

UNIVERSITY ALLIANCE RUHR



UA RUHR  
Liaison Office New York

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





## Welcome.

Innovation and partnership are guiding principles for the Ruhr area's remarkable transition from a coal and steel powerhouse to one of Germany's most cutting edge science regions.

As a driving force behind this transformation, the University Alliance Ruhr embodies this regional spirit through excellence in research and the collaboration of its members: Ruhr University Bochum, TU Dortmund University and the University of Duisburg-Essen. These universities partner with renowned institutes and companies to shape the new identity of the Ruhr area as Germany's biggest academic hub with a global reach.

Our liaison office in New York serves as a gateway to the Ruhr area's exciting innovation landscape.

Drawing on our extensive network of technology centers, educational institutions and international organizations, we bring together experts from both sides of the Atlantic who do groundbreaking work in our alliance's key areas of research, among them Materials Science, Metropolitan Research, Cyber Security as well as the new interdisciplinary field of Solvation Science. We connect scientists, scholars and students by hosting conferences and public events, creating networking opportunities and serving as an information platform.

Become part of the UA Ruhr network!

Peter Rosenbaum

## Our team.



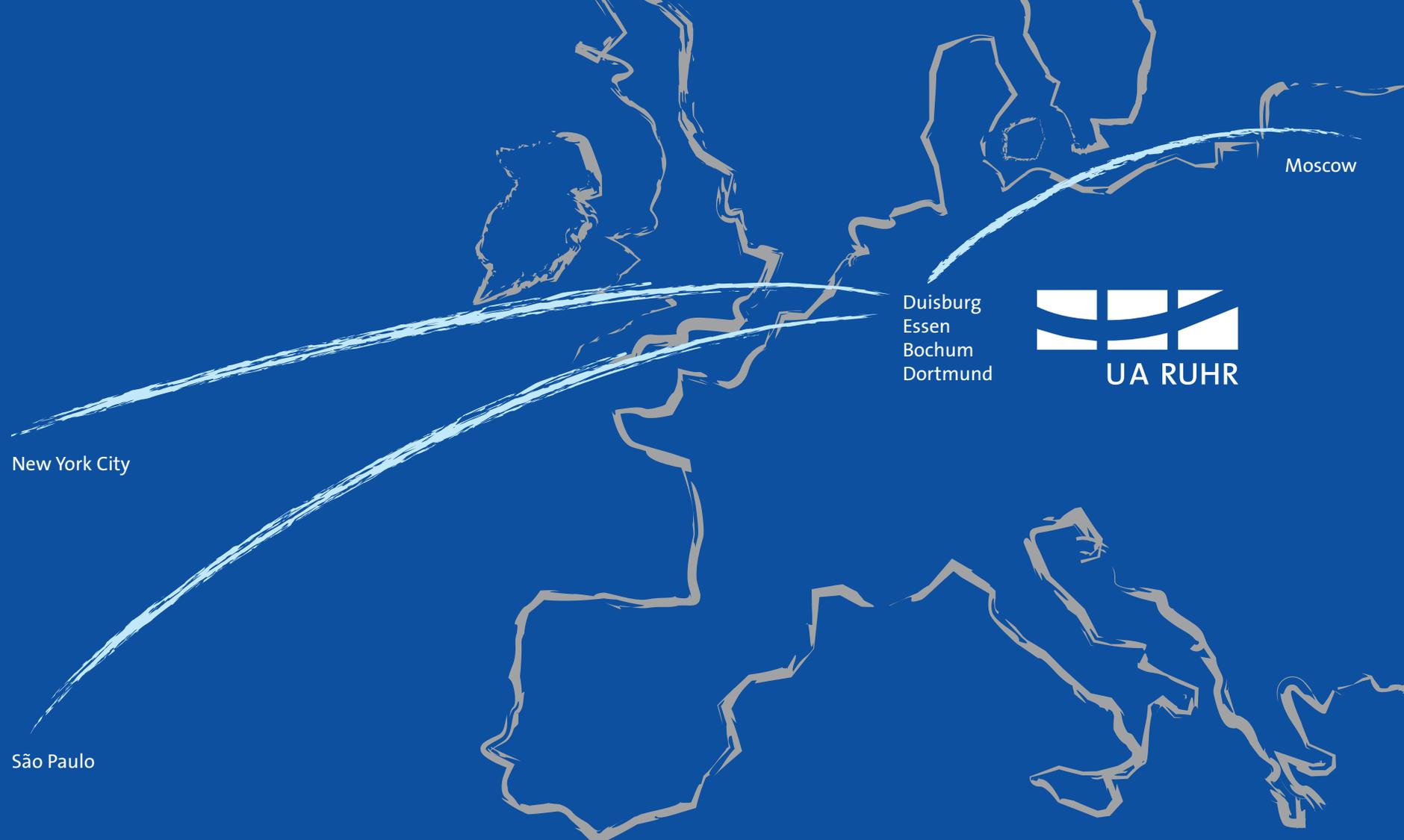
**Peter Rosenbaum**  
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## What is the University Alliance Ruhr?

