

**Saoussen KRICHEN**  
Associate Professor in Quantitative Methods

University of Jendouba / University of Tunis **TUNISIA**

*Saoussen.krichen@isg.rnu.tn*

**LARODEC**



# SAHARA



**Sidi Bou Said**



**Djerba**



**B E A C H**

**Hammamet**





**Game theory**



**Optimization**

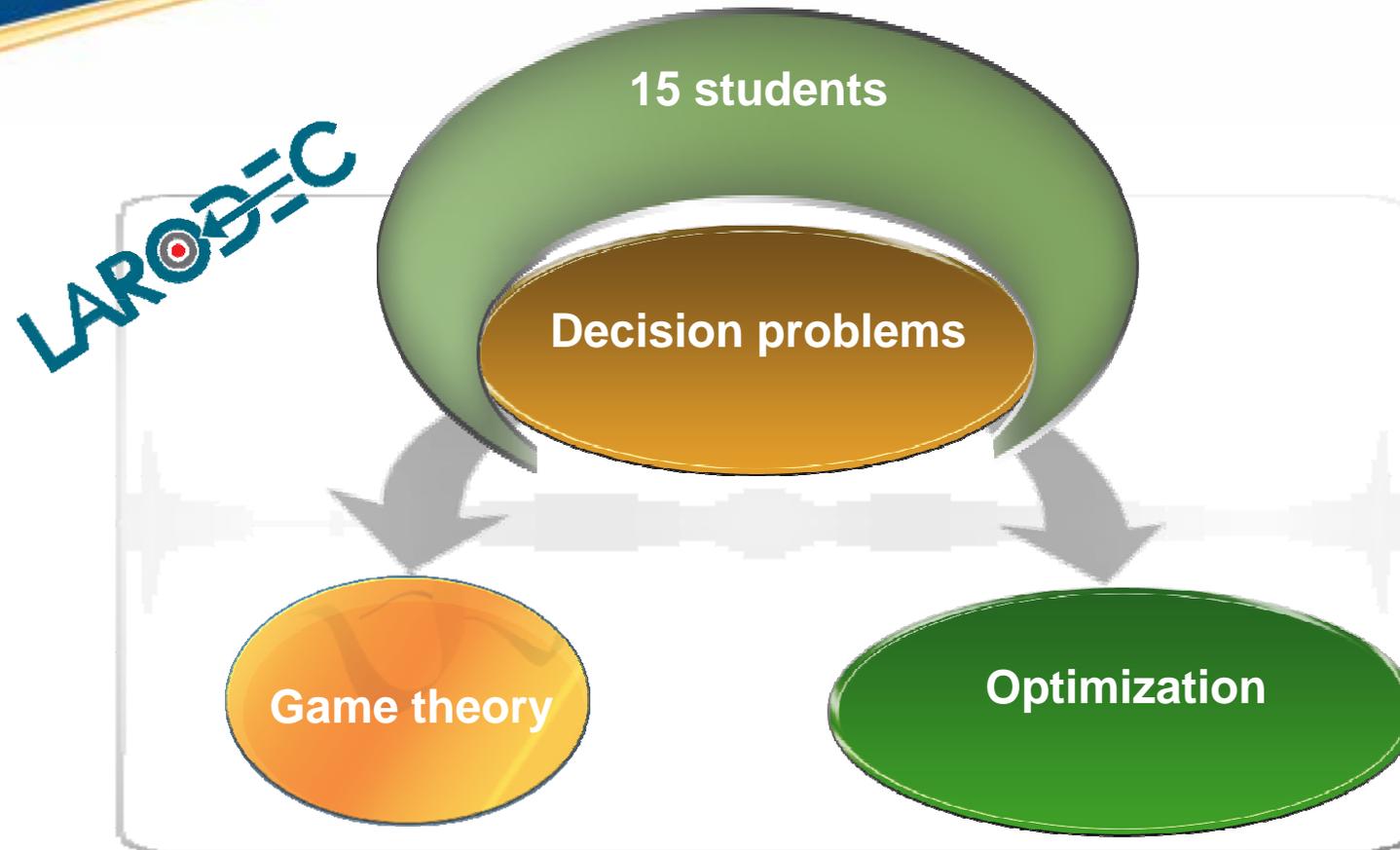


