## Kendra Kreienbrink

PhD Student at the University of Colorado Boulder

	Education		
2021 - Present	PhD Student at the University of Colorado Boulder		
2017 - 2021	Home Department: Materials Science and Engineering Certificate: In Undergraduate Student at the University of Wisconsin-La Crosse (UWL)	nterdisciplinary Quantitative Biology GPA: 3.98/4.00	
	Major: Physics with a Biomedical Concentration	Minors: Mathematics, Chemistry	
	Research Experience		
2022 - Present	Graduate Research Assistant	University of Colorado Boulder	
	Studying externally controlled (via magnetic or electric fields) active particles/mice as drug delivery. Advised by Prof. Wyatt Shields.	rorobots for biological applications such	
2021 - 2022	Interdisciplinary Quantitative Biology Research Rotations	University of Colorado Boulder	
	8 week research sessions with three labs from the University (Prof. Stephanie B Hayward) plus one 8 week collaborative session (Bailey Zinger, Payton Martinez, Pr	ryant, Prof. Wyatt Shields, Prof. Ryan of. Kayla Sprenger, Prof. Mark Borden).	
Summer 2021	BioMaP REU	Iowa State University	
	Worked on developing a new dynamic regression modeling technique to be used a under the guidance of Prof. Derrick Rollins.	as an alternative to classical regression,	
2020 - Present	Research Assistant	University of Wisconsin-La Crosse	
	Worked on a microtubule rigidity review paper and data analysis (with Dr. Douglass mechanics methods - freely fluctuating vs. gliding mechanics, under the guidance	Martin, Lawrence University) comparing of Prof. Taviare Hawkins.	
Summer 2020	College of Science and Health Dean's Distinguished Fellow	University of Wisconsin-La Crosse	
	Selective research position awarded to twenty students. Funds one-on-one collab faculty. Worked with Prof. Taviare Hawkins on microtubule mechanics research.	orative research between students and	
January 2020	Ross Lab BioBootCamp Participant	Syracuse University	
	One-week biophysics research training led by Prof. Jennifer Ross. Worked with TIF slip silanization, and ImageJ analysis. Experimentation focused on microtubules a	RF and EPI microscopy, pipetting, cover nd the cross-linker protein, MAP65.	
2019 - 2020	Research Intern	University of Wisconsin-La Crosse	
	Explored microtubule mechanics by polymerizing and imaging microtubules using fl (pipetting, centrifugation, solution making), data imaging and MATLAB, under t	uorescent microscopy, bench techniques he direction of Prof. Hawkins.	
2017 - 2019	9 <b>UWL Eagle Apprentice</b> La Crosse Institute for Movement Science: Strzelczyk Clinical Biomecha Selective scholarship research position enabling research with Prof. Thomas Kernozek and Prof. Robert Ragan. included: analysis of anterior cruciate ligament (ACL) forces due to actions and live feedback programming; evalu the accuracy of Ultrasound ACL cross-sectional area measurements using MATLAB, Cortex, D-Flow and Excel.		
	Publications		
	K. Kreienbrink, J. Ahrens, E. Everson, D. Barmore, T. Kernozek, R. Ragan, ultrasound measurements of Achilles cross-sectional area", <i>UWL Journal of U</i> (2019)	"Intra- and inter- rater reliability of <i>Jndergraduate Research</i> , XXII: 19-24.	
	Presentations		
2021-2022	Interdisciplinary Quantitative Biology Research Presentations. One at the e	nd of each rotation.	
	Rotation 1: "Materials characterization of poly(ethylene glycol) based hydrogels for improved dialysis access"		
	Rotation 2: "Magnetic microactuators for transmucosal lung delivery"		
	Rotation 3: "Studying particle interactions in marangoni optical traps"		
Summer 2021	"Dynamic Regression – A New Framework in Dynamic Modeling with Attribu	tes of Classical Regression Modeling"	
	Iowa State University Summer Virtual Undergraduate Research Symposium		
Spring 2021 January 2021	"Unraveling the Complexities of Microtubule Rigidity Regulation" National Conference on Undergraduate Research "Unraveling the Complexities of Microtubule Rigidity Regulation" Conference for Undergraduate Women in Physics		
Fall 2020	Experiences in Undergraduate Research Panel: Panelist for a student seminar at the University of Wisconsin-La Crosse		
Fall 2020	"Conterence for Undergraduate Women in Physics" Gulf Coast Undergraduate Research Symposium		
Summer 2020 Summer 2020	"Microtubule Rigidity: A Review UWL Summer Undergraduate Research Sym "Microtubule Rigidity: A Review" Dean's Distinguished Fellowship Presentatio	iposium n, UWL	
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Spring 2019	'Intra- and Inter-rater reliability of Ultrasound Measurements of Achilles Cross-sectional Area" UWL Research & Creativity Symposium	
Spring 2018	"Benefits of Visual Feedback in Reducing ACL Injury Risk in Landing" UWL Research & Creativity Symposium	
	Awards and Scholarships	
Fall 2021	BioFrontiers Institute William J. Freytag Graduate Fellowship: Supports top IQ Biology first-year graduate students.	
Spring 2021	Sigma Pi Sigma Physics Honors Society: Nominated and awarded through the UWL chapter.	
Spring 2021	The Murphy Award for Academic Excellence: Award recognizing the university's top graduating scholars.	
Fall 2020	Outstanding Presenter at the Gulf Coast Undergraduate Research Symposium (Rice University)	
Fall 2020	UWL Physics and Astronomy Honors Program: Requires a 3.50 grade point average in physics, 3.00 overall grade point average, distinguished performance on a research project, and presentation of the project.	
2020	Scott Carnes Memorial Scholarship Fund: Academic scholarship offered to physics majors on alternating years.	
2020	UWL Dean's Distinguished Fellowship: Grant to fund summer biophysics research.	
2019	UWL Undergraduate Research Travel and Supplies Award: to Syracuse University BioBootCamp.	
2017, 2018	UWL Eagle Apprenticeship Scholarship: Selective, two-year academic achievement scholarship research position.	
2017-2021	Charles and Lillian Gay Scholarship: Four year academic scholarship.	
	Mentoring and Leadership	
Spring 2020, 21	Private Physics Tutor: Algebra based Fundamental Physics I, Physics of Energy and the Environment	
Fall 2020	Secretary & Treasurer of UWL Women in Physics Club	
Spring 2020	UWL Teaching Assistant: Modern Physics	
2019-Present	President of UWL Women's Club Soccer team	
2018-Present	<ul> <li>UWL Murphy Learning Center Tutor:</li> <li>Physics Tutor: Algebra and Calculus based Fundamental Physics I,II, Modern Physics, Optics</li> <li>Mathematics Tutor: Algebra, Precalculus, Applied Calculus, Calculus I,II, Multivariable Calculus</li> </ul>	
	Other Activities	
2021-Present	CU Boulder Social Justice for Scientists Club	
2019-Present	UWL Physics Club	
2019-Present	UWL Math and Stats Club	
January 2019	Vida Medical Mission Trip: Spent two weeks in Guatemala assisting doctors in providing care and treatment.	
2017-2018	UWL Students for Sustainability Club	
	Skills and Languages	

## Skills and Languages

Proficient in Excel, LATEX, Python, CAD and MATLAB. Experience with Mathematica, R, ImageJ, and Spanish.

References available upon request