

# Schedule for Workshop on Optimal Cooperation, Communication, and Learning in Decentralized Systems

## MEALS

\*Breakfast (Buffet): 7:00–9:30, Sally Borden Building, Monday–Friday

\*Lunch (Buffet): 11:30–13:30, Sally Borden Building, Monday–Friday

\*Dinner (Buffet): 17:30–19:30, Sally Borden Building, Sunday–Thursday

Coffee Breaks: As per daily schedule, in the foyer of the TransCanada Pipeline Pavilion (TCPL)

**\*Please remember to scan your meal card at the host/hostess station in the dining room for each meal.**

## MEETING ROOMS

All lectures will be held in the lecture theater in the TransCanada Pipelines Pavilion (TCPL). An LCD projector, a laptop, a document camera, and blackboards are available for presentations.

## SCHEDULE

### Sunday, October 12th:

**16:00** Check-in begins (Front Desk - Professional Development Centre - open 24 hours)

**17:30–19:30** Buffet Dinner, Sally Borden Building

**20:00** Informal gathering in 2nd floor lounge, Corbett Hall (if desired). Beverages and a small assortment of snacks are available on a cash honor system.

### Monday, October 13th:

**08:30–08:50** Introduction by the organizers and BIRS station manager, TCPL

**08:50–09:40** Vikram Krishnamurty: Social learning and active sensing

**09:40–10:20** Tara Javidi: Noisy Bayesian active learning

**10:20–10:40** *Coffee Break*

**10:40–11:30** Tamer Başar: Stochastic dynamic games and intricacy of information structures

**11:30–12:10** Ali Belabbas: Hurwitz graphs: algorithmic and probabilistic aspects

**12:10–13:30** *Lunch*

**13:30–14:10** Michel de Lara: Smart power systems, renewable energies and markets: the optimization challenge

**14:10–14:50** Sean Meyn: Randomized policies for mean field control with application to automated demand response

**14:50–15:30** Venkat Anantharam: The objective method as a tool in large systems

**15:30–16:00** *Coffee Break*

**16:00–16:40** Roland Malhame: A class of interference induced games: Asymptotic Nash equilibria and parameterized cooperative solutions

**16:40–17:20** Bill Sandholm: Large deviations and stochastic stability in the small noise double limit

**17:20–18:00** Prakash Narayan: Interactive multiterminal communication

**18:00–19:30** *Dinner*

**19:30–20:30** *Informal discussions*

### Tuesday, October 14th:

**08:30–09:20** Shlomo Zilberstein: Cooperative multi-agent planning in partially observable uncertain worlds

**09:20–10:00** Matthijs Spaan: Multi-agent planning under uncertainty with communication

**10:00–10:30** *Coffee Break*

**10:30–11:10** Frans Oliehoek: Exploiting structured representation in multi-agent sequential decision making

**11:10–12:00** Mihailo Jovanovic: Sparsity-promoting optimal control of distributed systems

**12:00-13:20** *Lunch*

**13:20- 13:30** Group Photo; foyer of TCPL (photograph will be taken outdoors so a jacket might be required).

**13:30-14:10** Wing S. Wong: Systems for open interaction

**14:10-14:50** Rahul Jain: The art of sequential optimization via simulations

**14:50-15:30** Aditya Mahajan: The common information approach to decentralized stochastic control.

**15:30-16:00** *Coffee Break*

**16:00-16:40** Sanjay Lall: Sufficient statistics for multi-agent decisions

**16:40-17:20** Nuno Martins: Distributed estimation over shared networks: optimal event-based policies

**17:20-18:00** Bahman Ghahesifard: On the convergence of strategic interaction dynamics on networks

**18:00-19:30** *Dinner*

**19:30-20:30** *Informal discussions*

**Wednesday, October 15th:**

**08:30-09:20** Jason Marden: The role of information in multi-agent coordination

**09:20-10:00** Gürdal Arslan: Learning algorithms for stochastic dynamic games

**10:00-10:40** David Leslie: Two-timescales game-theoretical learning with continuous action spaces

**10:40-11:00** *Coffee Break*

**11:00-11:40** Johannes Hörner: Dynamic Bayesian games

**11:40-12:20** Behrouz Touri: TS graph approach to evolutionary stability

**12:20-13:30** *Lunch*

**13:30-14:10** Alex Olshevsky: Linear time consensus

**14:10-14:50** Shreyas Sundaram: Spectral and structural properties of random graphs with applications to consensus dynamics on networks

**14:50-15:30** Maxim Raginsky: Online discrete optimization in social networks with inertia

**15:30-16:00** *Coffee Break*

**16:00-16:40** Andras György: Online learning in Markov Decision Processes with changing reward sequences

**16:40-17:20** Csaba Szepesvari: Online learning under delayed feedback

**17:20-18:00** Vianney Perchet: Blackwell approachability in (stochastic) games

**18:00-19:30** *Dinner*

**19:30-20:30** *Informal discussions*

**Thursday, October 16th:**

**08:30-09:20** Serdar Yüksel: Quantization for stabilization, optimization and approximation in networked control

**09:20-10:00** Anant Sahai: Information theory and decentralized control

**10:00-10:40** Cédric Langbort: On myopic strategies in dynamic adversarial team decision problems

**10:40-11:00** *Coffee Break*

**11:00-11:40** Ohad Shamir: Information constraints in distributed and online learning

**11:40-12:20** Vivek Borkar: Gossip and related algorithms

**12:20-13:30** *Lunch*

**13:30-Evening** Hiking at Banff

**18:00-19:30** *Dinner*

**19:30-20:30** *Informal discussions*