Adina Luican-Mayer, PhD

Department of Physics, University of Ottawa
STM building, #439, Ottawa, Ontario, K1N 6N5, Canada.

luican-mayer@uottawa.ca
613 854 7551

WORK EXPERIENCE

University of Ottawa, Department of Physics, Ottawa, Canada 2023 – present
Department Chair (Interim)

University of Ottawa, Department of Physics, Ottawa, Canada 2022 – present
Associate Professor

University of Chicago. Pritzker School of Molecular Engineering Fall 2022
Visiting Scholar

University of Ottawa, Department of Physics, Ottawa, Canada 2016 – 2022
Assistant Professor

Argonne National Laboratory, Center for Nanoscale Materials, Lemont, IL 2012 – 2015
Alexei Abrikosov Distinguished Postdoctoral Fellowship

EDUCATION

Rutgers – The State University of New Jersey, New Brunswick, NJ 2006 – 2012
PhD in Physics

Jacobs University Bremen, Bremen, Germany 2003 – 2006
Bachelor of Science – major in Physics

HONORS AND AWARDS

- CIFAR Fellow 2023
- Ontario Early Researcher Award 2022
- uOttawa Faculty of Science Early Career Researcher of the year award 2021
- Richard J. Plano Dissertation Prize 2013
- Alexei Abrikosov Postdoctoral Fellowship at Argonne National Laboratory 2012 – 2015
- Alcatel-Lucent fellowship for PhD studies in Condensed Matter Physics 2007 – 2012
- APS Division of Materials Physics Iris Ovshinsky Student Travel Award 2010
- Scholarship from Hamburg University for attending Nanoscience Summer School 2009
- President's List for academic achievements at Jacobs University Bremen 2005 – 2006
- Prizes at National Romanian Physics Olympiads 1999 – 2003

PUBLICATIONS (Google Scholar h-index 18; >5300 citations)

Journal Articles:

1. Molino, L., Leena A., Indrajit M., Ryan P., Johannes L., Luican-Mayer A.* Influence of atomic relaxations on the moiré flat band wavefunctions in antiparallel twisted bilayer WS_2 **arXiv:2302.11497**, **under review Nano Letters (2023)**

2. Jimenez-Galan A.*, Bossaer C., Ernotte G., Parks A., Ferreira da Silva E., Villeneuve D., Staudte A., Brabec T., Luican-Mayer A., Vampa G.* Orbital perspective on high-harmonic generation from solids, accepted **Nature Communications (2023)**

3. Boddison-Chouinard J., Bogan A., Fong N., Barrios P., Lapointe J., Watanabe K., Taniguchi T., Pawlowski J., Miravet D., Bieniek M.; Hawrylak P., Luican-Mayer A.*, Gaudreau L* Anomalous conductance quantization of a one-dimensional channel in monolayer WSe_2, **npj 2D Materials and Applications** 7, 50 **(2023)**

4. Molino L., Aggarwal L., Enaldiev V., Plumadore R., Falko V.*, Luican-Mayer A.* Ferroelectric switching at symmetry-broken interfaces by local control of dislocation networks ***Advanced Materials*** 35 (38), 2370273 **(2023)**

5. Ramos S., Carvalho B., Fantini C., Ribeiro H., Molino L., Plumadore R., Heinz T., Luican-Mayer A., Pimenta M.* Selective electron-phonon coupling in dimerized 1T-TaS_2 revealed by resonance Raman spectroscopy ***ACS Nano*** 17, 16, 15883 **(2023)**

6. Alzate-Carvajal N., Park J., Rautela R., Comeau Z., Scarfe L., Darling S.B., Lessard B., Luican-Mayer A.* Arrays of functionalized graphene field effect transistors for selective sensing of volatile organic compounds, ***ACS Applied Electronic Materials ACS Applied Electronic Materials*** 5 (3), 1514-1520 **(2023)**

