

UNIVERSITY ALLIANCE RUHR



# RUHR FELLOWSHIP PROGRAM

June 3 - July 26, 2024





<https://pixabay.com/photos/dortmunder-u-dortmund-landmark-510783/>

## Dear Ruhr Fellows,

As Germany's "Cradle of Industry", the Ruhr Area has come to represent creativity and innovation with its internationally renowned companies, universities, and research institutes. Every year, Ruhr Fellows participate in an intercultural and language immersion program at the university level followed by an internship with one of Germany's leading companies located in the Ruhr Area or a research internship at one of our UA Ruhr universities.

It gives me great pleasure to share with you this year's cohort and highlight their impressive internships and program. Our 2024 fellows are from our partner institutions — Harvard University, Lehigh University, Massachusetts Institute of Technology, Princeton

University, and University of Cincinnati. They bring their diverse backgrounds and experiences to the bustling ruhrgebiet and take back what we hope will be important networks as they build their professional portfolios.

The Ruhr Fellowship Program is dedicated to fostering global collaboration, enhancing academic and professional skills, and building lifelong connections between our fellows and the Ruhr region.

The #RFP2024 is a collaborative work of the three Universities - University of Duisburg-Essen, TU Dortmund University, and Ruhr University Bochum.

We are sincerely grateful to the Max Kade Foundation for their ongoing support of our work and the Ruhr Fellowship Program. We invite you to learn more about their journeys and the companies they are interning at in the following pages. Please see our website and social media platforms for the impact of the Ruhr Fellowship Program.

Please feel free to connect with our New York office for further information.

  
Priya S. Nayar



Priya S. Nayar  
Executive Director  
UA Ruhr North America, New York



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# University Alliance Ruhr

The academic hub for research, teaching, studying, and networking in Germany's vibrant Ruhr area

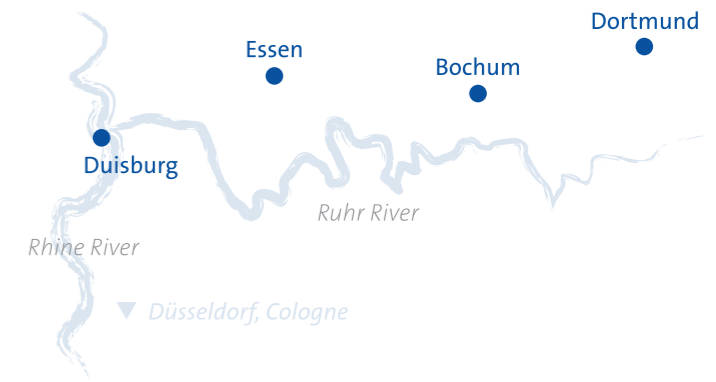
The University Alliance Ruhr is an alliance between Ruhr University Bochum, TU Dortmund University, and the University of Duisburg-Essen, the three largest universities in Germany's thriving Ruhr area. Each of our institutions has a strong tradition of breaking down walls between disciplines. We believe in the benefits of collaboration on all levels of scholarship and research, which is one of the reasons we came together in this unique university alliance.

More than 120,000 students, of which 19,000 are international, as well as over 14,000 researchers study and work within the UA Ruhr universities.

Together, the three universities have 850 partnerships with universities in over 130 countries, which provides our students and researchers with virtually unlimited possibilities for exchange and resources for development. To support our already strong global network of international exchange and collaboration, UA Ruhr has also created academic liaison offices for North America and Eastern Europe/Central Asia.

The Ruhr area is not only Germany's largest academic hub, but also an epicenter of innovation that fosters close interaction between academia and the private sector – and our alliance provides students and researchers from around the world with an open gateway to our region.

We invite you to learn more about the UA Ruhr alliance and our universities, and we look forward to welcoming you in the Ruhr area soon!



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# Vision

## Structural Change

With more than 5 million inhabitants in more than 50 cities and towns, the Ruhr Area is the largest urban area in Germany. Beginning in the late 18th century, industrialization shaped the region and made it to an industrial conurbation based on coal mining and steel industry. However, the area underwent far-reaching structural changes, when the coal and steel industry went into decline. The new Ruhr Area, also known as the Metropolis Ruhr, is a hub of creativity and innovation, a leading location for research and culture. Still, even though the last pit closed in 2015, the area is widely known as the “coal pot”. Former sites of the coal and steel industries, such as pits and cokeries, are cultural heritage sites and museums now as well as locations for companies, events and recreation.

The Ruhr Fellows got to know about the structural change of the Ruhr Area, its rich heritage and today's cultural wealth by visiting several landmarks of the Ruhr Area. The visit to the German Mining Museum in Bochum included a trip underground, in the visitor's mine, to get an idea of the strenuous work routine of a miner. At the Gasometer Oberhausen, one of the Ruhr Area's identification signs, they saw the current exhibition “Planet Ocean”, presenting the fascinating beauty of the ocean, but also dealing with the importance of marine protection and research. In Dortmund the Fellows marveled at the U-Tower, previously a brewery, today a center for the arts and creativity.