**My team**

**Perspectives**



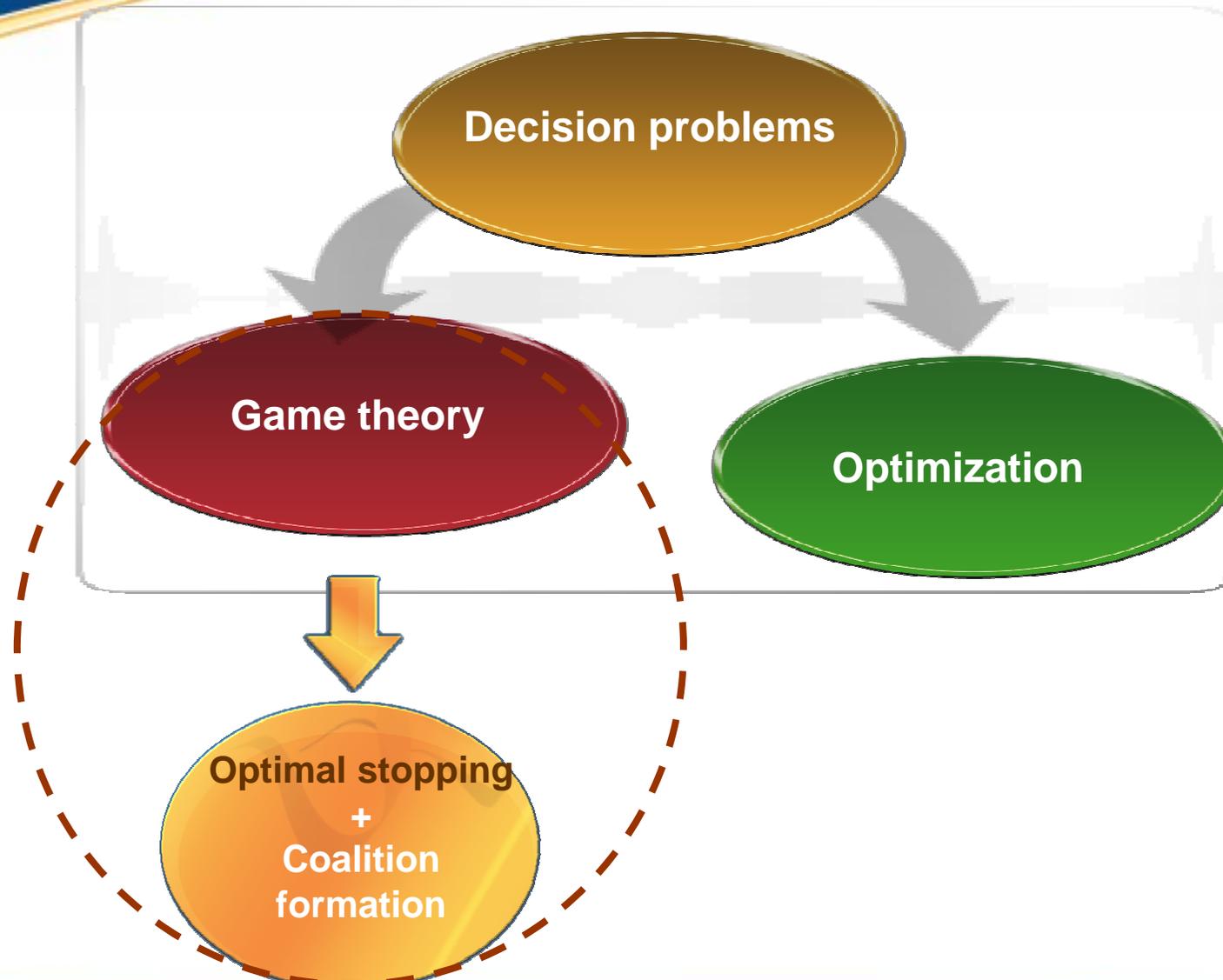
# My team



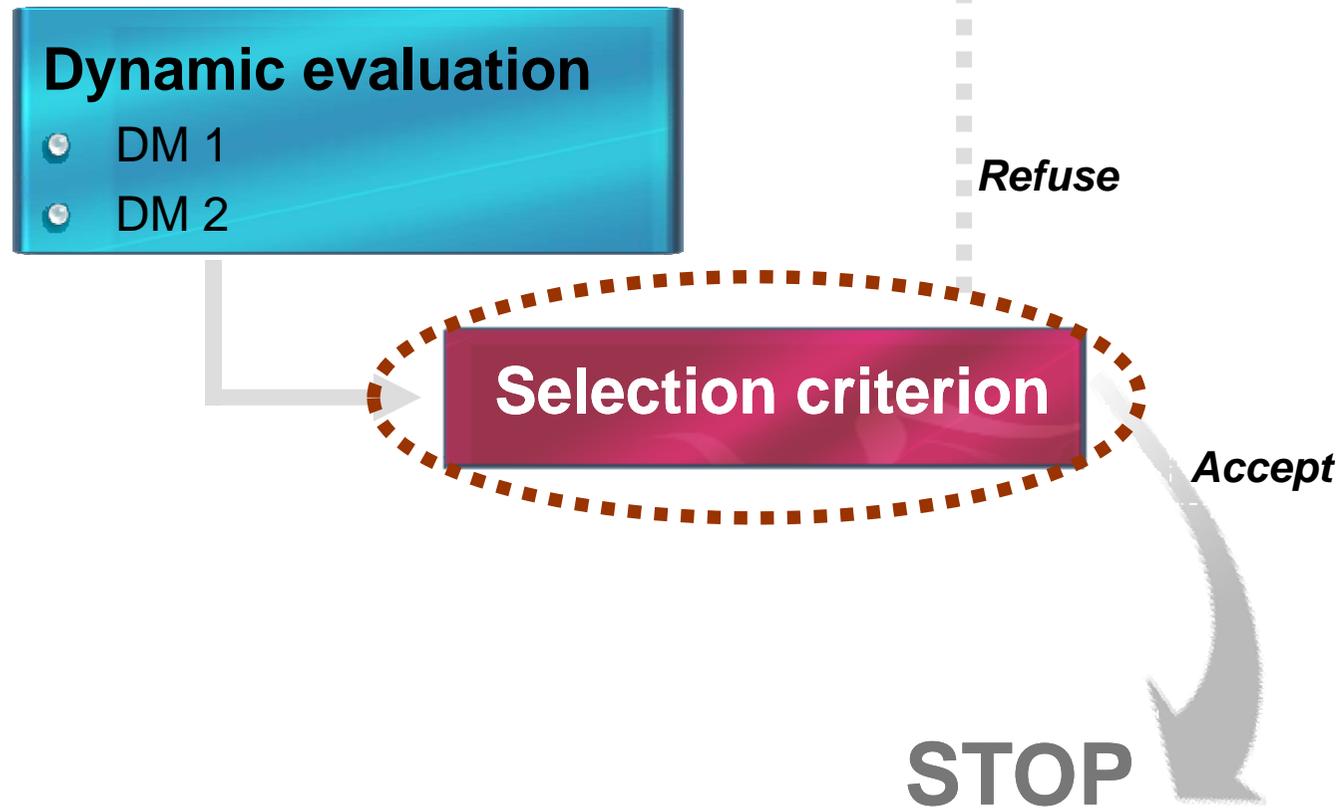
# Game theory

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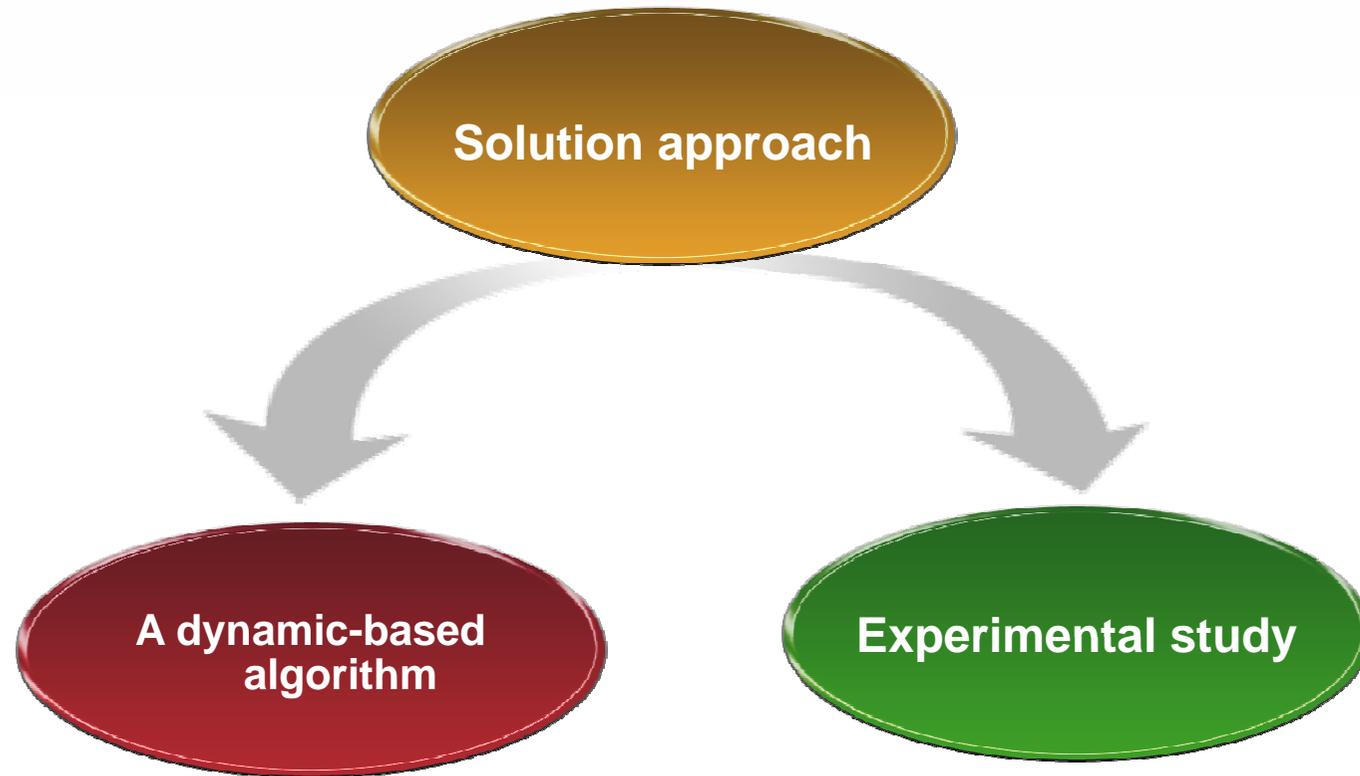
# Non-cooperative games



# Optimal stopping with two DMs



# Addressing the problem



# Dynamic programming

## Optimality equations

$$Ev^p(i, k_p, k_{p'}) = \begin{cases} \max\{Ev_{\theta}^p(i, k_p), Ev_c^p(i)\} & \text{if } i = 1, \dots, n - 1 \\ v^p(k_p) & \text{if } i = n \end{cases}$$

Selection criteria

- Unanimity
- Aggregation
- 1-majority

# Publications

- **2009** An Experimental Investigation of the Optimal Selection Problem with Two Decision Makers

*Ben Abdelaziz F., Krichen S., Lecture Notes in Economics and Mathematical Systems, Springer Verlag, pp. 175-185*

- **2007** Optimal Stopping by Two or More Decision Makers: A Survey

*Ben Abdelaziz F., Krichen S., Computational Management Science, Vol 4, pp. 89-111*

