

# Annual Report of the University of Nova Gorica 2024





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Edited by Andreja Leban

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#### Text

Iztok Arčon, Artem Badasyan, Jasna Fakin Bajec, Blaž Belec, Lorena Butinar, Imre Cikajlo, Irina Elena Cristea, Mattia Fanetti, Mirjana Frelih, Sandra Gardonio, Marina Lukšič Hacin, Renata Kop, Andreja Leban, Melita Sternad Lemut, Uroš Luin, Manel Machreki, Lanko Marušič, Andraž Mavrič, Katja Mihurko, Griša Močnik, Vanesa Valentinčič Murovec, Giovanni De Ninno, Rokaya Osama, Nadiia Pastukhova, Egon Pavlica, Boštjan Potokar, Kristina Pranjić, Peter Purg, Lakshmi Rajan, Aljaž Rener, Samo Stanič, Artur Stepanov, Tina Škorjanc, Nives Štefančič, Thanveer Thajudheen, Vadym Tkachuk, Jurij Urbančič, Matjaž Valant, Branka Mozetič Vodopivec, Iain Robert White, Rok Žaucer

Photos, Graphs, Schemes

Animafest Zagreb, Arhiv FVV, Arhiv UNG, Hashem Bordbar, CasarsaTinta foto studio, Cherenkov Telescope Array Observatory, Jasna Fakin Bajec, Imre Cikajlo, Irina Elena Cristea, Urban Česnik, Claudia D'Ercole, Jure Eržen, Erling Fløistad, Mladen Franko, Sandra Gardonio, Miha Godec, Andreja Gomboc, Taj Jankovič, Erika Jež, Martin Knez, Fabio Lapenta, Andreja Leban, Melita Sternad Lemut, Ana Logar, Uroš Luin, Katja Mihurko, Petra Mišmaš, Griša Močnik, U. Moser, Swapna Nair, Rokaya Osama, Christina Papaprokidou, Nadiia Pastukhova, Tanja Petrushevska, Laksmi Rajan, Barbara Ressel, Jan Reščič, Tina Smrekar, Tina Škorjanc, Guy Tabachnick, Vadym Tkachuk, Jurij Urbančič, Ivana Zajc, Miha Živec

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# Introduction

In 2024, the University of Nova Gorica received an important recognition: as a member of the ACROSS international university network, together with eight partner universities from Bulgaria, Bosnia and Herzegovina, France, Germany, Italy, Poland, Romania and Spain, the University was awarded the title of European University. There are currently 65 associations of this type, involving around 570 European universities. It may seem like a lot, but it is important to realise that there are around 5,000 universities in Europe. We are therefore among the good 10% of those that make up the core of the European higher education system. In this respect, the work for the future is clear: to justify our reputation and to build a strong alliance of universities which, perhaps in the mid-future, will function as a single entity, with more than 100,000 students. The work will be hard and demanding, with the reward motivating enough.

The University's research remains in good shape. According to current data, the proportion of publications by our colleagues that are classified as outstanding achievements by the Slovenian Research and Innovation Agency (ARIS) exceeds 15%. This is a great success, if we put it side by side with the data for comparable institutions in Slovenia (for which the share is typically around 10%); that is, comparable in terms of scientific results, not in terms of size. It is precisely because of size, which is, among other things, conditioned by the financial resources available, that when comparing quantitative data, we always seek for those that are, in one way or another, normalized to the size of the institution. This is the case of the Round University Rankings, which ranks the University of Nova Gorica 425th in the world, the highest score of all Slovenian universities. But let us be honest, there are many similar rankings, and everyone can find the one that suits them best (depending on the ranking of the respective institution, or the specific purpose of data usage). Also, the mentioned ARIS quantitative data are more often than not only a rough indicator of whether or not the colleagues of a given academic institution are to be taken seriously in the internationally comparable world of scientific research.

Due to the limited value of purely quantitative performance indicators in various fields, in 2024 the University of Nova Gorica adopted revised criteria for the election of academic staff to academic titles. The criteria do of course take into account the minimum requirements of the Slovenian Quality Assurance Agency for Higher Education (NAKVIS), but they go far beyond this. They require candidates for election to an academic title to undergo a qualitative assessment of their work by an international panel of experts in the relevant field. This would provide a comprehensive and individual assessment of the contribution made by potential future university teachers. At UNG, we are convinced that this system will be more objective and fairer to the candidates and will enable the institution to select the best candidates in all criteria for the relevant titles.

The revised qualitative criteria for academic appointments go hand in hand with the principles of open science. In 2024, UNG has implemented a number of activities within the framework of open science implementation projects. We did not stop at the issue of publishing results according to FAIR principles, but we also made a strong impact in citizen science. The book of research findings on intimacy in literature, I Love Beautiful Letters, which was recognised by ARIS as a highlighted achievement at the "We support excellence" event, has its extension in the electronic collection named Letters, which has seen an increasing involvement of lay contributors. The GoChile robotic telescope, operated by UNG in Chile, is not only a tool for secondary school students and many students of our and other universities, but also an attractive research device for astrophysics enthusiasts everywhere.

As a small academic and research institution, The University of Nova Gorica is perhaps even more aware of the importance of cooperation in scientific research. We are aware that contemporary science is global and, despite, or perhaps just because of, the changed international geopolitical and economic relations, its integrative role is once more strongly emphasised after the end of the Cold War. UNG has been working to connect institutions in higher education and scientific research in Slovenia and worldwide. Cooperation in international institutions such as the European Space Agency, the European Organisation for Nuclear Research (CERN) and others has been enhanced through joint projects and agreements with local groups and institutions, for example with the Pierre Auger international collaboration, in which we renewed our cooperation in November; or with Yamanashi University in



Japan, whose representatives, following a visit in September, proposed the signing of a cooperation agreement in the field of education and research, which will be implemented in the near future.

Cooperation is not only at academic level; we are also active in nurturing and developing links with the local community. The letter of intent signed with the Municipality of Nova Gorica in 2024 lays the foundations for the University's strategic development in the field of infrastructure. The intensive discussions with the Municipality of Ajdovščina on the preparation of an ambitious "Park znanja" project are also vital from the University's strategic point of view. The objective and independent scientific expertise of our colleagues in the field of environmental protection has been demonstrated in the measurement of air pollution in Anhovo. The UNG social responsibility is also reflected in the concern for the well-being of the university's employees. Over the past year, we have offered them, and of course all students as well, a free use of local swimming pools and fitness halls, and we have established regular connections between our three locations and a system for car sharing.

Excellent work in the past has been reflected in some of the current awards. Here we should mention the national lifetime achievement award in higher education, which was awarded to Professor Tanja Urbančič, the long-standing dean of the UNG School of Management and Engineering. The quality of the knowledge and skills acquired by UNG students is evident by the achievements of our alumni. Anja Mugerli, a graduate of the School of Humanities, is the recipient of the Kresnik Prize for the best novel in 2024.

Annual reports are often taken for granted, yet one of their values is in preparing for future activities. When we look back at the work we have done, we can see the rudiments of new opportunities. Given the work done in 2024, there will be no shortage of these opportunities at the University of Nova Gorica.

Prof. Dr. Boštjan Golob Rector of the University of Nova Gorica

# **Organisational Structure**



# Staff structure

As of December 2024, the University of Nova Gorica had a total of 215 regular staff members (of which 29 were shared employees with primary employment at another institution). This included 114 doctors of science, 29 research assistants, another 40 holders of bachelor's or master's degree, 26 administrative personnel, 3 librarians, 1 maintenance officer and 2 photocopy clerks; 66 staff members were foreign nationals.

	Regularly employed	Supplementary employed
2014	147	37
2015	121	33
2016	117	29
2017	115	31
2018	113	28
2019	118	29
2020	132	26
2021	169	26
2022	149	28
2023	191	28
2024	186	29

In addition, collaborating with the university were also over 200 adjunct faculty from other Slovenian universities and from universities outside of Slovenia.

State	Nr. collaborators
ARMENIA	1
AUSTRIA	2
BULGARIA	1
BOSNIA AND HERCEGOVINA	1
CHILE	1
EGYPT	1
FRANCE	2
GREECE	1
CROATIA	4
INDIA	9
IRAN	1
ITALY	14
KAZAKHSTAN	1
COLOMBIA	1
NEPAL	1
POLAND	2
RUSSIAN FEDERATION	2
SLOVAKIA	1
SERBIA	2
SPAIN	4
TUNISIA	2
UNITED KINGDOM	1
UNITED STATES OF AMERICA	1
NORTH MACEDONIA	2
GERMANY	3
PAKISTAN	3
PALESTINE	1
UKRAINE	1
Total	66

# **Financial management**

The University of Nova Gorica obtains funds for its operation from tuition fees, educational programme and research project funding from the Slovenian Research And Innovation Agency and the Ministry of Higher Education, Science and Innovation, and from international and industrial projects and donors.

In 2024, the University of Nova Gorica acquired approximately EUR 13.527 million in funds (cash flow) for its operations from the sources listed below:

CASH FLOW	EUR 13.527 million	100.0 %
RESEARCH ACTIVITY	EUR 6.693 million	<b>49.5</b> %
Slovenian Research Agency	EUR 5.288 million	39.1 %
International projects	EUR 1.224 million	9.0 %
Domestic and foreign market sources	EUR 0.181 million	1.3 %
PEDAGOGICAL ACTIVITIES	EUR 4.746 million	36.9 %
Concessions	EUR 4.261 million	31.5 %
Tuition fees	EUR 0.332 million	2.5 %
Other	EUR 0.153 million	1.1 %
OTHER	EUR 2.088 million	15.4 %
Slovenian Research Agency	EUR 1.366 million	10.1 %
Other market sources	EUR 0.722 million	5.3 %



# Awards, Titles and Recognitions

#### **Employee awards in 2024**

Award for life work in the field of higher education **Prof. Dr. Tanja Urbančič** 

Senior IPPA Prize Prof. Dr. Mladen Franko

Pregl Award Doc. Dr. Petar Djinović

#### Student awards in 2024

Award for a completed student animation film Award of the Slovenian Animated Film Association

## Anja Resman

Award for the student animation project in progress Award of the Slovenian Animated Film Association **Brina Fekonja** 

Special Note for student film Festival of Slovenian Film Nel Jeraj Sedej

Special Note for student film Festival of Slovenian Film **Karin Likar** 

Special Note for student film Festival of Slovenian Film Anja Resman

Prize for the best PhD thesis Prize of the Slovenian Chemical Society and AquafilSLO Kristijan Lorber Awards of the University of Nova Gorica in 2024

**Doctor Honoris Causa** Želimir Žilnik

#### **Professor Emeritus**

Prof. dr. Tanja Urbančič Golden plate Borut Lavrič

#### **Alumnus Primus Student Award**

Karin Logar Erik Maksimiljan Perkavac Irma Hostnik Ranin M. D. Ismail Svetozar Bastać Megumi Tona Ivana Sulaver Magdalina Mihajlovska Filip Sluga Anastasija Kojić

#### **Alumnus Optimus Student Award**

Anže Novinec Andrea Stefanović Lucian Vumilia Ngeze Erik Maksimiljan Perkavac Klemen Levičnik Svetozar Bastać Darko Ilin Ivana Sulaver Magdalina Mihajlovska Ana Logar Milan Bajčetić

# **Important Events**



# FEBRUARY

## Meeting of the rector of the University of Nova Gorica, Prof. Dr. Boštjan Golob, with the CERN delegation

On 19 February 2024, the rector of the University of Nova Gorica, Prof. Dr. Boštjan Golob, met with the CERN delegation at the "Jožef Stefan" Institute. They are currently in Slovenia for an official visit.

The European Organisation for Nuclear Research (CERN) is celebrating its 70th anniversary this year. Also this year, Slovenia and CERN will be completing the process for full membership in this prestigious scientific and research organisation. The first step is the visit of a formal delegation from CERN, which is tasked with assessing the readiness of our country. On 19 February 2024, the delegation met at the "Jožef Stefan" Institute with the director of the institute, Prof. Dr. Boštjan Zalar, the rector of the University of Nova Gorica, Prof. Dr. Boštjan Golob, the vice-rector of the University of Ljubljana, Prof. Dr. Anton Ramšak, and the dean of the Faculty of Mathematics and Physics of the University of Ljubljana, Prof. Dr. Janez Bonča. At the Faculty of Mathematics and Physics of the University of Ljubljana, the director of CERN for research and computing environment, Prof. Dr. Joachim Mnich, held a lecture presenting the future of particle physics.

In the year of the 70th anniversary celebration, CERN and Slovenia will carry out all the

necessary procedures, meaning we can expect Slovenia's full membership in 2025. The main advantages of cooperation with CERN for scientists are the use of infrastructure and research, gaining new experience, and building a network of connections with scientists from other parts of the world. Slovenian scientists working at CERN today are mainly part of the ATLAS project (more than 40 scientists and doctoral students so far).

As the rector of the University of Nova Gorica, Prof. Dr. Boštjan Golob, said during the visit: "what full membership really means is that a member state has access to all the facilities of CERN, has access to certain positions within this European organisation, and it is especially important that companies from a member state have much better opportunities of cooperation and obtaining orders."

Researchers from Slovenia already play an important role in CERN. Full membership will only further affirm their standing. They are taking leading roles in research, as well as in the management and upgrading of the ATLAS experiment. Membership will also enable Slovenian scientists to fully participate in the management of CERN's infrastructure, and thereby ensure better and permanent access to it. They will also be on an equal footing with scientists from other permanent member states, able to compete for research positions and participate in other programmes and educational courses financed by CERN.

"The University of Nova Gorica cooperates with a small section in the experimental physics of elementary particles and the astrophysics fields. We are certain that we can strengthen cooperation in the field of research as well. Even so, there won't be any significant changes for us as researchers. We will simply continue participating in top-level research in the future, just as we have been so far", commented Prof. Dr. Golob.

As a full member state, Slovenia will also gain voting rights in the CERN Council, which is the highest decision-making body of this organisation.

This particular year, as the process for full membership begins, is important not only for Slovenia, but also for CERN, as it celebrates its 70th anniversary. They will be presenting their 70-year contribution to science, research, technology and innovation, as well as looking into the future with a number of different events. The main ceremony will take place on 1 October 2024. A special event will also be held in the summer months at the "Jožef Stefan" Institute and the Faculty of Mathematics and Physics of the University of Ljubljana.

Today, CERN has 23 full members, ten associate members, with Slovenia being one for now, and more than 17,000 people from all over the world working under its auspices, united by their dedication to science for the benefit of humanity.





# MARCH

#### Visit of the Minister of Higher Education, Science, and Innovation, Dr. Igor Papič, to the University of Nova Gorica

During today's visit to the City of Nova Gorica, theMinister of Higher Education, Science, and Innovation, Dr. Igor Papič, visited the University of Nova Gorica.

The Minister was received at the University premises in Ajdovščina by the Rector of the University of Nova Gorica, Prof. Dr. Boštjan Golob. The introductory meeting was followed by a tour of research laboratories and a meeting with researchers. During the visit, the Minister and the Rector discussed current issues in education and science, as well as the development of the University.

Prof. Dr. Golob thanked the Minister for his constructive support in the functioning of the University. Both Dr. Papič and Prof. Dr. Golob expressed their confidence in the successful cooperation and in the future development of the University and of the Slovenian higher education and scientific innovation environment.



# P MAY

#### Graduation Ceremony for Bachelor's, Master's, and Doctoral Students

On 23 May, 2024, the graduation ceremony for Bachelor's, Master's, and Doctoral students of the University of Nova Gorica was held at the Lanthieri Mansion in Vipava.

The Bachelor degrees was awarded to: - 5 students of the School of Arts - 4 students of the School of Engineering and Management - 4 students of the School for Viticulture and Enology

The Master degrees was awarded to: - 1 students of the School of Engineering and Management - 1 students of the School of Environmental Sciences - 1 students of the School of Arts

Moreover, the Rector of the University of Nova Gorica, Prof. Dr. Boštjan Golob, promoted three new doctors of science who graduated from the Graduate School at the following study programs: *Karstology, Materials and Economics and Techniques for the Conservation of the Architectural and Environmental Heritage.* 

We congratulate all the students who received their degrees and we wish them a successful fulfillment of their goals and aspirations.

2024

# MAY

## New Doctors of Science, 23 May 2024

On 23 May 2024, the University of Nova Gorica Rector, Prof. Dr. Boštjan Golob, awarded Doctor of Science degrees to the following Graduate School graduates.



Dr. Astrid Švara (left) and Rector of the University of Nova Gorica Prof. Dr. Boštjan Golob (right).



Rector of the University of Nova Gorica, Prof. Dr. Boštjan Golob (left) and Dr. Stefan Popović (right).

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Doctoral study programme Materials • Stefan Popović

PhD thesis title: Performance of copper-based catalysts for electrochemical CO2 reduction

Mentor: Assoc. Prof. Dr. Nejc Hodnik

Doctoral study programme Karstology • Astrid Švara

PhD thesis title: Morphogenesis of the Postojna Basin karst periphery Mentors: Assoc. Prof. Dr. Nadja Zupan Hajna

Doctoral study programme Economics And Techniques For The Conservation Of The Architectural And Environmental Heritage

Wendi Wang
 PhD thesis title: Strategy for rural
 heritage regeneration in China:
 Integrating community and
 government in governance. A case
 study of traditional villages in
 Luoning County
 Mentor: Prof. Dr. Saša Dobričić







# SEPTEMBER

## Visit by the representatives of the University of Yamanashi

Rector of the University of Nova Gorica, Prof. Dr. Boštjan Golob, met with the representatives of the University of Yamanashi from Japan on 5 September 2024.

The four member delegation was led by Prof. Dr. Xiaoyang Mao, vice-rector of the University of Yamanashi and its executive director. She was in the company of her colleagues, Prof. Dr. Masaru Iwasaki, vice-rector, Dr. Akihiro Iiyama, head of the Hydrogen and fuel cells nanomaterial center, and Prof. Dr. Hitomitsu Nishizaki, head of the Centre for the promotion of internationalisation.

The meeting was aimed at establishing cooperation between the University of Nova Gorica and the University of Yamanashi both within educational and research fields, and is a continuation of the conversations that the rector of the University of Nova Gorica and the rector of the University of Ljubljana, Prof. Dr. Gregor Majdič, had during their visit to Japan this year.

University of Yamanashi is among the leading universities in Japan; it comprises of four faculties: Faculty of Education, Faculty of Medicine, Faculty of Engineering, Faculty of Life and Environmental Sciences, and two postgraduate faculties. It also has a number of research institutes and educational institutions, such as the Centre for hidrogen and fuel cell nanomaterials and the Institute for enology and viticulture. The University is wellknown primarily for its top research in the field of hydrogen technologies and advanced materials. The University of Ljubljana and the University of Yamanashi have signed a general inter-institutional agreement; at the same time, there has been an ongoing cooperation within the international ects mobility, which enables the co-financing of students and staff exchanges between the two universities.

During their stay in Slovenia, the representatives of the University of Yamanashi met also with the representatives of the University of Ljubljana.

# SEPTEMBER

## Alumni meeting of the University of Nova Gorica

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On 19 September 2024, the alumni meeting of the University of Nova Gorica took place in Ajdovščina. Today the Alumni Club has more than 1.085 graduated students, 542 holders of masters degrees and 280 doctors of science.

Prof. Dr. Boštjan Golob, Rector of the University of Nova Gorica, addressed those who were present at the meeting, emphasising the various ways in which the University acts as an open university, and its excellence; as he said, » it is these with which we describe our University«.

