

Stanford



Adam Marks

Physical Science Research Scientist
Materials Science and Engineering

Bio

ACADEMIC APPOINTMENTS

- Phys Sci Res Assoc, Materials Science and Engineering

PROFESSIONAL EDUCATION

- Ph.D., Imperial College London , Polymer Chemistry (2020)
- MSci, Imperial College London , Chemistry (2016)

Publications

PUBLICATIONS

- **The Role Of Side Chains and Hydration on Mixed Charge Transport in N-Type Polymer Films.** *Advanced materials (Deerfield Beach, Fla.)*
Surgailis, J., Flagg, L. Q., Richter, L. J., Druet, V., Griggs, S., Wu, X., Moro, S., Ohayon, D., Kousseff, C. J., Marks, A., Maria, I. P., Chen, H., Moser, et al
2024: e2313121
- **Enhancement of Conjugated Polymer Microstructure and Mixed-Conducting Properties via Chalcogenophene Heteroatom Substitution** *CHEMISTRY OF MATERIALS*
Paulsen, B. D., Meli, D., Moser, M., Marks, A., Ponder Jr, J. F., Wu, R., Schafer, E. A., Strzalka, J., Zhang, Q., McCulloch, I., Rivnay, J.
2024
- **Charge Carrier Induced Structural Ordering And Disorder in Organic Mixed Ionic Electronic Conductors.** *Advanced materials (Deerfield Beach, Fla.)*
Quill, T. J., LeCroy, G., Marks, A., Hesse, S. A., Thiburce, Q., McCulloch, I., Tassone, C. J., Takacs, C. J., Giovannitti, A., Salleo, A.
2024: e2310157
- **Origins of hydrogen peroxide selectivity during oxygen reduction on organic mixed ionic-electronic conducting polymers** *ENERGY & ENVIRONMENTAL SCIENCE*
Duran, A., Liang, A., Denti, I., Yu, H., Pearce, D., Marks, A., Penn, E., Treiber, J., Weaver, K., Turaski, L., Maria, I. P., Griggs, S., Chen, et al
2023
- **On the Importance of Chemical Precision in Organic Electronics: Fullerene Intercalation in Perfectly Alternating Conjugated Polymers** *ADVANCED FUNCTIONAL MATERIALS*
Vanderspikken, J., Liu, Z., Wu, X., Beckers, O., Moro, S., Quill, T., Liu, Q., Goossens, A., Marks, A., Weaver, K., Hamid, M., Goderis, B., Nies, et al
2023
- **Volumetric Electron Transfer from Metabolites to Chemically Doped Polymer Electrodes** *ADVANCED FUNCTIONAL MATERIALS*
Tan, S., Lee, G., Rozyłowicz, K., Marks, A., Salleo, A.
2023
- **An ordered, self-assembled nanocomposite with efficient electronic and ionic transport.** *Nature materials*
Quill, T. J., LeCroy, G., Halat, D. M., Sheelamantula, R., Marks, A., Grundy, L. S., McCulloch, I., Reimer, J. A., Balsara, N. P., Giovannitti, A., Salleo, A., Takacs, C. J.