7. Boddison-Chouinard J., Bogan A., Fong N., Barrios P., Lapointe J., Watanabe K., Taniguchi T., Luican-Mayer A.*, Gaudreau L.* Charge detection using a WSe_2 van der Waals heterostructure, ***Physical Review Applied*** 18, 5, 054017 **(2022)**

8. Thoutam L., Patel S., Wang T., Wang Y-L*, Divan R., Martin I., Luican-Mayer A., Welp U., Kwok W-K, Xiao Z-L * Temperature-driven changes in the Fermi surface of graphite, ***Physical Review B*** 106, 15, 155117 **(2022)**

9. Park J., Jumu F, Power J., Richard M., Elsahli Y., Jarkas M., Ruan A., Luican-Mayer A., Ménard J-M*, Drone-Mountable Gas Sensing Platform Using Graphene Chemiresistors for Remote In-Field Monitoring, ***MDPI Sensors*** 22(6), 2383 **(2022)**

10. Boddison-Chouinard J., Bogan A., Fong N., Watanabe K., Taniguchi T., Hawrylak P., Luican-Mayer A.*, Gaudreau L Gate-controlled quantum dots in monolayer WSe_2 ***Appl. Phys. Lett.*** 119, 13, 133104 **(2021)**

11. Park J., Rautela R., Scarfe S., Scarfe L., Alzate-Carvajal N., Luican-Mayer A.*, Menard J.-M.* UV illumination as a method to improve the performance of gas sensors based on graphene field effect transistors, ***ACS Sensors*** 6, 12, 4417-4424 **(2021)**

12. Alzate-Carvajal N., Park J., Pykal M., Lazar P., Rautela R., Scarfe S., Scarfe L., Menard J.-M., Otyepka M., Luican-Mayer A.* Graphene field effect transistors – a sensitive platform for detecting sarin, ***ACS Appl. Mater. Interfaces*** 13, 51, 61751–61757 **(2021)**

13. Scarfe S., Cui W., Luican-Mayer A.*, Menard J.-M.* Systematic THz study of the substrate effect in limiting the mobility of graphene, ***Scientific Reports*** 11, 8729 **(2021)**

14. Plumadore R., Baskurt M., Boddison-Chouinard M., Lopinski G., Modaresi M., Potasz P., Hawrylak P., Sahin H., Peeters F.M., Luican-Mayer A.* Prevalence of oxygen defects in an in-plane anisotropic transition metal dichalcogenide, ***Phys. Rev. B*** 102, 205408 **(2020)**

15. Alzate N.* and Luican-Mayer A.* Functionalized graphene surfaces for selective gas sensing, ***ACS Omega*** 5, 34, 21320–21329 **(2020)**

16. Rautela R., Scarfe S., Guay J.-M., Lazar P., Pykal M., Azimi S., Grenapin C., Boddison-Chouinard J., Halpin A., Wang W., Andrzejewski L., Plumadore R., Park J., Menard J.-M., Otyepka M., Luican-Mayer A.* Mechanistic insight into the limiting factors of graphene-based environmental sensors, ***ACS Appl. Mater. Interfac.*** 12, 35, 39764–39771 **(2020)**

17. Plumadore R., Al Ezzi M., Adam S., Luican-Mayer A.* Graphene - Rhenium Disulfide vertical heterostructures visualized at the atomic scale, ***J. Appl. Phys.*** 128, 4, 044303 **(2020)**

18. Boddison-Chouinard J., Scarfe S., Watanabe K., Taniguchi T., Luican-Mayer A.* Flattening van der Waals heterostructure interfaces by local thermal treatment. ***Appl. Phys. Lett.*** 115, 231603 **(2019)**

19. Luican-Mayer A.*, Zhang Y., DiLullo A., Li Y., Fisher B., Ulloa S.E., Hla S.-W.* Negative Differential Resistance Observed on the Charge Density Wave of a Transition Metal Dichalcogenide. ***Nanoscale*** 11, 22351-22358 **(2019)**