»What does being open as a university actually mean? Openness has many faces. We may talk about being open to the students of our University. My view is that it means some kind of interaction among colleagues and among the University's alumni, in the sense of the flow of information. It is nice that you hear something about the University, and it is also nice that we hear something from you, what kind of views you have. Meetings like this one contribute to this, and we aim to continue taking care of them in the future as well«, Prof. Dr. Golob described one of the forms of the University's openness.

»We may also talk about openness towards the economic subjects in the local and wider environment«, professor Golob emphasised in his speech. »In this sense, the University of Nova Gorica is undoubtedly open. One of these faces of openness is shown in these times, as we prepare a catalogue of the equipment and knowledge of the University of Nova Gorica for those who might be interested from the external environment. In the catalogue, we aim to collect the equipment as well as all forms of knowledge which we are capable of offering to the external users«.

»Last but not least, we may also talk about geographical openness. Here we try, within the 2025 European city of culture as well, to strengthen our presence in Nova Gorica, near the border, and across the border, by strengthening our activities in this field«, Prof. Dr. Golob described one more of the forms of openness of the University of Nova Gorica.

In the second part of his speech, Prof. Dr. Golob focused on excellence. »We need to be aware that if we want to be excellent in any field, what is needed is infrastructure. The University has been trying for decades to renew its infrastructure. I have to say that, over the past year, we have made some important steps, in the sense of improving our infrastructure in the municipality of Nova Gorica, municipality of Ajdovščina and municipality of Vipava. There have been some ideas related to this issue, and talks have been going on. But these issues cannot be solved quickly, there are many obstacles which cannot be solved overnight. But I think that the strategic decision of the University to renew its infrastructure, in all the mentioned municipalities, is clearly defined«.

»Then there is the excellence of our higher education teaching. This can be seen in a variety of ways. Perhaps the most important one is that, in essence, you yourselves are a face of our excellence. That is, the alumni of our University, who represent the way in which the University was successful in the time when it was passing over knowledge to you and, of course, you now use this knowledge on your professional paths. And by being successful you, at the same time, show our University's success«.

In his speech, Prof. Dr. Golob also briefly described the long support of the Foundation of the University of Nova Gorica in the development and activities of the University of Nova Gorica: »The Foundation supports the University by providing real estates for the purpose of research as well as by offering accommodation opportunities for our students. We should also mention scholarships and financial support that the Foundation offers to our students. I am pleased to say that the number of the Foundation's donators increases nicely each year. This year, a new gold donators will be added to the existing gold donators«.

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In the end, Prof. Dr. Golob, the Rector of the University, talked about two extraordinary achievements of the University over the past two years. »The first relates to the fact that, as coordinators, we have obtained a big European project, with a total amount of financing of some ten million euros. It is a project which will use the possibilities of artificial intelligence in versatile fields of science, from humanities to astrophysics«.

»The other great success is undoubtedly that, by being a member of an international network of universities, to which eight universities from the whole of Europe also belong, we have gained the status of the so called European university. This is a new direction in the development of higher education in Europe. This international association is interesting because it brings together the universities in the border regions«.

The meeting, which hosted about one hundred former students and their mentors, was spent in an informal socialising, with an opportunity to establish contacts and revive the memories of the student years. The music at the meeting was arranged by Samo Hude Trio.







Awardees and Rector of the University of Nova Gorica Prof. Dr. Boštjan Golob.

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# OCTOBER

## Ceremonial opening of the 29th academic year

The central academy at the opening of the 29th academic year of the University of Nova Gorica was held on 17 October 2024 in the Lanthieri mansion in Vipava.

Many dignitaries honored us with their presence, including the president of the Slovenian Academy of Sciences and Arts, Acad. Peter Štih, Minister of Higher Education, Science and Innovation, Dr. Igor Papič, rectors of Slovenian universities and directors of institutes and public agencies.

Prof. Dr. Boštjan Golob, Rector of the University of Nova Gorica, addressed the audience on this occasion: "At the university this year, we have continued the coordination and implementation of the European COFUND project SMASH. We value it highly, as it strengthens cooperation between top Slovenian research institutions. We have in mind the dissemination of the acquired expertise with other stakeholders in the field of artificial intelligence, academic and non-academic. In the awareness that higher education is closely connected with scientific research activity, we are expanding cooperation with some public research institutes. We focus our efforts on the expected launch of the European university ACROSS, an international association of nine universities located in the border areas of Europe. The financing of the

2024

project starts next year: as we are used to, we are once again in the company of major universities.

It's not easy for us, but as before, we have to have everything that the big ones have. We are also strengthening our international openness by taking the first steps towards signing a cooperation agreement with one of the Japanese universities, whose representatives were visibly surprised by our research capabilities, achievements and plans during their visit. In terms of scientific research, we maintain a high number of excellent publications, the achievements of our researchers are recognized at home and abroad, including with numerous state and wider, Zois, awards. The artists of the University of Nova Gorica can also be proud of the exceptional achievements of the university's alumni.

At the end, let me just say that I wish that in a few years we will be able to remember the steps we are taking at the University today and say, this is how steel was tempered", summed up the Rector of the University of Nova Gorica.

The pedagogical activity of the University is carried out within six schools and the Academy of Arts. To date, 283 PhD students, 560 Masters students and 1091 graduates have completed their studies at the University of Nova Gorica. Research activity takes place in six centers and four laboratories, which are equipped with top-quality research equipment. We are involved in smaller and larger international projects, we cooperate with institutions with the highest reputation. Foreign students make up as much as 60% of the student population and come from 54







Prof. Dr. Gregor Anderluh, president of the Institute of Chemistry.



A Gala Opening at the Start of the New Academic Year

countries, both from Europe and from other continents.

At this year's opening of the academic year, the president of the Institute of Chemistry, Prof. Dr. Gregor Anderluh, addressed the audience, emphasizing the importance of close cooperation between universities and other scientific research institutions: "From the very beginning we have been cooperating with the University of Nova Gorica, which is one of the smaller universities, but has established itself as a high-quality, internationally recognized educational and, predominantly, research institution." Prof. Dr. Anderluh emphasized that the cooperation of top institutions leads to greater scientific excellence and, at the same time, strengthens the international reputation of all our institutions, and concluded: "May it remain so in the future."

As part of the ceremonial opening of the new academic year, honorary titles and honorary recognition of the University of Nova Gorica were awarded. The title of honorary doctor of the University of Nova Gorica – doctor honoris causa – was awarded by the Rector of the University of Nova Gorica, Prof. Dr. Boštjan Golob, to the world-famous director from the area of former Yugoslavia, Mr. Želimir Žilnik, for outstanding achievements in the field of film and for enriching the world treasury of art.

For an important contribution to system solutions and to the quality and development of education both at the University of Nova Gorica and beyond, the title of professor emeritus of the University of Nova Gorica is awarded to Prof. Dr. Tanja Urbančič, long-time professor of the University of Nova Gorica.



Honorary doctor of the University of Nova Gorica – doctor honoris causa – Mr. Želimir Žilnik.



Professor Emeritus of the University of Nova Gorica Prof. Dr. Tanja Urbančič.

Mr. Borut Lavrič, a long-time member and president of the Management Board of the University of Nova Gorica, was posthumously awarded the gold plaque of the University of Nova Gorica for his outstanding contribution to the establishment, development and prestige of the University.

We also awarded seventeen graduates. The alumnus primus award was given to graduates who graduated as the first in their generation of enrolled students, namely Karin Logar, Erik Maksimiljan Perkavac, Irma Hostnik, Ranin M.D. Ismail, Svetozar Bastać, Megumi Tona, Ivana Sulaver, Magdalina Mihajlovska, Filip Sluga and Anastasija Kojić; the alumnus optimus award goes to the graduates who achieved the highest average study grade among the graduates in each academic year, namely Anže Novinec, Andrea Stefanović, Lucian Vumilia Ngeze, Erik Maksimiljan Perkavac, Klemen Levičnik, Svetozar Bastać, Darko Ilin, Ivana Sulaver, Magdalina Mihajlovska, Ana Logar and Milan Bajčetić.



Mr. Borut Lavrič, posthumously awarded the gold plaque of the University of Nova Gorica.

# OCTOBER

#### Conferral of Commemorative Documents, Awards and Scholarships from the University of Nova Gorica Foundation

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On 23 October 2024, the conferral of commemorative documents, awards and scholarships from the University of Nova Gorica Foundation (F:UNG) took place at the Lanthieri Mansion in Vipava.

The foundation awarded two Jožko Markič awards, a scholarship from the Scholarship Fund for Student Athletes "Matija Franko", two scholarships from the Fund for Talented Students "Edvard Rusjan" and a commemorative document to a new University of Nova Gorica Foundation Golden Donor.

Both the new donors, as well as recipients of the scholarships and awards from the University of Nova Gorica Foundation, confirm that FUNG is operating successfully and has been gaining momentum in recent years.

"So far this year, F:UNG has collected so many donations that we can confidently predict a business result for 2024, with which we will be able to increase F:UNG's financial assets by more than 18%, once the scholarships are paid out. A significant share of donations is from individuals, mainly those employed at the University of Nova Gorica, who collectively raised as much as 70% of this year's funds. We are also very pleased that our donors include companies such as Zavarovalnica Sava d. d., A-media d. o. o., Rodeo Trade d. o. o. and Prospot d. o. o., which in recent years have been regularly donating and increasing the share of donations from legal entities.

Success in collecting donations is, of course, a big commitment and also a great incentive for the F:UNG Board, which is always setting high goals for itself. In 2024, we also carried out a reorganisation of the F:UNG funds structure. Consequently, with the creation of the new



Prof. Dr. Mladen Franko, President of the Management Board of the University of Nova Gorica Foundation.

2024



Awardees, Management of the University of Nova Gorica Foundation and Honorary Rector of the University of Nova Gorica.

Fund for Development and Innovation in Education, the F:UNG Board adopted a decision on the transformation and merger of the funds from the Fund for the Development of Study Programmes and the Fund for Research Activities into a new unified fund, namely the Fund for Scientific Research and Arts. This fund will already start awarding financial aid to young scientists, as well as artists, in the current academic year. This aid will include assistance for participation in important international conferences, and artistic residencies and festivals, and in the coming years, financial assistance for postdoctoral training abroad and for smaller research and artistic projects. In addition to today's new scholarship recipients, we also plan to award an additional six scholarships in 2025", said the president of the University of Nova Gorica Foundation, Prof. Dr. Mladen Franko.

The opening address by the president of the F:UNG Board was followed by the conferral of commemorative documents to scholarship and award recipients.

Awarded for the fifth year in a row now, the Jožko Markič Awards for the 2023/2024 academic year were handed out to School of Arts students, Tamara Taskova and Ana Evtić.

The award, which is sponsored by the company A-media d. o. o. in memory of its co-founder, Jožko Markič, really means a lot to Tamara Taskova; "I am grateful to all my mentors and professors who have supported me in my studies so far, the mentors who nominated me for this award and the committee that chose me. I like studying at the School of Arts, so I decided to continue my master's studies here for my second cycle as well", Tamara said upon receiving the award.

"I would like to thank the professors who provided me with invaluable support throughout the entire process, and guided me from the initial stages of creating ideas to their full realisation. Their support and understanding was crucial, both when I knew how to do something and when I had no idea. Our collective hard work has truly paid off. I plan to invest the awarded money into my upcoming master's thesis," said Ana Evtić.

Emilija Vučićević, a student at the School of Humanities, and Sanja Dumenčić, a student at the School of Science at the University of Nova Gorica, received scholarships from the Fund for Talented Students "Edvard Rusjan".

On receiving the scholarship, Emilija Vučićević said; »In the past year, I had many opportunities for advancement and learning at the University of Nova Gorica - such as student excursions, summer schools, various projects with the ECC and scientific conferences. In this sense, the Foundation's scholarship came as a culmination of all these activities and various forms of support for students at our university. The scholarship will make my everyday life in Slovenia easier, and will help me devote myself even more to my studies. I would like to take this opportunity to thank the University of Nova Gorica Foundation for recognising and valuing my work, as well as the professors at the School of Humanities who helped me realise my ideas."

"I thank the University of Nova Gorica Foundation for awarding me this scholarship. Your trust means a lot to me, so I will do my best to uphold it. I have been participating in national competitions in science subjects since elementary school, and have achieved fairly good results. Being awarded this scholarship is proof that my efforts were not in vain. This scholarship will improve the conditions for my future studies", Sanja Dumenčić said upon receiving the scholarship.



Podelitev spominskih listin, nagrad in štipendij Fundacije Univerze v Novi Gorici.



Student Tamara Taskova (left) and Prof. Boštjan Potokar (right).



Student Ana Evtić (left) and Prof. Boštjan Potokar (right).



Student Emilija Vučićević (right) and Prof. Dr. Katja Mihurko (left).

They also awarded a scholarship from the Scholarship Fund for Student Athletes "Matija Franko", which went to a student from the School of Environmental Sciences, Nicolas Gojković, a cyclist and member of the Adria Mobil team from Novo mesto.

"It is a great honour for me to receive a scholarship from the Scholarship Fund for Student Athletes "Matija Franko". I would like to take this opportunity to thank the University of Nova Gorica Foundation. This scholarship is truly important to me and will help me balance my student life and sports career. I chose the School of Environmental Sciences at the University of Nova Gorica because it allows me



Student Sanja Dumenčić (right) and Prof. Dr. Katja Mihurko (left).

to learn about biology and ecology – two fields I really like, while at the same time allowing me to also follow my dream of one day becoming a professional cyclist", said Nicolas Gojković upon receiving the commemorative document.

Next up at the event, a commemorative certificate was also awarded to the now fifth Golden Donor of the University of Nova Gorica Foundation. The title of Golden Donor was awarded to Prof. Dr. Franc Marušič, who has been a FUNG donor since 2008. With several donations up until 2015, he gained the status of a Silver Donor among FUNG members, and simultaneously established the Fund for the Development of Cognitive Sciences, which is intended to

support the development of cognitive sciences, i.e. linguistics, psychology and related sciences in Nova Gorica. With his last donation, in June 2024. Prof. Dr. Franc Marušič acquired the status of Golden Donor among FUNG members. "In the past 15 years, I have done quite a bit of extra work, for which I have always received payment, even if it fell within the scope of my regular assignments. Since I did all this work during office hours on the premises of the university on a work computer, I was of the opinion that I should not receive additional payment for this work. I always suggested that the payers should transfer the funds directly to the account of the University of Nova Gorica, but the copyright contracts could not be avoided. Therefore, I "returned" the money to the university by means of "donating" it to the University of Nova Gorica Foundation. I would expect that more employees at the University of Nova Gorica would act in this way, but it seems that this is not (yet) the norm", the new Gold Donor told us after receiving the commemorative document and gift.

As Prof. Dr. Franko said in conclusion, "F:UNG's activity encompasses much more than just awarding scholarships, prizes and financial aid, and it is not only measured in collected donations. We wouldn't be able to do all of this if there weren't individuals among us who selflessly sacrifice their free time so that F:UNG can function and fulfil its mission."



Student Nicolas Gojković (right) and Mr. Jurij Franko (left).



Conferral of Commemorative Documents, Awards and Scholarships from the University of Nova Gorica Foundation.



New graduates, masters, and doctors of science, 27 November.



New graduates, masters, and doctors of science, 28 November.

# DECEMBER

#### Graduation Ceremony for Bachelor's, Master's, and Doctoral Students

On 27 and 28 November, 2024, the graduation ceremony for Bachelor's, Master's, and Doctoral students of the University of Nova Gorica was held at the Lanthieri Mansion in Vipava.

- The Bachelor degrees was awarded to: - 4 students of the School of Environmental Sciences
- 7 students of the School of Engineering and Management
- 7 students of the School for Viticulture and Enology
- 4 students of the School of Science
- 4 students of the School of Humanities
- 7 students of the School of Arts

The Master degrees was awarded to: - 2 students of the School of Environmental Sciences

- 4 students of the School of Engineering and Management
- 2 students of the School of Science
- 1 student of the School of Humanities
- 4 students of the School of Arts

Moreover, the Rector of the University of Nova Gorica, Prof. Dr. Boštjan Golob, promoted six new doctors of science who graduated from the Graduate School at the following study programs: Materials, Physics and Molecular Genetics and Biotechnology.

We congratulate all the students who received their degrees and we wish them a successful fulfillment of their goals and aspirations.

# 2024

# • DECEMBER

## Promocija doktoric in doktorjev znanosti, 27. in 28. november 2024

Rektor Univerze v Novi Gorici prof. dr. Boštjan Golob je 27. in 28. novembra 2024 promoviral doktorico in doktorje znanosti Fakultete za podiplomski študij.

27. november 2024

Doktorski študijski program Materiali

- Vaibhav Budhiraja je postal doktor znanosti z disertacijo "Razgradnja mikroplastike v okolju" (mentor: prid. prof. dr. Andrej Kržan)

 Aljaž Škrjanc je postal doktor znanosti z disertacijo "Zelena sinteza zeolitnih imidazolatnih ogrodij in njihovo ovrednotenje za zajem CO2 v vlažnih pogojih" (mentorica: prof. dr. Nataša Zabukovec Logar)

#### 28. november 2024

Doktorski študijski program FIZIKA

 - Veronika Vodeb je postala doktorica znanosti z disertacijo "Detektiranje izvorov žarkov gama in signala temne snovi s pregledi neba s Poljem Teleskopov Čerenkova (mentorica: prof. dr. Gabrijela Zaharijas)

Doktorski študijski program Molekularna Genetika In Biotehnologija

- Gbenga Folorunsho Oginni je postal doktor znanosti z disertacijo "Kvantitativno določanje cianobakterije Microcystis aeruginosa v vodi z uporabo eno-domenskih protiteles (VHH (mentorja: prof. dr. Ario de Marco in prof. dr. Marko Dolinar)



Rector of the University of Nova Gorica, Prof. Dr. Boštjan Golob (left) and Dr. Aljaž Škrjanc (right)



Rector of the University of Nova Gorica, Prof. Dr. Boštjan Golob (left) and Dr. Gbenga Folorunsho Oginni (right).

# Organizing of Conferences, Syposia, Summer Schools and Workshops





## A series of workshops on regenerative practices in viticulture and successful wine tourism experiences within the framework of the Interreg project ENOSATIRA

February, April and May 2024, Vipava, Slovenia

On February 28th & 29th, April 22nd and May  $15^{th}\,\&\,16^{th}$ 2024, the activities aimed at transferring knowledge to producers were held at the Lanthieri Mansion in Vipava, within the framework of the Interreg project ENOSATIRA »Sustainable Wine Tourism: Cultural Landscape, Wine and Satire«. Theoretical and practical training of winegrowers and winemakers on regenerative practices in viticulture and optimization of grapevine pruning took place. The training was organized by the Wine Research Centre and School for Viticulture and Enology and was led by the companies Simonit&Sirch and ViteNova. A workshop entitled "Successful wine tourism experiences" was also held on May 15<sup>th</sup> and 16<sup>th</sup> 2024, and was dedicated to presenting potential new approaches to wine promotion.

## International conference Transformations of Intimacy in Central and Eastern European Literatures (1890-1920)

27 March – 28 March 2024, Prague, Czech Republic

On 27 and 28 March, the National Library of the Czech Republic hosted an international conference entitled "Transformations of Intimacy in Central and Eastern European Literatures (1890-1920)". In addition to the library, the conference was also organised by the Faculty of Philosophy of Charles University and the Research Centre for Humanities of the University of Nova Gorica as part of the project Transformations of Intimacy in the Literary Discourse of Slovenian "Modernity" (TILDA). The speakers discussed topics related to intimacy in Slovenian, Czech, Croatian, Serbian, Polish, Austrian and Russian literature.







