
- ID theft and internet fraud
- Cloud security
- Recommendations for parents

### Session 3 – **Network security**

Speaker – **Vladimer Adamia** (Georgian Technical University)

Within the first session cisco-certified trainer **Vladimer Adamia** is focused on cyber security of computer networks. Main topics of session are following:

- Security in local networks

- Authentication, Authorization, Accounting (AAA) and remote authentication systems (RADIUS, TACACS+)
- Deployment of preventive cybersecurity systems (IPS)
- Virtual Private Networks (VPN technology)
- Issues of wireless network security

#### Session 4 – **Traditional and modern methods for data protection**

Speaker – **Romeo Galdava** (David Agmashenebeli National Defense Academy)

Within the fourth session, theoretical aspects of cybersecurity are presented. Reports include general overview of cryptographic algorithms for information security and methods of their use in various tasks of electronic office. Main topics of session are following:

- Problems of information security and cryptographic protection methods. Modern symmetric cryptography. Algorithms of block encryption
- Privacy standard - AES RIJNDAEL algorithm. Privacy regimes
- The problem of information integrity and methods of its maintenance
- Role of hash-functions in modern cryptography. Cryptographically secure hash-functions and algorithms of their calculation
- Standards for the calculation of authentication codes (MAC): CMAC, PMAC and HMAC
- Asymmetrical cryptosystems
- The problem of non-denial of authorship and digital signature standard ECDSS

#### Session 5 – **Legal aspects of cybersecurity**

Speaker – **Omar Abshilava** (LEPL Cybersecurity Bureau of Ministry of Defense of Georgia)

Within the fifth session, issues of raising cyber consciousness are discussed. The initial part of report presents the standards that operate in the international and Georgian cyberspace and

the detailed knowledge of which will strengthen the participants' cyber-consciousness. Main topics of session are following:

- Audit of information security of critical information systems in the subjects of the defense sphere
- Action plans of assurance of cybersecurity and aspects of creating information security policy guidelines
- Trainings for raising cyber consciousness between the employees of ministry of defense of Georgia
- Staff certification in the field of cybersecurity

#### Session 6 – **Legal aspects of cybersecurity**

Speaker – **Cezar Vasileску** (Romanian National Defense School “Carol I”)

Within the sixth and last session of cybersecurity season school current trends and risks in global cybersecurity domain are highlighted. Main topics of session are following:

- Specific aspects of modern cyber security
- Layers of cyberspace – physical, logical and social
- Critical information infrastructure
- Cybersecurity and future conflicts - how a technological advantage can be a disadvantage
- Role of national and international institutions in ensuring cybersecurity in the global information space
- Civil and military SCADA-systems – favorite targets for future cyber attacks