20. Ramos S.L.L.M., Plumadore R., Boddison-Chouinard J., Hla S.-W., Guest J.R., Gosztola D., Pimenta M.A., Luican-Mayer A.* Suppression of the commensurate charge density wave phase in ultrathin 1T-TaS_2 evidenced by Raman hyperspectral analysis. ***Phys. Rev. B*** 100, 165414 **(2019)**

21. Stecher K., Huang S.H.-Y., Escorcio R., Luican-Mayer A.* Demonstrating the concepts of sheet resistance, field effect, and mobility of a semiconductor using graphene field effect transistors. ***Eur. J. Phys.*** 40, 065501 **(2019)**

22. Luican-Mayer, A.* A needle in a moiré stack. ***Nature Physics*** 15, 1107–1108 **(2019)**

23. Boddison-Chouinard, J., Plumadore, R., Luican-Mayer, A.* Fabricating van der Waals Heterostructures with Precise Rotational Alignment. ***J. Vis. Exp.*** 149, e59727 **(2019)**

24. Wu S., Luican-Mayer A., Bhattacharya A. Nanoscale Measurement of Nernst Effect in Two-dimensional Charge Density Wave Material 1T-TaS_2. ***Appl. Phys. Lett.*** 111, 223109 **(2017)**

25. Luican-Mayer A., Li G., Andrei E.Y. Atomic scale characterization of mismatched graphene layers. ***J. Electron Spectrosc. Relat. Phenom.*** 219, 92–98 **(2017)**

26. Luican-Mayer A., Barrios-Vargas J.E., Falkenberg J.T., Autès G., Cummings A.W., Soriano D., Li G., Brandbyge M., Yazyev O.V., Roche S., Andrei E.Y. Localized electronic states at grain boundaries on the surface of graphene and graphite. ***2D Mater.*** 3, 031005 **(2016)**

27. Lu C.-P., Rodriguez-Vega M., Li G., Luican-Mayer A., Watanabe K., Taniguchi T., Rossi E., Andrei E. Local, global, and nonlinear screening in twisted double-layer graphene. ***PNAS*** 113, 6623–6628 **(2016)**

28. Thoutam L.R., Wang Y.L., Xiao Z.L., Das S., Luican-Mayer A., Divan R., Crabtree G.W., Kwok W.K. Temperature-dependent three-dimensional anisotropy of the magnetoresistance in WTe_2, ***Phys. Rev. Lett.*** 115, 046602 **(2015)**

29. Wang Y.L., Thoutam L.R., Xiao Z.L., Hu J., Das S., Mao Z.Q., Wei J., Divan R., Luican-Mayer A., Crabtree G.W., Kwok W.K. Origin of the turn-on temperature behavior in WTe_2. ***Phys. Rev. B*** 92, 180402(R) **(2015)**

30. Luican-Mayer A., Kharitonov M., Li G., Lu C.-P., Skachko I., Goncalves A.M., Watanabe K., Taniguchi T., Andrei E.Y. Screening Charged Impurities and Lifting the Orbital Degeneracy in Graphene by Populating Landau Levels. ***Phys. Rev. Lett.*** 112, 036804 **(2014)** - *Editor's suggestion*

31. Li G., Luican-Mayer A., Abanin D., Levitov L., Andrei E.Y. Evolution of Landau levels into edge states in graphene. ***Nature Communications*** 4, 1744 **(2013)**

32. Luican A., Li G., Reina A., Kong J., Nair R., Novoselov K.S., Geim A.K., Andrei E.Y. Single-Layer Behavior and its Breakdown in Twisted Graphene Layers. ***Phys. Rev. Lett.*** 106, 126802 **(2011)**

33. Luican A., Li G., Andrei E.Y. Quantized Landau level spectrum and its density dependence in graphene. ***Phys. Rev. B*** 83, 041405(R) **(2011)** - *Editor's suggestion*

34. Li G., Luican A., Andrei E.Y. Self-navigation of a Scanning Tunneling Microscope tip toward a micron-size graphene sample. ***Rev. Sci. Instruments*** 82, 073701 **(2011)**

