RESEARCHERS IN MOTION

Quarterly Newsletter Issue 3 2021

EURAXESS NORTH AMERICA

Dear Friends and Colleagues,

As in-person events trickle back, we find that researchers, diaspora groups, and more are adopting the best practices learned from remote work. The EURAXESS North America team has presented on in-person panels in the third quarter and has attended other activities, benefiting from the camaraderie and collaboration that physical events allow, while maintaining virtual events that allow members to tune in from anywhere in the world. Our door is open to you to learn about both the challenges and benefits of remote collaboration, in order to help your research career, support your researchers, or whatever the case may be!

–Your EURAXESS North America Team

This newsletter is also intended as a communication tool with you all, so please do not hesitate to contact us at NorthAmerica@euraxess.net for comments, corrections, or if you want to advertise a particular funding scheme or event.

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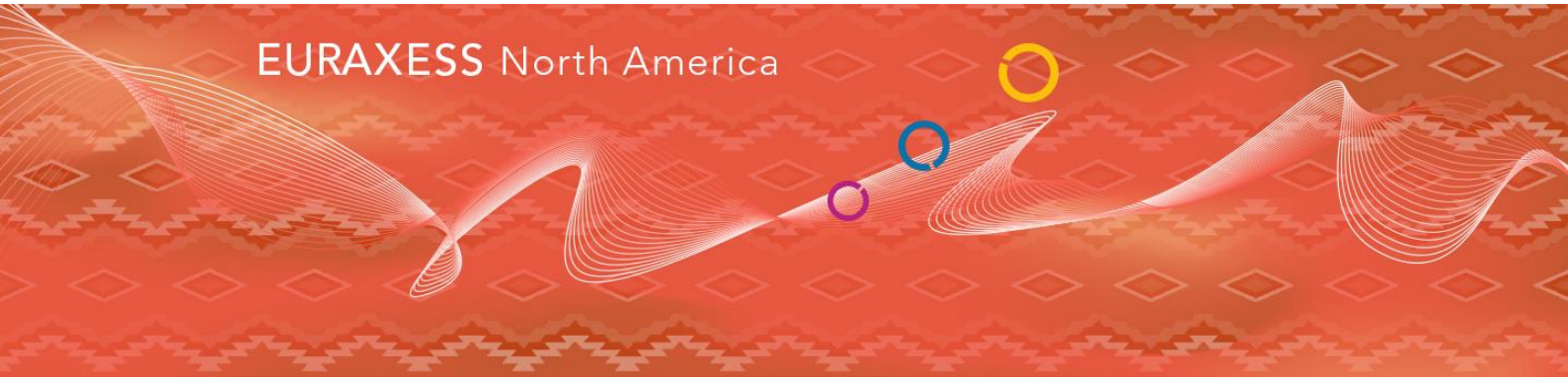
EURAXESS North America Team



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1 Reflections from the new EU Science Counselor to the U.S.

Last month, the European Union Delegation to the United States welcomed the new Counselor for Research & Innovation. With significant experience in those areas, we asked him to mark the start of his tenure with reflections on the current state of transatlantic research cooperation and the road ahead.

The key to EU-US cooperation in Science, Research, and Innovation

Upon my arrival in Washington, DC in September as the new Science Counselor of the European Union Delegation to the United States, the first visit I made was to Mount Vernon, the residence of George and Martha Washington. In the historical house, one object struck my attention: a key. Not any key though, it was a key from la Bastille offered by Lafayette!

The key unlocked evocations on the century-old ties between Europe and the USA, which have a particular resonance in today's geopolitical context. Indeed, although of socio-economic origins, the French and the American revolutions were accompanied by the same aspiration for freedom and equality, stemming from the philosophy of the Enlightenment, which spread throughout Europe in the 1700s. Our shared EU-U.S. common values today, including a commitment to the rule of law, the democratic process, free enterprise, human rights, and alleviating poverty, stem from that period.

Shared values and the conduct of Science

Fully integrated in their enterprise, Enlightenment thinkers also improved and fine-tuned empirical knowledge and the scientific method initiated during the Renaissance: that is, knowledge verifiable by reference to experiment, experience, or first-hand observation, and in rejection of the argument of authority. It is also the development of this method that allows us today to have the necessary tools to analyze our past through critical thinking. Most importantly, it is the reason why science and values are inseparable for us.

Openness and the circulation of knowledge is in Europe's DNA

The spread of the scientific method throughout Europe in the 1700s was made possible thanks to the millennial old tradition of scholars' mobility, dating back from the Greek philosophers and renewed with the birth of European Universities in the Middle Ages. This tradition of mobility continues today thanks to the European programs Erasmus+, the Marie Skłodowska Curie Actions, and the European Research Council grants.

It is also the mobility of these different actors across the European continent that led, and still leads today to the coherent cultural, artistic, philosophical, and scientific European area.

Again, the link with the U.S. is clear: scholars, researchers, and innovators' mobility extended to and included the American continent: the birth of universities on the American continent is an extension of the European movement. It has been a major feature of the scientific ties between Europe and the United States ever since, allowing for the incredible worldwide scientific and technological progress we all know today.

