

## Anjani Maurya

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### Bio

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#### LINKS

- Research Site: <https://anjanikmaurya.github.io/>

### Publications

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#### PUBLICATIONS

- **Closed-loop recycling of mixed polyesters via catalytic methanolysis and monomer separations** *NATURE CHEMICAL ENGINEERING*  
Curley, J. B., Liang, Y., Desveaux, J. S., Choi, H., Clarke, R. W., Maurya, A. K., Michener, W. E., Stanley, L. M., Wu, Y., Hesse, S. A., Baer, A. L., Neyer, H. A., Tassone, et al  
2025
- **Understanding the stability of a plastic-degrading Rieske iron oxidoreductase system.** *Protein science : a publication of the Protein Society*  
Beech, J. L., Maurya, A. K., Rodrigues da Silva, R., Akpoto, E., Asundi, A., Fecko, J. A., Yennawar, N. H., Sarangi, R., Tassone, C., Weiss, T. M., DuBois, J. L.  
2024; 33 (6): e4997
- **Characterization of polymer properties and identification of additives in commercially available research plastics (Mar, 10.1039/d4gc00659c, 2024)** *GREEN CHEMISTRY*  
Cuthbertson, A. A., Lincoln, C., Miscall, J., Stanley, L. M., Maurya, A. K., Asundi, A. S., Tassone, C. J., Rorrer, N. A., Beckham, G. T.  
2024
- **Characterization of polymer properties and identification of additives in commercially available research plastics** *GREEN CHEMISTRY*  
Cuthbertson, A. A., Lincoln, C., Miscall, J., Stanley, L. M., Maurya, A. K., Asundi, A. S., Tassone, C. J., Rorrer, N. A., Beckham, G. T.  
2024
- **Activity of Silica-Alumina for the Conversion of Polyethylene into Tunable Aromatics Below Pyrolytic Temperatures** *ACS SUSTAINABLE CHEMISTRY & ENGINEERING*  
Pennel, M. L., Maurya, A. K., Ebrahim, A. M., Tassone, C. J., Cargnello, M.  
2023
- **Effect of Ligand Chemistry on the Electronic Properties and Reactivity of Cobalt Acetate Autoxidation Catalysts** *JOURNAL OF PHYSICAL CHEMISTRY C*  
Asundi, A. S., Ebrahim, A. M., Maurya, A. K., Palumbo, C. T., Sullivan, K. P., Beckham, G. T., Sarangi, R.  
2023
- **Superinsulating nanocellulose aerogels: Effect of density and nanofiber alignment.** *Carbohydrate polymers*  
Sivaraman, D., Siqueira, G., Maurya, A. K., Zhao, S., Koebel, M. M., Nystrom, G., Lattuada, M., Malfait, W. J.  
2022; 292: 119675
- **Straight versus Spongy: Effect of Tortuosity on Polymer Imbibition into Nanoporous Matrices Assessed by Segmentation-Free Analysis of 3D Sample Reconstructions** *JOURNAL OF PHYSICAL CHEMISTRY C*  
Luna, F., Maurya, A. K., de Souza e Silva, J., Dittrich, G., Paul, T., Enke, D., Huber, P., Wehrspohn, R., Steinhart, M.  
2022
- **Redesigned Hybrid Nylons with Optical Clarity and Chemical Recyclability.** *Journal of the American Chemical Society*  
Cywar, R. M., Rorrer, N. A., Mayes, H. B., Maurya, A. K., Tassone, C. J., Beckham, G. T., Chen, E. Y.

