

Corey “Alex” Inman

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<https://scholar.google.com/citations?hl=en&user=io6n544AAAAJ>

Education

University of California, Santa Barbara

March 2016

B.Sc. in Chemistry

Minor in Art History

Drexel University

Summer 2024 (expected date)

Ph.D. in Materials Science and Engineering

Professional Experience

Drexel University, Research Assistant

August 2020 – present

Department of Materials Science and Engineering, Advisor: Yury Gogotsi

- Developed high-energy synthesis methods of MXene for large-scale synthesis
- Collaborated with industry partners to develop applications for MXenes in wearable electronics including MXene/textile-based supercapacitors
- Developed MXene-based nanocomposites
- Developed electrochemical biosensors in collaboration with government partners
- Developed antifouling coatings with government partners
- Equipment superuser – DSC/TGA/MS (TA Instruments Discovery SDT 650), rheometer/DMT (TA Instruments Discovery HR-30)
- Taught classes for semi-annual MXene course
- Mentored graduate and undergraduate students
- Developed collaborations with industry, academic and government partners to research specific applications and processes
- Presented research at quarterly meetings, and conferences

Accenture Technology R&D Assoc Principal

October 2023 – present

Global Technology, Supervisor: Andreea Danielescu, Eric Gallo

- Developed concept for on-garment wearable textile-based energy storage grid utilizing MXenes
- Worked directly with senior scientists to develop a wearable energy storage concept
- Developed methods for direct write printing of MXenes directly onto textiles

ACI Materials, Research and Development Scientist

2017 – 2023

Supervisor: Michael Mastropietro

- Developed product line of flexible conductive epoxies for solder replacement in flexible hybrid electronics (FHE) applications, over ten commercially available products
- Supervised two technicians in product development from initial development phase to final high-volume production and quality control
- Engaged with Technical sales and customers for product implementation into application
- Procured and implemented analytical equipment, including a universal testing machine and rheometer

ACI Materials, Research and Development Technician

2016 – 2017

Supervisor: Marshall Tibbetts

- Helped develop functional composites in FHE and aerospace applications
- Performed material characterization with four-wire probe, laser profilometer, rheometer, DSC, TGA and laser diffraction particle size analyzer

Honors and Awards

Graduate Assistance in Areas of National Need (GAANN) Fellowship	Aug. 2020
George Hill Jr. Endowment Fellowship	Aug. 2020
Teck-Kah Lim Travel Subsidy Award	May 2022, Nov 2022
2D MXenes Symposium Best Poster Award (S2022 MRS)	May 2022
2022 MRS Spring Best Poster Award	May 2022
2023 Drexel Global Engagement Fund	October 2023

Presentations

MXene Liquid Crystals and Fibers, MXene Course (recurring course, Aug. 2021, Feb. 2022) (Oral)

Shear delamination of multilayer MXene, Oral, MRS Spring 2022

Wearable Energy Storage with MXene Textile Supercapacitors for Real World Use, Poster, MRS Spring 2022

Wearable Energy Storage with MXene Textile Supercapacitors for Real World Use, Oral, Gordon Research Symposium Spring 2023 (Invited)

MXene SiO₂ composites by sol-gel processing, Oral, ACS Spring 2023

Processing and applications of MXene, Oral (Keynote) Graphene 2023 (International)

MXene Enabled Wearable Energy Storage Solutions, Oral, Puzzle X 2023 (International)

Publications

1. **Inman, A.**; Hryhorchuk, T.; Bi, L.; Wang, R. (John); Greenspan, B.; Tabb, T.; Gallo, E. M.; VahidMohammadi, A.; Dion, G.; Danieleescu, A.; Gogotsi, Y. *Wearable Energy Storage with MXene Textile Supercapacitors for Real World Use*. *J. Mater. Chem. A* (2023), 10.1039.D2TA08995E. <https://doi.org/10.1039/D2TA08995E>.

2. **Inman, A.**; Šedajová, V.; Matthews, K.; Gravlin, J.; Busa, J.; Shuck, C. E.; VahidMohammadi, A.; Bakandritsos, A.; Shekhirev, M.; Otyepka, M.; Gogotsi, Y. Shear Delamination of Multilayer MXenes. *Journal of Materials Research* **2022**, *37*(22), 4006–4016. <https://doi.org/10.1557/s43578-022-00690-3>.
3. **Inman, A.**; Shevchuk, K.; Anayee, M.; Hammill, B.; Lee, J.; Saraf, M.; Shuck, C. E.; Armstrong, C. M.; He, Y.; Jin, T.; Shekhirev, M.; Capobianco, J.; Gogotsi, Y. High-Yield and High-Throughput Delamination of Multilayer MXene via High-Pressure Homogenization. *Chemical Engineering Journal* **2023**, 146089. <https://doi.org/10.1016/j.cej.2023.146089>.
4. Saraf, M., Shuck, C.E., Norouzi, N., Matthews, K., **Inman, A.**, Zhang, T., Pomerantseva, E. and Gogotsi, Y. (2022), Free-Standing α -MoO₃/Ti₃C₂ MXene Hybrid Electrode in Water-in-Salt Electrolytes. *Energy Environ. Mater.*. Accepted Author Manuscript e12516. <https://doi.org/10.1002/eem2.12516>
5. Saraf, M.; Chacon, B.; Ippolito, S.; Lord, R. W.; Anayee, M.; Wang, R. (John); **Inman, A.**; Shuck, C. E.; Gogotsi, Y. Enhancing Charge Storage of Mo₂Ti₂C₃ MXene by Partial Oxidation. *Advanced Functional Materials* **2023** (n/a), 2306815. <https://doi.org/10.1002/adfm.202306815>.