

Sara Walters, Winner of Anna Louise Hoffman Award for Outstanding Achievement in Graduate Research
By Sarbjeet Kaur, Director of Student Awards



The Anna Louise Hoffman Award for Outstanding Achievement in Graduate Research is given to full-time woman graduate student who is candidate for a graduate degree in an accredited institution. Sara Walters was nominated by Prof. Brian Fuglestad, Ph.D. Sara earned her B.S. in Chemical Engineering and B.A. in Chemistry from Virginia Tech in 2021. She began her Ph.D. in Chemistry at Virginia Commonwealth University (VCU) that fall, where she joined the Fuglestad Lab. Her research focuses on developing reverse micelles as membrane models for peripheral membrane proteins (PMPs). This innovative approach enables the observation of PMPs in their membrane-bound state using NMR spectroscopy, offering more physiologically relevant insights into protein–membrane interactions. Sara is currently investigating the structure and mechanism of glutathione peroxidase 4 (GPx4), a key enzyme that protects cells

from ferroptosis by reducing lipid hydroperoxides. GPx4 is also a promising therapeutic target for drug-resistant cancers. By elucidating the enzyme’s catalytic cycle and structural dynamics, her work aims to inform more effective drug development strategies. At VCU, Sara has received several internal honors, including the Lidia M. Vallarino, Gerald and Susan Bass, and Dr. Billy L. Stump and Dr. Raphael M. Ottenbrite Scholarships. She is the first author on four publications and expects to graduate in May 2026.