2022

- **Tailoring Fibre Structure Enabled by X-ray Analytics for Targeted Biomedical Applications** *CHIMIA*  
Schoeller, J., Avaro, J., Maurya, A. K., Rossi, R. M., Neels, A.  
2022; 76 (3): 229-235
- **In-situ Investigations on Gold Nanoparticles Stabilization Mechanisms in Biological Environments Containing HSA** *ADVANCED FUNCTIONAL MATERIALS*  
Anaraki, N., Liebi, M., Ong, Q., Blanchet, C., Maurya, A. K., Stellacci, F., Salentinig, S., Wick, P., Neels, A.  
2021
- **Understanding multiscale structure-property correlations in PVDF-HFP electrospun fiber membranes by SAXS and WAXS** *NANOSCALE ADVANCES*  
Maurya, A. K., Mias, E., Schoeller, J., Collings, I. E., Rossi, R. M., Dommann, A., Neels, A.  
2021
- **Unraveling the Influence of Thermal Drawing Parameters on the Microstructure and Thermo-Mechanical Properties of Multimaterial Fibers.** *Small (Weinheim an der Bergstrasse, Germany)*  
Richard, I., Maurya, A. K., Shadman, S., Masquelier, E., Marthey, L. S., Neels, A., Sorin, F.  
2021: e2101392
- **Multiscale and multimodal X-ray analysis: Quantifying phase orientation and morphology of mineralized turkey leg tendons** *ACTA BIOMATERIALIA*  
Maurya, A. K., Parrilli, A., Kochetkova, T., Schwiedrzik, J., Dommann, A., Neels, A.  
2021; 129: 169-177
- **Effect of radiant heat exposure on structure and mechanical properties of thermal protective fabrics** *POLYMER*  
Maurya, A. K., Mandal, S., Wheeldon, D. E., Schoeller, J., Schmid, M., Annaheim, S., Camenzind, M., Fortunato, G., Dommann, A., Neels, A., Sadeghpour, A., Rossi, R. M.  
2021; 222
- **Template-free synthesis of hybrid silica nanoparticle with functionalized mesostructure for efficient methylene blue removal** *MATERIALS & DESIGN*  
Parida, D., Salmeia, K. A., Sadeghpour, A., Zhao, S., Maurya, A. K., Assaf, K. I., Moreau, E., Pauer, R., Lehner, S., Jovic, M., Cordula, H., Gaan, S.  
2021; 201
- **Polyhydroxyoctanoate films reinforced with titanium dioxide microfibers for biomedical application** *MATERIALS LETTERS*  
Malagurski, I., Frison, R., Maurya, A. K., Neels, A., Andjelkovic, B., Sentharamaikkannan, R., Babu, R. P., O'Connor, K. E., Witko, T., Solarz, D., Nikodinovic-Runic, J.  
2021; 285
- **Combining polarized Raman spectroscopy and micropillar compression to study microscale structure-property relationships in mineralized tissues** *ACTA BIOMATERIALIA*  
Kochetkova, T., Peruzzi, C., Braun, O., Overbeck, J., Maurya, A. K., Neels, A., Calame, M., Michler, J., Zysset, P., Schwiedrzik, J.  
2021; 119: 390-404
- **Responsive Nanofibers with Embedded Hierarchical Lipid Self-Assemblies** *LANGMUIR*  
Tien, N. D., Maurya, A. K., Fortunato, G., Rottmar, M., Zboray, R., Erni, R., Dommann, A., Rossi, R. M., Neels, A., Sadeghpour, A.  
2020; 36 (40): 11787-11797
- **Polarimetric imaging in backscattering for the structural characterization of strongly scattering birefringent fibrous media** *OPTICS EXPRESS*  
Jain, A., Maurya, A. K., Ulrich, L., Jaeger, M., Rossi, R. M., Neels, A., Schucht, P., Dommann, A., Frenz, M., Akarcay, H.  
2020; 28 (11): 16673-16695
- **Structural insights into semicrystalline states of electrospun nanofibers: a multiscale analytical approach** *NANOSCALE*  
Maurya, A. K., Weidenbacher, L., Spano, F., Fortunato, G., Rossi, R. M., Frenz, M., Dommann, A., Neels, A., Sadeghpour, A.  
2019; 11 (15): 7176-7187
- **MEDIUM CHAIN LENGTH (MCL)-PHA-BASED NANOCOMPOSITES FOR BIOMEDICAL APPLICATIONS: SYSTEM EVALUATION THROUGH XRD**  
Malagurski, I., Frison, R., Maurya, A., Nikodinovic-Runic, J., Babu, R., O'Connor, K., Neels, A.

INT UNION CRYSTALLOGRAPHY.2019

- **HIERARCHICAL DESIGN OF LIPID-POLYMER COMPOSITE NANOFIBERS: THE INTERPLAY OF MULTISCALE STRUCTURES AND BIOFUNCTIONS**

Sadeghpour, A., Tien, N., Maurya, A., Fortunato, G., Dommann, A., Rossi, R. M., Neels, A.

INT UNION CRYSTALLOGRAPHY.2019

- **MULTISCALE STRUCTURAL DECODING OF ELECTROSPUN NANOFIBERS: FROM PROCESSING TO POSSIBILITIES FOR STEERING FUNCTIONALITY**

Maurya, A. K., Weidenbacher, L., Spano, F., Fortunato, G., Rossi, R. M., Frenz, M., Dommann, A., Sadeghpour, A., Neels, A.

INT UNION CRYSTALLOGRAPHY.2019: E647

- **Facile Optimization of Thermoelectric Properties in PEDOT:PSS Thin Films through Acido-Base and Redox Dedoping Using Readily Available Salts** *ACS APPLIED ENERGY MATERIALS*

Saxena, N., Keilhofer, J., Maurya, A. K., Fortunato, G., Overbeck, J., Mueller-Buschbaum, P.

2018; 1 (2): 336-342

## PRESENTATIONS

- Decoding the mechanism of autoxidation deconstruction reaction of plastics by in-situ simultaneous SAXS and WAXS - XVIII edition of the International Small-Angle Scattering Conference (SAS2022) (September 2022 - September 2022)
- Understanding fiber fabrication process by structural feedbacks by SAXS and WAXD - European Crystallography Meeting (ECM) (August 2019 - August 2019)
- Structural analysis of electrospun fiber membrane by SAXS and WAXS - Swiss Crystallography meeting -2017 (September 2017 - September 2017)
- Nucleation and growth study of Iron oxide nanoparticles from Solution - Empa (November 2020 - November 2020)
- In-plane and cross-plane Seebeck coefficients in organic thermoelectric thin films - 6th Energy Colloquium of the Munich School of Engineering (7/2016 - 7/2016)