#### Conference Preserving the Aromatic Freshness and Fruitiness of White Wines in Central Europe and the Balkans

16 April 2024, Vipava, Slovenia

On April 16<sup>th</sup> 2024, the Wine Research Centre co-organised together with Laffort company a workshop "Preserving the Aromatic Freshness and Fruitiness of White Wines in Central Europe and the Balkans". This conference was also the closing event of the ARIS project L4-1842 titled "The influence of heavy metals on the aging of white wines". It aimed to present the main outputs of the project, and a technical state of this subject on the topic of white wine aromatic freshness preservation. The event hosted in hybrid way about 70 attendees from different countries from Eastern and Central Europe, including winemakers, advisers, researchers and students from the field of oenology. The head of R&D department of Laffort was also present at this event in Vipava.

## Workshop Where is the authenticity of the indigenous Zelen variety hidden?

19 May 2024, Vipava, Slovenia

As part of the Okusi Vipavske Wine Festival in the premises of the University of Nova Gorica in Lanthieri's mansion in Vipava, on May 19<sup>th</sup> 2024 a workshop entitled Where is the authenticity of the indigenous 'Zelen' variety hidden? was organised. The workshop was attended by visitors of Wine Festival. Dr. Mitja Martelanc (Wine Research Centre, UNG) presented the results of scientific research on the topic of chemical characterization of the indigenous 'Zelen' variety, with the emphasis on the presentation of chemical markers unique to Zelen wines. An identical workshop was organized also at the Zelen 2024 Wine Festival in Vipavski Križ on June 8<sup>th</sup> 2024, where the participants were the Knights of Wine of the European Order - Legation for Primorska.

## The Summer School in the frame of AGROTUR+ Interreg Project

27 May 2024, Ljubljana, Slovenia

The Summer School began on May 27<sup>th</sup> 2024 at the Agricultural Institute of Slovenia, where FVV (School for Viticulture and Enology) students were introduced to advanced analytical methods and the sensory evaluation of wine. On July 30<sup>th</sup> 2024, at UNG (Vipava), a seminar on good water management practices in vineyards was held, followed by a field workshop in Šmarje on precision viticulture, organized in collaboration with the Irrigavit project. The final event, on August 5<sup>th</sup> 2024, included a field workshop on disease and pest control and vineyard water management (Tomaj), a seminar on wine and health (Sežana), and the culinary event "Prosciutto and Wine" (Štanjel). Over 120 producers, agricultural advisors, experts, journalists, and students participated.



#### Hypercompositional Algebra – New Developments and Applications (HAnDA24) 3 June – 7 June 2024

The fourth edition of the Symposium on Hypercompositional Algebra – New Developments and Applications (HAnDA24) was held from June 3 to 7 in a hybrid format. The event was organized by the Centre for Information Technologies and Applied Mathematics in collaboration with the National and Kapodistrian University of Athens, Greece.

It brought together PhD students and researchers from 14 countries: Slovenia, Greece, Romania, Poland, Czech Republic, Montenegro, Italy, Kuwait, Iran, Turkey, United States, Indonesia, United Arab emirates, Thailand. HAnDA serves as a platform for advancing the dissemination of research findings on Algebraic Hypercompositional Structures and their diverse applications.

# Beyond Agreement Closing Workshop



## Linguistic workshop Beyond agreement: How speakers assign syntactic features in real time 20 June – 21 June 2024, Geneva, Switzerland

In collaboration with the University of Geneva, the University of Nova Gorica's Centre for Cognitive Science of Language hosted a two-day linguistics workshop entitled "Beyond agreement: How speakers assign syntactic features in real time" on June 20–21, 2024. The workshop, which included 14 lectures (two by members of the Centre for Cognitive Science of Language), constituted the closing event of the eponymous joint project carried out by the two institutions and funded by the Slovenian Research and Innovation Agency and the Swiss Science Foundation.







#### Interdisciplinary Summer School in Humanities, Sexual Desire Unbound: Literature, Landscapes and Digital Dialogues

26 August – 3 September 2024, Nova Gorica, Ljubljana, Slovenia

The 2nd Interdisciplinary Summer School in Humanities, Sexual Desire Unbound: Literature, Landscapes and Digital Dialogues, was attended by the participants from 7 countries—Slovenia, Croatia, Poland, Slovakia, North Macedonia, Serbia, and Czechia. The summer school took us across 4 cities: Ljubljana, Nova Gorica, and Celje in Slovenia, as well as Gorizia in Italy, offering a rich, hands-on learning experience. The innovative methods explored—including the integration of digital tools, the potential of literary tourism, and field learning through thematic excursions—sparked creative and groundbreaking ideas.

#### Linguistic conference SinFonIJA 17

26 September – 28 September 2024, Nova Gorica, Slovenia

Between September 26 and 28, 2024, the University of Nova Gorica's Centre for Cognitive Science of Language hosted the 17<sup>th</sup> edition of the SinFonIJA linguistics conference. The conference, which travels around the former Yugoslavia and the Austrian Empire, brings together formal linguists engaged in theoretical or experimental research at any level of linguistic analysis, from morphology, to syntax, semantics, pragmatics, etc. After its first edition at the University of Nova Gorica in 2008, SinFonIJA also made (multiple) stops in Brno, Udine, Novi Sad, Budapest, Krakow, Dubrovnik, Ljubljana, Graz, Niš, Sarajevo and Vienna. The conference was attended by nearly 60 researchers from Asia, North America and Europe, and it featured 24 lectures and 8 posters.

#### **The Avant-Garde and the End of the World** 10 October – 12 October 2024, Nova Gorica, Slovenia

The Avant-Garde and the End of the World conference took place in October 2024 in Nova Gorica and it was organized by Research Centre for Humanities and Faculty of Humanities from UNG in collaboration with many other local organizations. The event marked the 100th anniversary of Černigoj>s The First Constructivist Exhibition. The central theme was exploring ways to (co-)create radical visions of the world, with the aim of connecting art, literature, and activism in addressing contemporary challenges and reflecting on the role of artistic and activistactions in shaping the future. Esteemed local and international researchers, including Peter Krečič, Lev Kreft, Tania Ørum, and Sanja Bojanić, among others, presented their contributions during the conference.

# Overview of the most prominent achievements and articles

Overview of the most prominent achievements of colleagues from the University of Nova Gorica.

Number	Description	Reference	Organizational Unit
1.	The »Excellence in science« award	The award has been granted to the scientific monograph Ljubim lepa pisma (I love beautiful letters), correspondence of female authors in Slovenian modern literature (Katja Mihurko, Primož Mlačnik, Ivana Zajc, Darko Ilin, Anna Bodrova).	Research Centre for Humanities
2.	Exhibition at the People's Library in Prague	The exhibition "Slovenian modern literature in the Czech environment" at the People's Library of the Czech Republic in Prague, within the Slovenian-Czech foundational project "Transformations of intimacy in the literary discourse of the Slovenian modern literature".	Research Centre for Humanities
3.	Prof. Dr. Saša Dobričić has been elected president of UNISCAPE	Election for the president of the European network of universities devoted to the studies of landscapes and education according to the principles of the European landscape convention - UNISCAPE.	Graduate School
4.	Participation at the world's most important art and technology festival Ars Electronica 2024 with the title "HOPE - who will turn the tide", Linz, Austria	The University's School of Art has been invited to participate, the fourth year now, at the greatest festival of contemporary art and new media. We were selected among 42 universities from all over the world. In the Campus Exhibition section, we have participated in five unites with the works of ten students.	School of Arts
5.	Textbook publication	Irina Cristea, Hashem Bordbar, Alessandro Linzi: Matematika za gospodarski inženiring (Mathematics for economy engineering).	Centre for Information Technologies and Applied Mathematics
6.	Financial support gained at the Erasmus+ for the ACROSS European universities	The University of Nova Gorica, together with eight partner institutions in the ACROSS association, has received funds from the European Commission, for the next four years, to transform its educational offers and scientific-research work in accordance with the European strategy for universities and the new European innovation agenda.	University of Nova Gorica
7.	Organisation of the conference "Preserving the Aromatic Freshness and Fruitiness of White Wines in Central Europe and the Balkans"	In cooperation with the Laffort company, the conference hosted, in a hybrid mode, participants from the Eastern and Central European countries; the participants included wine makers, advisors, researchers and students in the field of Enology studies.	Wine Research Centre
8.	International award for prof. dr. Mladen Franko	The International Photoacoustic and Photothermic Association (IPPA) has granted the 2024 Senior IPPA Prize to professor Mladen Franko, full professor in the field of chemistry at the Laboratory for Environmental and Life Sciences of the University of Nova Gorica.	Laboratory for Environmental and Life Sciences
9.	Research summary of dr. Kristina Gojek's doctoral work in The Guardian	The Guardian, a newspaper in the United Kingdom, has written about dr. Kristina Gojek's research on air pollution in rural areas.	Center for Atmospheric Research
10.	The Vesna Awards for the students of the Academy of Art at the Festival of Slovenian Film, FSF 2024, in Portorož	At this year's festival, the Academy of Art has been represented with a record number of films: eight films in the competition programme, and six films in the review programme. Out of the six Vesna awards, three have been given to our students: Karin Likar - (Un)happy day, animated film; Anja Resman - Beyond the face, animated film; Nel Jeraj Sedej - Window, experimental film.	School of Arts

Overview of the most prominent articles of colleagues from the University of Nova Gorica.

Number	Description	Reference	Title	Number of authors	IF	Organizational Unit
1.	K. Ranjeesh, T. Škorjanc et al.	Advanced energy materials 14, 2303068 (2024)	An in situ proton filter covalent organic framework catalyst for highly efficient aqueous electrochemical ammonia production	10	24.4	Materials Research Laboratory
2.	R. Villareal, T. Saha, G. Deninno et al.,	ACS nano 18, 17815-17825 (2024)	Achieving High Substitutional Incorporation in Mn- Doped Graphene	23	15.8	Laboratory of Quantum Optics
3.	C. Feng A. Mavrič, M. Valant et al.	Nature communications 15, 6436 (2024)	Understanding the in-situ transformation of CuxO interlayers to increase the water splitting efficiency in NiO/n-Si photoanodes	8	14.7	Materials Research Laboratory
4.	L. Foglia, G. Deninno et al.,	Nature Communications 15, 10742 (2024)	Nanoscal polarization treansient grating	29	14.7	Laboratory of Quantum Optics
5.	H. Xiao, A. Mavrič et al.	Advanced science 11, 2401973 (2024)	Tunable emissive CsPbBr3/Cs4PbBr6 quantum dots engineered by discrete phase transformation for enhanced photogating in field-effect phototransistors.	12	14.3	Materials Research Laboratory
6.	M. Savadkoohi,G. Močnik et al	Environment international 185, 108553 (2024)	Recommendations for reporting equivalent black carbon (eBC) mass concentrations based on long-term pan-European in-situ observations.	39	13.4	Center for Atmospheric Research
7.	K. Gojek,K. Džepina, A. Podkoritnik, G. Močnik et al.	Environment international 189, 108787 (2024)	Annual variation of source contributions to PM10 and oxidative potential in a mountainous area with traffic, biomass burning, cement-plant and biogenic influences.	12	13.4	Center for Atmospheric Research
8.	H.T. Vu, N. Zabukovec Logar, N. Novak Tušar et al.	Chemical engineering journal 495, 153456 (2024)	Innovative microkinetic modelling-supported structure- activity analysis of Ni/ZSM-5 during vapor-phase hydrogenation of levulinic acid.	9	13,3	School of Science
9.	A. Škrjanc,…N. Zabukovec Logar et al.	Small 20, 2305258 (2024)	Carbonyl-Supported Coordination in Imidazolates: A Platform for Designing Porous Nickel-Based ZIFs as Heterogeneous Catalysts	7	13.0	School of Science
10.	M. Yang,N. Pastukhova, M. Valant, A. Mavrič et al.	Small 20, 2311644 (2024)	Designing atomic interface in Sb2S3/CdS	11	13.0	Materials Research Laboratory and Laboratory of Organic Matter Physics



# Research Activity

In 2024, the research work at the University of Nova Gorica was organized at four research laboratories and six research centers: Laboratory for Environmental and Life Sciences, Laboratory of Organic Matter Physics, Materials Research Laboratory, Laboratory of Quantum Optics, Center for Astrophysics and Cosmology, Center for Atmospheric Research, Center for Information Technologies and Applied Mathematics, Research Centre for Humanities, Wine Research Centre, Centre for Cognitive Science of Language.



# Laboratory of Organic Matter Physics

Head: Prof. Dr. Egon Pavlica

In 2024, our research activities focused on three main areas: charge transport in two-dimensional (2D) materials and their heterostructures, charge transport in photovoltaic materials, and surface modifications through plasma treatment. Within the 2D materials domain, we concentrated on integrating organic semiconductors into field-effect transistors, making significant progress in this area. Additionally, we established an automated experimental setup to characterize charge transport in photovoltaic devices, enabling measurements of photoCELIV photocurrent and transient photovoltage. This setup was utilized to investigate a range of organic and perovskite solar cells, which were prepared in collaboration with Prof. Gregor Trimmel and Thomas Rath from the Technical University of Graz, Austria.



Figure 1: XPS survey of COC samples treated with UV-ozone and oxygen plasma for different exposure times.

We conducted an investigation for OR-EL d.o.o., a high-tech biosensing company, to explore two physical treatments - oxygen plasma and UV-ozone - for functionalizing cyclo-olefin copolymer (COC) films with GPTES. The goal was to improve bio-probe adhesion for optical biosensing applications. XPS analysis (Figure 1) showed that oxygen plasma treatment produces a higher density of reactive radicals, leading to better GPTES bonding. Surface characterization indicated that oxygen plasma-treated films have enhanced hydrophilicity, roughness, and bioprobe binding compared to those treated with UV-ozone. Fluorescence assays further confirmed that oxygen plasma treatment delivers stronger signal intensity and more consistent results, making it the superior choice for biosensor development. The results were published in B. Ressel et al in Surfaces and Interfaces 2024.

In the field of two-dimensional materials and Van der Waals heterostructures, we focused on investigating the epitaxial growth mechanisms of organic semiconductors (OS), on various substrates such as gold, graphene, hexagonal boron-nitride (hBN) flakes, and silicon oxides. Our primary goal was to optimize the growth parameters to achieve thin layers with uniform crystalline structure between electrodes. The insights gained were applied in the fabrication of heterostructures based on graphene, hBN, and small molecule OS - 2,7-Dioctyl[1] benzothieno[3,2-b][1]benzothiophene (C8-BTBT). These heterostructures formed an organic field-effect transistor (OFETs), where graphene flakes act as source and drain electrodes for the OS, and h-BN serves as both an insulator and a template for molecular growth. A key feature of our OFETs is the ability to control the Fermi



Figure 2: (a) Optical microscopy of OFET of sub monolayer coverage of organic semiconductor (C8-BTBT). (b) Transconductivity (black) of OFET measured at drain-source voltage of -15V. Gate leakage current (red) through few-nanometers thick hBN dielectric was stable and significantly smaller than current (IDS) through active layer.

levels of the graphene electrodes, which aids in efficient charge-carrier injection at the electrode/ OS interface, thereby reducing contact resistance. Figure 2 represents a typical OFET based on 2D materials and C8-BTBT. Our research contributed to PdSe/WSe FETs published in G. Murastov et al in Nanomaterials 2024.

In the field of photovoltaics, we have experimentally studied charge transport in several different organic solar cells, including the bulk heterojunction organic solar cell (BHJ OSC) based on PM6:Y6. PM6 is donor–acceptor (D-A) copolymer composed of the benzo-dithiophene derivative and benzo-dithiophene-dione derivative units. The Y6 acceptor molecule is composed of a fused thienothienopyrrolothienothienoindole core base and fluorinated malononitrile derivative. The device structure was ITO/PEDOT:PSS/PM6:Y6/PNDIT-F3N-Br/ Ag (Fig. 3a). PEDOT:PSS functioned as the hole transport layer (HTL), while PNDIT-F3N-Br served as the electron transport layer (ETL). The current density-voltage (j-V) characteristics of the fabricated device were measured under simulated sunlight of 100 mW/cm<sup>2</sup>, AM 1.5G, in nitrogen atmosphere. The as-prepared solar cells exhibited a power conversion efficiency (PCE) of 12% and a fill factor (FF) of approximately 0.70. The open-circuit voltage (VOC) and short-circuit current density (jSC) were 0.813 V and -21.6 mA/ cm<sup>2</sup>, respectively. Charge carrier mobility in solar cells was measured using photo-CELIV method. A typical photo-CELIV measurement is presented in Fig. 3b. The photocurrent transient exhibits an initial current peak that gradually decreases over time. The time of the peak maximum is used to estimate charge carrier mobility in bulk heterostructures of photovoltaic material. Further studies will focus on understanding the recombination and trapping processes in order to improve PCE and structural stability of OS-based photovoltaics.



Figure 3: (a) j-V characteristics of PM6:Y6 organic solar cell under 1 sun illumination. Inset represents a scheme of device layers. (b) A typical set of PhotoCELIV measurements with varying bias rate from 30 kV/s (bottom) to 126 kV/s (top).

# Materials Research Laboratory

## Head: Prof. Dr. Matjaž Valant

Material Research Laboratory was established in 2009 and has evolved into a sizeable research unit with state-of-the-art equipment and diverse expertise of the team members ranging from synthetic and crystal chemistry, functional materials, surface science, theoretical and computational chemistry, etc. We have not only maintained the initial research focus on environmental and electronic materials but also developed it towards new exciting and advanced material systems and processes that include topological insulators, energy conversion and storage, nanostructured photo-catalysts, materials for electrochemical devices, and materials in extreme environments. The joint efforts of the team members again resulted in some exciting discoveries and developments.



Figure 1: Thermographic image of the irradiation of a photo-thermally active monolithic sorbent with activated carbon after different durations of exposure to a narrowband laser.

In 2024 we synthesized photo-thermally active monolithic CO<sub>2</sub> sorbents using silica monoliths and pumpkin-derived activated carbon, optimized their CO<sub>2</sub> adsorption and desorption with narrowband energy sources, and explored alternatives such as metal polymer frameworks and iron oxide. We developed methods for the uniform dispersion of these materials within the silica matrix. From this work, we secured two ARIS projects: "Photo-Thermal CO<sub>2</sub> Desorption Based on Targeting Absorption Peaks of Monolithic Sorbents" and "Optimizing Photo-Thermally Induced CO<sub>2</sub> Desorption from Monolithic Sorbents Using Narrowband Light Sources." Additionally, we joined the European project GENIUS under the ERA-MIN scheme, focusing on the recycling of magnetic materials and the impact of cooling methods on their magnetic properties.

The succesfull research work in the field of electrochemical devices for energy storage is continued. We use metal hydroxides to develop supercapacitors based on the pseudocapacitive behavior of  $Co(OH)_2$  and  $Ni(OH)_2$ . Hydroxides are optimized by exploring the relationship between the structure and accessibility of redoxactive sites. We used in-situ x-ray absorption spectroscopy to investigate the average valance of metal cations upon charging. Materials with lower skeletal density and poorer crystallinity show better charging-discharging behavior, increased capacitance, and power density. In the field of photoelectrochemistry, we have focused our work on studying the stability of pn heterojunction interfaces. We showed the importance of mitigating ion diffusion and maintaining stable interfaces to enhance the efficiency and durability of solar energy devices. An ultrathin  $Al_2O_3$  interlayer effectively suppresses  $Cd^{2+}$  diffusion at the  $Sb_2S_3/CdS$ interface, significantly enhancing stability and photoelectrode performance (*Small,* 2024, 2311644). As well, for silicon-based photoelectrodes we found that optimizing an ultrathin CuO interlayer at the Si/NiO np interface improves hole extraction and stabilizes the interface (*Nature Communications, 2024, 15, 6436*).