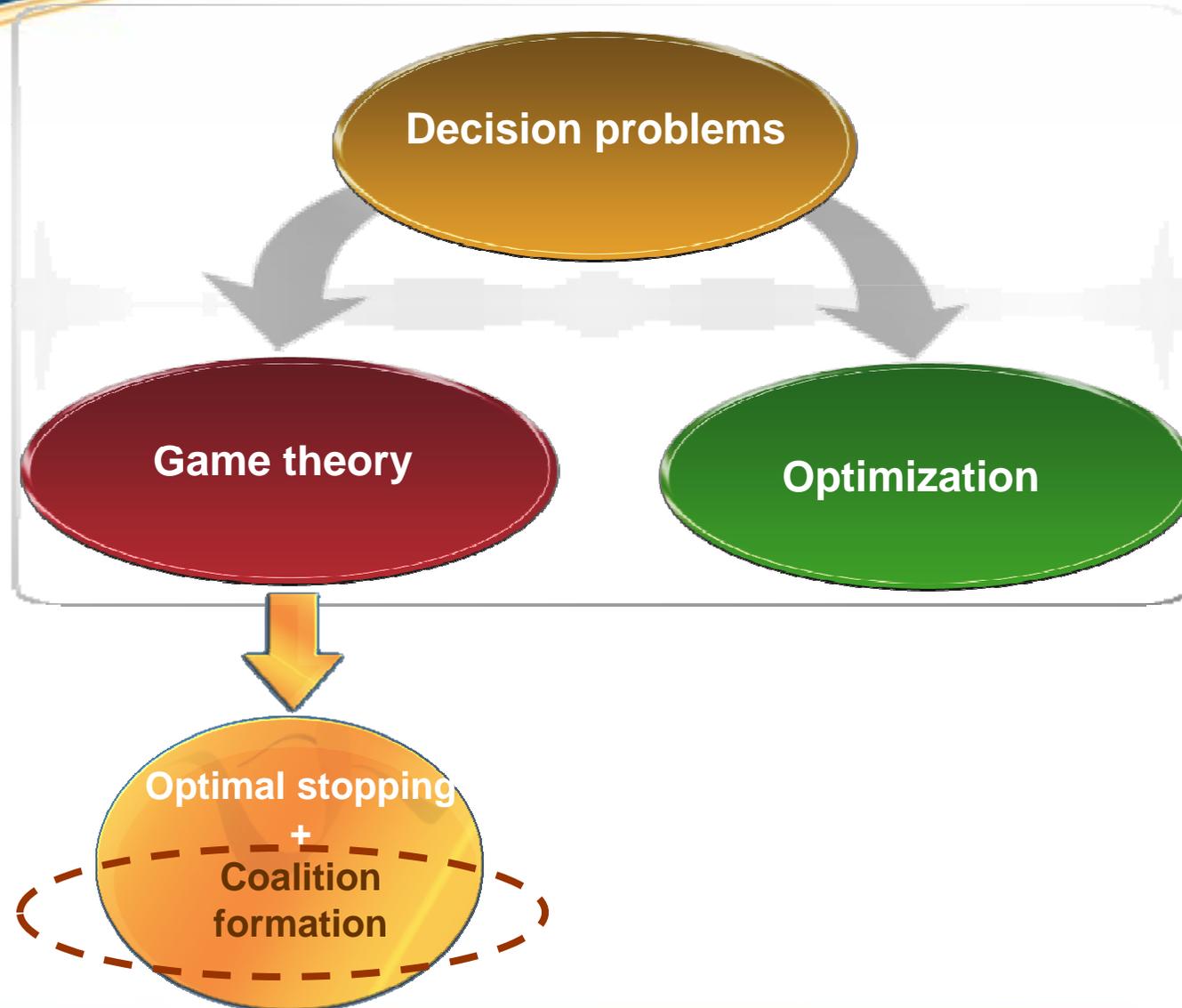
- **2007** An Optimal Stopping Problem with Two Decision Makers

*Krichen S., Ben Abdelaziz F., Sequential Analysis, Vol 26, pp. 1-14*

- **2005** An Interactive Method for the Optimal Selection Problem with Two Decision Makers

*Ben Abdelaziz F., Krichen S., European Journal of Operational Research, Vol 162, 602-609*

# Cooperative games



# Cooperative games

A genetic algorithm and a transfer welfare-based process to generate stable coalition structures belong to the core of the game.

Coalition formation and supply chain

# Coalition formation

- **2009 Coalition formation for multiple retailers with permissible delay in payments**

*Ben Abdelaziz F., Krichen S., Laabidi A.*

*Proceedings of the Third International Conference on Modeling, Simulation and Applied Optimization, Sharjah, U.A.E*

- **Coalition formation for multiple retailers with permissible delays in payments**

