University of Luxembourg
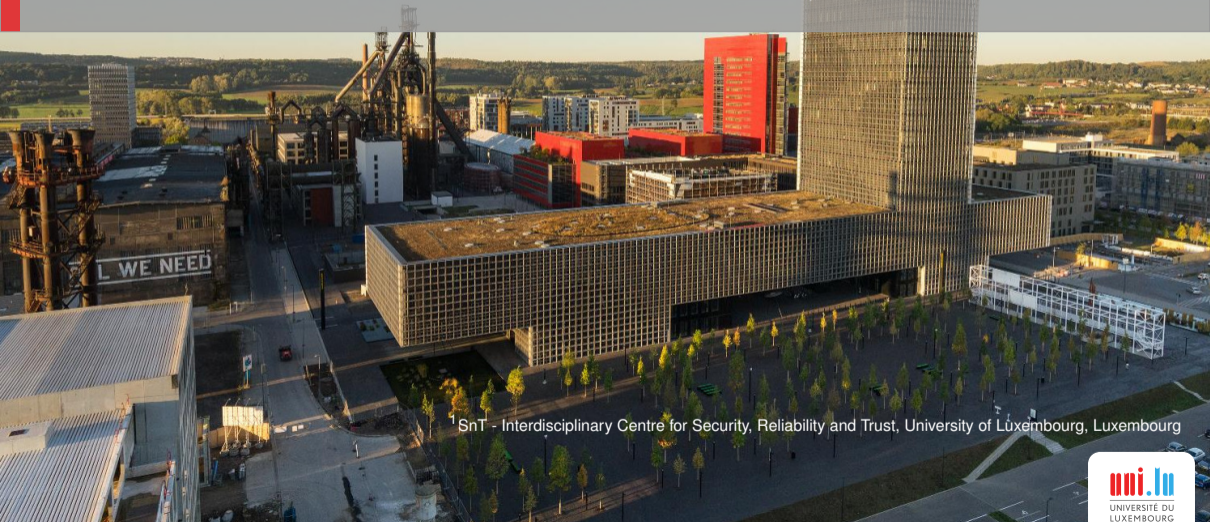
Multilingual. Personalized. Connected.

PCOG Yearly Meeting 2020

Daniel H. Stolfi[1]
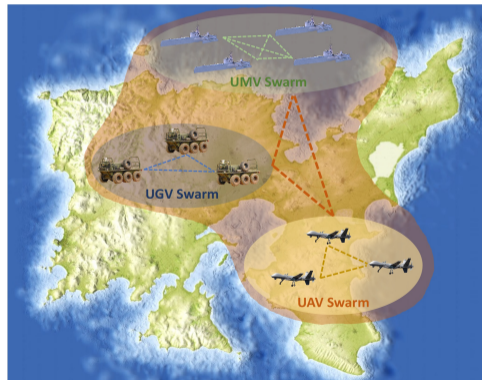
Dec 14th, 2020

[1] SnT - Interdisciplinary Centre for Security, Reliability and Trust, University of Luxembourg, Luxembourg
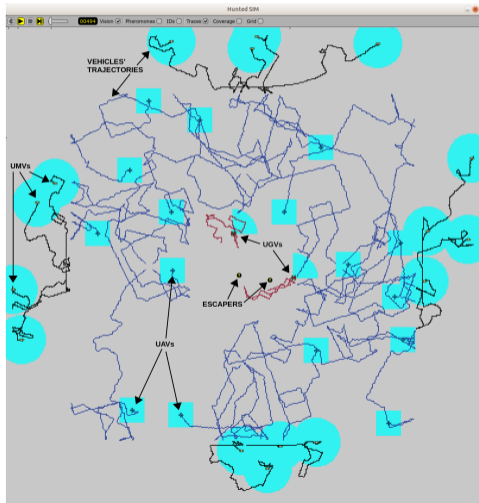
UNIVERSITÉ DU LUXEMBOURG

Heterogeneous multi-swarms of **UN**manned au**T**onomous syst**E**ms for mission **D**eployment