Last year, we conducted a study on the conversion of biomass into valueadded products, promoting efficient resource utilization. We employed a photoelectrochemical process (PEC) for the selective conversion of glycerol to dihydroxyacetone, achieving high efficiency and selectivity using Sn-doped Fe<sub>2</sub>O<sub>3</sub> thin films with intrinsic oxygen vacancies. Additionally, we were the first to perform the PEC oxidation of vanillyl alcohol to vanillin under visible light. Furthermore, we developed and solved a



Figure 2: TEM image of  $Sb_2S_3/CdS$  photoelectrode cross-section analyzed at MRL/ UNG.

kinetic model to determine the time-dependent generation of the products.

In collaboration with the University of Ljubljana, we investigated the photocatalytic reduction of CO<sub>2</sub> in the liquid phase at neutral pH using catalysts based on Mn-modified cubic CeO<sub>2</sub> and amorphous  $ZrO_2$  with a high surface area. The Mn-modified  $ZrO_2$  photocatalyst exhibited the highest activity and selectivity for the photoreduction of CO<sub>2</sub> to methane and CO among the studied catalysts.

One of our members spent a year at Kyoto University (Japan), where she worked on materials for gas-anticancer drug combination therapies. The prepared porous polymer was able to chemically bind nitric oxide and release it upon light stimulation while the sequestered anticancer drug Doxorubicin was preferentially released from the material at mildly acidic pH characteristic of tumor tissues.

A new bilateral project funded by ARIS and CEA (French Alternative Energies and Atomic Energy Commission) begun in 2024. The tackled problem is the degradation of optical properties of Ultra-Low-Loss optical fibers when they are subject to high energy irradiation (X-rays,  $\gamma$ -rays, fast electrons, neutrons). The aim of the project is the understanding of the mechanism behind the irradiation-induced degradation, investigating the various kinds of defects in SiO<sub>2</sub>, their density and their evolution under irradiation. In our labs, we characterize the defects locally by means of cathodoluminescence spectro-microscopy.

Development in the various application areas of Mg surfaces under oxidative conditions requires precise modelling of the chemical phenomena that take place in the early phase of oxidation. In this context in collaboration with Division of Mechanics, Materials and Component Design (Lund University) and Quantum Device Physics Laboratory (Chalmers University of Technology) we have performed a combined ab initio and high-resolution X-ray photoelectron spectroscopy study.



Figure 3: Experimental and theoretical study of Mg(0001) exposed to 2 Langmuir (L) of  $O_2$ . The upper panel shows Mg 2p XPS spectra with fitted components (B: bulk, S: surface,  $R_1-R_4$ : oxide-related peaks), while the lower panel illustrates the adsorption of O atoms at surface sites, highlighting the transition from metallic Mg to early oxide structures (*Xing, Z., Fanetti, M., Gardonio, S., Schröder, E., & Orlov, D.* (2024). Initial oxidation of low index Mg surfaces investigated by SCLS and DFT. Applied Surface Science, 671, 160656. https://doi.org/10.1016/j. apsusc.2024.160656).

Using cathodoluminescence spectroscopy we study plasmonics in nanoparticles. We observed localized cathodoluminescence emission in the range 400-450 nm along the edges of Bi<sub>2</sub>Se<sub>3</sub> nanoplatelets, independent of their size. The emission is attributed to wedge Dyakonov plasmons, stemming from the hyperbolic optical nature of Bi<sub>2</sub>Se<sub>3</sub>. This finding advances the understanding of plasmonic excitations in topological insulators, with potential applications in nanophotonics.

Last year, we studied the kinetics of ammonia adsorption and capacitive biosensors (Nalbandyan Institute for Chemical Physics, Yerevan, Armenia), the kinetics of mRNA polyadenylation (Biaseparations, Slovenia, Dr. Rok Sekirnik), and the photoelectrochemical oxidation of alcohols from biomass using an *in-situ* doped SnFe<sub>2</sub>O<sub>3</sub> thin film. We collaborated with various international partners, which contributed to the development of advanced analytical models and a better understanding of chemical and biological processes modeling protein folding in water and the impact of structural disorder in DNA on their conformations (Portland State University, USA, Prof. Benight; Yerevan State University, Armenia, Prof. Mamasakhlisov; University of Chinese Academy of Sciences, China, Prof. Podgornik; Institute for Chemical Physics, NAS, Armenia, Dr. Asatryan).

We have received new certifications for the use of Intermediate openLCA and SocialLCA at GreenDelta GmbH. Additionally, we have established a collaboration with the Living Laboratory at the University of Dundee, UK, to explore innovative approaches to ecological, social, and economic sustainability. This collaboration began with our first publication, where we present the concept of the economic pluriverse as a new framework for sustainable development.

We continued studies of the conversion of chlorine into hydrochloric acid for the needs of materially-closed cycles for long-term energy storage based on the iron-chloride material cycle. By dissolving chlorine in water gives also hypochlorous acid. We tested several different catalyst in order to find the best catalytic activity and selectivity towards decomposing hypochlorous acid to oxygen and hydrochloric acid. In this way, a pure solution of hydrochloric acid can be obtained.

In addition to all our reported activities, we continue the long-standing successful collaboration with Seven Refractories d.o.o. from Divača, conducting quality analysis of bitumen samples, reaching the total number of 230.



Figure 4: SEM image and panchromatic cathodoluminescence map of a Bi<sub>2</sub>Se<sub>3</sub> nanoplatelet, along with the corresponding cathodoluminescence spectra collected from the marked positions.

# Laboratory for Environmental and Life Sciences

Head: Doc. Dr. Iain Robert White

The Laboratory for Environmental and Life Sciences (LELS) provides the grounds for intensive research collaboration among analytical chemists, environmental chemists, technologists, biochemists, molecular biologists, toxicologists and material scientists. LELS focuses on developing novel and unique ultrasensitive laser-based analytical techniques, the study of the fate and transformations of pollutants in atmosphere, terrestrial and aquatic environments, characterization of novel materials, biomedical diagnostic tools, as well as identification of recombinant antibodies specific for tumour biomarkers. The laboratory has extensive collaboration with research groups from all over the world.



A filter sample loaded with PM<sub>10</sub> air particles, sampled at the Loka stream, being prepared for oxidative potential measurement.

#### **Research activity**

In 2024 we applied new laboratory methods that we are developing to determine the chemical composition of atmospheric particulates, to both better understand the toxic effect of particulates on human health and to determine their origin. Different chemical families provide distinct signatures that relate to their source, and we focussed on determining the elemental composition of aerosols using mass spectrometry and water soluble ions measured by ion chromatography. This is complimented by a determination of oxidative potential: a parameter that reflects an air sample's toxicity. In parallel we have continued to develop new methods to target specific biomarkers for pollution exposure in breath. By targeting exhaled compounds associated with oxidative stress we aim to characterise the airway inflammatory response that follows the inhalation of air pollution.

After the successful completion of the ARIS Project "Synthesis and characterization of sporopollenine-based biocomposite materials with biocidal activity against antibiotic-resistant microorganisms" the previous year, we continued to investigate the rate of drug release from biocomposites of cellulose (CEL) and chitosan (CS) using thermal lens spectrometry (TLS). Biocomposites were prepared with a CS:CEL ratio of 75:25 and with different amounts of microcapsules of sporopollenin (SEC) loaded with amoxicillin, gentamicin and ciprofloxacin. By including measurements of porosity determined by beam deflection spectrometry


75:25 CE:CEL composites containing 10% of SEC without (a) and with (b) gentamicin.

(BDS), we were able to ascertain that the rate of drug release is governed primarily by the amount of drug in the material, which increases with the % of antibiotic-loaded SEC in materials, and not the porosity. We found that the rates of antibiotic release did not exceed 0.1 µg min<sup>-1</sup>. We also continued to develop our photopyroelectric (PPE) detection technique for determination of dynamic thermal parameters of heat transfer fluids (ionanofluids) by the incorporation of nanocarbons like diesel soot and graphene. We found that nanocarbons influence thermal parameters of the base fluid, with soot ionanofluids exhibiting increased thermal effusivity and diffusivity due to their carbon allotropic composition. This study provides insight into how these properties can be manipulated for enhanced performance across various industrial applications.

Elsewhere, our study on the role of APOBEC3 (A3) proteins in HPV oncogenesis was advanced by the selection and testing of potential oncogenes affected by A3A and A3B in HPVinfected cells. Two proteins were selected that differ in their protein expression and transformation potential when regulated by A3 proteins. In addition, we started a broad expression analysis to elucidate the patterns and timing of genetic and epigenetic changes that occur in the process of HPV-induced cell transformation. Last year, we successfully started two additional projects, namely the study on the role of phosphorylation of the HPV L2 capsid protein in HPV infection and a bilateral project with Bosnia and Herzegovina focusing on atmospheric aerosols collected in the city of Tuzla and their cytotoxic and genotoxic effects on human cells *in vitro*.

It was a year of consolidation also for the international WEAVE projects in which we are involved. In addition, we have a new SMASH fellow (investigating »Machine-Learning Guided Binder Discovery for Advancing Pathology Biomarker Research«) and obtained two new grants, one to study rare disease due to the malfunction of CDKL5 and one to evaluate the therapeutic potential of extracellular vesicles. Furthermore, a tour in China has allowed us to strengthen the scientific collaboration with Tianjin University, while the coordination of a benchmarking work promises interesting future results. We carried out a systematic study of the characterization of fluorescent proteins to be used in microscopy experiments and published together with external collaborators several articles related to the use of recombinant antibodies and binders built using alternative scaffolds as elements to functionalize diagnostic biosensors.



Transition of HPV16 pseudovirions to lysosomes 6 hours post-infection. Cell nuclei are marked in blue, HPV16 pseudovirions in red and LAMP1-positive lysosomes in green.

## Laboratory of Quantum Optics

Head: Prof. Dr. Giovanni De Ninno

The Laboratory of Quantum Optics (LKO) specializes in studying the ultrafast response of electrons in semiconductors, topological insulators, superconductors, and metal/organic interfaces for use in electronics, spintronics, and energy harvesting. Furthermore, LKO uses X-rays at synchrotron radiation facilities for in situ characterization of atomic and molecular structure of new functional nano-materials, and biological and environmental samples. The lab members actively participate in the development of the FERMI free-electron laser, one of the most powerful laser sources worldwide, which is opening new opportunities for exploring the structure and non-equilibrium states of condensed, soft and low-density matter.

During the year 2024, the activities focused on the following topics:

#### Probing element-specific magnetization dynamics with a dense XUV harmonic spectrum

We developed an optical interferometer to generate XUV radiation comprising both even and odd harmonics of an infrared seed laser (Figure 1). This broad spectral source enables chemically sensitive pump-probe experiments to investigate coupled magnetization dynamics in magnetic alloys. A key question is whether magnetization dynamics measured at different energies within a single absorption edge are consistent. Using the newly implemented source, we simultaneously probed the absorption edges of Fe and Rh in a magnetic alloy. Our results reveal distinct behaviors: while the quenching dynamics at two different energy positions within the Rh peaks are comparable, those for Fe exhibit significant differences. Furthermore, we examined the quenching time and the delay between Fe and Rh demagnetization dynamics as a function of pump fluence, underscoring the benefits of a denser XUV spectrum for precise probing of dynamic processes.

### Developing a Transient Grating Setup for Nonlinear Light-Matter Interaction Studies

In collaboration with the TIMER research group at the FERMI free-electron laser (FEL), we refined the conceptual design and conducted pre-experiments for nonlinear light-matter interaction studies using the transient grating technique. Our efforts included designing the experimental setup (Figure 2) and characterizing key optical components, with particular emphasis on the phase mask, a critical element of the transient grating configuration. The phase mask diffracts 400 nm pump and 800 nm probe beams, spatially separating them to create the desired transient grating. Additionally, we developed a LabVIEW-based data acquisition software, chosen for its adaptability to future experimental needs and alignment with LKO standards. In the long term, this integrated setup will facilitate the investigation of transport phenomena in various materials.



Figure 1: XUV spectrum including both even and odd harmonics of an infrared laser.

### Advancing Nanomaterials Research with Synchrotron X-Ray Spectroscopy

In 2024, we secured measurement time at three synchrotron facilities (SOLEIL, PETRA III, and ELETTRA) for six projects characterizing the atomic and molecular structure of functional nanomaterials using XAS methods XANES and EXAFS. In collaboration with the Institute of Chemistry, we analyzed

photo-catalysts with one or two metallic elements in mesoporous silica, uncovering photo-catalysis mechanisms at the atomic level. Additionally, operando XAS studies revealed the nanostructure and mechanisms of mono- and bimetallic catalysts for organic synthesis and CO2 decomposition. Electro-catalysts for oxygen evolution reaction were also analyzed, focusing on anodized high-entropy alloys. With the Jožef Stefan Institute, we published XANES and EXAFS analyses of carbon cathode materials in Na-ion batteries, elucidating their electrochemical mechanisms. Research with the Faculty of Chemistry and Chemical Technology examined Ni/ZnO photocatalysts for wastewater treatment. Collaborations with KU Leuven focused on in-situ XAS of element extraction in non-aqueous solutions to optimize metal recycling processes. UNG-led studies investigated Ni- and Co-based hydroxides and pseudo-capacitors, revealing redox mechanisms in layered nanostructures. Using X-ray micro-tomography and micro-XANES, we mapped arsenic distribution in rice roots, identifying uptake and transport mechanisms critical for preventing arsenic contamination in food. This work resulted in seven journal articles in 2024, advancing our understanding of functional nanomaterials and their applications.

#### Circular dichroism experiments at the *L* edge of magnetic transition metals enabled by elliptically polarized pulses from a seeded free-electron laser

As part of our collaboration with the FERMI group developing the FEL source, we contributed to the generation of elliptically polarized femtosecond pulses from a seeded FEL in the 700–800 eV spectral range. Additionally, we performed demonstrative experiments utilizing magnetic circular dichroism at the Fe  $L_3$  edge. This was achieved

by making use of the radiation produced at the third harmonic of the fundamental FEL wavelength Ø. A planar radiator emits linearly polarized harmonics along the undulator axis, while a helical undulator produces off-axis harmonic radiation with circular polarization. However, off-axis circularly polarized light is characterized by a rather low flux and, as a result, it is unsuitable for most experiments that rely on circular dichroism. Here, we demonstrate that on-axis radiation with a substantial degree of circular polarization at  $\lambda/3$  can be generated using a variable-polarization (APPLE-type) radiator, finely tuned in a hybrid-polarization mode. The experiments, which demonstrate the potential of the adopted configuration for magnetic dichroism studies, were carried out at the FERMI FEL facility in Trieste (Italy). These results pave the way to experiments at the 2p-3d resonances of the transition metals most relevant for magnetic studies (Fe, Co, Ni) and make it possible to envisage investigations, e.g., spectroscopic studies with different core-hole lifetimes, covering both the M (50–70 eV) and L (600–900 eV) edges, at the same seeded FEL source.

### New thin film deposition system with sputtering technique

In September 2024, a new system for thin film deposition was installed (see Figure 3), utilizing physical vapor deposition (PVD) based on the well-established "sputtering" technique. In this process, deposition species are ejected from a source (or target) via ion bombardment. Sputtering is widely recognized as a flexible and reliable method for producing high-quality thin films. The system is equipped with four magnetron sputter sources, allowing for the exchange of targets depending on the application, as well as an ion plasma source. To achieve better control over the film growth,



Figure 2: (a) Predicted Stokes' parameters M/I and S/I for the third harmonic of spontaneous emission, as a function of the ratio Bx /B y. (b) Measured (dots) and simulated harmonic free-electron laser (FEL) on-axis intensity Iz at  $\lambda/3 = 1.75$  nm, as a function of Bx /B y. Also shown are the components of the on-axis intensity (Iz) x and (Iz) y, such that Iz = (Iz) x + (Iz) y.



Figure 3: New Thin Film Deposition System with Sputtering Technique Installed in September 2024.

enhancing both ordering and quality, substrates can be heated up to 900°C. Additionally, a bias of up to 700 volts can be applied, which aids in substrate cleaning and improves the overall quality of the deposited films. The system supports multiple targets, enabling the production of a wide variety of films that will meet the diverse needs of materials research laboratories at the University of Nova Gorica. For example, it will be possible to deposit multilayered magnetic materials, alloys (such as Fe, Ni, Co doped with transition metals), films for catalysis applications, and films for microelectronic device applications.

### **Teaching activities**

In 2024 Prof. Giovanni De Ninno was the course principal for two undergraduate courses, i.e., Classical Mechanics, with assistant Arun Ravindran, mag. fiz., and Quantum Mechanics, with assistant Arun Ravindran, mag. fiz.. Prof. Barbara Ressel was the course principal for Electrodynamics and held the course of Physics laboratory III.

Prof. Giovanni De Ninno and Prof. Barbara Ressel were the course principals for the Optics course and Dr. Michele Manfredda from Elettra-Sincrotrone Trieste S.C.p.A. was involved for the part of "Numerical Optics".

Prof. Dr. Iztok Arčon was the course principal of the following courses: Physics, Technical Physics, Structural analysis of materials with x-ray absorption and emission spectroscopy and microscopy, X-ray spectroscopy and Contemporary measurement techniques.

# Center for Astrophysics and Cosmology

Head: Prof. Dr. Samo Stanič

The research conducted by the Center for Astrophysics and Cosmology contributes to a more comprehensive understanding of the universe, its building blocks, and the high-energy processes occurring within it. The key to success lies in combining information carried by different cosmic messengers: photons, charged particles, neutrinos, and gravitational waves. Therefore, we focus on multi-messenger research. Our primary goal, studying physical phenomena at extreme energies in nature, is achieved through active participation in international scientific collaborations. The research is financially supported by projects and programs of the Slovenian Research and Innovation Agency, the ESFRI CTA infrastructure project and by projects of the European Commission and the European Space Agency.



The second of the four large Cherenkov telescopes (LST) at the Roque de los Muchachos Observatory on the island of La Palma was under construction in 2024. The LST array is expected to begin measurements in 2027.

#### **Pierre Auger Collaboration**

One of the core activities of the Center is the study of cosmic particles with extreme energies using the Pierre Auger Observatory. When these particles enter the Earth's atmosphere, they interact with atomic nuclei of atmospheric gases, creating extensive cascades of charged particles that can reach the Earth's surface. From the properties of these cascades, the energy and incoming direction of the primary particles can be determined. Such particles are exceedingly rare in the universe - at the highest energies, on average, only one such particle strikes a square kilometer of Earth's surface every century. To be able to study them, the Pierre Auger Observatory consists of an array of 1660 surface Cherenkov water detectors and 27 fluorescence telescopes, spread across an area equivalent to one-seventh of Slovenia's surface. In 2024, the observatory upgrade (AugerPrime) was successfully completed, enabling the direct identification of the type of each primary cosmic particle and paving the way for groundbreaking new results from the observatory. For Slovenia, the agreement for a ten-year extension of the observatory's operations was signed by the Rector of the University of Nova Gorica, Prof. Dr. Boštjan Golob. The ceremony was also attended by Igor Šef, Acting Chargé d'Affaires at the Embassy of the Republic of Slovenia in Buenos Aires. The University of Nova Gorica has been a member of the Pierre Auger collaboration since 2004.