*Krichen S., Laabidi A., Ben Abdelaziz F.*

**Computers and Industrial Engineering 2011**

- **A genetic algorithm for a non superadditive coalition formation problem**

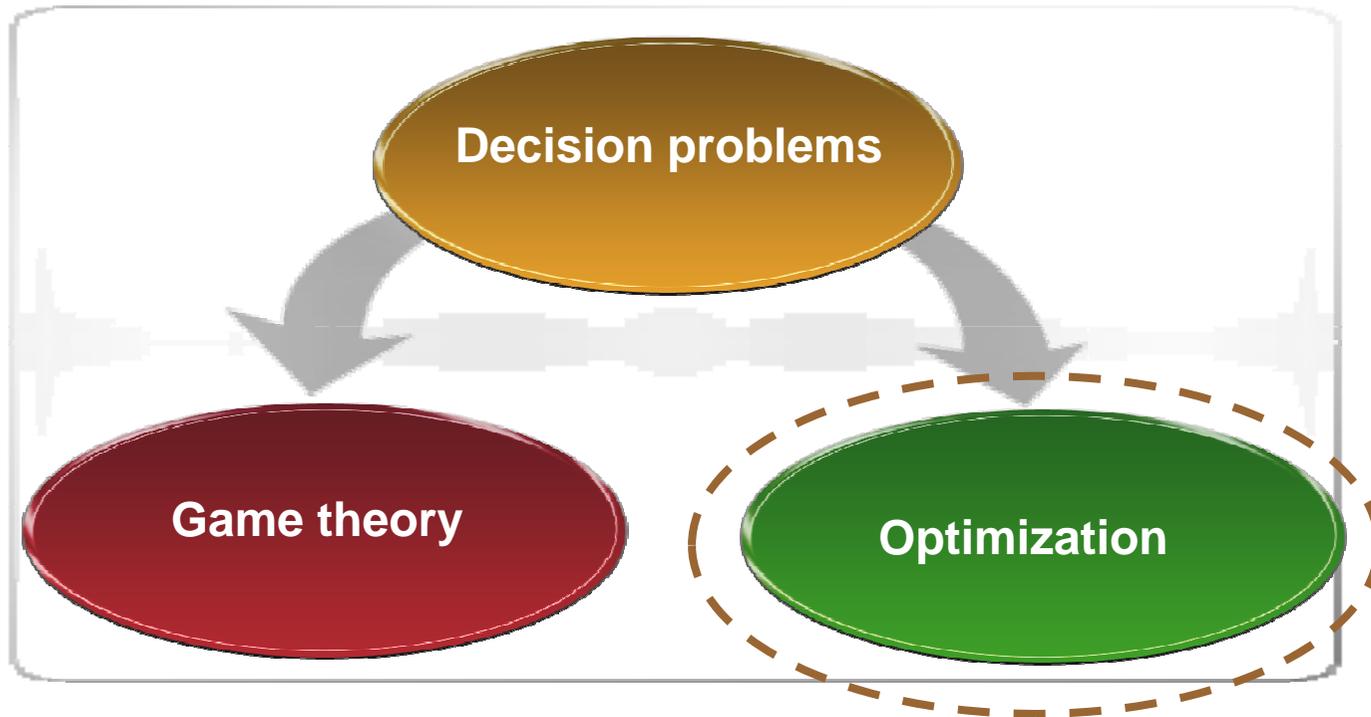
*Ben Abdelaziz F., Krichen S., Bahri I.*

*Artificial Intelligence (revision)*

# Optimization

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# Main topics



# Optimization



- Location area planning for telecommunication networks



- Bilevel loading problem

- Multi-depots VRP



- Inventory problem



University  
of Victoria

- Generating efficient faces for a multiobjective linear problem

- The RCPSP

# Publications

- **2007 Resource-Constrained Project-Scheduling Problem: A Multi-Objective Model with Contingency**

*Ben Abdelaziz F., Krichen S., Dridi O.*

Lecture Notes in Computer Science, Springer Verlag, 719-730

- **2007 Multiobjective Resource-Constrained Project Scheduling Problem**

*Ben Abdelaziz F., Krichen S., Dridi O.*

Business Information and Management Academy (BIMA), Sharjah, Dubai.

- **Two Level Bi-Objective Load balancing Problem**

*Krichen S., Dahmani N.*

Journal of Combinatorial Optimization

**DYNAMIC**

**Decision problems**



**Real applications:**

**Stock market**

**Cloud computing**

**Transportation network**

# Projects in progress...