Together in a changing world

These centuries-old openness and shared values are of particular importance in today's changing world witnessing geopolitical tensions rising, with knowledge and technology at its core. I have been working

on R&I cooperation with India for many years and with China more recently. More and more countries are becoming strong research and innovation powerhouses, and it is important to cooperate internationally. It is also important to recall and celebrate the development of science all around the globe and across the centuries, in India, China, or the Persian and Arab worlds. Because more than ever the world's researchers and innovators need to be mobilized to develop innovative solutions to face global challenges such as the climate and health crises. We have seen the power of international cooperation during the COVID crisis. Today, in order for this openness to work, as European Council Commissioner for Innovation, Research, Culture, Education, and Youth, Mariya Gabriel said, we also need a clear framework that creates a level playing field on issues like ethical and people-centered research, the fair treatment of intellectual property, and reciprocal access to research program.

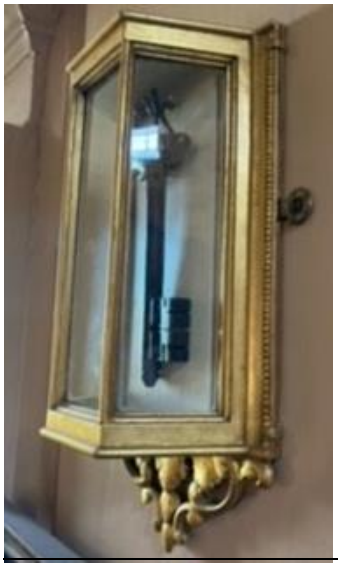
The new Global Approach to Research and Innovation

As a response to this changing world and to the increased necessity for a global response to challenges, the European Union adopted its new strategy for international cooperation in Research and Innovation[1], reaffirming its commitment to reciprocal openness while stressing the importance of the respect of fundamental values in the conduct of science and the use of technology.

As a major partner, the EU aims at further strengthening its already extensive cooperation with the U.S. The search for solutions to global challenges will be of highest importance, in particular for the climate crisis millions of people are already suffering from around the globe, and of course for the COVID-19 pandemic and the next ones to come.

A new project for Humanity

I elaborated on our history for a good reason: it is important to go back to the roots of our shared values, to revisit them and adapt them to the new reality. For instance, the emancipatory project of the Enlightenment thinkers originally based on the critical autonomy of the individual and the natural individual rights should today integrate the environment and propose a new notion of progress that would lead humanity in a new era[2]. We have a collective responsibility to do so, and it is a particular responsibility for EU and U.S. researchers to reflect on the meaning of their research and innovation.



Bastille Key

George and Martha Washington Residence

Mount Vernon

Photo: F. Bernard

[1] "Europe's strategy for international cooperation in a changing world"
[2] 'Les Lumières à l'âge du vivant' - Corine Pelluchon – Seuil

2 EURAXESS member in focus: Republic of Moldova

The Republic of Moldova is a landlocked state in eastern Europe, bordered to the west by Romania and to the north, east and south by Ukraine. It is one of the most densely populated European countries, with a population of just over 4 million, including the breakaway Transnistrian region. The country is divided into 32 districts and thirteen municipalities.

Moldova is a parliamentary republic with a president as head of state and a prime minister as head of government. It is member of the United Nations (UN), European Council, and Partnership for Peace, OMC/WCO, OSCE, GUAM, CIS, OCEMN/OECBS and of other international organizations.

Did you know that in September 2009 Moldova was the first country in the world to launch high-definition voice services for mobile phones? It was also the first in Europe to launch 14.4 Mbps mobile broadband nationally, now covering over 40% of the population. Moldova is ranked third in the world in terms of internet speed, according to the Net Index which covers 152 countries. It is a country with a firm vision for the digital future.

Moldovan R&I strategy

Research and innovation (R&I) are engines of economic growth, helping to generate solutions for overcoming some of the toughest challenges facing society. They influence economic competitiveness and a country's ability to withstand the changes that humanity is going through.

R&I activities are critical in achieving the UN Sustainable Development Goals (SDGs) in three key dimensions – economy, society, and the environment – and the Republic of Moldova has committed fully to the 2030 Agenda to achieve these goals.

It was the first country in the Eastern Partnership to be formally 'associated' to the EU's Seventh Framework Program (FP7) for research, technological development, and demonstration activities (2007-2013), as well as Horizon 2020 (H2020, 2014-2020) which considerably expanded access to European research grants.

R&I in Moldova

In 2016, Moldova's research and innovation system was subjected to an evaluation by a group of international experts, within the H2020 Policy Support Facility, who proposed seven key political messages based on 24 detailed recommendations. These referred largely to proposals to strengthen the R&I system by addressing a set of structural weaknesses and amplifying existing strengths. Following the recommendations, the government decentralized R&I decision-making to the Ministry of Education, Culture and Research (MECR) and established the National Agency for Research and Development (NARD), which implements policies and budgets according to sectoral strategies within the national action plan and R&I programming.

The national program transposes the principles of 'smart specialization', which identifies priorities for creating competitive advantage by

The Parliament is the supreme representative body of the people of the Republic of Moldova and the only legislative authority of the state. The Parliament is elected for a term of four years, which may be extended in the event of war or catastrophe.

developing on R&I strengths and linking them to business needs, emerging opportunities, and market developments.

At the same time, the national program corresponds to Moldova's Code of Science and Innovation (259/2004) and activities planned within the 'Roadmap for the integration of the Republic of Moldova into the European Research Area' (2019-2021). That roadmap sought to strengthen the country's R&I capacities, promote further integration within ERA, and the take-up of opportunities within the framework programs (i.e., FP7, H2020).