35. Skachko I., Du X., Duerr F., Luican A., Abanin D.A., Levitov L.S., Andrei E.Y. Fractional quantum Hall effect in suspended graphene probed with two-terminal measurements. ***Phil. Trans. R. Soc. A*** 368, 5403–5416 **(2010)**

36. Luican A., Li G., Andrei E.Y. Scanning Tunneling Microscopy and spectroscopy of graphene on layers on graphite. ***Solid State Commun.*** 149, 27–28 **(2009)**

37. Li G., Luican A., dos Santos J.M.B.L, Castro Neto A.H., Reina A., Kong J., Andrei E.Y. Observation of Van Hove singularities in twisted graphene layers. ***Nature Physics*** 6, 109–113 **(2009)**

38. Li G., Luican A., Andrei E.Y. Scanning tunneling spectroscopy of graphene on graphite. ***Phys. Rev. Lett.*** 102, 176804 **(2009)**

39. Li G., Luican A., Andrei E.Y. Electronic states on the surface of graphite. ***Physica B*** 404, 2673–2677 **(2009)**

40. Du X., Skachko I., Duerr F., Luican A., Andrei E.Y. Fractional quantum Hall effect and insulating phase of Dirac electrons in graphene. ***Nature*** 462, 192–195 **(2009)**

41. Temirov R., Soubatch S., Luican A., Tautz F.S. Free-electron like dispersion in an organic monolayer film on a metal substrate. ***Nature*** 444, 350–353 **(2006)**

Book Chapter:

- Adina Luican-Mayer and Eva Y. Andrei, **Scanning Tunneling Microscopy and Spectroscopy studies of graphene**, in "Physics of Graphene", editors H. Aoki and M. S. Dresselhaus, Nanoscience and Technology Series Springer p. 28 (2014)

PRESENTATIONS

Invited

1.	SPM Connect symposium at 2024 TechConnect	Washington DC, USA	June 2024
2.	Quantum Matter Canada	Toronto, Canada	May 2024
3.	APS March Meeting	Minneapolis, USA	March 2024
4.	Quantum Days Canada (Keyonote)	Calgary, Canada	February 2024
5.	UC San Diego Physics Colloquium	San Diego, USA	February 2024
6.	Workshop on Twistronics and Moiré Materials	Triste, Italy	January 2024
7.	University of Toronto	Toronto, Canada	Fall 2023
8.	University of Oklahoma, Tulsa	Tulsa, USA	October 2023
9.	Twistronics in 2D materials: from modelling to real systems	Manchester, UK	Sept. 2023
10.	Canadian Semiconductor Science and Technology Conference	Montreal, Canada	August 2023
11.	USARMY DEVCOM CBC Seminar	Online, USA	August 2023
12.	PSI Condensed Matter Summer Camp	Zouz, Switzerland	August 2023
13.	Graphene 2023	Manchester, UK	June 2023
14.	Canada-France Quantum Materials Workshop	Paris, France	May 2023
15.	2023 Surface Canada	Ontario, Canada	May 2023
16.	MRS Spring meeting	San Francisco, USA	April 2023
17.	Polytechnique Montréal, RQMP Seminar	Montreal, Canada	April 2023
18.	UBC *Physics Colloquium*	Vancouver, CA	Feb 2023
19.	Trent University *Physics Colloquium*	Ontario, CA	Feb. 2023
20.	U Chicago PME, *Quantum Seminar*	Chicago, USA	Dec. 2022
21.	MRS Fall meeting	Boston, USA	Nov 2022
22.	CIFAR Quantum Materials Annual Meeting	Santa Barbara, USA	Nov. 2022
23.	Northwestern University, *Physics seminar*	Chicago, USA	October 2022
24.	University of Rochester, *Electrical Engineering seminar*	Rochester, USA	October 2022
25.	Electronic Crystals ECRYS-2022	Corsica, France	August 2022
26.	"Quantum Materials Design by Stacking, Sliding and Twisting"	Tel Aviv, Israel	June 2022
27.	Spring 2022 INTRIQ meeting	Quebec, Canada	May 2022
28.	CAP Congress	Kingston, Canada	June 2022
29.	Physical Electronics, *Keynote (declined, conflict with CAP)*	Chicago, USA	June 2022
30.	UIC Electrical Engineering seminar	Chicago, USA	April 2022
31.	APS March Meeting	Chicago, USA	March 2022

