



## Workshop, 7 June 2022, Brussels (campus Renaissance)

### 1. Welcome & Introduction

- 09.00 - 09.10 **Welcome**  
AF Colonel GS Phillip Borremans (*DG RHID*)
- 09.10 - 09.25 **Cooperation in S&T: enabling the Defence and Security Posture**  
General-major BE AF (ret) Albert Husniaux
- 09.25 - 09.40 **Belgian-US Security Cooperation Overview**  
Colonel Edward T. Spinelli (*US Office of Defense Cooperation Chief*)
- 09.40 - 10.10 **BE RHID Program Overview**  
Colonel Filip Martel (*RHID STRD Director*)
- 10.10 - 11.00 **US ONRG/DEVCOM Program Overview**  
Dr Jon Brame (*US Army*) & Dr Patrick Rose (*ONRG*)

### Coffee break/Networking session (Lobby)

### 2. Lightning Presentations - Human Performance & Protection

- The Droxel : a universal construction component for new types of military shelters?**  
Prof. Pierre Latteur (*Dept. of civil and environmental engineering, UCLouvain*)
- Demilitarization ammunition (D-Round) / Novel ballistic helmet design**  
LtCol IMM Frederik Coghe (*Dept. of Weapon Systems & Ballistic, RMA*)
- Expansive armor for nuclear casks**  
Dr Ir Angel Miranda Vicario (*Dept. of Weapon Systems & Ballistics, RMA*)
- 11.30 - 13.00 **Towards efficient human-automation systems interaction**  
Dr Arthur Prével/Dr Alikemal Karasu (*Dept. LIFE, Chair Psychology, RMA*)
- Sensor technology in Human Performance**  
Dr Kaat Goorts (*Dept. Environment & Health, KU Leuven*)
- In-ear EEG measurements in noise-cancelling earplugs**  
Dr Klaas Bombeke (*IMEC/UGent*)
- Optimizing human performance in extreme environments. How are you sleeping?**  
Dr Jeroen Van Cutsem (*Dept. LIFE, RMA*)

### Lunch break/Networking session (RMA Patio Bloc K)

### 3. Lightning Presentations - Power, Energy & Energetics /Aerodynamics

**Novel Energetic Materials Based on Nanoporous Carbon**

Capt Dr Romuald Van Riet (*Dept. of Chemistry, RMA*)

**Carnot Battery for Deployable Operating Bases**

Maj Dr Ir Maarten Vergote (*Dept. of Physics, RMA*)

14.00 - 15.00

**Flow sensing for enhanced vehicle efficiency: from formation flight to atmospheric features exploitation**

Prof. Philippe Chatelain (*Dept. Thermodynamics and fluid mechanics, UCLouvain*)

**Recent developments and perspectives for hypersonic aerothermodynamics research at VKI**

Dr Guillaume Grossir (*Von Karman Institute for Fluid Dynamics*)

**Rarefied and plasma flow disruptive technology**

Prof. Thierry Magin (*Von Karman Institute for Fluid Dynamics*)

#### Coffee break/Networking session (Lobby)

### 4. Lightning Presentations - Data Science / Processing

**Multi-Agent Reinforcement for Defense Decision Making**

Cdt Koen Boeckx (*Dept. CISS, RMA*)

**Data-centric architecture. A solid and easily accessible architectural design for fast integration and interpretation of data**

Dr Sonia Papili (*DGMR SYS/N, RMA*)

15.30 - 16.30

**Self-supervised learning enables onboard smart refining of earth observation data**

Ms Tanja Van Achteren (*VITO - Flemish Institute for Technological Research*)

**Virtual Observatory**

Dr Nicolas Lewyckyj (*VITO - Flemish Institute for Technological Research*)

**Automatic, small-scale sea-floor characterization from highresolution sonar data**

Dr Yoann Arhant (*Group for Artificial Intelligence and Sparse Modelling, UGent /RMA*)

### 5. Conclusion

**Closing remarks**

16.30 - 16.45

AF Colonel GS Phillip Borremans (*DG RHID*)

Captain Matthew Farr (*ONRG*)

#### Networking session

#### 17.30 Reception (RMA Cafeteria)