Altogether, the R&I system in Moldova is represented by 61 state and private organizations, including 39 institutes and research centers, 15 higher education institutions, and seven other learning or research entities. These employ 2,707 scientific researchers, more than half of which are women (1,430).

To meet the principles of the European Charter for Researchers and recruiters Code of Conduct, MECR has implemented several measures including a Human Resources Development Strategy (2019-2023) and corresponding action plan.

R&D expenditure in Moldova in 2020 totaled 469.6m lei (€22.52m), the equivalent of 0.23% of the GDP, compared to 0.24 in 2019. Just over three-quarters of that was spent on applied research, 10.6% on fundamental research, and 14.2% on technological development.

Ministry of Education, Culture and Research

The Ministry of Education, Culture and Research consults with parties interested in promoting the national research program, sectoral strategies and associated action plans for their implementation. Proposed revisions to these programs and actions also go through the Ministry. It approves the institutional budgets, examines related performance and scientific reports, and promotes bilateral and multilateral R&I programs launched through cooperation agreements with international organizations and foundations. In addition, it monitors R&I policy and projects and presents an annual implementation report to the government. It attracts funds from external sources for the development of research and innovation, and elaborates minimum standards for conferring scientific titles and related activities.

Funding and recruitment opportunities

Research in Moldova is primarily financed on the basis of "quality competition." Funding comes from the state budget, foreign funds, companies, and the NARD. The MECR is the principal R&D funding body in Moldova, consolidating different grants and types of funding and giving research more visibility within society.

As most research is performed in public universities, the majority of research jobs are also in these centers of learning. Doctoral studies are regarded as part of the student body and receive a monthly scholarship.

Research excellence in Moldova

According to the 2019 Ranking Web of Research Centers (RWRC) – a global comparison of visibility (total number of external links received by the web

Academy of Sciences of Moldova

The Academy of Sciences of Moldova is the umbrella organisation for all researchers, scholars, and intellectuals in the country. The Academy works according to the provisions of the Constitution, the Code on Science and Innovation, the Partnership Agreement with the government and other legislative and operational remits. There are 45 full members of the Academy, 28 corresponding members and 47 honorary members. Within the framework of the Academy different institutions carry out fundamental and applied scientific research, innovation and technology transfer resulting in new scientific knowledge and applications, actions to capitalise on national patrimony and promote scientific and cultural values on a national and world level, and the high-level training of scientific personnel.

domain of the institution), online presence, transparency/openness and excellence – the Academy of Sciences of Moldova (ASM) climbed 218 positions on the previous year's ranking of 477.

Promotion and dissemination of scientific results

Despite the Covid-19 crisis, the scientific community has managed to carry on using various digital platforms. Scientific research has been widely broadcast on radio, TV and social networks, as well as through press releases and electronic and print media. The pandemic has helped to raise the profile science and innovation in Moldova. Events designed to "popularize" science are streamed online by the Information Society Development Institute (ISDI), Privesc.eu, Rlive, etc. Thanks to the country's high internet penetration, this means scientific achievements are accessible to the general public, civil society as well as to businesses.

Moldovan research is well recognized nationally and internationally in terms of awards, prizes and other distinctions garnered in exhibitions, competitions and festivals. Among the most important awards are the National Award, given annually in various fields, including science. The Moldovan Academy of Sciences awards prizes for outstanding results in the field of life sciences, exact sciences and engineering, as well as in the economics, humanities, arts and social sciences. The ASM also awards an annual prize for young researchers, as well as prizes for the promotion of science. An annual Municipal Youth Award is also organized.

Moldovan research is well represented in scientific publications. In 2020, more than 7,000 published works were registered. These included articles in scientific journals, high-impact international journals, monographs, collections of articles, conference proceedings, etc.

Moldova is keen to further develop its international reputation and make better use of its scientific and human potential, as well as its modern infrastructure within the R&I ecosystem. According to the Code on Science and Innovation, collaboration with other countries based on bilateral and multilateral projects is the responsibility of the NARD but also rests partially with the MECR. The drive towards more internationalized science is also part of Moldova's Association Agreement with the EU's framework program.

EURAXESS Moldova

Moldova's Academy of Sciences plays an important role in the process of implementing its ERA roadmap and action plan in line with the national strategy. Since 2011, the Academy has acted as the liaison institution for the EURAXESS network. As the host institution it provides services and

maintains the national portal (euraxess-eu.md) as a tool to promote researcher mobility all over Europe.

Through its efforts, the number of local contact points within universities, research institutions and SMEs has increased to 27. As elsewhere, the network offers personalized assistance on administrative, legal, accommodation, courses, integration, and other issues. It promotes its activities and events via the webpage and social media posts.

One noteworthy achievement of the EURAXESS mobility program at national level was to encourage Moldovan research institutions to adopt the Human Resources Strategy for Researchers (HRS4R). This tool helps employers and funders from the research field to put the principles of the Charter and Code into practice, thus defining their rights and obligations, and increasing the transparency, visibility, and international prestige of beneficiary institutions.

Local contact points in Moldova regularly meet to discuss the best ways to provide services and help entities fully implement the Charter and Code of Conduct for recruiting researchers. Currently, seven research organizations in Moldova have earned the right to display the 'Excellence in Research' logo that goes with full implementation.