## Cultural Exchange

As part of the two-week intercultural and language immersion program, the Ruhr Fellows participated in an intensive German language course, organized by the University Language Center of Ruhr University Bochum, as well as in an intercultural workshop. On several occasions, they had the opportunity to meet, exchange and bond with their buddies, the future Transatlantic Ruhr Fellows, i.e. students from all three UA Ruhr universities.

## Innovation and Sustainability

By visiting the campuses of the UA Ruhr universities and attending several lectures exclusively offered to the Ruhr Fellows by various departments, they learned about the diverse range of course offers and curricula of the UA Ruhr universities. In a workshop at the University of Duisburg-Essen, they got a taste of how to launch a start-up.

## Culture and Arts

The Ruhr Fellows received an impression of the cultural diversity and the numerous cultural events in the area by visiting a number of cultural institutions. The Metropolis Ruhr has a diverse landscape of museums, art and music festivals. The Folkwang Museum in Essen, the Dortmunder U and a concert of the Ruhr Piano Festival were program highlights.

# Your RFP 2024 Team

**Florian Vollweiler**

*University of Duisburg*



**Miriam Gothe-Kraeher**

*TU Dortmund University*



**Anika Odenbach**

*Ruhr University Bochum*



**Anna Chanicki**

*Ruhr University Bochum*



# Participants



Lael Ayala



Clara Conatser



Sofia Ferrigolo



Eleanor Graves

## Lael Ayala

Lael comes from Atlanta, GA and is a sophomore Mechanical Engineering student at Harvard. As an outfielder for the Varsity softball team and an Army ROTC cadet, she exemplifies dedication and leadership. Her over 6 year experience in robotics has led her to excel in programming, design, and machining tools. From leading her high school robotics team to state championships to her current endeavors manipulating industrial robotic arms using math and MATLAB programming, Lael's commitment to innovation is evident. With a keen interest in maritime robotics, particularly soft robots for gentle interactions with sea creatures, Lael's multifaceted pursuits embody a desire for both excellence and service.

## Clara Conatser

Clara is a rising senior at Princeton University studying Geosciences, pursuing certificates in French and Sustainable Energy. Growing up in New Orleans, LA, inspired her to study hurricanes, and she has done independent research on trends in hurricane frequency on millennial timescales. She loves classical music and enjoys playing French horn in the Princeton University Orchestra. She has also thoroughly enjoyed learning German over the past year of college and is eager to learn more about German culture and explore Germany this summer.

## Sofia Ferrigolo

Sofia is a junior at the University of Cincinnati, studying Economics, Operations, and Environmental Analysis & Policy. Passionate about innovation and sustainability, she is part of the NEXT Innovation Scholars program, serves as President of her university's Net Impact chapter, and has studied at the Iceland School of Energy. Her goal is to drive business' environmental and social positive impact globally. As a Brazilian, Sofia has a strong background in climate advocacy and represented her country at the 2041 Foundation Antarctica expedition. She worked as an Analyst at AMEND Consulting and is involved with Scholars of Finance and the Kautz-Uible Economics Institute.

## Eleanor Graves

Nora is a rising junior at Princeton University, pursuing a major in Computer Science with a minor in Linguistics and a certificate in German. Originally from Wayne, PA, her hobbies include baking, hiking, and music. On campus, she tutors math and computer science, is co-president of the women's division ultimate frisbee team, and is a member of the Aerial Arts Club, where she especially loves aerial silks. Right now, she is working to linguistically analyze Large Language Models with a lab at Princeton, and she is looking forward to getting even more research experience with Machine Learning this summer.



Alexandra Guazzone



Christy Huynh



Liam Kelley



Reshma Sree Kotni

## Participants

(continued)

### Alexandra Guazzone

Alexandra “Lexy” is a student at Lehigh University pursuing a mechanical engineering degree. She has passions towards thermodynamics and fluid mechanics, specifically in their applications to engines. She is the vice president of Lehigh’s aerospace club as well as a thermodynamics tutor and she also works in a machine shop during the semester. Lexy’s engineering background has driven her to explore cars and aircrafts. She hopes to continue her education towards a masters and Ph.D. Outside of academics, she aims to learn how to fly and work towards earning her pilot license. Lexy loves reading, exercising, cooking, and exploring new tea flavors.

### Christy Huynh

Christy is a graduating senior at MIT studying mechanical engineering with a concentration in design for social impact. During her undergraduate career, she has worked on multiple projects within the realms of assistive technology, global engineering, and biomedical devices. Currently, she is working on developing an anti-clogging inlet to be used within drip irrigation systems to increase water efficiency and crop yield and a cervical seal to prevent leaking of distending fluid during hysteroscopies. Outside of academics, she is involved in her sorority Delta Phi Epsilon, her living group French House, and MIT’s Concert Choir. Her interests include baking, thrifting, reading, biking, and hiking.

