



# PQS2D

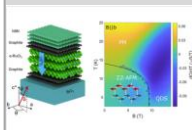
Programmable Quantum Simulators  
based on 2D Materials



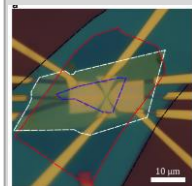
## NEWSLETTER

Issue 4 | Winter 2024-2025

### RESEARCH ADVANCES



- **Massicotte group**, [Giant Anisotropic Magnetoresistance in Few-Layer  \$\alpha\$ -RuCl<sub>3</sub> Tunnel Junctions](#), ACS Nano 2024, 18, 36, 25118–25127



- **Collaboration: Hawrylak, Gaudreau and Luican-Mayer groups** [Valley-spin polarization at zero magnetic field induced by strong hole-hole interactions in monolayer WSe<sub>2</sub>](#)  
Preprint: arXiv:2410.11653v1

### SEMINARS



**October 3<sup>rd</sup>, 2024: Dr. Marek Potemski, LNCMI-Grenoble, CNRS France** talked about the results of magneto-spectroscopy studies (Raman scattering, far- and near-infrared optics, EPR) on several representative layered antiferromagnets.



**December 5<sup>th</sup>, 2024: Prof. Ziliang Ye (UBC)** showed that such a hysteretic phenomenon can also occur in chemically synthesized rhombohedral molybdenum disulfide (3R-MoS<sub>2</sub>).

For more details, go to our [PQS2D website](#).

### ENGAGEMENT

- December 1<sup>st</sup>-6<sup>th</sup>, 2024: [2024 MRS Fall Meeting & Exhibit](#), Boston (USA). **Prof. Ziliang Ye (UBC)** presented the *Ferroelectric Switching of Light-Matter Interaction in Rhombohedral-Stacked MoS<sub>2</sub>*.
- November 3<sup>rd</sup>-8<sup>th</sup>, 2024: [AVS 70<sup>th</sup>](#), Tampa (USA). **Prof. Adina Luican-Mayer (uOttawa)** talked about the *Scanning Tunneling Microscopy Studies of Twisted Transition Metal Dichalcogenides*.

### HAPPY NEW YEAR!

We extend our best wishes to all co-applicants, collaborators, and trainees for a fantastic year ahead!



### PQS2D CO-PIS and PARTNERS ANNUAL MEETING

On September 26<sup>th</sup>, 2024, the co-applicants and partners met to discuss research milestones and explore potential collaborations. This meeting provided an excellent opportunity to maintain and strengthen their relationships.



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