The scientific community collaborates with the European Commission's Joint Research Centre in developing the country's smart specialization strategy. It also cooperates with the United Nations Economic Commission for Europe (UNECE) in developing innovation policies, the Francophone University Agency in promoting excellence in research and attracting young researchers, and the European Training Foundation (ETF) for training in smart specialization, etc.

Useful links:

National Agency for Research and Development

National Agency for Quality Assurance in Education and Research

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3 Moldova's researcher diaspora

To complement this quarter's country profile, EURAXESS North America held an interview with Inga Seremet, First Secretary of the Embassy of the Republic of Moldova to the United States of America. She covers the portfolios for diaspora, education, and culture, giving her deep insight into the state of Moldovan researchers in North America. Her diplomatic career started in 2012 at the Ministry of Foreign Affairs and European Integration of the Republic of Moldova, working in the International Law Department. During almost ten years of diplomatic service, she specialized in the conclusion of bilateral treaties, accomplished her first posting in Latvia, and now gladly embraces her new posting to Washington, DC.

EURAXESS North America: *What does the Moldovan researcher diaspora look like?*

Inga Seremet: In the '90s many scientists from the Republic of Moldova began to emigrate seeking better opportunities abroad. Of course, the major factor that triggered this phenomenon was the political instability and the precarious economic situation in the country at that time. Besides, they were also motivated by the prestige of the Moldovan researcher's scientific excellence and reputation of the science schools from the Republic of Moldova. Additionally, some highly qualified people left the Republic of Moldova to join other fields of activity abroad, which were not found or were not sufficiently developed in their country of origin. Thus, another reason was the overqualified staff for the realities of that period.

The scientific diaspora gathered mainly based on the opportunities and less on the geographical and cultural proximity or language affinity. The main countries of destination are Western Europe (Germany, France, Belgium, Spain, Netherlands, United Kingdom and Switzerland), the Commonwealth of Independent States and neighboring countries (Russian Federation, Ukraine, and Romania) and North America (USA and Canada). The scientific diaspora community is characterized by certain common goals, such as: better living standards, career prospects, continuing education, scientific progress, fair workplace competition, international experience in scientific career, desire to learn new research methodologies, and additional vocational courses.

The second generation of the scientific diaspora was formed by students who emigrated abroad to study. They choose their destinations according to the prestige of the academic institutions, studying programs and scholarships. Their selection is also influenced by the employment opportunities expected after the graduation and by their perception over the policies of the destination countries that allow such migration projects.

A peculiarity of the scientific diaspora is also the high level of integration in the destination countries, due to the knowledge of spoken languages and participation in local organizations and associations, as well as professional involvement. In general, they are involved in a process of continuous training.

Currently, there is no formal mechanism for exclusive collaboration with scientists and qualified professionals from the Republic of Moldova abroad in the form of association or specialized network.

The scientific diaspora either establishes or participates in professional associations and networks abroad, which can be differentiated into two types. The first type are professional associations or networks of an exclusive nature focused on specific fields or disciplines, open to members from any country. Through such participation, the qualified diaspora establishes transnational ties with scientists from around the world and have access to various opportunities for collaboration, which could also benefit Moldova. The second type are the associations that bring together the Moldovan community abroad and promote exchange of experiences and implementation of collective projects in support of their homeland. Such associations are less exclusive and have significant implications due to their ability to connect the diaspora members, to gather dispersed individual efforts and to encourage collective action, even if they are focused more on promoting cultural and social activities.

What government agencies in Moldova work with diaspora matters?

The **Diaspora Relations Bureau** coordinates the national policies in the field of diaspora, which includes the citizens of the Republic of Moldova temporarily or permanently residing abroad, people originating from the Republic of Moldova and their descendants, as well as communities formed by them. The Diaspora Relations Bureau is a subdivision of the State Chancellery, under the direct subordination of the Prime Minister and it was created by the Government Decision No. 780 of October 19th, 2012.

The Strategy of organization and operation of the Diaspora Relations Bureau combines three working models with diaspora, internationally recognized: a) constituency model, focused on responding to the needs of the diaspora; b) alumni model, which develops opportunities and falls within the concepts of migration and development; and c) exploratory model, which comes to strengthen the professional elites in the diaspora in order to act as agents of transformation in their country of origin.

The Diaspora Relations Bureau implements several programs dedicated to support and motivate diaspora in keeping strong ties with their homeland. Some examples include:

- **"Diaspora. Origin. Return (DOR)"** program has the mission to raise awareness among young people of the second generation of diaspora about their cultural identity and aims to create emotional connections with Moldova. First edition took place in 2013 and it is opened for participants with age of 12-17 years old. Diaspora children camps and youth camps are part of the annual DOR program.
- **"Diaspora Days"** is a mechanism for dialogue with compatriots abroad and to strengthen the role of diaspora for the Moldova's sustainable development. First edition took place in 2014 and it is organized annually. The agenda includes activities such as thematic seminars, business forums, cultural and gastronomic events.
- **"Diaspora Congress"** is a platform to strengthen communication between the Government and diaspora. First edition took place in 2014 and it is organized annually.
- **"Diaspora Engagement Hub"** is a governmental program of thematic grants offered to the Moldovan citizens residing abroad. The program was created in 2016 and it includes several subprograms (some examples): a) Diaspora Women's Empowerment; b) Diaspora Innovative Projects; c) Thematic Regional Partnerships; d) Diaspora Professional Return; and more.
- **"DAR 1+3"** program aims to utilize the human and financial potential of the diaspora for the local socio-economic development of the Republic of Moldova. The implementing partners of this Program are: 1) Government; 2) Local public authorities; 3) Development partners and donors; and 4) Diaspora. The program was approved in 2018.

