

Security and Defense R&D Capabilities in the Bulgarian Academy of Sciences

Prof. Stefan Hadjitodorov

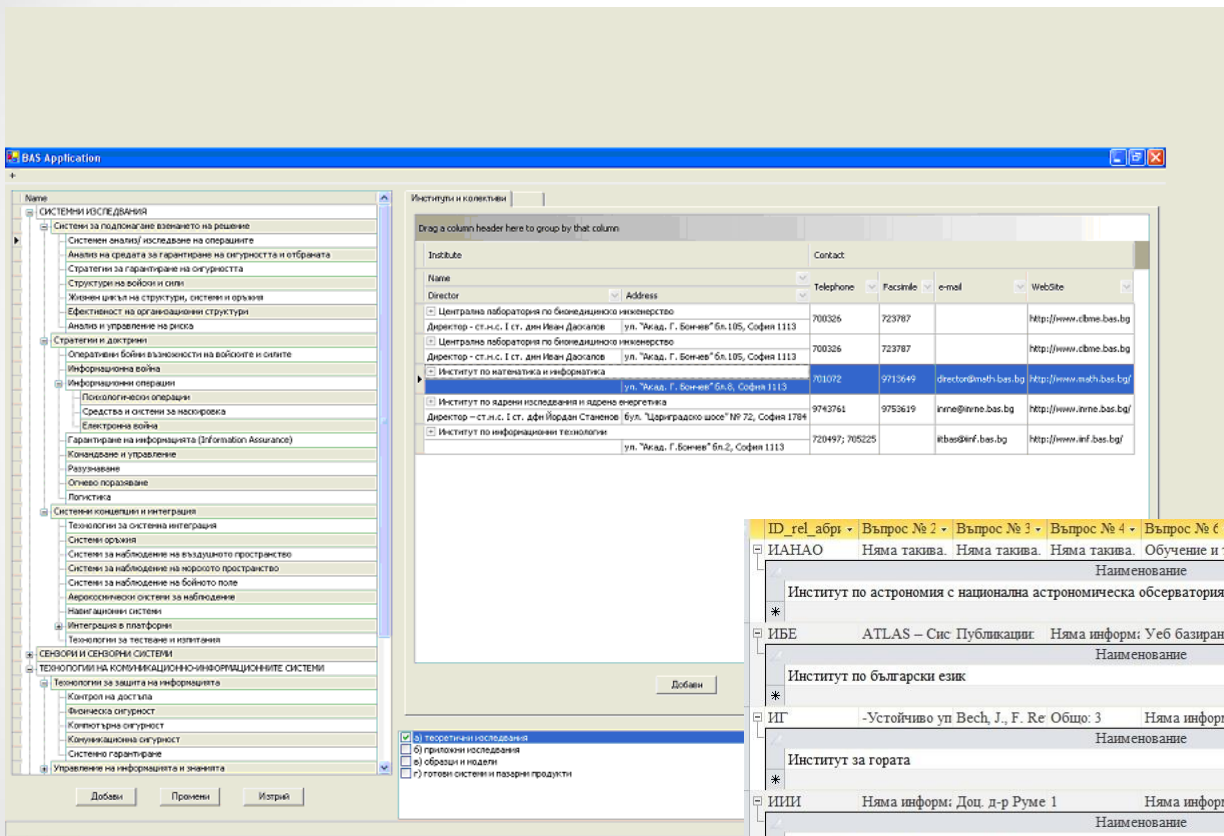
Director, Centre for National Security and Defense Research,
Bulgarian Academy of Sciences

Sofia

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- The Bulgarian Academy of Sciences with its over 40 Institutes and Centres is the major public research organization in the area of security and defense R&D in Bulgaria
- The Centre for National Security and Defense Research is the responsible body for coordination of security and defense R&D within the Academy
- The role of security and defense R&D for the sustainable development of the Republic of Bulgaria

Development of a Data Base of Security and Defense R&D Capabilities in the Bulgarian Academy of Sciences 2009-2014



2009

2014

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*	Институт по астрономия с национална астрономическа обсерватория								Предметът на бул. Цариград (+359 2) 974 1	http://www.	
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	Наименование							Описание	Адрес	Телефон	Website
*	Институт по български език								Институтът з: София 1113, б: (+359 2) 72-23	http://www.	
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	Наименование							Описание	Адрес	Телефон	Website
*	Институт за гората								Мисията на ИИ 1756 София, б: (+359 2) 962 0	http://www.	
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*	Институт за исторически изследвания								Институтът п: София 1113, б: (+359 2) 870 8	http://www.	
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	Наименование							Описание	Адрес	Телефон	Website
*	Институт по информационни и комуникационни технологии								Институтът п: ул. Акад. Г. Б: (+359 2) 979 6	http://www.	
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- 14 units of the Academy carry out security and defense R&D activities (this forms about 1/3 of all BAS units)
- The leading institutes in the area of security and defense R&D: Institute of Metal Science, National Institute for Geophysics, Geodesy and Geography; National Institute for Meteorology and Hydrology, Institute for Space Research and Technologies.
- Over 180 scientists are working on problems related to security and defense. A large part of them are concentrated in the prime leading institutes – IMS (49), SRTI (35), NIGGG (≈ 20) and NIMH (18).
- Over 100 specialized publications for the period 2010-2013, most of them in peer-reviewed journals.

