



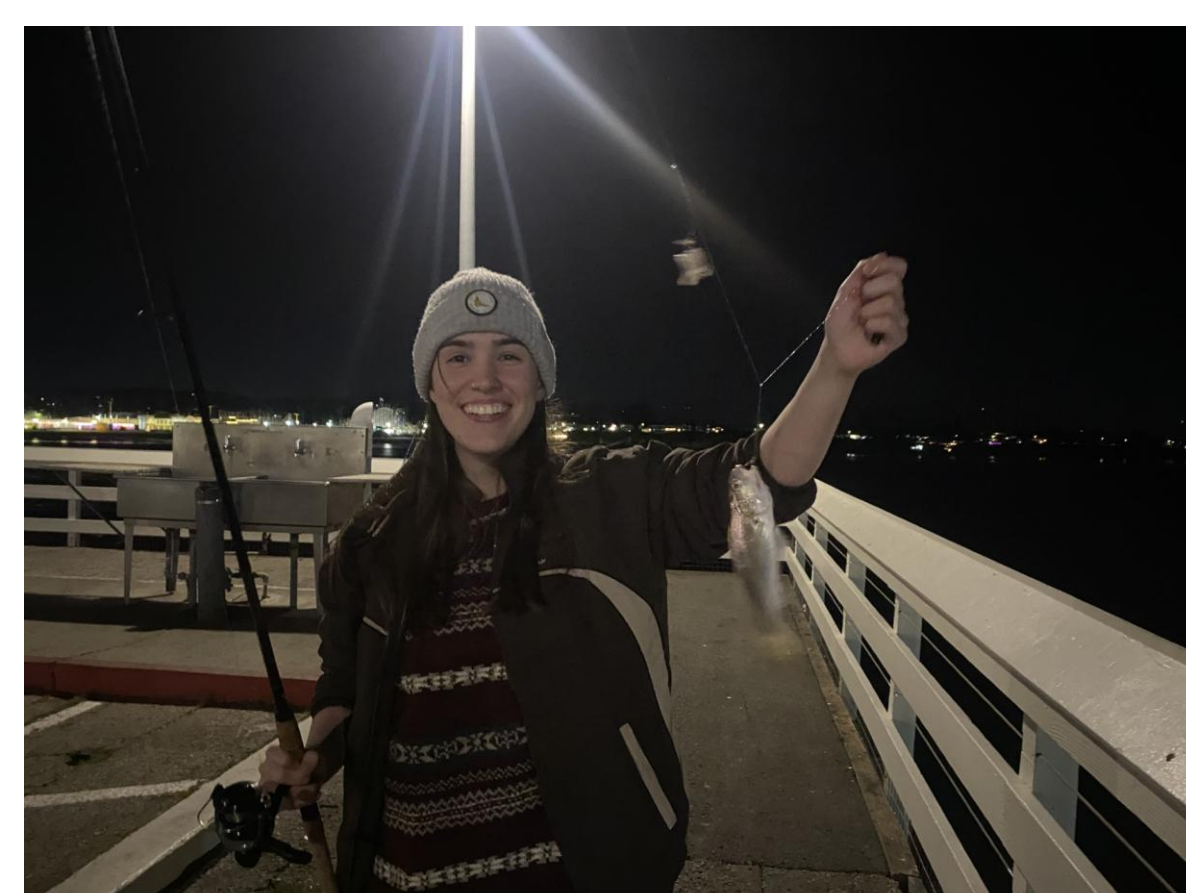
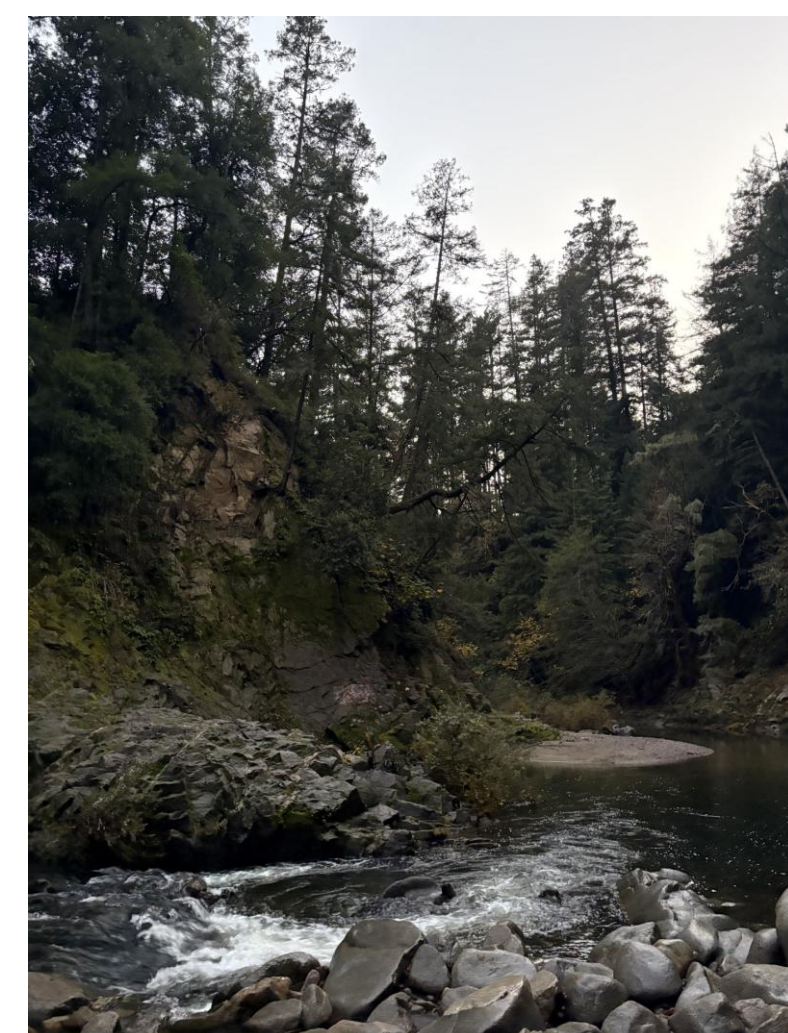
Parallel two-photon lithography for rep-rated laser target fabrication