Another governmental program designated for diaspora is **"PARE 1+1 National Program on Attracting Remittances into the Economy"**. This program is implemented by ODIMM (Organization for the Development of the Small and Medium Enterprises Sector) and aims stimulating the SME development and job creation especially at local level. The 2021 call approved non-reimbursable financial support for approved for 58 businesses initiated by migrants or their first-degree relatives.

What makes Moldova attractive as a research destination?

The Republic of Moldova is member to various international agreements, projects and initiatives regarding education and research area (Bologna process, Horizon Europe, Erasmus+, etc.).

The Republic of Moldova has been the first country in the Eastern Partnership that obtained the status of Associated Country in the European Union Seventh Framework Program for Research, Technological Development and Demonstration Activities (2007–2013), and subsequently under the 'Horizon 2020' European Union Framework Program for Research and Innovation (2014–2020). Due to this fact, Moldovan entities had much more opportunities to collaborate with European Union (EU) research community and to access European research financial support. At the same time, the impact of this key outcome on national research and innovation system was reduced thanks to lacking national investments in the development of the research and innovation organizations' capacities to join transnational projects and initiatives equally with European research and innovation organizations (including the lack of co-funding to date), and thanks to rigid national procedures, which hindered the management of the projects received.

The **Ministry of Education and Research** of the Republic of Moldova is responsible for overall research, development, and innovation policies. The **National Agency for Research and Development** implements the state policy according to the action plans approved by the Government in order to realize the National Program for Research and Innovation. The plan covers the national areas of interests and the management of budget funding of the research and innovation projects, according to regulatory framework. The **Academy of Sciences of Moldova (ASM)** acts as advisor of the Government in research and development areas.

Study in Moldova

In the Republic of Moldova there are established 19 public institutes and centers, 16 public universities, 8 private universities, 1 science and technology park, 8 innovation incubators, and 8 scientific clusters.

Scientific visa

In the Republic of Moldova, a long-stay visa (type D) is required for research activities. More details about visa application are available on the webpage of the Embassy of the Republic of Moldova to the United States of America at www.sua.mfa.gov.md

A. State Higher Education Institutions (some examples)

Moldova State University (USM) is the first higher education institution in Moldova with the status of university, founded in 1946. USM mission is to train highly qualified professionals in the fields of economic sciences, law, international relations, biology, chemistry, mathematics, physics and engineering, history and philosophy, education science and foreign languages. USM is a member of International Association of Universities (IAU), Francophonie University Agency (AUF) and Eurasian Association of Universities (AEU). USM has its own Institute of Research and Innovation, that includes: a) Centers of Excellence in Research; b) Scientific Research Laboratories; c) Doctoral Schools; d) Innovation Incubator "Inventica USM"; e) Office for Technology Transfer.
www.usm.md ; www.cercetare.usm.md

Technical University of Moldova (UTM) is the only engineering higher education institution in the Republic of Moldova, founded in 1964. UTM aims at scientific research, development, innovation and technological transfer, through individual and collective creation in the field of engineering sciences, as well as at the capitalizing on and disseminating their results. In 2001, within the UTM was created the National Center for Materials Study and Testing (NCMST), under the financial support from U.S. Civilian Research and Development Foundation (CRDF) and under the auspices of the Moldovan Research and Development Association (MRDA).
www.utm.md ; www.ncmst.utm.md

State University of Medicine and Pharmacy of the Republic of Moldova "Nicolae Testemitanu" (USMF) is a higher education institution, accredited at national level (2001, 2007 and 2018), evaluated by international bodies (2001, 2005) and accredited internationally (2019). It was founded in 1945. In April 2016, the European Commission has given it the logo 'Excellence in Human Resources in Research' - an instrument of the European Commission, created to meet the general conditions and principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers. The University is a member of the Association of Medical Schools in Europe (2011), the Association of International Universities (2012), the Association for Medical Education in Europe (2013) and is registered in the World Directory of Medical Schools.
www.usmf.md

Academy of Economic Studies of Moldova (ASEM) is a higher education institution founded in 1991. It is the largest higher education institution with economic profile in the Republic of Moldova, which offers opportunities to integrate higher economic education with the scientific research process. ASEM is a member of the Association of Francophone

Universities (AFU), the Black Sea Universities Network (BSUN), the Central European Initiative University Network, which is a sustainable support for the implementation of efficient methods of teaching and promoting modern economy principles.
www.ase.md

State Agrarian University of Moldova (UASM) started its activity in 1933, then it was reorganized in 1991. The scientific potential of the UASM gave it the opportunity to carry out scientific researches in the most important directions which contribute to continuous development of agriculture and other related branches, among which: a) agricultural Biotechnologies applied in agro-food industry, animal husbandry and veterinary medicine, soil fertility and food security; b) creating plant varieties and hybrids as well as populations, lines and hybrids of livestock and poultry; c) improving the existing methods and remedies, and developing new means of disease prevention and control in livestock and poultry; d) improving the energy sector and ensuring energy security, including the use of renewable resources, etc.
www.uasm.md