32.	Quantum Materials and Devices Seminar at Harvard University	Boston, USA	Fall 2021
33.	Sherbrooke University	Sherbrooke, Canada	Fall 2021
34.	Graphene 2021	Grenoble, France	Fall 2021
35.	NanoCanada and Huawei workshop – keynote talk	Online	June 2021
36.	Canadian Assoc. Physicists Annual Congress	Online	June 2021
37.	238th Electrochemical Society Meeting	Online	July 2021
38.	International Winter School on Electronic Properties	Kirchberg, Austria/Online	August 2021
39.	GrapheneforUS	Online	Feb 2021
40.	Quantum Days Canada	Online	Jan 2021
41.	University of Washington nano-engineered systems seminar	Online	Jan 2021
42.	Oklahoma State University, *Colloquium*	Online	Jan. 2021
43.	ENGE 2020	Jeju, Korea/Online	Nov. 2020
44.	Graphene Canada	Online	Nov. 2020
45.	Canadian Assoc. Physicists Annual Congress **COVID19 cancelled**	Ontario, Canada	June 2020
46.	237th Electrochemical Society Meeting **COVID19 cancelled**	Montreal, Canada	May 2020
47.	Loyola University, *Colloquium*	Chicago, USA	Oct. 2019
48.	Clarkson University, *Colloquium*	New York, USA	Sept. 2019
49.	The Regroupement Québécois sur les Matériaux de Pointe	Quebec, Canada	July 2019
50.	Telluride Science Research Center, 2D Materials workshop	Telluride, USA	June 2019
51.	Aspen Center for Physics, Moiré Materials workshop	Aspen, USA	June 2019
52.	Canadian Society of Chemistry	Quebec, Canada	June 2019
53.	CIFAR Summer School	British Columbia, Canada	April 2019
54.	University of Waterloo, *Quantum Institute Colloquium*	Ontario, Canada	April 2019
55.	Carleton University, *Colloquium*	Ontario, Canada	April 2019
56.	Lehigh University, *Colloquium*	Pennsylvania, USA	February 2019
57.	2018 Schawlow-Townes *Symposium*	Ottawa, Canada	October 2018
58.	New Materials *Symposium*	Hangzhou, China	June 2018
59.	Canadian Ass. of Physicists lecture Université de Sherbrooke	Quebec, Canada	January 2017
60.	Canadian Ass. of Physicists lecture Bishop's University	Quebec, Canada	January 2017
61.	Canadian Ass. of Physicists lecture Laurentian University	Ontario, Canada	February 2017
62.	Canadian Ass. of Physicists lecture Lakehead University	Ontario, Canada	March 2017
63.	Canadian Ass. of Physicists lecture University of Manitoba	Manitoba, Canada	April 2017
64.	Canadian Ass. of Physicists lecture Brandon University	Manitoba, Canada	April 2017
65.	SCiMAN2016 *Symposium*	San Jose, Costa Rica	December 2016
66.	American Vacuum Society 63rd Symposium & Exhibition	Nashville, USA	Nov. 2016
67.	Concordia University, *Colloquium*	Montreal, Canada	October 2016
68.	Centre for Nanoscale Materials, Argonne, DOE Review	Argonne, USA	June 2016
69.	Canadian Association of Physicists	Ottawa, Canada	June 2016
70.	National Research Council, *Steacie Colloquium*	Ottawa, Canada	May 2016
71.	SUNY Binghamton University, *Colloquium*	Binghamton, USA	April 2016
72.	Drexel University, *Colloquium*	Philadelphia, USA	Nov. 2015
73.	University of Notre Dame, *Seminar*	Notre Dame, USA	Sept. 2015
74.	Northwestern University, *Colloquium*	Chicago, USA	March 2015
75.	UC Riverside, *Seminar*	Riverside, USA	March 2015
76.	Queens College CUNY, *Colloquium*	NYC, USA	February 2015
77.	University of Wisconsin-Madison, *Colloquium*	Madison, USA	February 2015
78.	IUPUI, *Colloquium*	Indianapolis, USA	February 2015
79.	Iowa State University, *Colloquium*	Ames, USA	February 2015
80.	CUNY, *Colloquium*	NYC, USA	February 2015
81.	UC Merced, *Colloquium*	Merced, USA	February 2015
82.	University of New Hampshire, *Colloquium*	Durham, USA	January 2015