#### **Cherenkov Telescope Array Consortium**

Studies of very high-energy cosmic photons (gamma rays) provide crucial insights into the non-thermal universe. At the beginning of 2025, the European Commission established the European Research Infrastructure Consortium for the Cherenkov Telescope Array Observatory (CTAO ERIC), which will build and manage the world's largest observatory for high-energy cosmic gamma ray astronomy, covering energies between 20 GeV and 300 TeV. Slovenia is one of the founding members of the CTAO ERIC. The observatory will consist of two arrays: the northern array is being constructed on La Palma (Canary Islands, Spain), while the southern array is being built in Paranal, in the Atacama Desert, Chile. Slovenian scientists have been contributing to the observatory's conceptual design and research strategies as part of the international Cherenkov Telescope Array Consortium since 2013. They focus on studying dark matter and new physics using machine learning methods, detecting galactic and extragalactic astrophysical sources, and developing a Raman lidar for atmospheric characterization and monitoring above the observatory on La Palma.

#### Fermi Large Area Telescope Collaboration

The Fermi Large Area Telescope (LAT) is the primary detector aboard the Fermi Gamma-ray Space Telescope, the leading space observatory for high-energy gamma-ray research since 2008. Operating in the energy range from 20 MeV to over 300 GeV, Fermi LAT has identified more than 5000 gamma-ray sources - over ten times the number previously known. In a surprising discovery, it revealed a massive bubble-like structure emanating from the center of the Milky Way, extending above and below the Galactic plane. These so-called



Fermi bubbles are nearly half the height of the Galactic disk's radius. Additionally, Fermi LAT has placed strong constraints on the nature of dark matter particles by analyzing potential decay or annihilation signatures in astrophysical objects. The findings from Fermi LAT have been instrumental in a series of multi-messenger discoveries, particularly those related to the origins of ultra-high-energy neutrinos and highenergy emissions from gamma-ray bursts.

#### **Astrophysical transients**

Our group is active in international collaborations studying short transient phenomena in the sky, including gamma-ray bursts, neutron star mergers, tidal disruption events, and supernova explosions. Most of The upgraded surface detector of the Pierre Auger Observatory with added components that will allow partial identification of primary cosmic particles at extreme energies. The image was taken during the ceremonial signing of the agreement for the decade-long extension of the upgraded AugerPrime Observatory's operation in November 2024.

our research is linked to the Vera C. Rubin Observatory, which will conduct the largest and most precise sky survey to date and is expected to discover numerous new transient phenomena In 2024, through simulations, we predicted the likelihood of detecting transient events such as tidal disruptions of stars and planets, as well as strongly lensed supernovae. In addition to our activities at the Vera Rubin Observatory, we have participated in spectral measurements for the classification of transient phenomena using the New Technology Telescope (NTT) telescope in Chile, through the ePESSTO+ collaboration. For follow-up observations, we also utilized the Slovenian robotic telescope GoChile.



Hydrodynamical simulation of a tidal disruption event (TDE) involving a Jupiterlike planet, performed using the smoothed particle hydrodynamics (SPH) code GR Phantom.



The La Silla Observatory in Chile, where CAC researchers participated in observations with the NTT telescope in early 2024. Due to the extremely clear atmosphere with no light pollution, both Magellanic Clouds are clearly visible.

# Center for atmospheric research

Head: Prof. Dr. Griša Močnik



Measurements of enhancement of aerosol absorption due to coatings - Edmonton, Canada.

The Center for Atmospheric Research (CAR) focuses on the study of physical processes in the atmosphere using in-situ and remote measurements and modeling of atmospheric phenomena. Our research includes studies of fundamental aerosol properties, the influence of aerosols on the climate, the investigation of aerosol sources, their dispersion in the atmosphere and vertical profiles. We investigate atmospheric structures, how aerosols interact with the clouds, and use these data for validation of satellite measurements. The key question is, how aerosols affect the atmosphere by scattering and absorption of solar radiation. Scattering cools the atmosphere, while absorption warms it – aerosol black carbon is the second most important climate forcer, and dust and organic aerosols increase this effect.

We also conduct research on the sources of air pollution, identifying and quantifying the contributions of domestic heating with biomass, industry and traffic to the local and regional air pollution. These activities are a mixture of techniques to determine the aerosol chemical composition and their physical properties, and sophisticated statistical methods to obtain the source profiles and their contributions to particulate air pollution. We develop new methodologies and compare them with the state-of-the-art.

The Center is located at the University of Nova Gorica Ajdovščina site and is involved in the activities of the European Space Agency and field campaigns around the globe. The atmospheric observatory at Otlica is part of the Center and functions within the Virtual Alpine Observatory.



Measurements of ambient aerosols -Ljubljana, Slovenia.

### Black Carbon Research – laboratory and ambient studies

Aerosols which absorb solar light heat the planet. The magnitude of the heating is determined by models which require experimental inputs. The model results feature a very large uncertainty which can be reduced only by measurements. For this, accurate and precise measurement methods are required. In the past years, our work on new measurement techniques of aerosol light absorption was conducted in close cooperation with the commercial and international partners. We have used the novel photo-thermal interferometer PTAAM-2 to measure the enhancement of the aerosol absorption coefficient due to coatings in a laboratory campaign in Edmonton, Canada, and have started a long ambient campaign in Ljubljana, Slovenia, in cooperation with the Slovenian Environment Agency.

#### Determination of sources of air pollution

Our source apportionment activities wrapped up the Nova Gorica and Solkan campaign showing that there is an interesting interplay between the local and regional (mostly secondary) sources. We published the results from the Kanal ob Soči municipality showing large contributions to PM from domestic heating with wood combustion, with the cement plant contribution stemming from industrial activities, the traffic to and from the plant and the quarry. The industrial contribution to the oxidative potential showed an unusually large intrinsic value. The measurements, taking place in close cooperation with the School of Environmental Sciences at our university, enable students to participate in hands-on research. We have started two projects in the framework of the Marie Skłodowska Curie project SMASH on the development of new machine-learningfacilitated approaches to perform source apportionment.

#### **Applied research**

The observatory at Otlica above Ajdovščina (965 m a.s.l.) is a node in the national grid of meteorological and environmental stations, administered by the Slovenian Environment Agency, and a member of the European Virtual Alpine Observatory, with continuous monitoring of temperature, humidity, wind speed and direction, ozone concentration and solar irradiation, all available on line at the Agency's and Center's web portals. The observatory is involved in numerous dedicated international collaborations.

### Wine Research Centre

### Head: Doc. Dr. Melita Sternad Lemut

The Wine Research Centre (CRV) is uniting the researchers and multidisciplinary research activities related to the fields of viticulture and enology (plant physiology, biochemistry and pathology; viticulture and winemaking technologies; sustainable agriculture; fruits, grapes and wine analytics; microbiology and molecular biology of yeasts, grapes and wine and other fermented drinks; biotechnology). We operate in the modern equipped laboratories in Lanthieri Mansion, Vipava and in the experimental fields, including the University's own vineyard. Our primary studied plant is grapevine (with the processing from grapes to wine) but we also study some fruit plants, olives and apple wine (cider). We deal with both applicative research, addressing current problems in the field, as well as expert, more future-oriented research.



Microfermentations of grape must in the framework of a PhD thesis of a guest student from the University of Padua.

In 2024, the Wine Research Centre (CRV) successfully completed the international project NFM *»Exploring Rural Heritage: Indigenous Production of Fermented Beverages for Local Cultural and Environmental Sustainability*«, coordinated by CRV/UNG and funded by Iceland, Liechtenstein, and Norway through the EEA and Norway Grants Fund for Regional Cooperation. Based on the results, two scientific articles were published: on the typicality of Zelen wine (*OENOOne*), and on the chemical characterization of aromatic compounds in Graševina wines (*Beverages*).

In September 2024, we started to work on the newly acquired Interreg Alpine Space project *»Climate Resilient Alpine Wine Orchards*« (RESPOND), dedicated to studying the possibilities for adapting to climate change. After the kick-off meeting in Bolzano, we started the first activities under the leadership of the lead partner Eurac Research (Italy).

Research on several ongoing projects has continued. For the Interreg AGROTUR+ project, we analyzed the microbiome of Teran wines and determined undesirable compounds (biogenic amines, volatile phenols). The fermentation experiment of cider with dogwood berries (EIP) was upgraded with chemical analyses (AGROTUR+). The results were presented at the Academy of Teran (Štanjel) and the 19th CFGBC Symposium (Ljubljana), and a summer school was organized. For the ARIS project »Wine Provenance: Geo-Climatic, Microbiological or Human Construct? Example of Slovene 'Blaufränkisch' Wines«, we re-activated the CRV Sensory Panel and sampled the grapes of 'Blaufränkisch' variety from seven vineyards in Dolenjska and Bela Krajina for microbiome analysis and spontaneous fermentations, isolating also the yeast strains. Three Erasmus students participated in this research. The work for Interreg project »Sustainable Wine Tourism: Cultural Landscape, Wine and Satire« (ENOSATIRA) (GO! 2025, Interreg Ita-Slo) mainly focused on knowledge transfer to producers and activities related to the enrichment of wine tourism offers. In addition, we purchased research equipment for olfactometric analysis, which enables the qualitative analysis of individual aromas in beverage samples. CRV also participates in the ARIS project »Valorization of Impatiens glandular (Impatiens glandulifera Royle) wastes for the development of bioactive extracts with potential protective activity on the human vascular system«, where we are responsible for optimizing the extraction of active ingredients from the plant with an emphasis on green approaches and for evaluating antioxidant potential. In the first year of the project, we tested various extraction techniques to select the most effective and "greenest" methodology for extracting targeted active ingredients.



Test fermentations of apple juice (cider production) with different non-Saccharomyces yeasts and H<sub>2</sub>S monitoring with KITAGAWA tubes.





Fruit wine with added haskap berry juice in various proportions.

Two EIP projects were completed by the end of 2024. As part of the project »Pilot Alcoholic Beverage Using Haskap Berries« (PA-HAS), we developed a fruit wine from haskap berries. Under real conditions, we verified the possibility of preparing a new product and analyzed the suitability of haskap berry varieties and production technologies for practical use. The main purpose of the second project »Testing the Use of Cornelian Cherries in Fruit Wine Production« (DRES) was to expand the range of products from Cornelian cherries and present a new way of using this berry in fruit processing. We analyzed the suitability of the varieties and production technologies and their transferability to practice. Based on the results of both EIP projects, we prepared guidelines for the production of such fruit wines and shared knowledge with producers and the professional public.

In 2024, three doctoral students conducted research under the mentorship of CRV members. U. Česnik worked on a micro-fermentation experiment with two native yeasts from cider (Hardanger, Norway). A doctoral student from the University of Padua (Italy) conducted part of the research at CRV related to the addition of biochar to vineyards and the resulting impact on wine. D. Martin focused on the analysis of aromatic compounds with the aim of improving the understanding of the evolution of these compounds during wine production and aging. She also studied the effects of metal ions on the aromaticity of wine during ageing. In addition, CRV hosted a student from Bulgaria, who, as part of her internship, was completing the practical part of her master's thesis, focused on the aromatic characterization of the 'Blaufrankish' grapevine variety.

# Center for Information Technologies and Applied Mathematics

Head: Prof. Dr. Irina Elena Cristea



SmartHallway system for markerless gait assesment in clinical settings.

The Centre for Information Technologies and Applied Mathematics is a dynamic, interdisciplinary research group operating at the intersection of mathematics, computer science and informatics, operations research, systems theory, and control systems technology. The Centre focuses on developing innovative approaches to model and solve diverse problems, spanning industrial engineering, education, biomedicine, and both theoretical and applied mathematics. In mathematics, the Centre contributes significantly through new studies in hypercompositional and ordered algebra. Simultaneously, methods for intelligent data analysis are being developed and applied to various domains where IT support is critical for knowledge discovery. These applications aim to address challenges such as understanding complex diseases, analyzing environmental phenomena, and solving problems in intricate domains, particularly within engineering.

In 2024 the Centre employed 9 researchers, working on interdisciplinary fields related to knowledge discovery, open education, discrete mathematics, rehabilitation robotics and integration of virtual reality and AI into robotics, theoretical and applied operations research, discrete optimization, Gaussian-process models, and renewable energy sources. As part of a project funded by ARIS, we collaborated with the University of Ottawa at URI Soča to develop a markerless gait analysis system. The system is based on a 25-point biomechanical model (Carnegie Mellon University) and identifies these points in video recordings using a supervised neural network, an artificial intelligence system developed by NVidia. The biomechanical model is reconstructed through triangulation from four cameras, enabling the calculation of gait parameters such as joint angles, trajectories, walking speed, step length, segment length, step duration, and cadence. The goal of the project is to create a system that facilitates the demonstrated that the generator matrix of a binary linear code C contains the minimal codewords of C with respect to the (BCI)C-order. In the study of hypermodules, we established fundamental properties of (semi)simple hypermodules.

We have also engaged in research spanning Operations Research (OR), Applied



Symposium HAnDA 2024.

capture of gait parameters for patients with prosthetics or orthotics in a clinical setting without the need for markers, while allowing the use of everyday clothing.

In the framework of hypercompositional algebra theory, we investigated new properties of HXgroups: the uniformity and the essentiality. Besides, we introduced a new algebraic structure, that one of HX-polygroup on a polygroup, proposing some characterizations of HX-polygroups as polygroups of cosets or double cosets. We also expressed the fundamental properties of commutative polygroups in category-theoretic terms, over the category formed by sets and functions. Moreover, we introduced and studied the concept of a hyperideal-based zero-divisor graph associated with a general hyperring. This is a generalized version of the zero-divisor graph associated with a commutative ring. In Algebraic Coding Theory, we initiated an exploration of algebraic structures within coding theory. Our focus was on identifying the potential for an ordered algebraic structure within an arbitrary linear code C. Notably, we

Mathematics, and Data Analysis across various fields. The contributions of these endeavors were impactful, leading to publications in the areas of Transport Networks, Viticulture, and Enology. Our research employed cutting-edge ML algorithms and Biostatistical techniques to derive valuable conclusions from intricate datasets in Viticulture, Enology, and associated disciplines. This directly enhanced evidencebased decision-making in both scientific research and industry applications.

Research activities on dynamic systems were pursued in the direction of the hybrid modelling of complex systems, where first-principles modelling is combined with data-driven modelling, data-driven surrogate modelling of systems with distributed parameters and system identification of ambient variables in a Karstcave system using Gaussian process models and deep learning of neural networks. The potential for enhancing boiling heat transfer through modifications of surface or fluid properties was addressed in the study of using the TiO<sub>2</sub>-water in pool boiling heat transfer and concurrent mitigation of nanoparticle deposition on superhydrophobic laser-textured copper surfaces.

The centre has collaborated with colleagues from Slovenia, Bulgaria, Czech Republic, Italy, Germany, Brazil, France, Sweden, Greece, Montenegro, Poland, Turkey, Iran and Romania. In June we organized in a hybrid way the fourth edition of the Symposium "Hypercompositional Algebra – new Developments and Applications (HAnDA)".

In the framework of the KA107 Erasmus+ project with the University of Montenegro, we guested a PhD student and a Master's student from the partner institution for a training visit of one week.

Since October 2024, two young researchers (ARIS) have joined the centre, one in Mathematics and the other one in Environmental Sciences.



Research visit of colleagues from Brno University of Technology and University of Montenegro in the framework of the Erasmus+ project KA107

### **Research Centre for Humanities**

Head: Prof. Dr. Katja Mihurko

The Research Center for Humanities works in the fields of literary sciences, cultural history, women studies, visual culture, intercultural studies and digital humanities. The common basis of research areas and their research methodologies is the focus on exploring forms of complex living conditions and human creativity through a historical perspective. Research approaches complement each other - comparative research into literary media, for example, provides reflection on the complexity of interpersonal communication throughout history, while cultural history expands historical research into questions of modern and contemporary cultural practice.



Citizen Science Workshop: From Manuscript to Keyboard.

In 2024, the Humanities Research Centre hired two new employees: mag. Laura Brataševec and mag. Sara Vukotić.

In 2024, the researchers of the Humanities Research Centre participated in a number of international conferences and published several scientific papers in various fields of scientific research.

The Research Centre for the Humanities organised the scientific conference Transformations of Intimacy in Central and Eastern European Literatures (1890-1920) at the National Library of the Czech Republic in Prague from 27-28 March and co-organised the scientific conference Avant-Garde and the End of the World in Nova Gorica (10-12 October 2024). We also organised the international academic workshop Unbound Sexual Desire (27-30 August 2024) and a meeting of the Women Writers in History working group of the DARIAH network on 26and 28 January. As part of the project Tranformations of Intimacy in the Literary Discourse of Slovenian Modernism, we opened an exhibition on the contacts between Slovenian and Czech literary modernism at the National Library of the Czech Republic, which was later shown at the Faculty of Philosophy of Charles University in Prague, the Forum of Slavic Cultures in Ljubljana and the University of Nova Gorica.

We were also active in the field of citizen science and, in cooperation with the Ministry of Science, organised the workshop From Manuscript to Keyboard as part of Science Month and a discussion evening in the Makse Sams Library in Ilirska Bistrica on the letters of the Kosič and Šušmelj families.



Citizen Science Workshop: From Manuscript to Keyboard.

We have launched two projects in cooperation with the local community: The Ljubka's Way project is being implemented together with the lead partner Forum of Slavic Cultures and the Lojze Bratuž Cultural Centre, and the Museum of Transport and Freight Transport project with the lead partner Faculty of Humanities of the University of Primorska and the Municipality of Divača.The project is being implemented in cooperation with the Faculty of Humanities of the University of Primorska and the Municipality of Divača. As part of the CEEPUS network, we have organised the Sexual Desire Unbound Summer School (26-3 September 2024)

We received two awards: the Excellence in Science Award for the scientific monograph I Love Beautiful Letters: correspondence of Slovenian modern women authors and the Cultural Routes of the World Europe Award for the Literary Walk Across the Bold Border.



Exhibition of the TILDA Project at the National Library in Prague.

# Center for Cognitive Science of Language

Head: Prof. Dr. Rok Žaucer

Center for Cognitive Science of Language is an interdisciplinary research center of the University of Nova Gorica. Our core expertise is in formal generative linguistics, which we use as a foundation for engaging in other domains of language-related cognitive science – especially language processing, language acquisition, bilingualism and the relation between language and other cognitive abilities. At the focus of our research are investigations of theoretically relevant syntactic and semantic/pragmatic aspects of different languages. We strengthen the reliability of our data and analysis assessments with the use of corpora, large judgment samples, and various behavioral experimental methods (e.g., sentence completion, reaction times, developmental tasks, eye tracking, ERPs).

The Center for Cognitive Science of Language group specializes in formal generative linguistics, especially syntax and semantics/ pragmatics, and uses this as a foundation for engaging in other domains of languagerelated cognitive science – especially language processing, language acquisition and bilingualism.

#### Basic research in 2024:

Our main focus in 2024 was on research within five projects financed by the Slovenian Research & Innovation Agency. In 'Acquiring minority languages in a multilingual setting', for which 2024 was also the concluding year, we analyzed the nature of intergenerational transfer of Slovenian as a minority language in Italy, at the same time developing a specialized tool for testing competence in Slovenian as a minority language.

In 'The limits of freedom: A permutational approach to word order in South Slavic languages' we worked on a new methodology of analyzing word order variability in the South Slavic languages and applied it to probe the limits of this variability in the context of a fixed sentence size. This allows us to re-assess a number of known syntactic phenomena that bear on the freedom of word order as well as to identify new, previously unexplored, word order patterns in these languages.





study of word knowledge', a collaboration between us, ZRC SAZU, U. of Ljubljana's Faculty of Education, and University Medical Center Ljubljana, we conducted a large-scale study using lexical decision and word-picture matching tasks to collect word-prevalence norm data for Slovenian, which is crucial for psycholinguistic studies, for clinical assessment tests, for materials level assessment in language pedagogy, etc. In 'Multifunctionality in Morphology' we joined forces with colleagues from the University of Graz in investigating multifunctional affixes, i.e. morphological elements which have little or no stable meaning and can appear in various, at first sight unrelated contexts. In the context of the SinFonIJA 17 conference, the project also hosted the workshop 'Multifunctionality in Morphology' as a platform to disseminate the latest findings of the project, as well as of work on multifuncionality at large.