B. Research and innovation public institutions (some examples)

Institute of Applied Physics (IFA) was founded in 1964 and is the only scientific physical institution in the Republic of Moldova. IFA has made a major input in the advancement of science and in the development of various aspects of the national economy. IFA regularly collaborates with research institutes and universities around the world in carrying out research projects, publishing joint scientific results, patenting inventions, technology transfers, organizing and participating in scientific conferences and seminars.
www.ifa.md

Scientific-Practical Institute of Horticulture and Food Technologies is a scientific research institution, being the avant-garde and coordinator of technical and scientific progress in the field of horticulture, winemaking and food technologies in the Republic of Moldova. It was created in June 2008. Its strategic direction is focused on agricultural biotechnology, soil fertility and food security.
www.isphta.md

Medical science: Republican Clinical Hospital "Timofei Mosneaga" founded in 1817 (www.scr.md), Oncological Institute founded in 1960 (www.onco.md), Institute of Mother and Child founded in 1982 (www.mama-copilul.md).

For a complete overview of higher education and research institutions, please visit the webpage of the National Authority for Research and Development www.ancd.gov.md

What challenges are involved in supporting the country's researcher diaspora?

The major challenge of working with the scientific diaspora is to identify and motivate them to get involved in the economic, social, and political life of the Republic of Moldova, especially for capitalizing on their skills and knowledge transfer.

Of course, several initiatives have been taken over the years. In 2004 was adopted the Science and Innovation Code and the Partnership Agreement between the Government of the Republic of Moldova and the Academy of Sciences of Moldova (ASM) aimed at increasing the state investments in science and technology. It was also launched a Strategy to encourage the connections with qualified Moldovans from abroad in order to overcome the challenge of the brain drain. Furthermore, a Temporary Return Program has been implemented for scientists and young researchers from the Republic of Moldova, as well as a Research Project of ASM that provides evidence-based knowledge about skilled emigration from the Republic of Moldova, transnational ties and development impact. Over the past decade, the scientific diaspora has been involved in promoting the integration of the Republic of Moldova into the European Union.

With the creation of the Diaspora Relations Bureau, in 2012, new tools and methods were launched for collaboration with the researcher diaspora of the Republic of Moldova abroad.

In 2017, with the support of the International Organization for Migration in Moldova, was launched the Diaspora Engagement Hub program and the Diaspora Excellence Groups (GED) subprogram. Its purpose is to develop a functional mechanism of collaboration between the governmental institutions and experts from diaspora highly qualified in strategic areas of socio-economic development of the Republic of Moldova. As a result, with the help of 8 highly qualified experts from diaspora were elaborated 5 policy proposals in the following fields: environment, medicine, economy, justice, diaspora, which were presented in the consultative meetings with governmental institutions.

In 2020, with the support of the Swiss Agency for Development and Cooperation, the initiative continued with the launch of the Web Communication Platform “Diaspora-Migration-Development”, which will provide easily accessible information and guidance for the diaspora's

participation in the development of the Republic of Moldova, along with strengthening the Diaspora – Government and Diaspora – Diaspora dialogue. The Platform will also provide the opportunity to enhance partnerships in areas of common interest (economic, social, cultural, financial, volunteering, philanthropy) of qualified people, associations and communities in the diaspora, Government, central and local public authorities, academia, private sector, business environment, indigenous associations, local communities, and civil society.

More recently, the Diaspora Relations Bureau in partnership with the State University of Medicine and Pharmacy "Nicolae Testemitanu" initiated a collaboration in order to create, develop and institutionalize the network of the medical scientific diaspora – "DiaMed". The purpose of this initiative is to create a permanent mechanism of cooperation between the medical scientific community of the Republic of Moldova, our compatriots working abroad and the Government. The program also aims to facilitate the implementation of joint activities in research and innovation - publications, projects, exchange of views, etc. For the Registration in DiaMed network an online application is available on the webpage of Diaspora Relations Bureau at www.brd.gov.md .

What's next in Moldovan research?

IT Sector

The IT industry in Moldova is the fastest growing industry. In 2017, by the Government Decision No. 1144, the **"Moldova IT Park"** was created as a platform to stimulate investments incentives for IT business development, research and development and create an innovative economy. The residents of Moldova IT Park benefit from: a) 7% tax in turnover for carrying out research and development in natural sciences, engineering, and biotechnology; b) virtual operating time; c) extended list of eligible activities; and d) simplified business management.
www.moldovaitpark.md

With the support of the United States Agency for International Development (USAID) and the Government of Sweden in Moldova was created the **"Tekwill" ICT Excellence Center**, that is one of the largest IT hubs in Southeast Europe. Tekwill utilizes a public-private partnership model to create synergies with the Government of the Republic of Moldova, academia, donors, multinational companies, and the local private sector.
www.tekwill.md

Moldova Research & Development in Nanotechnology and Nanosensors.

The Center for Nanotechnology and Nanosensors in the Republic of

Moldova is the only one in this region that can design and fabricate nanosensors on individual nanowires (or nanotubes, nanoflakes, nanorods) with diameters from 10 nm and up to micrometers.

Did you know that?