83. University of Ottawa, *Colloquium*	Ottawa, Canada	January 2015
84. University of Washington, *Colloquium*	Seattle, USA	Nov.2014
85. Rutgers University, *Colloquium*	Piscataway, USA	Nov. 2014
86. UC Berkeley, *Seminar*	Berkeley, USA	August 2014
87. Experimental Techniques and Physics in Graphene Research	Bogota, Columbia	August 2014
88. NSS8 Workshop on Nanotechnology	Chicago, USA	July 2014
89. Northern Illinois University, *Colloquium*	DeKalb, USA	April 2014
90. University of Central Florida, *Seminar*	Orlando, USA	February 2014
91. University of California San Diego, *Seminar*	San Diego, USA	Nov. 2013
92. International Winterschool on Electronic Properties	Kirchberg, Austria	March 2013
93. APS March Meeting	Baltimore, USA	March 2013
94. Instituto de Ciencia de Materiales, *Seminar*	Madrid, Spain	Sept. 2012
95. European Material Research Society Fall Meeting	Warsaw, Poland	Sept. 2012
96. Center for Nanoscale Materials, *Colloquium*	Argonne, USA	January 2012
97. University of Aachen, *Seminar*	Aachen, Germany	January 2012
98. University of Delft, *Seminar*	Delft, Netherlands	January 2012
99. Gotham-Metro Condensed Matter Meeting	New York, USA	April 2010

TEACHING

New courses developed

- PHY 8191 Low-dimensional Material Systems — Winter 2016
- PHY 2300 How Things Work / Physics of Everyday Life — Fall 2018
- PHY 8191 Graduate Seminar in Materials for Energy and Environment — Summer 2020

Standard courses

- PHY 1122 Fundamentals of Physics II (150-200 engineering, physics) — Winter 2017 - 2022
- PHY 3370 Introductory Quantum Mechanics — Fall 2019 - 2021
- PHY 3770 Introduction à la mécanique quantique — Fall 2020, 2021, 2023

STUDENT SUPERVISION

Current

- **2 postdoctoral fellows**
  - Dr. Justin Boddison-Chouinard co-supervised with Dr. Gaudreau Louis, NRC
  - Dr. Xiaoqin Bao co-supervised with Dr. Gaudreau Louis, NRC
- **8 graduate students**
  - Logan Miller – MSc. student
  - Jonathan Brunette– MSc. student
  - Alexandre Imbert – MSc. student
  - Xueying Li – PhD. student
  - Antoine Labbé – PhD. student, co-supervised with Dr. Gaudreau Louis, NRC
  - Ryan Plumadore – PhD student
  - Laurent Molino – PhD. student
  - Chandler Bossaer – PhD. student, co-supervised with Dr. Giulio Vampa, NRC
- **3 undergraduate students** – including Honors projects.