The **UA Ruhr** is a consortium of Ruhr University Bochum, TU Dortmund University and the University of Duisburg-Essen, the three academic powerhouses of Germany's thriving Ruhr area (the "Ruhrgebiet" in German).

Each of our institutions has a strong tradition of breaking down walls between disciplines. We believe in collaboration on all levels of scholarship and research, which is one of the reasons we came together to form this unique university alliance.

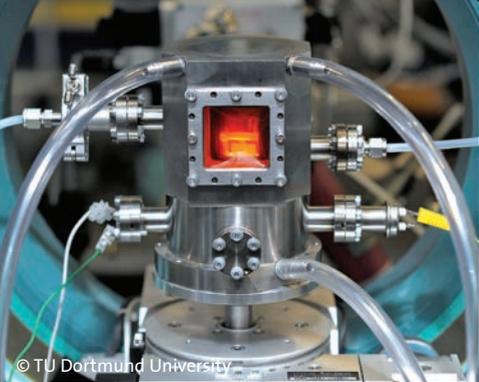
The UA Ruhr universities cooperate with hundreds of universities and institutions around the world. To support and deepen our international exchange and collaboration, the UA Ruhr has liaison offices in North America (New York), Latin America (São Paulo), and Russia (Moscow).

By combining the complementary strengths of our universities, we successfully open up innovative research fields. Outstanding examples of that standard-setting collaboration include our programs "Materials Chain," "Ruhr Explores Solvation" (RESOLV) and "Metropolitan Research."

To strengthen our young scientists, the three universities established the Research Academy Ruhr. This is one of the most powerful platforms in Germany that prepares young researchers for careers inside and outside of academia.

Today, 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. Our alliance is an open channel for students and researchers from around the world.

Find out more on [www.uaruhr.de/en/](http://www.uaruhr.de/en/)



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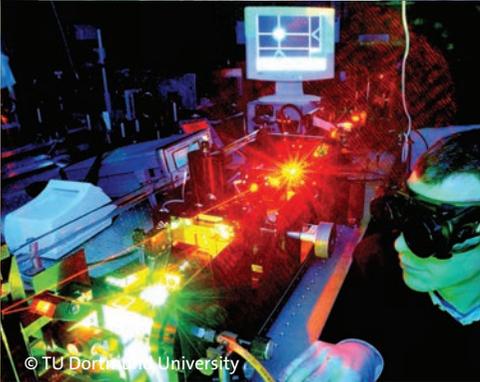
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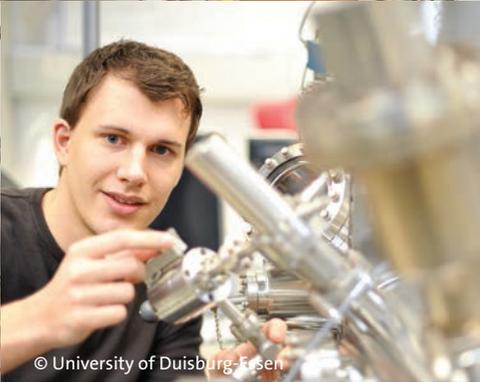
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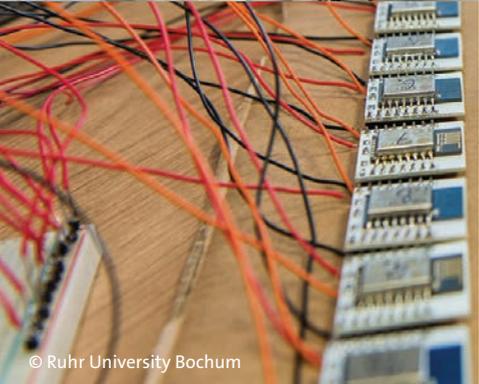
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# What can we do for you?