- The first nanostructured micro-submarine exhibiting both light-driven motion and cargo capabilities has been invented by Moldovan researchers. The micro-submarine consists of arrays of TiO2 nanotubes working as nanoengines under UV illumination.
- Moldovan researchers have made the first ever highly porous, mechanically flexible and stretchable inorganic nanomaterial that is both hydrophilic and hydrophobic at the same time. The material is called aerogalnite (aero-GaN) and could be used in many practical applications due to its unique properties.
- Moldovan researchers demonstrated that living cells can be rearranged and transported using GaN nanoparticles and magnetic field.
- Ultra-lightweight pressure sensors have been developed by joint efforts of Moldovan, Romanian and German scientist.
- The longest nanowire produced by a local Moldovan company to be registered by Guinness Book (ELIRI)
- First ultrathin membrane based on Gallium Nitride (GaN) has been made at National Center for Materials Study and Testing within the Technical University of Moldova.

https://moldovaitpark.md/en/about-us/ (*Investment Profiles)*

For more information on the Moldovan diaspora, including a list of diaspora organizations, visit the Diaspora page on the website of the Embassy of the Republic of Moldova to the United States.

4 The Story Behind Europe's AI Ambitions

A dedicated platform for international researchers

EURAXESS Worldwide is a networking platform and reliable source of information and ideas on research and innovation jobs, funding, and hosting opportunities in Europe, helping talented European and international researchers explore and create transnational ties with researchers, employers, and scientific communities, and develop careers within the global R&I system.

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The European Commission's proposed new regulations for artificial intelligence (AI) include a clear ambition and plans to make Europe a "global hub for trustworthy AI". EURAXESS Worldwide Newsletter explores what this means and how it fits into wider digital ambitions and research policy directions.

Barely a day goes by without a news headline heralding developments in artificial intelligence. Tantalizing as each story may sound, the scientific community is likely to be more drawn to the backstory. The countless hours of hard work behind the scenes and, behind that, the strong belief – backed by political will and investment – that AI can transform science and society.

In its proposed regulation, announced on April 21st, the Commission spells out that 'trustworthy AI' means safeguarding freedoms and safety while encouraging innovation, investment and commercial uptake. Ethical concerns are also raised about the way AI is developed, how data is obtained and 'trained' during machine-learning processes to avoid bias, and how the information is used.

As the Commission's proposal is debated in the EU's law-making chambers, questions about AI compliance and strategies for enforcing it are also being explored. Issues about its use in law-enforcement (e.g. facial recognition systems), credit scoring and insurance risk, as well as its potential abuses (e.g. deep fakes, scams, subverting justice and democracy) are also high on the agenda.

The EU naturally wants to capitalize on the benefits while ensuring that suitable checks and balances (standards and agreements) are in place to guide developments. Many of these challenges and opportunities are presented in a 2020 White Paper, "Artificial intelligence – A European approach to excellence and trust."

World-class AI research (and funding)

Europe is betting big on artificial intelligence. There are good grounds for such optimism. The global market for AI, which includes software, hardware and services, is forecast to grow by 16.4% to $327.5 billion in 2021 and push through the $500 billion mark by 2024 thanks to a five-year compound annual growth rate (CAGR) of 17.5%, according to IDC data.

Reaching this potential is going to take a lot of strategic planning and hard work. According to the Commission, Europe needs to increase and better coordinate public and private investment to "reap the full benefits of AI"

and strengthen its position in this key enabling technology. It is why digital technology and AI feature prominently in EU research programs and initiatives. These include Horizon Europe, the main R&I funding program supporting technological and societal aspects of AI development and deployment, and European Research Council grants to simulate AI-focused research centers and leadership across the EU, and beyond.

Other AI initiatives include European Innovation Council funding to help promising innovators and SMEs turn research into breakthrough innovations, and European Partnerships bringing private and public R&I partners together to tackle pressing societal challenges. For example, the AI, Data and Robotics Partnership is looking for cross-fertilization between partners from the digital and space sectors/industries, thus driving development and uptake of new technologies.

Public-private partnerships (PPP) are another avenue to advance AI in and with Europe. One AI-PPP is being set up to boost "value-driven trustworthy AI, data and robotics based on European fundamental rights, principles and values". It brings together a range of initiatives (EurAI, CLAIRE, ELLIS, BVDV and euRobotics) covering different aspects of big data, intelligent systems, machine-learning, etc.

More details about EU projects, results and publications, including a handy CORDIS Results Pack on how AI is "turbocharging European industry", can be found on the Commission's dedicated AI research web-page.

Better understanding of 'trust'

"With all of the attention on machine learning, many are seeking a better understanding of this hot topic and the benefits that it could provide to their organizations," notes SAS, a software and analytics business, in a helpful primer/briefing on ethics and AI. This is also true of the international research community, which is both heavily invested in the science behind AI but also in what it can do for their field.

Artificial intelligence and related fields are driving innovation in countless areas, from language processing and security applications to image analysis, medicine, self-driving vehicles, personalized marketing, e-commerce, and much more.

According to a 2020 report on AI research and innovation, 'Europe paving its own way', the EU ranks among global leaders in AI science and it has actively supported ethical and human-centric progress, but its innovation performance in the field needs a boost.

Effort in the coming years is thus focused on developing and deploying AI solutions with positive impacts on society and the economy, while

prioritizing public and private investment including better access to and use of scientific data.