2023

- **2D metal-organic frameworks for ultraflexible electrochemical transistors with high transconductance and fast response speeds** *SCIENCE ADVANCES*
Song, J., Liu, H., Zhao, Z., Guo, X., Liu, C., Griggs, S., Marks, A., Zhu, Y., Law, H., McCulloch, I., Yan, F.
2023; 9 (2): eadd9627
- **The effect of residual palladium on the performance of organic electrochemical transistors.** *Nature communications*
Griggs, S., Marks, A., Meli, D., Rebetez, G., Bardagot, O., Paulsen, B. D., Chen, H., Weaver, K., Nugraha, M. I., Schafer, E. A., Tropp, J., Aitchison, C. M., Anthopoulos, et al
2022; 13 (1): 7964
- **Conjugated polymers for microwave applications: untethered sensing platforms and multifunctional devices.** *Advanced materials (Deerfield Beach, Fla.)*
Tan, S. T., Giovannitti, A., Marks, A., Moser, M., Quill, T. J., McCulloch, I., Salleo, A., Bonacchini, G. E.
2022: e2202994
- **Tuning Organic Electrochemical Transistor Threshold Voltage using Chemically Doped Polymer Gates.** *Advanced materials (Deerfield Beach, Fla.)*
Tan, S. T., Lee, G., Denti, I., LeCroy, G., Rozyłowicz, K., Marks, A., Griggs, S., McCulloch, I., Giovannitti, A., Salleo, A.
2022: e2202359
- **Synthetic Nuances to Maximize n-Type Organic Electrochemical Transistor and Thermoelectric Performance in Fused Lactam Polymers.** *Journal of the American Chemical Society*
Marks, A., Chen, X., Wu, R., Rashid, R. B., Jin, W., Paulsen, B. D., Moser, M., Ji, X., Griggs, S., Meli, D., Wu, X., Bristow, H., Strzalka, et al
2022
- **Organic Electrochemical Transistors: An Emerging Technology for Biosensing** *ADVANCED MATERIALS INTERFACES*
Marks, A., Griggs, S., Gasparini, N., Moser, M.
2022
- **The effect of side chain engineering on conjugated polymers in organic electrochemical transistors for bioelectronic applications** *JOURNAL OF MATERIALS CHEMISTRY C*
He, Y., Kukhta, N. A., Marks, A., Luscombe, C. K.
2022
- **Propylene and butylene glycol: new alternatives to ethylene glycol in conjugated polymers for bioelectronic applications** *MATERIALS HORIZONS*
Moser, M., Wang, Y., Hidalgo, T., Liao, H., Yu, Y., Chen, J., Duan, J., Moruzzi, F., Griggs, S., Marks, A., Gasparini, N., Wadsworth, A., Inal, et al
2021
- **Molecular Design Strategies toward Improvement of Charge Injection and Ionic Conduction in Organic Mixed Ionic-Electronic Conductors for Organic Electrochemical Transistors.** *Chemical reviews*
Kukhta, N. A., Marks, A., Luscombe, C. K.
1800
- **n-Type organic semiconducting polymers: stability limitations, design considerations and applications** *JOURNAL OF MATERIALS CHEMISTRY C*
Griggs, S., Marks, A., Bristow, H., McCulloch, I.
2021; 9 (26): 8099-8128
- **n-Type Rigid Semiconducting Polymers Bearing Oligo(Ethylene Glycol) Side Chains for High-Performance Organic Electrochemical Transistors** *ANGEWANDTE CHEMIE-INTERNATIONAL EDITION*
Chen, X., Marks, A., Paulsen, B. D., Wu, R., Rashid, R. B., Chen, H., Alsufyani, M., Rivnay, J., McCulloch, I.
2021; 60 (17): 9368-9373
- **Reversible Electrochemical Charging of n-Type Conjugated Polymer Electrodes in Aqueous Electrolytes.** *Journal of the American Chemical Society*
Szumska, A. A., Maria, I. P., Flagg, L. Q., Savva, A., Surgailis, J., Paulsen, B. D., Moia, D., Chen, X., Griggs, S., Mefford, J. T., Rashid, R. B., Marks, A., Inal, et al
2021
- **O-17 NMR spectroscopy as a tool to study hydrogen bonding of cholesterol in lipid bilayers** *CHEMICAL COMMUNICATIONS*
Rowlands, L. J., Marks, A., Sanderson, J. M., Law, R.
2020; 56 (92): 14499-14502
- **Polaron Delocalization in Donor-Acceptor Polymers and its Impact on Organic Electrochemical Transistor Performance.** *Angewandte Chemie (International ed. in English)*

Moser, M. n., Savva, A. n., Thorley, K. n., Paulsen, B. D., Hidalgo, T. C., Ohayon, D. n., Chen, H. n., Giovannitti, A. n., Marks, A. n., Gasparini, N. n., Wadsworth, A. n., Rivnay, J. n., Inal, et al

2020

● **Polaron spin dynamics in high-mobility polymeric semiconductors** *NATURE PHYSICS*

Schott, S., Chopra, U., Lemaire, V., Melnyk, A., Olivier, Y., Di Pietro, R., Romanov, I., Carey, R. L., Jiao, X., Jellett, C., Little, M., Marks, A., McNeill, et al
2019; 15 (8): 814-+

● **Long spin diffusion lengths in doped conjugated polymers due to enhanced exchange coupling (vol 2, pg 98, 2019)** *NATURE ELECTRONICS*

Wang, S., Venkateshvaran, D., Mahani, M. R., Chopra, U., McNellis, E. R., Di Pietro, R., Schott, S., Wittmann, A., Schweicher, G., Cubukcu, M., Kang, K., Carey, R., Wagner, et al
2019; 2 (7): 313

● **Critical review of the molecular design progress in non-fullerene electron acceptors towards commercially viable organic solar cells** *CHEMICAL SOCIETY REVIEWS*

Wadsworth, A., Moser, M., Marks, A., Little, M. S., Gasparini, N., Brabec, C. J., Baran, D., McCulloch, I.
2019; 48 (6): 1596-1625

● **Crystal Engineering of Dibenzothiopheno[3,2-b]thiophene (DBTTT) Isomers for Organic Field-Effect Transistors** *CHEMISTRY OF MATERIALS*

Chen, H., Schweicher, G., Planells, M., Ryno, S. M., Broch, K., White, A. P., Simatos, D., Little, M., Jellett, C., Cryer, S. J., Marks, A., Hurhangee, M., Bredas, et al
2018; 30 (21): 7587-7592