The UA Ruhr New York office promotes innovative transatlantic collaboration in research and education among the three UA Ruhr universities and academic partners in North America.

We leverage our strengths in science and engineering, social sciences, and the humanities, and create unique opportunities for international academic cooperation.

We assist in extending programs throughout the Ruhr area and in North America, and ultimately help develop solutions for global challenges.



**BUILDING NETWORKS**  
to promote transatlantic educational and research mobility

**ORGANIZING CONFERENCES**  
symposia and workshops for faculty and researchers

**IDENTIFYING FUNDING RESOURCES**  
and new programs in science, engineering and the humanities

**PROVIDING CAREER SUPPORT**  
for young researchers

**SUPPORTING EXCHANGE**  
of researchers and students



Duisburg Nord Landscape Park

## The Ruhr area — the *Ruhrgebiet*. Tradition and future.

### **Tradition in change.**

The *Ruhrgebiet* is the most densely populated region of Germany, with more than 5.1 million people living in more than 50 municipalities. The big four — Duisburg, Essen, Bochum and Dortmund — once were the heart and backbone of Germany's coal and steel industry, a heritage of strength and classic technology.

Today, the entire region stands for smart and innovative answers to the big challenges of technical, economic and social change. This is the place where people from all parts of the world come to work, live and create a better future.

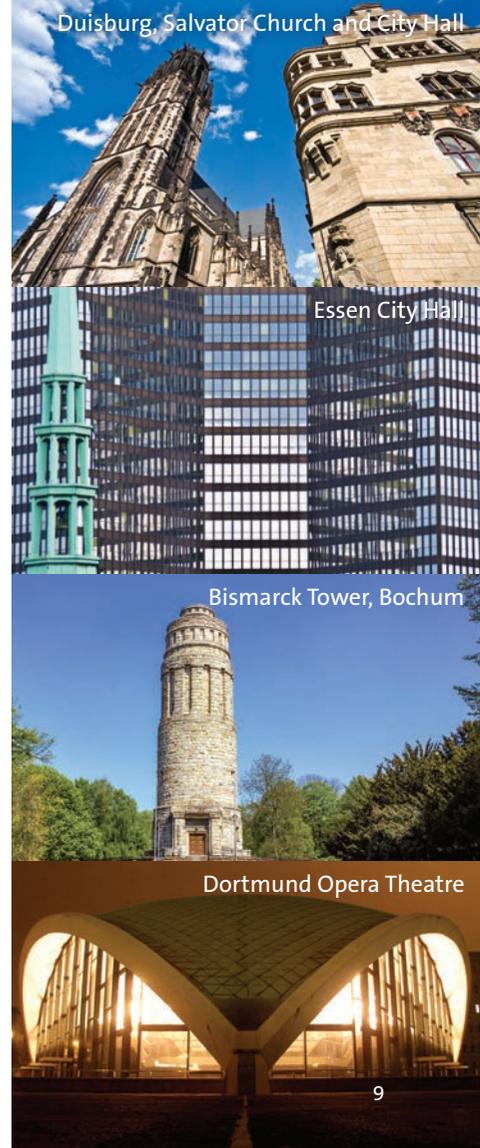
### **From coal to college and high tech.**

The *Ruhrgebiet* has gone through an exemplary transformation from Germany's blue collar heartland into one of the country's most vibrant regions for science and research. Blast furnaces, gasometers and winding towers are visible reminders of a glorious industrial past, and today mainly serve as venues for cultural events.

The three UA Ruhr universities have been key to the Ruhr area's transformation into a role model for structural change. Interdisciplinary academic work, an excellent network of research institutes, and close ties to large corporations and start-ups reintroduced the entire Ruhr area as a world-class destination for science, research and culture.

