STRATEGOS Webinars

Game Theory Webinars/Workshops

9.00-12.00A, February 18, 2022, Webinar on **STRATEGOS** Webinars MS Teams
9.00-12.00A, February 25, 2022, Webinar on **STRATEGOS** Webinars MS Teams
9.00-12.00A, March 11, 2022, Webinar on **STRATEGOS** Webinars MS Teams
9.00-12.00A, March 18 & 25, 2022, Webinar on **STRATEGOS** Webinars MS Teams

POC: *Prof. Lucia Pusillo, University of Genoa, pusillo@dima.unige.it*

These Workshops proposes Fundamentals & Applications of Game Theory to provide techniques and methodologies to support decisions in complex environment
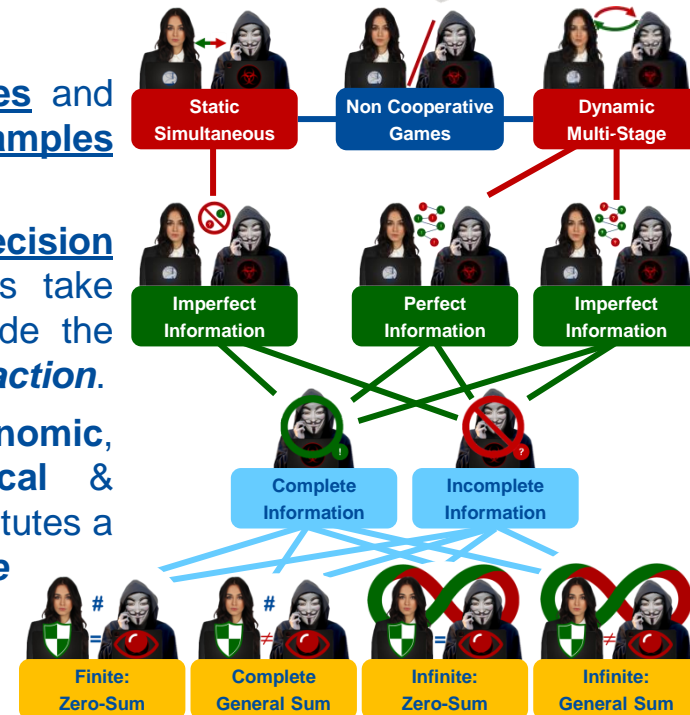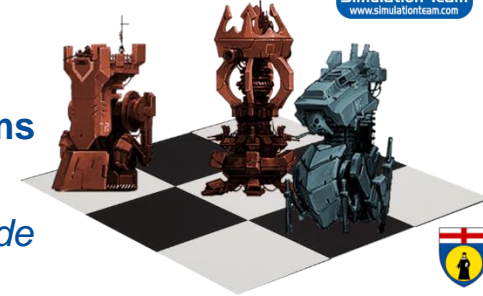
Workshop Description

These Workshops present **Game Theory** as well as **Methodologies** and **Techniques** to face *Challenges* in this sector and include **Several Examples** and **Case Studies** to understand how to apply it to **Real Problems**

Game Theory studies **Strategic Interactions** between two or more **Decision Makers** and situations in which two or more Rational Individuals take decisions to *optimize their goals*. The major purpose is to provide the *methodological knowledge* to deal with *Problems of Strategic Interaction*.

This Theory, using *Mathematical Techniques*, has applications in **Economic**, **Political**, **Military**, **Biological**, **Engineering**, **Industrial**, **Medical** & **Biological Fields**; for these reasons, a deepening of this subject constitutes a stimulus to carry out **Multidisciplinary Works** & start a fruitful *dialogue between mathematics and other sciences*, providing elements to understand the **Complex Dynamics present in these Phenomena**

3 CFP Credits for each Webinars by Order of Engineers

Non Cooperative Games
- Static Simultaneous
- Dynamic Multi-Stage
- Imperfect Information
- Perfect Information
- Imperfect Information
- Complete Information
- Incomplete Information
- Finite: Zero-Sum
- Complete General Sum
- Infinite: Zero-Sum
- Infinite: General Sum

Genuense Athenaeum
Est.1471 AD

Please contact us to get access to this STRATEGOS *Webinar*
Email: info.strategos@diten.unige.it
URL: www.simulationteam.com/strategos

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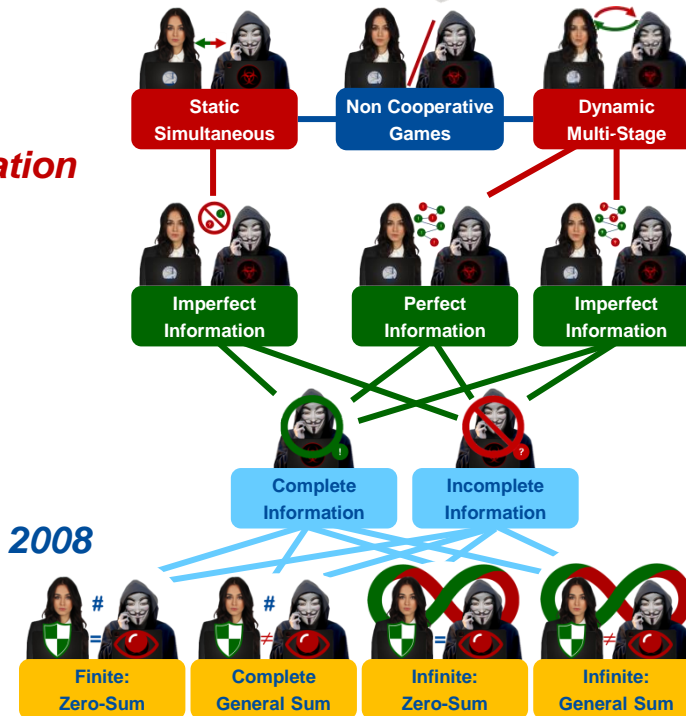
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PROGRAMM: Game Theory for STRATEGOS Students:

1. **Introduction to Game Theory**
2. **Zero Sum Games with two Players**
3. **Non Co-operative Games and Equilibria**
4. **Static, Dynamic Games with Examples**
5. **Extensive Form of a Game**
6. **Games with perfect Information & Games with Complete information Difference & Examples**
7. **Examples of Duopoly Games in the Static & Dynamic Cases**
8. **Cooperative gGames**
9. **Solutions for Cooperative Games: Core and Shapley Value**
10. **Track about Multicriteria Problems and Games**
11. **Examples from Real Life: Environmental Problems**

References:

- *H.Peters ''Game Theory. A Multi-leveled Approach'' Springer ed., 2008*
- *Julio Gonzalez-Diaz, Ignacio Garcia-Jurado, M.Gloria Fiestras.J ''An introductory course on Mathematical Game Theory'' AMS, Real Sociedad Matematica Espanola, 2010*

Non Cooperative Games
- **Static Simultaneous**
- **Dynamic Multi-Stage**

- **Imperfect Information**
- **Perfect Information**
- **Imperfect Information**

- **Complete Information**
- **Incomplete Information**

- **Finite: Zero-Sum**
- **Complete General Sum**
- **Infinite: Zero-Sum**
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