In 'The Behavior of Czech and Slovenian Clitics' we teamed up with colleagues from the Masaryk University in Brno in conducting a series of experiments in order to provide new experimental data from the syntax, morphology, phonology, and prosody of clitics, which will allow us to gain better insight into the language-specific properties of clitics in Czech and Slovenian and into the general grammar of clitics.

Outside of research funded by the Slovenian Research Agency, we used brain-imaging to study word structure processing in Slovenian



Figure 4: Experimental responses by condition, with expected prosodic boundaries according to Table 1 (with 29 outliers removed)

and Serbian within the multipartner 'SAVANT' project coordinated by Queen Mary University, UK. And in collaboration with the Technological university of Varna and the Varna Dolphinarium, Bulgaria, we continued our joint investigation of aspects of dolphin communication.

### Applied projects and broader-audience activities in 2024:

As part of a two-year project funded by the Slovenian Ministry of Culture, we teamed up with the Slovenian Research Institute from Trieste in upgrading and updating the contents and functionality of the online portal 'SMeJse – Slovenian as a Minority Language'. The portal is a repository of tools, materials and information boosting Slovenian language skills. This work also included the preparation of a monograph that will provide content and methodological suggestions for teaching Slovenian in primary school in Italy.

### SMEJ SE 😳 <sup>slovenščina kot</sup> Manjšinski jezik

A member of our center took part in a meeting of UNESCO's World Atlas of Languages Ad-Hoc Expert Committee, where the Committee discussed the methodology of the emerging Atlas, the visualization of the information in the Atlas, and the importance of multilingualism in the preparation of the Atlas.

We organized the third year of our invited lecture series *Jezik & Linguistics Colloquia* established in 2022. In 2024 the series hosted 10 invited speakers from different European research institutions. And within the Faculty of Humanities' umbrella event series *Dialogi\_čez\_*, we hosted a public debate on the topic of potential endangeredness of Slovenian language.







# Pedagogical Work

In 2024, the pedagogical work at the University of Nova Gorica was done within seven schools: School of Environmental Sciences, School of Engineering and Management, School of Science, School of Humanities, School for Viticulture and Enology, School of Arts, and Graduate School.



# School of Environmental Sciences

Dean: Prof. Dr. Griša Močnik



Students carrying out field measurements - studies of deposition of particles PM10.

Study Pogrammes: Bachelor's Study Programme Environment Master's Study Programme Environment

School for Environmental Sciences educates in the field of research, preservation and management of environment. The university study program Environment was according to the Bologna Directives modernized in changes into study programs Environment, Level I and Environment, Level II. The I. and II. level programs received public accreditation with declaration of Directorate for Higher Education of Republic of Slovenia on date 12. 10. 2007 and 15. 2. 2008, respectively. Continuously, we are modernizing the contents of the both study programs. In 2017/18, we have introduced obligatory practical training for the I. level students and substitute a diploma thesis with a diploma seminar. In 2018/19 we introduced courses on climate emergency. In addition, we have introduced up-to-date contents among mandatory courses on the II. level. Lately, we have started involving students in hands-on research activities.



Fieldwork in the regional park.

The study program Environment, Level I is an undergraduate program to obtain a university degree. The program offers all important contents from natural sciences and technical and social subjects related to environmental issues such as pollution of water, air and soil, environmental monitoring, waste management and environmental protection, management and economics. The basic goal of the program is to educate experts that will be able to conduct work on research, technical and managerial fields related to environment. This goes for different industrial sectors, lawmaking and law executing area on national and local levels.

In the school year 2023/2024 we enrolled the eighteenth generation of students in the study program Environment, level I – twice the number as last year. Beside mandatory and selective courses the students had an opportunity within their field trips, excursions and group projects to see waste landfills, experimental stations and institutes, industrial facilities, power plants and regional parks (Figure 1).

A uniqueness of our study program Environment Level I is a course called Group project, which introduces modern approaches to education through project work. Emphasizes are on solving practical problems related to environment and working in a multidisciplinary group. During 2021, students took part in several projects, within which they investigated topics from environment remediation, pollution monitoring, waste management etc. They also studied influence of the biological waste in agriculture. Among others, the results suggest that by regulating easily-variable parameters such as e.g. extraction time, pH and temperature, the extraction of specific elements for use in fertilizers with a safe impurity content may be possible through alkaline leaching, the most economically efficient extraction

method currently available. Reducing the amount of by-product that needs to be transported to landfills would have a significant societal benefit, both due to the favorable environmental impact of reducing the amount of landfilled waste and reducing the carbon footprint of waste transport.

The study at the Environment, Level II, takes four semesters to complete and is exceptionally interdisciplinary and research oriented. It offers courses from all important fields of environmental sciences but also enables students to deepen their knowledge in their fields of interest by choosing from a large selection of the selective courses. Three time as many new students enrolled in the school year 2024/2025 as the year before. During the Level II studies, the project work is performed individually within the Individual project course. The students performed field research to determine the contribution of resuspended dust to air pollution with particles PM10 (Figure 2).

## School of Engineering and Management

Dean: Prof. Dr. Imre Cikajlo

#### Study Programmes:

Bachelor's Study Programme Engineering and Management Master's Study Programme Engineering and Management Master's Study Programme Master in Leadership in Open Education

The School of Engineering and Management provides first- and second-level study programmes in Engineering and Management, from 2020, also an international Master's programme in Leadership in Open Education. It educates broadly qualified staff who, on the basis of their technological, economic and organisational competences, are able to identify and solve problems in ensuring economically viable and socially responsible production or business. In their project, bachelor's and master's theses, students of the School of Engineering and Management usually solve specific problems in companies, public institutions or local communities, thus strengthening the faculty's links with the environment. Ambitious students are employed in high-tech companies in the local environment, and with well introduction of the industrial engineer profile, the employability of students extends to the global market. The faculty also reports on high employability rate of its graduates.



Students of the Bachelor's degree programme Engineering and Management carried out the CUBOT project.

In the academic year 2023/2024, a total of 117 students were enrolled in the programmes of the School of Engineering and Management, including 54 students in the Bachelor's degree programme Engineering and Management, 42 students in the Master's degree programme Engineering and Management and 21 students in the international Master's programme in Leadership in Open Education. In the academic year 2023/24, we recorded a high number of students on the Master's degree programme Engineering and Management, including the non-regular students.

The School of Engineering and Management runs activities in all three study programmes at the Lanthieri Mansion in Vipava. In exceptional cases, part of the study activity is carried out hybrid or at a distance. The latter is used by lecturers who have unavoidable commitments abroad, but it also facilitates the studies of those students who, due to employment, active involvement in sport or other reasons, need a certain flexibility in the performance of their study obligations. Participation in the development of the e-learning platform has opened up opportunities for the School of Engineering and Management to develop and introduce new methods of teaching using information technology. In addition to the accessibility of studies through the introduction of e-learning and open learning elements, the faculty monitors the quality of delivery and continuously strives for continuous improvement. This has also resulted in a high employability rate, which, according to data as of May 2024, was 80.82% within one year of graduation, 72.60% of which were in the profession. According to known data, 13.70% of

these students have decided to continue their studies. The high employability of graduates of the School of Engineering and Management is also due to the competences acquired through project work within the study programme or beyond. In 2024, we cooperated with the following companies in project work and practical training for third-year students: Hella Saturnus Slovenija d.o.o., Intra-Lightning d.o.o., Knaput Logistika d.o.o. Varaždin, Hrvaška, Meblo INT d.o.o., Elektro Primorska d.d., Termoplasti -Plama d.o.o., Eta d.o.o. Acinel d.o.o., in Business Solutions d.o.o.

In May 2024, the School of Engineering and Management convened a consultative body, the Council of the School of Engineering and Management, consisting of a colleague from the University of Maribor, the Ajdovščina Regional Chamber of Commerce and Industry, the Primorski Tehnološki Park, Mahle Electric Drives Slovenija d.o.o. and LEDLuks, and a project associate from the Slovenian Chamber of Commerce and Industry. The Council committed itself to promoting the profession of industrial engineer, stressed the importance of linking with related study programmes (e.g. University of Maribor), highlighted the importance of cooperation with companies and the development of practical training of students in companies.

The School of Engineering and Management celebrated its existence at the crossroads of technology and entrepreneurship in November at the annual academic assembly, opened by the Dean. The opening ceremony was attended by the Rector, Prof. Boštjan Golob, and guests, including the President of the Slovenian Academy of Sciences and Arts, akad. Peter Štih, Dr Igor Papič, Minister of Higher Education, Science and Innovation, and the rectors of slovenian universities and the directors of institutes and public agencies. Prof. Dr Tanja Urbančič, long-time Dean of the School of Engineering and Management and recipient of the State Lifetime Achievement Award in Higher Education was awarded the title of Professor Emeritus of the University of Nova Gorica for her significant contribution to the development of education.



Leadership in Open Education co-organised a hybrid OE4BW Strategic event.

#### Teaching activities

In May, the School of Engineering and Management hosted Dr. Andrew Pennock from the University of Virginia, currently a Fulbright Scholar at the IEDC Bled Business School. Under the title "Cost-Benefit Analysis: How the United States Government Decides Whether or Not to Approve Environmental Policies", students and staff were able to hear how many of the US government's environmental policy decisions are based on concrete cost-benefit analyses. In the same month, we hosted, as part of an Erasmus+ project, Associate Professor Duygu Cakir from Istanbul Bahcesehir University, Department of Computer Software. Her contribution to the Internet of Things course was followed by students from the 2nd cycle of the Master's degree programme Engineering and Management.

Students of the Bachelor's degree programme Engineering and Management applied for the position in a team of the student project "CUBOT". The students set up their own team, chose a project leader and divided the roles. They tackled challenges such as planning, project management, sourcing materials, finding subcontractors and realising the objectives. The successful collaboration of the student team members culminated in the presentation of a small 3D-printed robot that can solve a Rubik's Cube. The students, in cooperation with the Academy of Arts of the University of Nova Gorica, summarised the process and the result of the project in a short video. The international Master's programme in Leadership in Open Education celebrated the successful defence of the Master's thesis entitled "Promoting the use of open educational resources to improve teaching and learning of science subjects in secondary schools in Tanzania" by Lucian Vumilia Ngeze.

The team of international Master's programme in Leadership in Open Education has prepared an on-site campus in Vipava in January 2024. It was attended by foreign lecturers Assoc. Prof. Dr. Dominic Orr, Dr. Ben Janssen, Dr. Larry Cooperman and Dr. Tel Amiel, arriving to the University of Nova Gorica. The workshop was attended by 2 students of the study programme, while the rest of the students and tutors participated in hybrid workshops in the MiTeam e-learning environment.

The Master's degree programme Leadership in Open Education co-organised a hybrid OE4BW Strategic event in collaboration with the UNESCO Chair of the Jožef Stefan Institute and the Open Education for a Better World (OE4BW) project. The keynote speakers were Gašper Hrastelj from UNESCO, Veronika Štabej from MFEA, mag. Mitja Jermol from JSI and the Dean of the School of Engineering and Management Prof. Dr. Imre Cikajlo. The burning topics were "Open education a broken promise?" and the use of artificial intelligence in open education.

## **School of Science**

Dean: Prof. Dr. Sandra Gardonio



Zoja Rokavec after successful defence of her master thesis concluding the study of Physics and astrophysics.

#### Study programmes:

Bachelor's Study Programme Physics and astrophysics Master's Study Programme Physics and astrophysics Master's Study Programme Materials Science

The School of Science is a place where students, researchers, assistants and professors from Slovenia and other countries come together. They are united by a shared passion for science, and they work together on everything from atoms, molecules, materials and devices, to understanding our atmosphere, the stars, galaxies and the whole universe. The School of Science offers research-oriented BSc and MSc degrees, and our labs and research centres provide support for these. You can also do remote astronomical observations with the GoChile telescope in Chile. At the UNG Graduate School, you can do doctorate studies in Astrophysics, Physics or Materials Science.

The School of Science made notable progress in 2024 across its academic programmes in Physics, Astrophysics and Materials Science.The Physics and Astrophysics bachelor's programme provides students with a solid theoretical and experimental foundation in physics, gradually introducing them to research in their senior years.This approach effectively bridges the gap between academic theory and practical application.

Students in the Physics and Astrophysics program participated in enriching experiences, such as visits to the TRIGA nuclear reactor in Podgorica, where they learned about reactor operations, and the Krško Nuclear Power Plant in Slovenia, offering insights into nuclear energy. They also visited the Elettra Synchrotron Light Laboratory in Trieste, Italy, to explore synchrotron radiation in materials science and biology. These visits provided essential handson experience in advanced research settings.

The programme emphasised experimental methods, with first-year students taking foundational courses in mathematics, physics, and experimental techniques. In subsequent years, the curriculum became more specialised, focusing on core study areas and research projects, with two-month concentrated courses that allowed deep immersion in specific topics. Within the framework of INSPIRO projects, students engaged in research at the cutting-edge laboratories of the University of Nova Gorica (UNG), where they applied their knowledge to real-world projects. Their studies culminated in a diploma seminar, preparing them for postgraduate studies, and graduates were able to pursue master's programs in

Physics, Astrophysics, or Materials Science, either at UNG or other institutions across Europe.

UNG's Master Program in Materials Science is built on our research excellence in materials physics, chemistry, and characterization. The program emphasises hands-on experience, with more than half of the student activities focused on laboratory work and seminars. Students gain practical skills with advanced characterisation instruments available at UNG's laboratories and partner institutions, including the National Institute of Chemistry and the Jožef Stefan Institute.

Small class sizes ensure personalised attention, and elective courses allow students to specialise in materials science. Our programme is designed to equip students with the essential skills they need to thrive in both academic and professional settings, including communication, self-confidence and teamwork. They actively participate in ongoing research projects, contributing to the development of cuttingedge materials. Our students and faculty are making significant contributions to the scientific community. Alumni such as Nada Ihanec and Martina Larma have presented their research on the students' GoChile Telescope at international



conferences, attracting attention for their excellent work in astrophysics.

We organised seminars and outreach programs on topics such as astrophysics, solar cells, and the Cherenkov Telescope Array (CTA), engaging both students and the public in scientific discussions. These seminars fostered interest in STEM careers and made complex concepts more accessible. Our commitment to diversity was evident in the recognition of female faculty members. Gabriela Zaharias, an assistant professor in astrophysics, was featured in ONA for her achievements in research and mentoring, inspiring young women in science. Similarly, Professor Andreja Gomboc continued her efforts in scientific dissemination, encouraging young girls to pursue STEM careers through public talks and outreach initiatives.

In 2024, our institution remained dedicated to developing future scientific leaders. We offered world-class academic programmes and fostered hands-on research experiences. The year was marked by significant academic growth, with students gaining the skills and knowledge to succeed in a wide range of scientific fields. We are unwavering in our commitment to advancing research, academic excellence, and preparing students for successful careers in physics, astrophysics, and materials science.



Students of School of science visiting synchrotron Elettra. At the School of Science students have the opportunity to become involved in actual research in stateof-the-art research laboratories and centers of the of the University of Nova Gorica and its partner institutions, the National Institute of Chemistry, the Jožef Stefan Institute and Elettra Trieste.

Presentation of Alumni students about employment possibilities to new generations of students of School of science.

# **School of Humanities**

### Dean: Prof. Dr. Peter Purg



#### Study Programmes:

Bachelor's Study Programme Slovene Studies Bachelor's Study Programme Cultural history Master's Study Programme Humanities studies European Master in Migration and Intercultural Relations (Erasmus Mundus)

At the School of Humanities, we aim to enrich the Goriška region, as well as the Slovenian and international spheres, with new insights in the humanities, thereby fostering connections between the academic community and society. Our study programs maintain a high standard of scientific, professional, and educational excellence, equipping students with the skills needed for further studies and for engaging in research and professional work both domestically and abroad. At the School of Humanities, we aim to enrich the Goriška region, as well as the Slovenian and international spheres, with new insights in the humanities, thereby fostering connections between the academic community and society. Our study programs maintain a high standard of scientific, professional, and educational excellence, equipping students with the skills needed for further studies and for engaging in research and professional work both domestically and abroad.

The year 2024 saw further growth in our visibility both locally and internationally. In addition to hosting public discussions under the Dialogues\_Beyond series, we organized a program within the Cross-Border Festival of Transformative Economies and Communities, ReThinkable. We contributed to the events of the European Capital of Culture GO! 2025 program and our staff as well as students participated in numerous national and international conferences. Our efforts continued with the organization of workshops, seminars, and guest lectures in fields such as literary studies, linguistics, cultural history, gender studies, ecocriticism, and more. We also engaged in the international university network ACROSS, particularly we have developed active collaborations with our partner universities in Chemnitz, Germany, and Udine, Italy.

Our study programs span diverse areas of the humanities. At the undergraduate level, *Language and Literature in the Digital World* develops modern competencies in literary studies and linguistics, while *Cultural History* offers an interdisciplinary perspective on the history of everyday life in cross-border regions. The master's program *Migration and Intercultural Relations* brings together students from over twenty countries to truly "think beyond." Rounding out our offerings, the Faculty of Humanities provides three master's specializations within the *Humanities Studies* program: Linguistics, Literary Studies, and Histories and Cultures of Cross-Border Spaces.

As of 2024, the undergraduate program Language and Literature in the Digital World, which replaces the previous Slovenian Studies program, offers students three specializations: The Slovenian Studies track provides a broad foundational knowledge in Slovenian studies, general linguistics, and literary studies. The interdisciplinary Literature and Culture track focuses on fundamental knowledge in literary studies, cultural studies, digital humanities, and literary history. The Slovenian Language and Linguistic Data track equips students with essential knowledge in linguistics, the Slovenian language, and language studies in general. The Cultural History program offers an in-depth understanding of the socio-political and cultural processes that have shaped the historical landscape of modern Europe, spanning from prehistory through the medieval, modern, and postmodern eras. Special emphasis is placed on interdisciplinary connections with related disciplines (anthropology, ethnology, sociology, cultural studies) and the historical and cultural particularities of the cross-border Northern Primorska region.

The master's program Humanities Studies consists of three specializations: Literary Studies, Linguistics, and Histories and Cultures of Cross-Border Spaces. Core courses provide a solid theoretical foundation in these disciplines, while shared elective courses offer opportunities for interdisciplinary integration and enrichment. The *Linguistics* specialization enables students to earn a double degree from the University of Nova Gorica and Ca' Foscari University of Venice. Migration and Intercultural Relations is an international master's program focused on human rights, democratic values, the welfare state, labor markets, and the challenges faced by the globalized world. It is conducted in English and supported by the Erasmus Mundus framework for international cooperation and exchange, with participation from universities



across Europe, Africa, and India. The School of Humanities also offers language courses in various foreign languages and Slovenian, tailored for non-Slovenian-speaking students. In 2023, we established the *Language Center*, strategically consolidating language courses and extending our offerings to crossborder and intersectoral spaces. At the School of Humanities, the first issue of the renewed student magazine *Artepakt* was published, featuring two dozen literary, essayistic, and visual artistic works by students. Together with the Research Centre for Humanities and the Centre for Cognitive Science of Language, the faculty co-organized several prominent scientific conferences, workshops, and seminars with broad international participation. The Dialogues\_Beyond series of public discussions once again featured prominent guests and engaging topics: in April, we explored *"The Past on the Market: Cultural Heritage as Link to Tradition and Market Product."* In May, we explored the topic of *"Becoming and Being a Writer: The (En) Tangled Networks of Slovenian Literature,"* while in November, we asked ourselves whether *Slovenian is bordering endangerment*?



