

Department of Materials Science & Engineering

Dear Friends,

I am very happy to share with you recent news about the MSE Department at UMD. Even amidst the COVID-19 pandemic, our faculty has been working hard on proposals and has garnered record amounts of funding from various agencies. Examples include a \$22.8M project entitled "UMD-ARL Alliance on Additive Manufacturing Science" from the Army Research Laboratory (ARL) for which I am serving as the PI with participation of faculty from 6 academic departments at UMD, a \$7.2M ARL project for EXTREME batteries led by Prof. Eric Wachsman (in addition to Eric's win of the \$18.4M BIRD Foundation project earlier this year), a \$2.25M project from DOE BES to continue the all solid-state battery research that was previously funded through the \$27.2M Energy Frontier Research Center (EFRC) led by Prof Gary Rubloff, and a \$1M ARPA-E project led by Prof. Liangbing Hu on innovative ways to repair aging pipelines. All these projects were awarded in the last three months.

Our faculty, researchers and graduate students have recently garnered prestigious awards including: (1) Prof. Tim Koeth being named to the Board of Directors of the National Atomic Museum Foundation, (2) Prof. Ichiro Takeuchi being named Fellow of the Japan Society of Applied Physics, (3) Chengwei Wang being named the MRS Postdoctoral Award 2020 (continuing winning this highly competitive award by UMD researchers - Dr. Tian Li won last year), and (4) Joy Chao's winning of the MRS Silver Graduate Student Award.

Our undergraduate student body continues to impress as well. Some of our students will be competing in the 2021 DOE Solar District Cup, which is a month-long race to devise the most innovative and efficient solar energy system possible for a mixed-use district or cluster of buildings. Finalists will be announced in April.

I would like to take this opportunity to ask for your support. Will you join us today by contributing to the [MSE Gift Fund](#)? Your gift will support department activities currently in jeopardy due to budget constraints, such as undergraduate research, scholarships, fellowships and more. I hope you'll consider a gift of any amount today.

I would also like to thank our alumni Ashely Ruth and Alka Bhave, both of whom have graciously agreed to join the MSE Board of Visitors. The support of our amazing alumni will elevate our excellence in education and research. If you've any comments or questions, please send me an email at jczhao@umd.edu.

Thank you and be well,

J.C. Zhao
MSE Chair & Minta Martin Professor



UMD/MSE Receives \$22.8M from U.S. Army to Collaboratively Advance Additive Manufacturing Technology: UMD College Park/U.S. ARL partnership led by [J.C. Zhao](#) will establish an ecosystem for revolutionary additive manufacturing technology and concepts to expedite national readiness and response. [Learn more...](#)

UMD Leads Team Awarded \$7.2 million from Army Research Lab: A collaborative effort led by [Eric Wachsman](#) will foster and accelerate research for advanced battery materials, characterization techniques and technologies to bolster U.S. warfighter capabilities. [Learn more...](#)



Advancing the Battery Revolution: [Gary Rubloff](#) and team will conduct a 3-year investigation into solid state batteries, supported by \$2.25M in funding from the DOE Office of Basic Energy Science. Research aimed at illuminating nanoscale science as it determines the power and energy performance of electrical energy storage devices. [Learn more...](#)

Hu's Speedy Ceramics: [Liangbing Hu](#) and a multi-institutional team of scientists have received funding from the DOE's Arpa-E REPAIR [Rapid Encapsulation of Pipelines Avoiding Intensive Replacement] program to apply their high-temp/rapid sintering method to steel piping, aimed at replacing older pipe infrastructure at a lower cost. [Learn more...](#)





A Little Persistence, A Lot of Determination: MSE Alumni Tony Ying (Ph.D. '89) discusses his incredible engineering evolution, including his contribution to the U.S. Mint and how a little persistence paid off in a big way! [Follow this link to read more of Tony's story...](#)

Wuttig Transitions to Professor Emeritus: [Manfred Wuttig](#) - an internationally recognized expert in the fields of ferromagnetic, ferroelectric and ferroelastic materials; reversible phase transformations, multiferroics, magnetoelectrics and nanomagnetism - served the department faithfully for over 40 years. [Learn more...](#)



Clark School Moves Up in USNR Rankings: The A. James Clark School of Engineering moved up three spots, to No. 22 from 25 nationally, among undergraduate engineering programs in *U.S. News & World Report's 2021 Best Colleges*. The Clark School is No. 12 among public institutions. [Learn more...](#)

Recent Department Honors and Awards:

Faculty:

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[Tim Koeth](#), Board of Directors, National Atomic Museum Foundation
[Gary Rubloff](#), Co-Chair, DOE BES Committee of Visitors
for EFRCs and Energy Innovation Hubs
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Alumni Event:

UMD Engineering Alumni Network is hosting a virtual escape room!
Thursday, October 29 @ 8:00 pm
MSE alumni will have a team... follow this link to sign up:
<https://go.umd.edu/EngEscape>



Contact Us:

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