Graduated

- **7 postdoctoral fellows**
  - Dr. Alex Bogan – co-supervised with Dr. Gaudreau at NRC
  - Dr. Jean-Michel Guay – co-supervised with Prof. Menard, Prof. Park at uOttawa
  - Dr. Ranjana Rautela – co-supervised with Prof. Menard, Prof. Park at uOttawa
  - Dr. Natalia Alzate
  - Dr. Jaewoo Park – co-supervised with Prof. Menard, uOttawa
  - Dr. Saher Hamid
  - Dr. Leena Agrawal
- **5 graduate students**
  - Justin Boddison-Chouinard– PhD, Fall 2022
  - Samantha Scarfe – MSc. co-supervised with Prof. Menard, MSc. Fall 2020
  - Ryan Plumadore – MSc. defended Fall 2018
  - Justin Boddison-Chouinard – MSc. defended Fall 2018
  - Sebastian Schaefer – exchange with Univ. Aachen, Germany, graduated MSc. Fall 2017
- **25+ undergraduate students** – including international exchange, COOP, Honors projects
- **1 engineer**
  - Eduardo Barrer

AWARDED FUNDING

Internal:

Funding program	Project title	Total award amount (CAD)	Percentage for Dr. Luican-Mayer lab	Period of the award	Principle investigator(s)
Start-up fund		150,000	100%	2016-2021	PI
OVPR	STM 2D materials	2,000	100%	2018	PI
OVPR	Vacuum Pump	5,000	100%	2021	PI

External, active in blue

Total: 5.05 M CAD [3.3M (operation) + 1.75M (infrastructure)]					
Funding program	**Project title**	**Total award amount (CAD)**	**Percentage for Dr. Luican-Mayer lab**	**Period of the award**	**Principle investigator(s)**
NSERC Alliance Quantum International	Realizing deterministic array of quantum defects in 2D materials	25,000	100%	2023-2024	PI: Adina Luican-Mayer Co-PI: Giulia Galli, Steven Sibener, University of Chicago
NSERC The Collaborative Research and Training Experience (CREATE)	Training in Materials for Quantum Technologies (MaQTech)	1,650,000	10%	2023-2029	**PI: Adina Luican-Mayer** Co-PI: Waterloo, McGill, Polytechnique, Sherbrooke, Toronto
NSERC Alliance Quantum Consortium	Programmable Quantum Simulators in 2D	4,675,000	22%	2023-2028	**PI: Adina Luican-Mayer** Co-PI: Pawel Hawrylak, James Gupta, Adam Tsen, Ziliang Ye, Michel Pioro-Ladrière, Louis Gaudreau, Peter Grutter
CIFAR Fellowship	Quantum Materials program	60,000	100%	2023-2025	PI: Adina Luican-Mayer
FRQNT/NSERC Alliance Grants - FRQNT - NOVA	Functionalized Bilayer Graphene Devices: Achieving Selectivity and Sensitivity	225,000	20%	2023-2026	PI: Delphine Bouilly Co-PI: Adina Luican-Mayer,

					Sebastien Cote, Thomas Szkopek
NRC High-Throughput & Secure Networks Challenge Program	On-chip integrated photonic circuits based on 2D materials	198,000	70%	2023-2025	PI: Adina Luican-Mayer Co-PI: Pawel Hawrylak, Louis Gaudreau
Ontario Early Researcher Award	Exploring atomic-scale quantum states in 2D materials for quantum technologies	150,000	100%	2022-2027	PI: Adina Luican-Mayer
NRC High-Throughput & Secure Networks Challenge Program	Fabrication techniques of 2D material devices	503,800	50%	2021-2023	PI: Adina Luican-Mayer NRC Partner: Louis Gaudreau
NRC Quantum Sensing Challenge Program	Polarisation-resolved single-photon sensors using quantum circuits in 2D materials	580,800	33%	2022-2025	PI: Adina Luican-Mayer Co-PI :Pawel Hawrylak NRC Partner: Louis Gaudreau
NSERC Discovery	Quantum materials at the atomic scale	205,000	100%	2022-2027	PI: Adina Luican-Mayer
	Custom low dimensional materials explored from atom to bulk	144,000	100%	2016-2022	PI: Adina Luican-Mayer
DND IDEaS – Phase 1a	Graphene-based multi modal adaptable thermal camouflage	160,000	100%	2020-2021	PI: Adina Luican-Mayer
DND IDEaS – Phase 1b	Sensitive detection and identification of airborne chemicals	800,000	50%	2020-2021	Co-PIs: Adina Luican-Mayer,