# School for Viticulture and Enology

Dean: Prof. Dr. Branka Mozetič Vodopivec

### Study Programmes: Bachelor's Study Programme Viticulture and Enology Master's Study Programme Viticulture and Enology

The School of Viticulture and Enology at the University of Nova Gorica offers unique BASc and MSc programmes in Slovenia. By 2024, most students were enrolled in the BASc program, with increased enrolment. The programs are taught by university staff and external colleagues with the Wine Research Centre as a key research partner. The school hosted guest speakers and co-organized events such as the Student wine festival and DegustAkcija tasting. Students participated in different national wine events, Wine Research Centre sensory panel sessions, and Young wine specialists competition in Paris. The school launched a new sparkling wine called Rektorjeva Penina. In 2024, 11 new graduates received BASc diplomas, and the Alumnus Primus Alumnus Optimus Award was given to BASc graduate Magdailna Mihajlovska.



Collected evaluations of visitors of Student wine festival 2024.

The School of Viticulture and Enology offers BASc and MSc programs in Viticulture and Enology. These programs are unique to Slovenia, conducted at the Lanthieri Mansion in Vipava and the school wine estate in Manče. We have various internship partners that enhance students' educational experiences.

Most students in 2024 were enrolled in the bachelor's degree program (BASc), with two in the master's degree program (MSc). The 2023/24 year saw increased new enrollments compared to the previous years (33 new) in BASc program.

The programs are performed by university staff and external colleagues from domestic and foreign institutions; on average, 25% of the teaching content is covered by externals, most being higher education teachers. The majority of professional viticulture and enology courses are covered by staff from the Wine Research centre, an important research partner for our School and students. Last year, we hosted guest speakers from industry – Mr. Botton Francois and Nicolas Neve from Laffort, Mr. Luka Ribolica from Goriška Brda Cellar, and viticulture experts from Simonitti and Sirk and Vitenova Srl (in the frame of workshops of SLO-IT interreg ENO(SATIRA) about sustainable viticulture practices). In the second semester, we hosted a renowned expert in viticulture Deloire for a week. Students always liked his lectures.

Students participated in worshops and the wine festival Okusi vipavske, as well as on a hosted professional meeting for wine producers organized by Laffort in Lanthieri mansion in April 2024. In Zelen wine festiva, a workshop on wine Zelen has been organized for visitors.

The sensory panel, established in the Wine Research Centre, also invited our third-year students to participate in new sessions devoted to descovering the properties of Modra Frankinja wines – in connection to a new project at the Wine Research Centre.

The Student Festival in 2024, combined with the cross-border project ENO(SATIRA), featured an exhibition of satirical drawings about unification and overcoming borders in the Lanthieri mansion. The cartoons were displayed in the Lanthieri gallery until August 2024 and now adorn various classrooms in the mansion.

The UNG Scholarship Fund offers and our promotional efforts attracted five new enrollments to our MSc programme in 2024/25.

Professor Antalick regularly updated his blog on Ovinu.si. Professors Jež and Reščič contributed to a monograph for the anniversary of Slovenia's oldest fruit and grape-growing high school in Slap. The school again organized DegustAkcija, a tasting event, in early 2024 at Izola Manzioli Wine Bar, owned by a former student. Mentored by Dr. Jež, this event was one of the key promotional activities for the school.

Students, staff, and the rector welcomed firstyear students at a special event at the beginning of their academic year in October 2024.

Good relationships and accessibility to university management were nurtured by regular breakfasts (every second Monday) during semesters, becoming a well-visited habit. A year-end party hosted by the rector for staff and students was again well-received in June.

Support from student tutors helped students progress in their studies and assisted exchange students – six incoming students in the second semester visited for traineeships – four had blended internships, while two spent months helping Wine Research Centre staff with soil, wine chemistry, and microbiological analysis.



Glasses with experimental wines in the lab.

The school, together with experts from the Wine Research Centre, launched a new product, Rectors' Penina-sparkling wine, based on Pinela wine from our estate and produced using the traditional method in the school fermentation lab in Mansion.

In 2024, the school was awarded 11 new graduates with BASc diploma certificates. In 2023/24, the UNG Senate was awarded the Alumnus Primus Alumnus Optimus Award to BASc graduate Magdailna Mihajlovska. Magdalina Mihajlovska and Tara Seničić participated in the Young wine specialists competition in Paris (Agricultural Paris Show 2024), achieving 4th and 10th place in recognition and description of French wines.



New sparkling wine - Rektorjeva penina.

# **School of Arts**

### Dean: Prof. Boštjan Potokar



From shooting of the film "Stay here." by Tenej Davidović.

#### Study Programmes:

#### Bachelor's programme in Digital Arts and Practices Master's programme in Media Arts and Practices

The School of Arts has been educating in the field of arts since 2008 within the University. It began as a BA school and in seven years developed into a fully accredited Academy. This is the first university level academy in Slovenia in 71 years. In English it retains the naming as the *School* of Arts. In 2022 the School received concession (state funding) for implementing the bachelor's professional degree programme in Digital Arts and Practices. Together with the master's degree programme in Media Arts and Practices the studies cover the following fields:

- Animation (unimated nim, unimation in creative industries)
- Videofilm (fiction, documentary, experimental film, art video)
- Photography (author, functional)
- New Media (creative use of new technologies)
- Contemporary Art Practices (combining different media)
- Scenographic Spaces (*film*, *theatre* scenography)
- Art-Science-Technology (connecting diverse fields)

After 2008, when we prepared the first study programme in the field of arts, the school saw a gradual but firm development into an art academy:

The Programme structure at the UNG School of Arts enables combining media and fields thereby opening a range of professional pathways, from becoming an author to developing a distinct professional identity. In 2009 we opened the Bachelor's programme in Digital Arts and Practices. Our MA programme was developed within ADRIART, an EU supported project, together with partners from Croatia, Austria and Italy. As leading partner of the ADRIART project at the UNG School of Arts we were in 2012/13 able to offer our BA graduates a continuing of education - the MA programme - Media Arts and Practices, with a pilot run in that year and a full launch the following year. Since several years we are thus able to conduct the whole vertical of education in the field of arts, which is possible in Slovenia. In the academic year 2024/25 87 students are enrolled at the UNG Academy of Arts. An important change that took place in the 2022/23 academic year is the acquisition of a concession for the implementation of the Digital Arts and Practice undergraduate program. In the premises in Rožna Dolina, we succeeded in renovating additional premises by October 2024, which are being renovated specifically for the needs of the School of Arts. So now, simoultanesly with the Semester Show in January 2025, we will officially open a film and photography studio, a projection and technical room, and some additional rooms. As part of the tender related to the European Capital of Culture GO!2025, we managed to obtain an Interreg tender with which we will equip the studio with some of the specific equipment for the needs of production and postproduction of film, animation and photography. Thus, for the first time, students will have at their disposal an equipped studio environment where they will be able to work undisturbed throughout the day.

In addition to the independent work of the mentors and other colleagues of the UNG School of Arts, most of whom are internationally recognized artists, a lot of energy is also invested in participating in various festivals and exhibitions with student works. Thus, we once again participated in various festivals and exhibitions at home and around the world.

- We participated for the first time in the most important film festival in the former Yugoslav region. At the 30<sup>th</sup> Sarajevo Film Festival, we competed in the student competition section with a graduate master's film:
  - Anja Resman, animated film »Beyond the Face«
- We participated in the 27<sup>th</sup> Slovenian Film Festival with a record number of eleven (11) student films. According to the exceptional decision of the jury (which, due to quality, awarded six (6) student films instead of one Vesna), three students of the Academy of Arts are among the winners:
  - Karin Likar, animated film »(Un)lucky Day«
  - Anja Resman, animated film »Beyond the Face«
  - Nel Jeraj Sedej, experimental film *»Window«*
- Ars Electronica 2024 Festival for Art, Technology & Society, Linz, Avstrija. We were invited for the fourth consecutive year. The title of this year's event was »HOPE who will turn the tide«. We presented five student projects under the joint title: »Look Me in The Eye—The Time is Now!«:
  - »l's«, Ana Evtić, mentor: prof. Rene Rusjan
     »So, Who Will Turn the Tide«, Natalia
  - Polonskaia, Tamara Kirina in Nel Jeraj Sedej, mentors: Jasna Hribernik, Olga Toni, Jan Cvitkovič, Martin Turk
  - »A Liquid Vision of 2086«, Ana Evtić in Nel Jeraj Sedej, mentor: prof. Robertina Šebjanič
  - »A Vision of 2086«, Luka Carlevaris, Tamara Taskova, Blaž Stantič Kobal and Primož Lukežič, mentor: Robertina Šebjanič
  - »Hope and Existential Grief in the Anthropocene«, Polina Bakalski, Luka Cerlevaris, Ana vtić and Milan Bajčetić, mentor: prof. Jasna Hribernik

From the workshop "Evoking Emotion with Lighting and Texture" with guest animation director Jonatan Schwenk / Animation HUB.

- DSAF Slovene Animated Film Association awarded students for finished films and projects in development. Both of the awards this year were handed to our students:
  - Anja Resman, MA graduation animated film »Beyond the Face« - DSAF Award for completed animated student film 2024
  - Brina Fekonja, graduation animated film
    »Lychens« DSAF Award for Animated
    Student Project in Development 2024
- At the International Festival of New Media Speculum Artium Festival in Trbovlje our films formed one slot within the DigitalBigScreen programme.
- At the International Computer Art Festival MFRU in Maribor
  - MA student Lazar Mihajlović received the 2nd place student award for the new media project *»Dreamer«*
  - MA student Ana Evtić received the 3rd place student award for her artstic intervention *»Time Continuum«*

- At the Animateka 2024 International Festival of Animated Film in Ljubljana University of Nova Gorica has, together with University of Ljubljana, sponsored the »Young Talent Award« for the best European student film. We had four films in the programme: two films in the Young Talent European Student Competition Programme:
  - Anja Resman, animated film »Beyond the Face«
  - Brine Fekonja, animated film »Tempomaximus«
  - and two in the Panorama section:
  - Karin Likar, animated film »(Un)lucky Day«
  - Dragane Stanković animated series
    »Funny Snails«

We believe our most important showcase are our students and graduates – their products are valued high enough by professionals to represent Slovenia at diverse exhibitions, festivals and selections around the globe.



From the "Toon Boom" animation workshop with guest mentors from the polich studio GS Animation /Animation HUB.

# **Graduate School**

Dean: Prof. Dr. Iztok Arčon



The electroencephalography and event-dependent potentials (EEG/ERP) device in the CKZJ laboratory, available to students of the doctoral program Cognitive Science of Language.

The mission of the Graduate School is to educate top professionals who will be able to solve the most challenging tasks in the research, development, business or social environment in Slovenia and internationally, and to create new knowledge in a harmonious relationship between students, professors and researchers, and to transfer this knowledge to younger generations and the business environment.

Graduate School brings together and implements all doctoral programmes (third cycle) at the University of Nova Gorica (UNG), regardless of their field of study. The range is very broad, from natural sciences and engineering to the humanities and interdisciplinary sciences. In the academic year 2023/2024, 74 students were enrolled in all eight doctoral programmes.

Common to all doctoral programmes at Graduate school is a close link with research units at UNG or other partner research institutions at home and abroad, where students can conduct

### Study Programmes:

Doctoral Study Programme Environmental Sciences Doctoral Study Programme Karstology Doctoral Study Programme Physics Doctoral Study Programme Materials Doctoral Study Programme Humanities Doctoral Study Programme Cultural Heritage Studies Doctoral Study Programme Molecular Genetics and Biotechnology Doctoral Study Programme Cognitive Science of Language Graduate School at the University of Nova Gorica (UNG) brings together and implements all doctoral programmes, regardless of their field of study. It is organised as a coherent, unified and internationally oriented graduate school. The individual study programmes are closely linked to the research units of UNG and other research institutions at home and abroad, where doctoral students can carry out research work as part of their studies and engage in international research projects



The surface karstified with parallel channels. Southern slopes of the Luberon Mountains, Provence, France.

research, engage in international research projects and thus effectively generate new knowledge and transfer this knowledge into practice in a business environment. Among many external partners we should point out those with which we have established long term collaborations. The doctoral programme Karstology is implemented in close cooperation with the Karst Research Institute of the Research Centre of the Slovenian Academy of Sciences and Arts in Postojna, with which we have also established the UNESCO Chair on Karst Education at UNG. The PhD programme in Cultural Heritage Studies is run in cooperation with the IUAV University of Venice, and together with them we offer a double PhD degree as well as a one-year advanced training programme (second-level Master). The Molecular Genetics and Biotechnology programme is run in collaboration with the International Centre for Genetic Engineering and Biotechnology (ICGEB) in Trieste. The Materials PhD programme is run in close collaboration with National Institute of Chemistry in Ljubljana.

An important strategic orientation of Graduate School is the internationalisation of doctoral studies. This is reflected in the high proportion of international students enrolled (the average over several years is above 60%). There are also many international student exchanges with related study programmes at other universities in Slovenia and abroad through the European Credit Transfer System (ECTS) and the ERAS-MUS+ programme, which provides students with a high degree of mobility, selectivity and interdisciplinarity in shaping their individual orientations within individual doctoral programmes. Graduate School has a high number of professors and experts from foreign universities and research institutions as lecturers and as mentors for doctoral students. The three-member PhD thesis defence committee always includes two members from a foreign university, thus ensuring that the quality of doctoral theses is comparable to established standards worldwide.

We are continuously updating the content and quality of our doctoral programmes to provide doctoral students with cutting-edge knowledge that enables them to successfully tackle new challenges in science. The quality and relevance of the content and teaching methods offered in our doctoral programmes is reflected in the achievements of our students, which are reflected in the successful defences of high-quality doctoral theses and the publication of the results of their research work in a number of well-established international scientific journals. In the academic year 2023/2024, doctoral students published 106 scientific and professional articles, 74 conference papers, 143 conference abstracts and 26 other scientific publications. In this year 8 students finished their doctoral studies.

The doctoral programmes are fully funded through tuition fees. Premises and equipment for the implementation of graduate study programmes are adequate. The professional management of the doctoral programmes is the responsibility of the programme directors, together with the scientific boards of the programmes. External stakeholders, representatives of employers, research institutions, business, the public sector, the local environment, and graduates of the programme, are involved in strategic decision-making in the development, updating and modification of each programme.



Doctoral student Maria Chiara Magnano collecting exhaled breath condensate in order to assess air pollution exposure.



### **Other Activities**

For the researchers, students, and general public, all the professional (research) and study literature is available at the very modern *University Library*, while the *Publisher of UNG* is in charge of the publication of text books, lecture notes, collections of scientific papers and other works. The university also has a *Student Office* that helps both undergraduate and graduate students, as well as all those interested in obtaining information about the study at the UNG. The *International and Project Office* is there for coordinating international projects and gives administrative support for carrying out international projects. Apart from that, the University of Nova Gorica also has a *Career Center* that creates a link between the university, the students and potential employers. Lastly, there the *Alumni Club* that joins alumni from all generations of graduates, of both graduate and undergraduate programs. It basically connects all individuals who have contributed in any way to the development of the University of Nova Gorica.



# **University Library**

### Head: Vanesa Valentinčič Murovec



University library of University of Nova Gorica is open to all students and staff, as well as to all other visitors who are interested in the material offered by the library. We collect material from all areas of science, mostly for educational and research activities of UNG.

Library collection includes about 25.250 book titles, 30 titles of periodicals, 750 items of non-book material and e-edition of scientific journals, reachable over services like ScienceDirect, Springer-Nature, Web of Science, MathSciNet, Scopus, APS Journals, EBSCO, ACS Publications, JSTOR, CREDO online, IOPscience, Taylor & Francis - Science & Technology, ProQuest Dissertation & Theses Global ...

Library collection is almost completely open access and organized by UDC classification. We offer on-line searches from databases and through interlibrary loan we provide material that is not in our collection. We provide bibliographic service for our researchers and other institutions. The library is full member of the Slovene library co-operative online bibliographic system & service, COBISS. Throug our website we offer e-learning of search skills. We also provide information literacy courses. The library is open 44 hours per week. Users can use a reading

room with computers and option to connect to Wi-Fi their own devices for easier access to electronic material, archives and databases. Students from the dislocated faculties can use library loan by the courier service. Repository of the University of Nova Gorica (RUNG) is one of the Open Science Slovenia portal's "openaccess. si" partners.

In 2024, we continued updating lists of basic study literature, we also published lists of literature for individual subjects on the library's website. Each reference is provided with a link to the catalogue and to the e-material where it exists. This year, we enriched the library collection with around 500 new units of basic study literature.

In accordance with legislation, the UNG repository was upgraded in 2024 to enable

the publication of research results related to publicly funded research in line with the principles of open science. Researchers can store peer-reviewed scientific publications and research data in RUNG, and can also add information about funders, projects, publication costs, etc.

Due to the principles, requirements, and legislation in the field of open science, we provide guidance to researchers on open science matters. As librarians, we have attended several training courses on open science. We are actively involved in the working group for the establishment of the Center for Quality Assurance in Scientific Communication, in the working group for promotion citizen science, and in meetings of Slovenian consortia and publishers. We also participated in preparing the criteria for trusted repositories and we updated RUNG with the criteria for trusted repositories.

We have created a website with information on open science, which we regularly update. We also prepared lectures for postgraduate students and researchers, the first on the topic of open science and the use of the repository, and the second on the topic of open publishing at the UNG Publishing House.

We successfully provided training and information literacy courses for students of several faculties. Our employees participated in several trainings in the field of librarianship and open science.

# **Publisher of UNG**

### Head: Mirjana Frelih



University of Nova Gorica started its publishing activity in 2001. We publish textbooks and study material for the academic courses available at our institution, as well as research and scientific works. Publishing is regulated by the *Rules of publishing activities*, for quality is responsible *Commission for publishing*.

So far, we have published 71 publications. Among them there are teaching material with instructions for exercises for undergraduate students of the University of Nova Gorica, university textbooks for students and professors, conference proceedings, scientific and other monographs.

In 2024, seven new works were published, marking the highest number of publications in a single year so far. Of these, six are freely accessible under a Creative Commons license. One freely accessible manual was published on the Pressbooks platform: *Upoznajmo svet i načinimo ga boljim za život: menjamo okolinu, obogaćujemo je ili uništavamo* by Mira Terzić, Tatjana Ivošević, Mladen Franko, and Dragana Milićević.

Four additional university textbooks were published as open-access resources on the Pressbooks platform:

- Reprezentacije spolov v slovenski književnosti by Katja Mihurko and Darko Ilin
- Uvod v pogodbeno pravo: izbrane teme by Maja Ovčak Kos
- Tehnike za analizo in reševanje problemov by Imre Cikajlo and Franc Gider
- Matematika za gospodarski inženiring by Irina Cristea, Hashem Bordbar, and Alessandro Linzi

A critical edition of the resource *Ljubim lepa pisma: dopisovanja avtoric slovenske moderne* by Katja Mihurko, Primož Mlačnik, and Ivana Zajc has also been released as an openaccess publication and is available in print. We obtained funds for the publication of this book through the Public Call for Co-financing of the Publication of Scientific Monographs in 2023. Additionally, one work of fiction, *Pesem o Nibelungih*, translated by Simon Širca, has been published in print.

In 2024, we conducted the first training for researchers on the possibilities of open access publications through UNG Press.

# **Student Office**

### Head: Renata Kop

The Student Office of the University of Nova Gorica was founded in the year 2002 and serves both undergraduate and postgraduate students as well as those interested in information about the studies at our institution. The objective of the Student Office is to support the students and the candidates for study in academic and extracurricular activities. The Student Office has offices available in Nova Gorica and Vipava. Part of the Student Office is also Higher Education Application-Information Service, which was founded in the year 2007.

