



ASSOCIATION OF CHEMISTRY AND THE ENVIRONMENT

Newsletter 2020

edited by Branimir Jovančičević

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1) Stuart Gibb:
Twenty years of EMEC conferences

With the 21st meeting on European Meeting on Environmental Chemistry (EMEC21) in Novi Sad being postponed until 2021, we have an opportunity to revisit and reflect on the journey around Europe since the first EMEC in Nancy France.

Origins

The first *Meeting on Environmental Chemistry*, organised by Eric Lichtfouse, was held in the city of Nancy in north-eastern France. At this gathering, a group of environmental scientists

from across Europe convened to establish an association to facilitate the ongoing exchange of scientific knowledge and to promote academic collaboration.

ACE, the Association of Environmental Chemistry's first board members included Josef Caslavsky (Czech Republic), Branimir Jovančičević (Serbia), Jan Schwarzbauer (Germany), Roland Kallenborn (Norway) and Mark Fitzsimons (UK), with Eric Lichtfouse, acting as president. The Board decided to organise the meeting on an annual basis, and the European Meeting on Environmental Chemistry (EMEC) was born.

Evolution

Subsequent EMECs were held in Dijon, France (2001); Geneva, Switzerland (2002) and Plymouth, England (2003). Each year, the event was, and still is, held in early December. EMECs have brought together scientists from diverse fields including atmospheric science, biology, geology, industrial chemistry, medicine, soil science, ecotoxicology, green chemistry, remediation techniques and water science to address a range of challenges within the field of environmental chemistry. Contributions of an inter- and multi-disciplinary nature are always encouraged.

At EMEC5 in Bari, Italy (2004) the ACE Board underwent significant change, including Jan Schwarzbauer becoming President. The association also introduced new initiatives, such as launching a Young Researcher Award; a poster prize for EMEC participants and expanding meeting venues into Eastern Europe and engaging with many new participants delegates in doing so.

EMECs evolved to be a forum particularly relevant and attractive to PhD students and early career scientists. In 2015, ACE established a scholarship programme to support the participation of research students, to provide networking opportunities with peer and interaction with established colleagues. This initiative still runs today, promoting exchange between junior and senior participants in the constructive and collaborative environment that has come to characterise EMECs.

EMECs have an established track-record of attracting high-quality scientific presentations and keynote addresses from internationally renowned researchers, and for providing a forum for lively scientific discourse. However, the social programme that accompanies each event has become a fundamental part of every EMEC. The meetings have provided participants with a unique opportunity to engage with aspects of the local culture, history, food and drink: always topped off by a special conference dinner. And, because EMECs are often chosen in locations, away from capital or more frequently visited cities, the events can present fresh and exciting personal experiences to compliment the professional engagement.

2000 – 1st Meeting on Environmental Chemistry - Nancy, France

2001 – EMEC2 - Dijon, France

2002 – EMEC3 - Geneva, Switzerland

2003 – EMEC4 - Plymouth, U.K.

2004 – EMEC5 - Bari, Italy
2005 – EMEC6 - Belgrade, Serbia and Montenegro
2006 – EMEC7 - Brno, Czech Republic
2007 – EMEC8 - Inverness, Scotland
2008 – EMEC9 - Girona, Spain
2009 – EMEC10 - Limoges, France
2010 – EMEC11 - Portoroz, Slovenia
2011 – EMEC12 - Clermont Ferrand, France
2012 – EMEC13 - Moscow, Russia
2013 – EMEC14 - Budva, Monenegro
2014 – EMEC15 - Brno, Czech Republic
2015 – EMEC16 - Torino, Italy
2016 – EMEC17 - Inverness, Scotland
2017 – EMEC18 - Porto, Portugal
2018 – EMEC 19 - Clermont-Ferrand, France
2019 – EMEC 20 - Lodz, Poland

Books of Abstracts for most EMECs can be accessed on the ACE website at:

<http://www.europeanace.com/about/meetings>



Participants at our most recent gathering, EMEC 20 - Lodz, Poland

In considering the history of EMECs, honourable mention must go to Prof. Branimir Jovančičević from the Department of Chemistry, University of Belgrade (Serbia; below), and to Prof. Jan Schwarzbauer (Institute of Geology and Geochemistry of Petroleum and Coal, RWTH Aachen University (Germany)). These are the only two stalwarts who have participated in ever EMEC to date! Both have served as Presidents of ACE and are current members of the ACE Board, taking with them the complete and collective experience and memory of EMECs entire journey around Europe.



EMEC devotees Branimir Jovančević (left) and Jan Schwarzbauer (right)

Personal reflections and future EMECs

There are relatively few conferences that I have attended on multiple occasions: EMEC is the one I have attended more than any other conference event. I have also had the privilege of being involved in the delivery of EMEC8 and EMEC17 both in the small city of Inverness, Scotland. This engagement reflects my own regard for event, its distinctive nature, ethos and for the delegates it attracts. EMECs embed topical scientific discourse in supportive and highly social settings, making the events rewarding from both professional and personal perspectives. I hope that the montage below of EMEC17 in Inverness captures just a little of this.