- Heterogeneous multi-swarms: UAV, UGV, UMV, etc.
- Chaotic trajectories
- Models divided into three classes:

  - ▶ Inter-swarm level
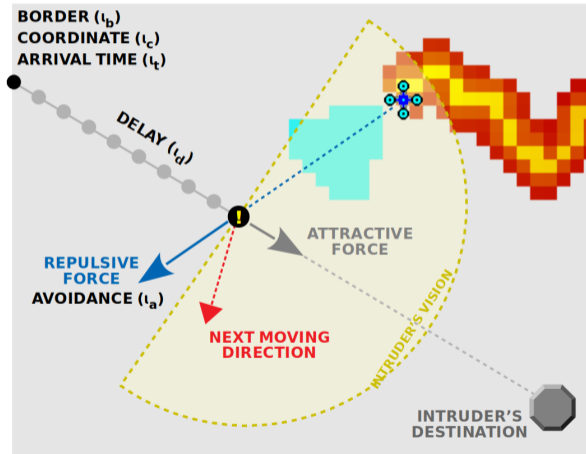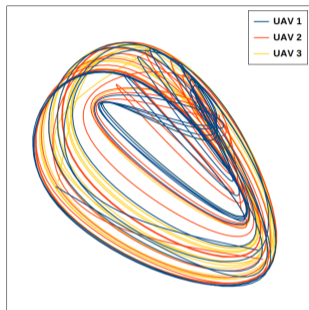 - ▶ Intra-swarm level
  - ▶ Networking and communication
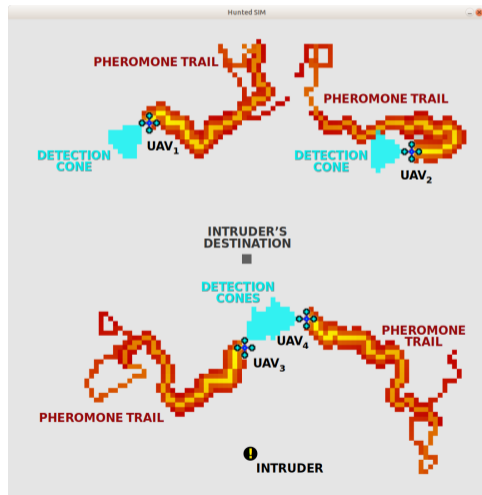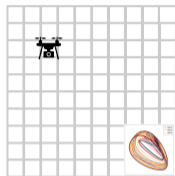
UAVs, UGVs, and UMVs

Intelligent intruders
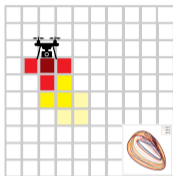
Rössler Chaotic Attractor

Mobility Models:
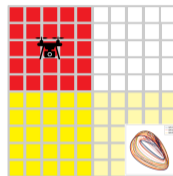
- CROMM
- CACOC+
- ABISS
- CROMM-MS (*)
- CONSOLE (*)

(*) Under major review.
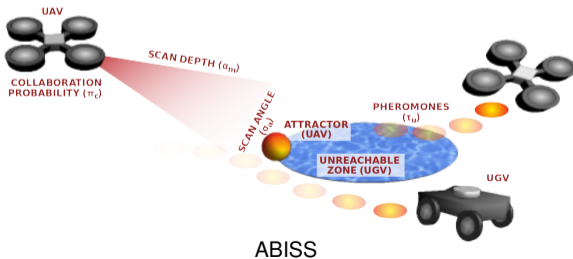
CROMM

CACOC+
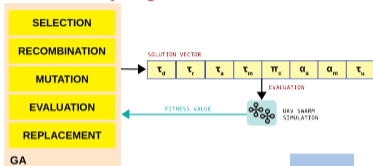
CONSOLE

ABISS

Parameter optimisation to improve coverage, detection rates, consumption, . . .

Evolutionary Algorithms

Cooperative/Collaborative Coevolutionary Generic Algorithms