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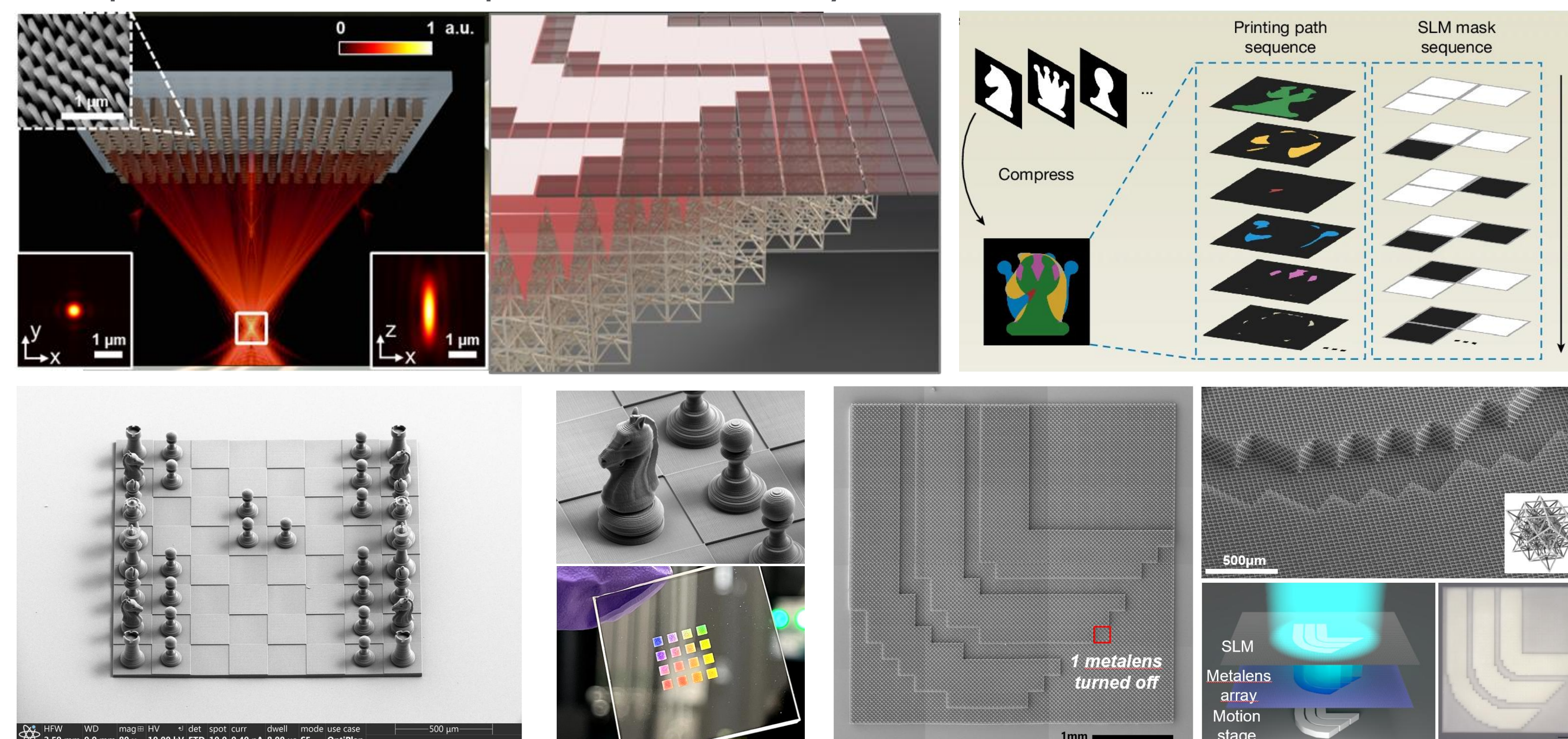
ABOUT ME

- Physics major & Math minor
- My career goal is to pursue a Ph.D. in Engineering and to continue a career in research
- I chose to work at LLNL for the opportunity to contribute to science with real world impacts.
- My interests are hiking, fishing, and music.



SUMMER RESEARCH

- Conventional Two-Photon Lithography (TPL) offers ultra-high precision but is limited by a narrow Field of View (FOV), restricting printing to microscopic areas.
- This project preserves TPL's sub-micron precision while drastically expanding the printable area to enable large-scale manufacturing.
 - The core mechanism for scaling is a metalens array that increases the number of focal spots to print in parallel.
 - Adaptive Meta-Lithography enables the parallel printing of both periodic and non-periodic arbitrary structures.



- This allows for a wide variety of applications in micro-optics, PICs, semiconductors, quantum computers, etc.
- Parallel TPL NIF target fabrication can achieve both quantity and quality to support the future of fusion power plants.

LLF AWARD

- The LLF funds that have been awarded to me are going towards housing and tuition.
- This fellowship has allowed me to experience firsthand what a career in research looks like.
- The invaluable networking opportunities provided by the LLF have deeply influenced my career outlook.
- This opportunity has ultimately inspired my decision to pursue graduate school and a future in R&D.



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