EMECs have often provided the first contacts that have led to new networks, collaborative grant applications and proposals; staff and student exchanges and joint publications. Many of the professional, and personal, relationships established through these activities have been enduring. In these times of great change perhaps these networks have never been so important.

In light of the global Covid-19 pandemic, EMEC21 will now move to take place in December 2021, still in Novi Sad, Serbia. Meanwhile, EMEC22 is scheduled for the following year in Bibao, in the Basque Country, Spain. However, in the absence of a conventional EMEC in 2020, the ACE Board have agreed to explore possibilities for smaller online or digital conference for 2020 and further updates will follow.

In the meantime, and on behalf of the ACE Board I hope that you will remain engaged with the evolution of EMEC events, and we hope to see you all in Novi Sad for a very special EMEC 21 next year.



2) Małgorzata Szynkowska:
Lodz, 2019 - EMEC20 that lies behind us

The International Conference of EMEC20 "20th European Meeting on Environmental Chemistry" was held in Poland in Łódź, at the Lodz University of Technology from 2nd to 5th December, 2019. It was devoted to broadly understood problems related to the analysis of environmental samples. Faculty of Chemistry was the main organizer of the conference on behalf of the Association of Chemistry and the Environment (ACE). The co-organizers also were the Committee of Analytical Chemistry of the Polish Academy of Sciences and the Polish Chemical Society.

The conference received honorary patronage from: The Mayor of Łódź Hanna Zdanowska and His Magnificence Rector of the Lodz University of Technology Prof. Sławomir Wiak. The diamond sponsor of the conference was Prince Sultan Bin Abdulaziz International Prize for Water, who funded awards for young scientists: 3 for the best oral presentation and 9 for the best poster presentation. Other sponsors were firms: Comef, Intertech Poland, Shim-Pol, Spectro-Lab, Air Products and Witko.

The conference participants were officially greeted at the Palace of Israel Poznański in Łódź by Prof. M.I. Szynkowska on behalf of the university authorities and organizers as well as by Prof. Bogusław Buszewski, Chairman of the Committee of Analytical Chemistry of the Polish Academy of Sciences and Prof. Izabela Nowak, President of the Polish Chemical Society. After a short guided tour of the museum facility followed by refreshments, the organizers of the conference invited the gathered guests to the concert of the band Hot Plasma. The musicians successfully performed a very ambitious repertoire, and the audience applauded for a long time. After the concert, everyone was invited for hot donuts to a nearby donut house at Manufaktura Market.



Welcome cocktail.



Welcome cocktail.

The next day the conference was opened by His Magnificence Rector of the Technical University of Lodz Prof. Sławomir Wiak and Dean of the Chemical Faculty Prof. Małgorzata Iwona Szyrkowska and President of the Association of Chemistry and the Environment Prof. Bane Jovančičević. During the meeting, three deceased professors closely related to analytical chemistry and environmental studies were commemorated: Prof. Adam Grochowalski (Cracow University of Technology), Prof. Jacek Namieśnik (Gdańsk University of Technology) and Prof. Tadeusz Paryjczak (Lodz University of Technology). The first day of the conference began with a plenary lecture by Prof. Bogusław Buszewski from Nicolaus Copernicus University in Toruń entitled "*A new concept in metabolism study of toxins in environmental and biological samples*", followed by three more lectures given by Prof. Magda Caban of the University of Gdańsk "*Analytical challenges in fate assessment of pharmaceuticals in the environment*", Prof. Oliver Đuragić of the University of Novi Sad entitled "*Plant-based by-products: environmental gambling or valuable feed ingredient?*" and Prof. Wojciech Wolf from the Lodz University of Technology entitled "*Environmental and chemical aspects of plant stress induced by heavy metals*". Participants were also able to listen to 16 oral messages presented in two parallel sessions. After lunch, all members of the conference watched the exhibition at the EC1 Science and Technology Centre. On the way back to the Bay of Sport, where the conference was held, the guests took part in a short guided tour around Łódź. After that, the afternoon poster session began during which more than 70 participants from Europe and different parts of the world presented their research (alongside European researchers, guests also came from Japan, Mexico, the United States and Russia).



EMEC20 participants.

The second day of the conference began with a plenary lecture of dr Seppo Hellsten from the Finnish Environment Institute (SYKE) in Oulu entitled *"Management and restoration of surface water bodies receiving mine waters - learned from Talvivaara mine impacts in northern part of Finland"*. Another lecture was given by prof. Ewa Bulska from the University of Warsaw entitled *"Towards food safety via bio-stimulated increasing nutritional value of selected plants"*. The rest of the day belonged to the Young Session, which was opened by dr Barbara Kubičková from Masaryk University in Brno lecture entitled *"Natural toxins in the freshwater environment - occurrence, fate and health implications"*. Nineteen young scientists, presenting their findings, fought for three prizes for the best oral presentation.



From the conference room.