### Liam Kelley

Liam is a rising junior at the University of Cincinnati studying Economics through the Lindner Business Honors Program and minoring in German Studies. Last summer he interned at Cintas in their Rental CoE Department where he assisted in a SAP data migration project. He has had the pleasure of taking part in study abroad opportunities in Mexico, the Czech Republic, Albania and will be going to the United Arab Emirates in the fall. At the University of Cincinnati, he serves as the Vice President of the Student Advisory Committee on the University Budget. Liam has been learning German since he was in kindergarten and has always been interested in Germany and German culture.

### Reshma Sree Kotni

Reshma is a rising junior at the University of Cincinnati, majoring in Accounting and Finance, and a scholar of the university honors program. She is passionate about working with numbers over the past year, she’s had the opportunity to intern with leading accounting firms such as Ernst & Young and BDO. On campus, she is actively involved with multiple organizations including the Student Activities Board and the Lindner Inclusive Excellence Council. Reshma aspires to obtain her CPA license and eventually build her own firm. She is very excited to live and explore Germany and the rest of Europe during her time with the program.





Anna Marie Patti



Eva Schoemaeker



Adam Zimmerman



## Participants

(continued)

### Anna Marie Patti

Anna Marie is a rising junior at Lehigh University, studying Mechanical Engineering with an Aerospace Engineering minor. She is passionate about pursuing a career in the aerospace industry, especially one that involves cutting-edge development of materials for aerospace applications. Last summer she interned in the construction and project management field, and this past semester she had the opportunity to research negative Poisson's ratio in metals for aerospace applications. Outside of academia, she is a member of Society of Women Engineers, Kappa Delta sorority, and Vice President of LU Dancin', as she has always had a strong appreciation for music and the arts.

### Eva Schoemaeker

Eva is a recent graduate from the University of Cincinnati, where she studied Economics and International Business. While at UC, Eva had the opportunity to complete three internships in the realms of market research and venture capital. On campus, Eva was involved in the Club Soccer team, Tri Delta sorority, and the Business Honors Program. Eva was the first ever UC student to be awarded the Congress Bundestag Youth Exchange fellowship. As a CBYX fellow, Eva spent a year studying, working, and learning about everyday life in Germany. Her year abroad is what sparked her interest in the global business environment and motivated her to return to Europe. She is excited to explore a new region of Germany as a Ruhr fellow!

### Adam Zimmerman

Adam is a rising junior pursuing a Mechanical Engineering degree at Lehigh University. As a freshman, Adam spent his first semester in college as part of an experiential learning program in Wyoming and New Mexico, learning about the history and culture of the American West, as well as important sustainability issues the region is facing. At Lehigh, he is a member of Engineers Without Borders, where he works with local governments and nonprofits to monitor various waterways. In his free time, Adam enjoys traveling, backpacking, and listening to music. In the program, he is excited to conduct research on water treatment technologies and experience the culture of the Ruhr area.

# Partners

(in alphabetical order)



We would like to thank our partner companies and organizations for their support in providing our students with the opportunity to gain valuable hands-on experience in a wide range of industries.

## accenture

Accenture is a leading global professional services company that helps the world's leading businesses, governments and other organizations build their digital core, optimize their operations, accelerate revenue growth and enhance citizen services—creating tangible value at speed and scale. We are a talent- and innovation-led company with approximately 733,000 people serving clients in more than 120 countries. Technology is at the core of change today, and we are one of the world's leaders in helping drive that change, with strong ecosystem relationships. We combine our strength in technology and

leadership in cloud, data and AI with unmatched industry experience, functional expertise and global delivery capability. We are uniquely able to deliver tangible outcomes because of our broad range of services, solutions and assets across Strategy & Consulting, Technology, Operations, Industry X and Song. These capabilities, together with our culture of shared success and commitment to creating 360° value, enable us to help our clients reinvent and build trusted, lasting relationships. We measure our success by the 360° value we create for our clients, each other, our shareholders, partners and communities.

[accenture.com](https://www.accenture.com)



Emscherregion  
Lippeverband

## Emscherregion/Lippeverband

The Emscherregion (Emscher Water Management Association) was founded on December 14, 1899, and was the first German water board. It later inspired the foundation of several other water boards, among them the Lippeverband, which was founded on January 18, 1926. Our activities in the Emscher region can be traced back over 100 years. Drawing on the vast experience gained during this time, we are able to offer services for the specific needs of the people and the commercial development of the Emscher river catchment area. As a public corporation,

the Emscherregion is supported by its members: cities, municipalities and mining companies as well as industrial, commercial and infrastructural companies.