Focus is also needed on extending trustworthy AI and "ethics by design" in Horizon Europe R&I projects. The impact of such determination could "bring about significant improvements to society", the Commission notes, delivering high-impact innovations in healthcare, education, transport, industry, climate action, and many other sectors.

On the flipside, as AI becomes more pervasive, it will bring about considerable socio-economic changes which need discussing, according to the Commission. This is why it has launched a consultation (Europe's Digital Decade) to explore these implications as it forges new laws governing AI developments: "The EU must act as one, based on European values, to promote the development and deployment of AI."

A post-pandemic digital compass

To help translate the EU's digital ambitions into concrete goals with built-in monitoring and reporting milestones to reach by 2030, the Commission came up with a so-called Digital Compass revolving around four "cardinal points" outlined briefly here:

- Digital skills (at least 80% of adults and a much higher proportion of women should have digital skills to reach a target of 20 million ICT specialists employed in the EU)
- Well-functioning, secure and sustainable digital infrastructures (all EU households should have gigabit connectivity and all populated areas should be covered by 5G)
- Digital transformation of businesses (75% of companies should use cloud computing services, big data and AI)
- Digitalization of public services (all key public services should be available online including secured access to e-medical records and eID solutions)

The pandemic has shown the importance of digital technologies and skills, and highlighted where improvements are still needed. In a prepared statement about Europe's post-Covid digital ambitions, Commission President Ursula von der Leyen said, "We must now make this Europe's Digital Decade so that all citizens and businesses can access the very best the digital world can offer," and concluded that the new Digital Compass "gives us a clear view of how to get there."

More information

Read the Commission proposal laying down harmonized rules on AI to the European Parliament and Council.

5 In case you missed it…

Recent and upcoming webinars

While not a complete list, here are a few past and future virtual events of ours and close partners—watch the recordings and sign up to attend live on the event webpages below!

Event	When	Where	Organized by	URL
MSCA Postdoctoral Fellowship: Strategic Insights	18 August 2021	Virtual	EURAXESS North America, Marie Skłodowska-Curie Actions, and the Marie Curie Alumni Association – North America Chapter	Link
Practical ERC Webinar - Grants for Top Researchers from Anywhere in the World	7 October 2021	Virtual	EURAXESS North America and the European Research Council (ERC)	Link
Editor Panel - "How to Get Published" Webinar Series	26 October 2021	Virtual	EURAXESS North America and EURAXESS Latin America & the Caribbean, with publisher Taylor & Francis	Link
Horizon Europe Canada Launch	28 October 2021	Virtual	EURAXESS North America and the Delegation of the European Union to the Canada	Link
Information Session on COST Actions	16 November 2021	Virtual	EURAXESS North America, EURAXESS Latin America & the Caribbean (LAC), and the European Cooperation in Science and Technology (COST) organization	Save the date!
Seventh Annual Meeting of the European Scientific Diasporas in North America	15 December 2021	Virtual	EURAXESS North America	Save the date!

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About EURAXESS North America

EURAXESS North America is a network of thousands of European and non-European researchers, scientists, and scholars throughout North America (USA and Canada). This multidisciplinary network includes members at all stages of their careers. It allows them to connect with each other and with Europe, ensuring that they are recognized as an important resource for European research, whether they remain in North America or return to Europe.

For further information about EURAXESS North America, please visit: http://northamerica.euraxess.org.

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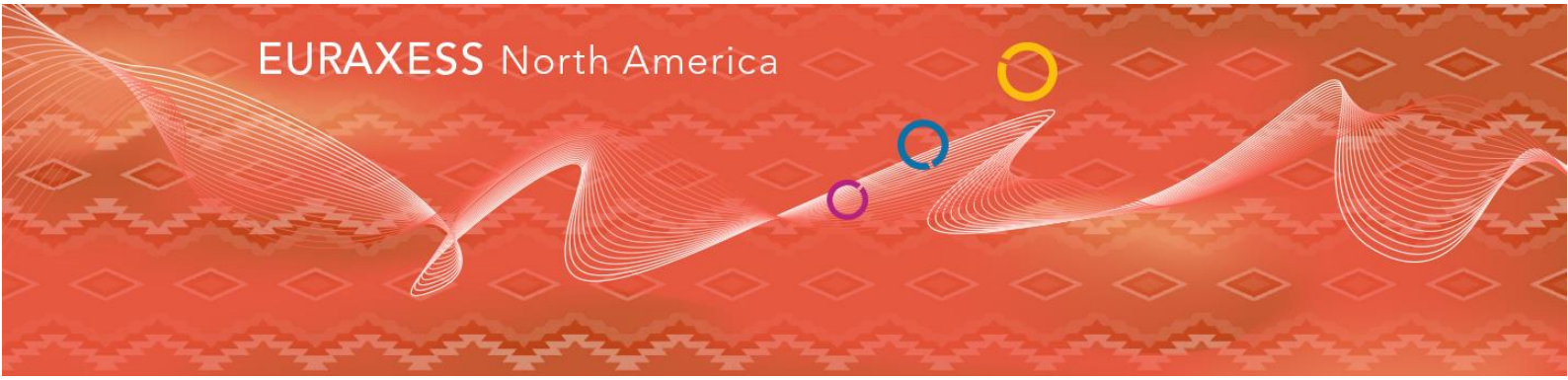

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