### **Well connected.**

The *Ruhrgebiet* has one of the world's most extensive public transportation networks with more than 900 commuter train, subway, light-rail and bus lines, serving more than 10,000 stops. International long-distance and high-speed trains connect the Ruhr area's cities with other German and European metropolitan regions. Düsseldorf International Airport serves as a hub to all major destinations, both continental and intercontinental.



Duisburg, Salvator Church and City Hall

Essen City Hall

Bismarck Tower, Bochum

Dortmund Opera Theatre



Dortmunder U

© TU Dortmund University

# The Ruhr area — the *Ruhrgebiet*. Life and landscapes.

### Culture.

The 35-mile stretch between Duisburg and Dortmund boasts an unparalleled scenery: The Ruhr area has not only successfully transitioned from heavy industries to science and research, it has also developed into a unique cultural landscape.

International events such as the RuhrTriennale, the Ruhr Piano Festival and the Ruhr Theatre Festival feature international as well as regional art and artists — mainstream, classic or experimental. Almost everything can be found in the region's 300-plus museums, venues, parks and theatres.

### Nature.

The Ruhr, Emscher and Lippe waterways — once highly polluted — are now clean rivers with functioning ecosystems. Along the riverbanks, hiking and biking routes connect the different landscapes of the Ruhrgebiet and serve as lively getaways for weekend trips or romantic boat tours.

The Duisburg Nord Landscape Park is an excellent demonstration of the region's philosophy to move on without abandoning the past: Steel structures transform into green landmarks with playgrounds, gardens and entertainment.

### Sport.

If there is one thing that stirs up emotions, it is soccer. When the local soccer teams play against one another, streets empty and it suddenly matters whether you are a fan of Schalke 04, Borussia Dortmund or VFL Bochum.

Soccer is the most popular sport in the region, but of course there are hundreds of activities that everyone can pursue, from kick-boxing to yoga, from canoeing to chess, in countless clubs for every age group.



Dortmund Hohensyburg



Emscher canal



Signal Iduna Park, Dortmund



Ruhr valley



Opened in 1965 as the first university in the Ruhr area, Ruhr University Bochum is now one of Germany's biggest and most successful research universities.

Ruhr University Bochum's Research School, an international college for structured doctoral research, is one of the university's Projects of Excellence. Another project is the Cluster of Excellence RESOLV (Ruhr Explores Solvation) that supports researchers at all stages of their career and offers a new platform for high value, interdisciplinary education and training for the next generation of scientists. The latest Cluster of Excellence project, "Cyber Security in the Age of Large-Scale Adversaries (Casa)," brings together leading scientists and psychologists to investigate the interaction of human behavior and IT security.

Interfaculty and interdisciplinary research departments raise the profile of Ruhr University Bochum. The outstanding support provided by the Early Career Researchers program and an excellent infrastructure round out the picture.

**Worldfactory**, a student training facility and coworking space, supports students who would like to found their own company. Across subject areas and industries, Worldfactory offers both the infrastructure and the expertise needed to develop sustainable and creative business solutions.

**Ruhr University Bochum in numbers**

- 43,000 students (14% international)
- 3,400 academic staff (incl. professors)
- 2,400 Master's degrees per year
- 550 Doctoral degrees per year
- 900 international doctoral students and guest researchers
- Operating budget: €559.9m incl. €111.3m third-party funding for research projects

**Research facilities and partners**

- 20 faculties
- 11 affiliated research institutes
- 10 associated research institutes

**Research profile**

- Solvation Science
- Cyber Security
- Materials Research
- Protein Research
- Religious Studies
- Plasmas with Complex Interactions
- Neuroscience
- Closed Carbon Cycle Economy
- Subsurface Modeling and Engineering



Founded in 1968, TU Dortmund University is dedicated to a unique cross-weaving of natural sciences and engineering as well as social sciences and cultural studies. Around 1,000 third-party funded projects bear witness to the university's strong focus on research, including a range of collaborative projects such as Collaborative Research Centers, the Cluster of Excellence RESOLV (Ruhr Explores Solvation), Research Training Groups, and several Horizon 2020 Research Consortia.