	and biological agents				Jean-Michel Menard
DND IDEaS – Phase 1a	Sensitive detection and identification of airborne chemicals and biological agents	200,000	50%	2019-2020	Co-PIs: Adina Luican-Mayer, Jean-Michel Menard
NSERC SPG-P	Quantum circuits in 2D materials	890,000	33%	2018-2021	PI: Pawel Hawrylak Co-PI: Adina Luican-Mayer, Antonio Badolato
NSERC Engage	Development of flexible environmental sensors based on ultrathin 2D materials	25000	100%	2018	PI: Adina Luican-Mayer
Infrastructure funding					
CFI – JELF	UHV LT Scanning Tunnelling Microscope	768,000	100%	2018	PI: Adina Luican-Mayer
CFI – IF	Scanning Hall Probe Microscope	8,117,613	12%	2021	PI: Thomas Szkopek Co-PI: Adina Luican-Mayer, Marta Cerruti, Delphine Bouilly, Guillaume Gervais, Hong Guo, Clara Santato

SERVICE

University service

- University Senate 2023-
- Equity, Diversity, and Inclusion Committee 2020 –2023
- Physics Undergraduate Program Review Committee 2020 –
- Faculty Canada Research Chair Search Committee 2019 – 2023
- Physics Department Chair Search Committee 2019
- Physics Colloquium Committee 2016 – 2017
- Faculty Curriculum Committee 2018 –
- Physics Department Curriculum Committee 2018 –
- Physics Department Outreach Committee 2019 –
- Thesis chair and evaluator for MSc. and PhD 2016 –

Professional service

- Member at large APS DCMMP division 2023-2025
- Chair line AVS Nanometer-Scale Science and Technology Division 2022-2024
- Member of the AVS Nanometer-Scale Science and Technology Division board 2019-2021
- Steering Committee France-Canada International Research Network (IRN) on Quantum Science and Technology 2023-
- Evaluator M.Sc./M.Sc.A. in Nanoscience and Nanotechnology at Concordia University 2019

Conference organization

- France-Canada Quantum Alliance 2023, 2024
- Organizing committee International Conference on the Physics of Semiconductors (ICPS) 2024
- International Scientific Committee (ISC) Graphene Canada 2021 2021
- Co-organizer "QC2DM" Workshop Ottawa 2019-2020
- Program Committee International Conference on Nanoscience and Technology (ICN+T) 2020
- Program Committee 2D Materials Focus Topic (2D FT) AVS 67th Symposium 2020
- Organizing Committee, Canadian Association of Physicists Congress 2017

Peer review for *Science, Nature Physics, Nature Nano, Physical Reviews Letters, Nature Communications, ACS Nano, Nano Letters, Solid State Communications, Science Advances, Applied Physics Letters, etc.*

Grant review: *NSERC, NSF, DOE, CFI, CEC, etc.*

OUTREACH

- UC Santa Cruz high school summer school on quantum materials – online 2023
- Canadian Association of Physicists online lecture tour – French lecture online 2021
- Soapbox Science Ottawa 2021
- Pint of Science public talk - **COVID19 postponed** 2020
- Cool Science Saturday/ Canada Science and Technology Museum 2020
- CBC Radio "The Element of Surprise" – Neon 2019
- Canadian Undergraduate Women in Physics conference – panelist 2019

- Ontario University Fair 2018, 2019, 2022
- Outreach talk to finalists of Canada science fair 2018
- Canadian Association of Physicists lecture tour 2017
- Colloquium and Eureka Lecture Coordinator, Department of Physics, uOttawa 2016
- Experimental demos at “Nanodays” at Longfellow Elementary School, Wheaton, IL 2015
- Keynote speaker at Naperville Central High School workshop for girls in STEM fields 2013