[egl.de](https://www.egl.de)



## Institute of Forming Technology and Lightweight Components (IUL)

The Institute of Forming Technology and Lightweight Components (IUL) conducts research in the next generation of forming processes and educates the future workforce on these production technologies and their scientific underpinnings. The students acquire knowledge in the field of forming science and technology and the corresponding forming machines and processes in order to succeed in the industrial working environment or to enter an academic career. The research activities of the IUL comprise of the invention of new metal

forming processes and process chains, as well as the extension and better understanding of existing production processes. The objectives are physical process descriptions, the configuration and improvement of component properties, and a holistic approach to process efficiency. Methodological key aspects are material characterization and simulation methods. The fundamental research results are transferred to industrial practice, often accompanied by industrial partners.

[iul.mb.tu-dortmund.de/en/](https://www.iul.mb.tu-dortmund.de/en/)



# Partners

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## Masterflex Group

The Masterflex Group is the listed specialist for the development, production and marketing of sophisticated connector and hose systems made of high-performance plastics and fabrics. With six corporate brands and 14 operating subsidiaries in Europe, America and Asia, the Masterflex Group is represented almost worldwide. Our products and solutions ensure demanding and essential functions in high-tech sectors such as aerospace, medical technology, mechanical and plant engineering, the chemical industry, food and pharmaceutical technology and

other important industries. In addition, the Masterflex Group also offers consulting and order-related development services as part of engineering services. The Masterflex Group has been listed on the stock exchange since 2000.

[masterflexgroup.com](http://masterflexgroup.com)



CENTER FOR TRUSTWORTHY  
DATA SCIENCE AND SECURITY

## Center for Trustworthy Data Science and Security

In our ever-more digital world, science faces one great challenge: to build trust in artificial intelligence, machine learning, cyber security and similar disciplines. The Research Center Trustworthy Data Science and Security tackles this challenge at the intersection between technological progress and social acceptance. We envision a unique interdisciplinary research approach that covers the entire spectrum of research challenges in trustworthy data analytics, explainable machine learning, incorporation of provable trust and security guarantees, and

<https://rc-trust.ai/>

privacy-aware algorithms. Our goal: to develop trustworthy intelligent systems and enable private citizens to understand that technology. Achieving this goal requires close collaboration among a variety of disciplines. Our research center does this by building upon the University Alliance Ruhr's strengths – from psychology to data science.

Essen - Zeche Zollverein Museum



<https://pixabay.com/photos/meal-zollverein-collery-mine-2010652/>

# Partners

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ZWU



## Centre for Water and Environmental Research

Established in 2003, the ZWU (Centre for Water and Environmental Research) is dedicated to innovative environmental research. The Centre has been created to address the environmental impacts of global social changes and challenges such as urbanization and megacities, climate change, water availability and quality as well as their implications for human life. The ZWU's primary activities focus on water research in a broad area of expertise within the field of water ecology, drinking water treatment & supply (contamination, evaluation, and purification), environmental toxicology

& chemistry, urban water management, hydrology, hydraulic engineering and legal & economic expertise on water governance.

The ZWU cooperates among others with our Chair of Mechanical Process Engineering / Water Technology. Our themes of interest in research and teaching are linked to the global water crisis and its resulting challenges. The key competences in research are membrane filtration and adsorption. We employ our competences to investigate 3 research fields: Exploitation of contaminated water resources, process optimization/simulation and circular economy.

[uni-due.de/zwu/start.php](http://uni-due.de/zwu/start.php)

wilo

## Wilo Group

The Wilo Group is a multinational technology group and one of the world's leading premium suppliers of pumps and pump systems for building services, water management and the industrial sector. The last decade has seen us move from a hidden to a visible and connected champion. Wilo currently employs around 9,000 people around the globe. With innovative solutions, smart products and individual services, we make water move using intelligent, efficient and eco-friendly techniques. We are already digital pioneers in the industry with our products and solutions, processes and business models.

[wilo.com](http://wilo.com)

City of Dortmund  
Economic Development  
Agency



## Wirtschaftsförderung Dortmund

Welcome to Dortmund!

Like almost no other German city, Dortmund has seen enormous change in recent years. The former "steel city" developed into a modern and cosmopolitan metropolis, acquiring reputation all across Europe as an innovative location for technological development. Start-ups, spin-offs and technology companies in close proximity of TU Dortmund University grow in one of Europe's largest technology parks with more than 10,000 employees, more than 300 companies at the location Dortmund.

[dortmund.de](http://dortmund.de)

Duisburg - Tiger and Turtle



<https://pixabay.com/photos/ruhr-area-landmark-tiger-and-turtle-72825/>

But the biggest city in the Ruhr Area also scores with a wide range of possibilities in the cultural and sporting sectors, with extensive greens and a high quality of life.

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