Approximately 80 study programs are offered at TU Dortmund University, among them four international Master's degree programs. In the Bachelor's and Master's degree programs leading to teacher certification, curricula are offered for all levels of education K-12, and there are 30 different subjects to choose from. Sixty percent of students have opted for engineering and scientific disciplines; forty percent are enrolled in cultural studies or social science programs.

The **Center for Entrepreneurship & Transfer (CET)** offers entrepreneurial research and education as well as a comprehensive range of start-up services such as infrastructure, consultancy and coaching, support for business plan competitions, and identifying financing options and mentors. Every year, around 20 start-ups emerge from TU Dortmund University.

**TU Dortmund University in numbers**

- 34,000 students (11% international)
- 2,300 academic staff (incl. professors)
- 2,000 Master's degrees per year
- 270 Doctoral degrees per year
- 300 international doctoral students and guest researchers
- Operating budget: €331.5m budget including €77.4m third-party funding for research projects

**Research facilities and partners**

- 16 faculties
- 5 affiliated research institutes
- 7 associated research institutes

**Research profile**

- Materials, Production Technology and Logistics
- Chemical Biology, Drug Research and Process Engineering
- Data Analysis, Modeling and Simulation
- Education, Schooling and Inclusion

**Dortmund Technology Park**

- Largest technology park in Germany (#5 in Europe)
- Around 350 companies
- 10,000 employees (incl. academic staff)
- €1.1b turnover
- Europe's largest incubator with more than 100,000 sqm incubation space for diverse technologies such as Logistics, Biomedicine, Robotics, IT, Micro and Nano Technology, Sensor Systems and Production Technology





## *Open-Minded*

Created in 2003 by the merger of the universities of Duisburg and Essen, the University of Duisburg-Essen is the youngest university in the state of North Rhine-Westphalia and one of the ten largest universities in Germany.

In many disciplines, the University of Duisburg-Essen ranks among the top ten of German research universities. Over the past three years, research income has risen 150 percent.

The University of Duisburg-Essen has developed four interdisciplinary research clusters in which its scientists accomplish outstanding work. In the interdisciplinary field of nanoscience, for example, the University of Duisburg-Essen has established itself as a global player with its Center for Nanointegration, CENIDE.

**The Center for Innovation and Entrepreneurship (IDE)** at the University of Duisburg-Essen supports innovations and start-ups across disciplines and industries. IDE provides a range of start-up services such as coaching and innovation workshops, courses in accounting and management as well as its own Master's program in "Innpreneurship."

### **University of Duisburg-Essen in numbers**

- 42,900 students (19% international)
- 4,200 academic staff (incl. professors)
- 2,200 Master's degrees per year
- 460 Doctoral degrees per year
- 470 international doctoral students and guest researchers
- Operating budget: €588.7m  
incl. €117.7m third-party funding  
for research projects

### **Research facilities and partners**

- 11 faculties
- 12 affiliated research institutes
- 11 associated research institutes

### **Research profile**

- Nanoscience
- Biomedical Sciences
- Urban Systems
- Transformation of Contemporary Societies



## Research Network.

The three Ruhr universities are part of an expansive local research network that includes three Max Planck Institutes, four Fraunhofer Institutes, four Leibniz Institutes, and the Mercator Research Center Ruhr. The universities collaborate closely with these institutes, creating unique interdisciplinary research and educational opportunities.

The **Max Planck Society** (MPG) is an independent, nonprofit research organization. The Max Planck Institutes conduct basic research in the natural sciences as well as in the humanities, thereby complementing research projects at universities.

The **Fraunhofer-Gesellschaft** (FHG) conducts applied research for private and public enterprises, as well as for the general benefit of the public. Fraunhofer Institutes carry out research under contract for industry, the service sector, and public administration and also offer information and service features.

The **Gottfried Wilhelm Leibniz Association** (GWL) addresses scientific issues of importance to society as a whole. The Leibniz Institutes provide infrastructure for science and research and conduct research-based services for the public, policymakers, academia and business.

The **Mercator Research Center Ruhr** (MERCUR) was founded in 2010 by the Mercator Foundation in collaboration with UA Ruhr. With its funding programs for joint projects in research, education, and administration, MERCUR supports the networking strategies of researchers, institutes and faculties across all three universities. MERCUR pursues the objective of promoting the science hub Ruhr by initiating and supporting strategic collaborations.



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