The tasks of the student office are study counseling (application process and application deadlines); administrative processing of applications (review of applications, informing candidates about missing documents and deadlines for submission, keeping records); managing candidates from application to enrollment (evidence, notification, notification and selection decisions, invitations to enroll, first enrollment of candidates); education recognition process (review of applications, collection of evidence, information, advice, formal and substantive assessment of applications, preparation of decisions, decision-making, record keeping); enrollment of students (organization and management of enrollment: enrollment in the higher year, repetition of the year, data entry, preparation of data for other university services); issuance of certificates (issuance of acceptance, enrollment, evaluation certificates, etc.); entry of grades (exams, diplomas); assistance and advice to Student Committee (if necessary); other counseling (accommodation, transport, food, health insurance, bank, tax number); organization of systematic medical examinations; assistance, guidance and advice in the process of obtaining a residence permit (foreigners); management of student records and archives; cooperation in the preparation of university regulations, preparation of diploma documents (preparation of diploma and diploma supplement, printing of diploma supplement, procurement of diploma documents and folders, assistance in legalization

of documents, record keeping); regulating the legalization of diplomas; organization of the preparation of the tender for enrollment and submission of the tender to the ministry; entry of the tender (registration deadlines, vacancies, etc.) into eVš; cooperation in the preparation of the schedule and common provisions (concessional undergraduate programs); members of the VPIS Coordination; preparation of analyzes and statistical data on students, graduates, applications, enrollment and study programs for the needs of faculties, universities, ministries and others - as necessary; editing the website in the field of application, tender, enrollment, extracurricular activities, price list; management of the student dormitory (rooms in the Lanthieri Mansion): preparation of the invitation for admission and residence, preparation of contracts, installation, check-in and check-out of the residence and record keeping, control over defects, defects, order and cleaning; coordination of private accommodation offers.

Education and training in 2024:

- consultations, seminars, trainings in the field of enrollment services
- legislation and good practices in the field of recognition of education
- legislation in the field of obtaining residence
  permits for foreigners
- education organized by the ministry responsible for higher education and ENIC-NARIC.
- legislation in the field of higher education
- intercultural competences.

Examples of training courses:

- Working meetings with secondary school advisors
- eVŠ workshop upgrades: definition of a study course for program encryption
- Working meetings of the VPIS Coordination
- Online seminars on evaluation and recognition of education for authorized persons in higher education institutions, ENIC-NARIC

- Education to obtain the "LGBTIQ+ friendly"
  certificate, UNG
- Workshop/education for psychological first aid in case of depression, suicidal behavior; National Institute of Public Health
- DATA-LAB: Regular training protection of personal data. Erasmus+ mobility for the purpose of training (Portugal)
- Erasmus+ mobility for the purpose of training (LUCA School of Arts, Brussels)
- ASCUN Webinar: Challenges and opportunities in recognition of qualifications in higher education: Global perspectives
- LINK: Paving the Way for Disabled Student Success: Real-life examples across Europe
- 2024 TAICEP Spring Webinar Series (online) -Enhancing refugees' opportunities for further study and employment
- EUA: Webinar: Navigating microcredentials: institutional, national, and European perspectives
- EUA webinar series Toward Tirana 2024: The Social Dimension in higher education: its context and its future; What is next for the European QA framework?; What do the indicators say about the Bologna Process?; The Bologna Process and developments in the EHEA (I); The Bologna Process and developments in the EHEA (II) on Student-Centered Learning: The Bologna Process perspective;
- ECE webinar series: e-Learning 30-Minute Snapshot: Post-Secondary Recognition in Mexico; WAEC & NECO Examinations; Combating Fraud in Russian Credentials; The Indian TEN Point Grading Scale; Navigating Challenges: Ukraine; Navigating Challenges: Syria informative; Navigating Challenges: Myanmar informative
- ECE: e-Learning: China IV: Fraud, Authenticity, and Verification
- UK ENIC-NARIC: Spotlight on South Africa
- COE, EUA: Online Consultation with Higher Education Institutions on automatic recognition
In the academic year 2024/2025 we have 541 students: 267 students of the bachelor`s degree study programmes, 193 students of the master`s degree study programmes and 81 students of the doctoral degree study programmes.





The number of graduates by the level of the programme in academic year 2023/2024:

- 45 on the bachelor's study programmes,
- 47 on the master's study programmes,
- 8 on the doctorate study programmes.





The Student Office completed 581 processes of the recognition of foreign education and issued 322 positive decisions in the year 2024.

The number of foreign students at the University increased in 2024/2025 compared to 2023/2024, and the percentage of foreign students in relation to the total number of students at the University in the observed period is also higher, i.e. 62,3%.

The majority of the foreign students in academic year 2024/2025 study on the master's study programmes, in particular on the School of Humanities and School of Engineering and Management.



In the academic year 2024/2025 the foreign students come from 54 different countries:



# International and Project Office

### Head of Office: Aljaž Rener

The activity of the International and Project Office is intended for the management and organization of international activities and the coordination of international (and domestic) UNG projects.

The office supports students, professors, researchers and other employees who participate in mobility activities. It takes care of incoming and outgoing mobility under the Erasmus + program, under Ceepus, Bilateral Scholarships and of mobility carried out under various interinstitutional agreements or arrangements. It also provides support in concluding inter-institutional agreements.

The office provides administrative support to applications of project proposals to open calls and the implementation of international projects. The office provides support to researchers and other employees in preparing applications for tenders, primarily from a financial, administrative and legal-formal point of view. For ongoing projects, the office ensures the preparation of financial reports for international research projects and provides support and advice in the implementation of projects.

The office employs four people (Head of the Office, Project Coordinator, Mobility Coordinator and Professional Associate).

Mobility projects implemented during the academic year 2023/2024

V študijskem letu 2023/2024 so se tako izvajali naslednji projekti:

- Erasmus+ 2024, Visokošolsko izobraževanje med programskimi državami (2024-2026)
- Erasmus+ 2023, Visokošolsko izobraževanje med programskimi državami (2023-2025)
- Erasmus+ 2022, Visokošolsko izobraževanje med programskimi državami (2022-2024)
- Erasmus+ 2024, Visokošolsko izobraževanje med programskimi in partnerskimi državami (2024-2027)
- Erasmus+ 2023, Visokošolsko izobraževanje med programskimi in partnerskimi državami (2023-2026)
- Erasmus+ 2022, Visokošolsko izobraževanje med programskimi in partnerskimi državami (2022-2025)
- Erasmus+ 2021, Visokošolsko izobraževanje med programskimi državami (2021-2024)
- Multidisciplinary Approach to Education and Research in the Field of Digital Media Production, CEEPUS (2023-2024)
- Advanced Trends in Education and Research of Biochemistry, Biophysics and Biotechnology of Macromolecules Umbrella, CEEPUS (2023-2024)
- Food Safety for Healthy Living, CEEPUS (2023-2024)
- Women Writers in History Umbrella, CEEPUS (2023-2024)
- ADRIART.CE, CEEPUS (2023-2024)
- Education of Modern Analytical and Bioanalytical Methods, CEEPUS (2023-2024)
- Research and Education in the Field of Graphic Engineering and Design, CEEPUS (2023-2024)

167 exchanges of students, young graduates and staff were realized in the 2023/2024 academic year.

The Office provided support in concluding interinstitutional agreements and took care of the promotion of programs and projects and their results. Office organized several informative presentations of mobility projects for both staff and students. It also participated in virtual Info Days of the University, promotional campaigns organized by the University. The work in the office in 2024 in the field of international research projects was mainly focused to support the implementation of ongoing projects.

In 2024, the International and Project Office provided administrative and financial support in the implementation of the following projects and in the preparation of financial reports:

Acronym	Project title	Programme
NEP	Nanoscience Foundries and Fine Analysis - Europe  PILOT	Horizon 2020
WeBaSoop	Research Reinforcing in the Western Balkans in Offline and Online Monitor- ing and Source Identification of Atmospheric Particles	Horizon Europe
SMASH	MAchine learning for Sciences and Humanities	HORIZON EUROPE-MSCA-2021-COFUND-01 in MVZI RS
SRC-EDIH	Smart, Resilient, and Sustainable Communities – European Digital Innova- tion Hub	HORIZON EUROPE-DIGITAL-2021-EDIH-01 in MDP RS
Re-Value	Re-Valuing Urban Quality & Climate Neutrality in European Waterfront Cities	Horizon Europe
MI-TRAP	MITIGATING TRANSPORT-RELATED AIR POLLUTION IN EUROPE	Horizon Europe
GREEN IN CITIES	GreenInCities	Horizon Europe
REGINNA 4.0	REGional INNovAtive learning for society 4.0	EIT HEI Initiative
AGROTUR+	Kraški lokalni produkti in turizem	Interreg VI-A Italija-Slovenija 2021-2027
PV	Peripheral Visions	Interreg VI-A Italija-Slovenija 2021-2027 SPF
4P	Čezmejne Poti, ki odkrivajo dediščino Piera Paola Pasolinija	Interreg VI-A Italija-Slovenija 2021-2027
ALL-MICRO	ALLiance za spodbujanje čezmejnih inovacij z metodo MIKROskopija	Interreg VI-A Italija-Slovenija 2021-2027
GO! STUDIO	Krepitev čezmejnih zmogljivosti na AV področju z mladimi za mlade	Interreg VI-A Italija-Slovenija 2021-2027 SPF
ENO (SATIRA)	Trajnostni vinski turizem: kulturna krajina, vino in satira	Interreg VI-A Italija-Slovenija 2021-2027 SPF
RESPOND	Climate Resilient alpine wine orchards	Interreg Alpine Space
GENIUS	Greener permanent magnets without or with less critical raw materials	Era-Min3
OpMetBat	Operando metrology for energy storage materials	EURAMET- The European Partnership on Metrology
CULTURAL BEES	Creating cultural heritage businesses through hybrid learning models & hands-on curricula across borders	CREA-CULT-2023-COOP
DECORATOR	Danubians Cradle-to-Cradle Architecture and construction processes	INTERREG DANUBE
CDKL5	Looking for differences: in vitro isolation of hCDKL5-specific antibody frag- ments and set-up of a method to quantify hCDKL5 and possibly distinguish between its iso- forms	LOULOU FUNDATION
GAME	Gaia Astrometric Microlensing Events	ESA Prodex
LILY	A Large-scale Interdisciplinary Alliance on Nature-Based SoLutions and Health: Indicators, InequalitY and Innovation	COST Actions
Uncorking Rural Heriatge	Uncorking rural heritage: indigenous production of fermented beverages for local cultural and environmental sustainability.	NFM Regional Cooperation

# **Career Center**

### (Head: Nives Štefančič)



Activities in 2024:

Activities in the context of practical training; coordination and assistance of students in finding companies for practical training and participation in online presentations of interim reports of the practical training of students of School of Engineering and Management in companies Hella Saturnus Slovenija, d. o. o., Business Solutions, d. o. o., Meblo INT, d. o. o., Termoplasti - Plama, d. o. o., Eta, d. o. o., Acinel, d. o. o. and Knaput Logistika, d. o. o. Contacts with employers; meetings with employers from companies Alemo, d. o. o., Meblo INT, d. o. o., Rotolnox, d. o. o, Kompas Xnet, d. o. o., H3P, d. o. o., Klet Brda, z. o. o., where we discussing the possibilities of cooperation with individual schools in the framework of practical training, student work and other possibilities of cooperation. Publication of vacancies of different companies.

Informing students and graduates of suitable job vacancies, internships, current events, tenders; published arround 180 job vacancies, which correspond to profiles of UNG graduates. Periodically checking the employability of graduates six months and one year after graduation; in January, March, May, July, September and November 2024 (graduates from 2020 to 2024). Organization and/or participation at events with the aim of promoting the University and the Career Center:

- presentation of the Popri competition at UNG locations to the students;
- coordination and participation at the Career Fair at Vegova in Ljubljana in January;
- coordination and participation at the Career
  Fair at the Secondary Health and Cosmetic
  School in Celje in January;
- organization and coordination of the team at the 15th Informativa in January 2024;
- meeting with the organizers of the Informativa - exchange of impressions and submission of proposals for improvements for the 2025 Informativa;
- coordination of the internship of 4th year students of the Slovenian Lyceum Pole from Gorizia - 12 students on the internship for five days in UNG units;
- coordination of one-day shadowing for third and fourth year students of Nova Gorica, Ajdovščina, Vipava, Postojna, Idrija Sežana and Ilirska Bistrica gymnasiums - 43 students were shadowing in UNG units;
- coordination of renting rooms in a rented apartment in Nova Gorica, with capacity for five students;
- participation in interim presentations by PTF students on the course of practical training;
- participation in final presentations by PTF students on the course of practical training;
- participation in the working group to support the activities of the Eurograduate project of the Rectors' Conference of the Republic of Slovenia;
- organization of an alumni meeting
- participation at the council of the School of Ingeneering and Management;
- participation in the working group to support the activities of the Eurograduate project of the Rectors' Conference of the Republic of Slovenia;

- participation in the Inclusion project;
- implementation of the workshop "CV and motivation letter" for students of School of Engineering and Management;
- coordination and co-leading of the round table during the UNG week at the School of Ingeneering and Management "Practical training - an excellent opportunity to enter the business world";
- coordination and co-leading of the round table "Challenges of environmental technologists and engineers; viticulture and enology" during the UNG week at the School of Environmental Sciences and the School of Viticulture and Enology;
- coordination and leading a discussion with graduates of the School of Science
   "On the challenges of studying physics and astrophysics and where to go after graduation" during the UNG week;
- coordination of the student team and participation in the career festival in Koper (Plac priložnosti) in October;
- organization of the ceremony of the University of Nova Gorica Foundation in October;
- coordination of the exhibition "Artists for Caritas" in the Lanthieri mansion;
- coordination of the student team and participation in the career fair - the professions and education fair for high school students in Maribor;
- coordination of the student team and participation in the "Choose your study" fair at the Nova Gorica Gymnasium;
- coordination of the student team and participation in the fair at the Novo mesto Gymnasium;
- coordination of the student team and participation in the fair at the Celje Center Gymnasium.

Participation of the Career Center in working meetings and trainings:

- participation in online education/training in the field of inclusion - The Inclusion ACAdemy;
- participation in the workshop "Media Presentation";
- participation in the training "LGBT Friendly" to obtain a certificate;
- participation in LinkedIn training organized by PTP;
- participation in the Euroguidance webinar
  "VKO point and trends in the labor market";
- participation in the two-day conference
  "Days of personal and career development";
- participation in the two-day final conference in the field of inclusion - The Inclusion ACAdemy in Zagreb;
- training in psychological first aid organized by the NIJZ;
- participation in Erasmus+ employee training at LUCA School of Arts, Brussels, Belgium;
- training in the workshop "Career path of the future", organized by the European network Euroguidance, Europass and NKT SOK-EOK Slovenia;
- participation in the workshop "Methods of effective communication and career training of young people".

#### **Employability in 2024**

With the academic year 2021/2022, we started with a new way of monitoring employability of graduates. We follow the percentage of graduates who:

- are employed in the profession,
- are employed,
- are UNEMPLOYED,
- continue their studies,
- we fail to verify them or they refuse to provide information grey area.

The tables present the employability of UNG graduates for all programs together and separately by Schools for 6 months and 12 months after graduation. Data from the UNG Career Center are from November 2024 and include graduates of the last three years.

Employability of UNG graduates	all together and separately	by School, 6 months after a	graduation (data covers g	raduates from 2020 onwards):
Employability of onto graduates	, all together and separately			

School average in %	6 months % employed in the profession	6 months % employed	6 months % unemployed	6 months % continue with studies	6m % grey area	
University of Nova Gorica - together	54,55	61,74	8,33	22,73	7,20	
School of Engineering and Management	66,30	71,74	6,52	16,30	5,43	
School of Environmental Sciences	28,57	40,00	8,57	42,86	8,57	
School of Humanities	23,81	38,10	19,05	28,57	14,29	
School of Sciences	17,65	17,65	11,76	70,59	0,00	
School of Viticulture and Enology	58,82	82,35	0,00	11,76	5,88	
School of Arts	51,28	56,41	12,82	25,64	5,13	
MAG ARH	0,00	0,00	0,00	0,00	100,00	
Graduate School - TOGETHER	85,37	87,80	4,88	0,00	7,32	

6 months - % employability of the Graduat	e School (GS) sep	parately by docto	ral programmes			% of graduates from GS
Environmental Sciences	83,33	100,00	0,00	0,00	0,00	14,63
Physics	81,25	81,25	6,25	0,00	12,50	39,02
Karstology	100,00	100,00	0,00	0,00	0,00	14,63
Humanities	100,00	100,00	0,00	0,00	0,00	4,88
Cultural Heritage Studies	50,00	50,00	0,00	0,00	50,00	4,88
Molecular Genetics and Biotechnology	100,00	100,00	0,00	0,00	0,00	7,32
Cognitive Science of Language	0,00	0,00	100,00	0,00	0,00	2,44
Materials	100,00	100,00	0,00	0,00	0,00	12,20

Employability of UNG graduates, all together and separately by School, 12 months after graduation (data covers graduates from 2020 onwards):

School average in %	12 months % employed in the profession	12 months % employed	12 months % unemployed	12 months % continue with studies	12 months % grey area	
University of Nova Gorica - together	56,79	67,08	0,82	25,51	6,58	
School of Engineering and Management	70,24	78,57	1,19	16,67	3,57	
School of Environmental Sciences	29,41	44,12	0,00	47,06	8,82	
School of Humanities	19,05	42,86	4,76	38,10	14,29	
School of Sciences	29,41	29,41	0,00	70,59	0,00	
School of Viticulture and Enology	61,54	84,62	0,00	15,38	0,00	
School of Arts	51,52	63,64	0,00	30,30	6,06	
MAG ARH	0,00	0,00	0,00	0,00	100,00	
Graduate School - TOGETHER	89,74	92,31	0,00	0,00	7,69	

						% of graduates
12 months - % employability of the Graduate School (GS) separately by doctoral programmes						from GS
Environmental Sciences	83,33	100,00	0,00	0,00	0,00	15,38
Physics	87,50	87,50	0,00	0,00	12,50	41,03
Karstology	100,00	100,00	0,00	0,00	0,00	15,38
Humanities	100,00	100,00	0,00	0,00	0,00	5,13
Cultural Heritage Studies	100,00	100,00	0,00	0,00	0,00	2,56
Molecular Genetics and Biotechnology	100,00	100,00	0,00	0,00	0,00	7,69
Cognitive Science of Language	0,00	0,00	0,00	0,00	100,00	2,56
Materials	0,00	0,00	0,00	0,00	0,00	10,26

# Alumni Club

Head: Nives Štefančič



Alumni Club of the University of Nova Gorica in 2024 continued with activities to increase connection between University and Alumni:

- we upgraded informations about Alumni and informed them about activities of Alumni Club;
- we informed Alumni about scholarships, competitions, opportunities for postgraduate studies at home and abroad;
- we invited them to become promotors within their schools, at variety promotional events;
- we informed them about job vacancies and other events suitable for individual profiles of graduates;
- we invited them to different events of the University of Nova Gorica (scientific afternoon, information days, semester and annual exhibitions, etc.);
- Alumni participated at round tables at the School of Science, School of Environmental Sciences and the School of Viticulture and Enology and the School of Engineering and Management;;
- in September we organized an alumni meeting of all schools.

Alumni meeting, September 2024.



#### **Univerza v Novi Gorici** Vipavska 13

Rožna Dolina SI-5000 Nova Gorica T: +386 5 6205 820 E: info@ung.si www.ung.si/en/

