

# Workshop Proposal

**Title:** Sustainable development through negotiations: a board-game experience

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**Description:** The workshop is related to the submitted abstract "Negotiating our way towards sustainability: an Educational board game and its contextualization into the mining sector" by Basaiawmoit, Deva and Yiouta-Mitra and all theoretical background shall be found in that paper.

The workshop is a full game run to experience the negotiation game as it is. This workshop has proven to be very engaging for the duration of around 3 hours. The participants will be asked to develop their sector of choice but will actually be trained in the skills of negotiations. They will form teams and develop their cause according to government policies and sustainability directives. Their terrain will be set on the board game currently under development called "Pactopolis" – where you win the game through the ability to make deals (pacts) with fellow industry partners from various sectors – such as agriculture, real-estate, energy and industry - whose roles you take in the game. The game starts with asymmetric information across all sectors and it is the task of the players to figure out the right incentives as well as strategy. While money and resources will be needed to expand each industry's area (and influence), the key to winning the game is the ability to make deals. Secondly, all development happens in a natural area where the government tries to oversee the development of the area in the most sustainable way possible.

**Workshop Content:** Teams of 5 players will be formed and the players will be asked to take on the role of different sectors namely Agriculture, Real-estate, Industry, Green Energy and Raw Materials. The aim is to develop a land area allocated by the government. However, the government requires the development to be sustainable and in balance with the environment. Different sectors have different limitations to where they can set up base and where they get bonuses depending on the terrain and subsurface. Some terrain types may need to be modified prior to building, but such land modifications have costs and they need to replenish these terrains on a land that they own. The sectors can openly negotiate with each other to find the optimum location for development. The game goes over a number of rounds for allotment of plots, auction of land plots, optional terrain modifications, negotiations, plot development, production of resources from developed plots and Income generation from such development. The rounds all end with Government action where the unexpected happens as well as sustainability checks. The negotiation rounds are essentially a "free-for-all" type of round with minimal control and rules and can make or break your development strategy.

**Practicalities:** Duration - 3 hours; Number of participants (Max 25): 5 max teams will be possible with a max of 5 players per table; Breaks – in-game breaks will be possible though not set to fixed times; Game language – English (though players can feel free to negotiate in any language they want to).

**Workshop format:** Highly-interactive round-table format (smaller sized round tables to make it easier to discuss and to access the board).

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## References:

- Bayeck, R. Y. (2020). Examining Board Gameplay and Learning: A Multidisciplinary Review of Recent Research. *Simulation & Gaming*, 51(4), 411-431.
- Thrane, C., & Basaiawmoit, R. V. (2019). *Triggering identity play in entrepreneurship education through game-based learning: Nominated for best paper*. Paper presented at 3E Conference - ECSB Entrepreneurship Education Conference, 2019, Göteborg, Sweden.

## Biographies of the instructors

1. **Dr. Rajiv Vaid Basaiawmoit**, Ph.D., MBA, is the Head of Sci-Tech Innovation & Entrepreneurship at the Faculty of Natural & Technical Sciences at Aarhus University, Denmark. He is an award-winning Entrepreneurship Educator and works at the intersection between innovation, entrepreneurship, interdisciplinary-collaboration and gamification. He designs and embeds Entrepreneurship into curricular education. He is an invited speaker at many conferences and events around the globe and he has spoken on various well-known platforms such as TEDx, ECS and NATO-CoE. In parallel, he also runs a game design studio under his consulting firm Biosymfonix. One of its flagship products is a multi-award-winning Entrepreneurship board game called ESHIP:NavigatingUncertainty which is currently in use in over 60 different institutions across 25 different countries. More recently, the studio has also released GRANTED: The Research Grant Game – which helps interdisciplinary teams come together and create a skeletal grant proposal in under 3 hours.

2. **Dr. Taru Deva** is co-founder of the consulting firm Biosymfonix and is involved in game design, game mechanics and game architecture. She has over 15 years of international research experience in molecular structural biology and biophysics. She has, in the past, also independently freelanced as a science writer and consultant in the fields of pharmacology, medicine, psychology, and architectural design. She now works full-time at Biosymfonix.

3. **Dr. P. Yiouta-Mitra** is a mining engineer with specialization in computational engineering and expertise in underground construction/exploitation and rock mechanics. She has over twenty years of teaching experience in the National Technical University of Athens with a methodology focus on project-based learning, gamification and computer-aided and simulations-based teaching and laboratory courses in her field of expertise. She has coached teams of young learners for participation in robotics and STEM competitions and is a volunteer for CODE.org.

## Who should attend

- Professors who currently teach courses related to sustainability in mining and mineral processing, entrepreneurial skills, mining law, environmental impact permit acquisition and wish to elevate their classes and attract more students.
- Students of all levels and of any industry with an interest in sustainable development.
- Participants with an interest in game-based learning.