Research Capabilities of the Bulgarian Academy of Sciences in the Context of H2020 Secure Societies Challenge.

The research capabilities of the Bulgarian Academy of Sciences can be grouped in the 8 priority areas of the "Secure societies" challenge of Horizon 2020 programme as follows.

Priority areas	Number of BAS institutes
Crisis management	8 Institutes
Disaster resilience and climate change	9 Institutes
Critical infrastructure protection	9 Institutes
Communication technologies and interoperability	4 Institutes
Ethical / social dimension	1 Institute
Fighting against crime and terrorism	4 Institutes
Border security and external border security of the EU	6 Institutes
Cyberdefense	3 Institutes

Examples of Technological Development of BAS Institutes in the Area of Security and Defense in the period 2009 – 2014

Technology / Product	Institute – developer
Automatic control of unmanned aerial vehicles (UAV)	Space Research and Technologies Institute
Technologies and systems for protection in the field of critical infrastructure	Institute of Metal Science
Specialized sensors and devices	Institute of Metal Science
Methodology for wartime defense capabilities planning	Institute of Information and Communication Technologies
Methodology for assessing the threat and the risk of flooding	National Institute for Meteorology and Hydrology
Methodology for Critical Infrastructure Protection	Centre for National Security and Defense Research
Radar with single spontaneously emitted gamma photons (patented in 2009)	Institute of Nuclear Research

Research Capabilities of BAS Institutes in Support of the Newly-established NATO Centre of Excellence on Crisis Management and Disaster Response

Research Capabilities of BAS Institutes in Support of the NATO CoE (Proposals)	Institute
Integrated Geospatial Monitoring for Risk Management	National Institute for Geophysics, Geodesy and Geography
Training of UAV Operators	Space Research and Technologies Institute
Hydro-meteorological Information Assurance	National Institute for Meteorology and Hydrology
Development of a Training and Demonstration Centre for Radiological Risk Management	Institute of Nuclear Research



Main Goals of the Centre for National Security and Defense Research - BAS

- To support the Managing Board of the Bulgarian Academy of Sciences in Mapping and Coordinating Security and Defense R&D Capabilities within the Academy
- To establish and to promote research-industrial cooperation and public-private partnerships.
- To support international cooperation – with EU and NATO bodies
- To implement security-related R&D projects •

- White Paper on Civil Protection of the Republic of Bulgaria – 2004 – funded by the Council of Ministers Commission for the Protection of the Citizens
- EU Terrorist Act Consequences Management (**TACOM**) – 2006 – funded by the European Commission, DG Environment
- Security Research Network of FP7 National contact persons (**SEREN-1 and SEREN-2**) 2009 – 2013г.
- Office for Transfer of Aero-space Technologies in the Area of Health Protection and Protection of the Population – funded by Operational programme Competitiveness – 2012г.
- Participation in the International Exercise: **Saber Guardian 14**.



Prospects for the Future – development of a new Centre of Competence

- Centre of Competence in the Area of Protection of the Citizens and Critical infrastructure Protection
- The CoCom will be composed of 12 public research organizations – 6 of them institutes and centres of the Bulgarian Academy of Sciences
- The CoCom's main objective is to bring together and to consolidate the national research capabilities in the area of protection of the citizens and critical infrastructure protection
- To be funded by the new Operational Programme "Science and Education for Smart Growth"

Ambitions of the Bulgarian Academy of Sciences for the Next 5 Years

- Active Participation in NATO R&D Programs & Projects
- Focusing the R&D activities of the competent BAS Institutes in the eight priority areas in the “Secure Societies” Challenge of EU “Horizon 2020”.
- Strengthening the role of the Bulgarian Academy of Sciences as an important research organization for security and defense R&D in the European Research Area (ERA) and in benefit of the BG society .



European Research Area

Европейска зона за изследвания

Security and defense R&D activities in the Bulgarian Academy of Sciences are carried out with three main objectives, as follows:

- To support the security of the citizens and the protection of critical infrastructures;
- To support the national security and the sustainable development of the Republic of Bulgaria as a whole
- To enhance the international standing of the Republic of Bulgaria, especially within the framework of EU and NATO



Thanks for your attention!

BULGARIAN ACADEMY OF SCIENCES

Center for National Security and Defense Research