After two days of fruitful deliberations, the organizers of the conference invited all guests to an evening social meeting, which took place in the restaurant "*Brewery of Priest's Mill*". A reception, worthy of the scientific importance of the conference. There was a great atmosphere, accompanied by lively music. There were discussions on different topics and plans for the future.

The morning scientific session of the last day of the conference began with a plenary lecture by dr Kurt Rossentrar of Iowa State University entitled "*Using Life Cycle Assessment to Better Understand Environmental Impacts of Bioprocessing Systems*". On that day, participants also had the opportunity to listen to six lectures by Prof. Ljiljana V. Mojović from the University of Belgrade entitled "*Bioprocessing agro-industrial residues into value added products*", Prof. Janusz Igras from the Institute of New Chemical Synthesis in Puławy entitled "*Smart fertilizers - reality or researcher's fantasy?* ", Prof. Beata Godlewska-Żyłkiewicz from the University of Białystok entitled "*Nanomaterials - environmental risks and speciation analysis of metal nanoparticles in environmental samples*", dr Beata Krasnodębska-Ostręga from the University of Warsaw entitled "*Sampling and sample pretreatment as a critical point of environmental analysis of water - total and analysis species*", dr Marcin Konkol from the Institute of New Chemical Synthesis in Puławy entitled "*Supercritical CO₂ extraction - green waste-free technology*" and rof. Rajmund Michalski from the Polish Academy of Sciences in Zabrze entitled "*Applications of ion chromatography for the determination of carboxylic acids in biomass combustion products*".

After the conference, the young scientists were presented with prizes. The best oral presentation belonged to: Hiby Zind from France entitled „*Distribution of selected pharmaceutical residues and their related degradation products in different aquatic compartments*”, Yary Arbid from France entitled „*Development of an Experimental System to Measure Air Depollution Performance of Green Roofs*” and Olhy Matviichuk from France entitled „*Evolution of antibiotics in two French rivers and incidence of antibiotic resistance in biofilms*”. Also, the jury selected the most interesting posters: Filipe Rocha (Portugal) „*Development of an analytical method to determine PAHs, PCBs, synthetic musks and volatile methylsiloxanes in sewage sludge*”, Lisa Shearer (England) „*Sustainable water treatment of pharmaceuticals using functionalised waste materials as adsorbents*”, Franja Prosenc (Slovenia) „*Removal of bisphenols in laboratory-scale algal bioreactors*”, Jakub Gruszka (Poland) „*Removal of bisphenols in laboratory-scale algal bioreactors*”, Magdalena Gajek (Poland) „*Semi-quantitative assessment of selected metals of whisky samples in relation to their type and origin*”, Pablo Irizar (Spain) „*Accumulation of heavy metals in soils covering a historical construction exposed to different pollution sources*”, Karolina Czarny (Poland) „*Toxic effects of single bisphenols and their mixtures on the growth of *Chlorella vulgaris* and *Scenedesmus armatus**”, Jovana Orlić (Serbia) „*Elemental composition of road dust collected from the vicinity of the coal combustion power plant*” and Eduardo Rodríguez de San Miguel (Mexico) „*Determination of arsenic(V) bioavailability in aquatic systems using a passive sampler based on polymer inclusion membranes (PIMs) and filamentous fungi*”.

Three PhD students: Filipe Rocha (University of Porto), Balpreet Kaur (Tallinn University of Technology) and Tahereh Soleymani Angili (Lodz University of Technology) were able to participate in the conference thanks to scholarships funded by the Association of Chemistry and the Environment (ACE).

The international conference was attended by about 140 people, 14 lectures were given at the invitation, 41 oral messages and 74 posters were presented. All speeches were of very high scientific level. The EMEC20 conference created ideal conditions for integration of the scientific community in chemistry, environmental protection and other fields of knowledge. It allowed all participants to broaden their horizons. Serbia and the city of Novy Sad, recognised as the European Capital of Culture, won the organization of the EMEC21.



Gala dinner.

3) Branimir Jovančičević:
Novi Sad, 2020 – EMEC21 is in front of us

The Serbian Chemical Society and Matica Srpska, on behalf of the Association of Chemistry and the Environment (ACE), will organize the 21st European Meeting on Environmental Chemistry (EMEC21). The meeting will take place in Novi Sad in December 1-4, 2020. This, already traditional, international meeting of researchers from all over the world will be held at the Matica Srpska, one of the most important academic institution in Serbia. More than 200 prominent researchers from this important scientific field are expected to participate in this event. Colleagues from Japan who are implementing a scientific project funded by the Japan International Cooperation Agency (JICA) with the Faculty of Chemistry, University of Belgrade, will also participate. This conference covers a broad range of topics within the field of environmental chemistry, and interdisciplinary presentations. The EMEC meeting always attracts high quality science presentations and invited speakers from internationally renowned researchers working in environmental chemistry and related fields. The main objectives are to bring together scientists working in the field of environmental chemistry, to report the most advanced research progresses in this research field and to pave the way for the future research and challenges. The city of Novi Sad will be the perfect host! No visa required for most countries, great value-for-money, which is particularly important for young researchers from all over the world.

About Novi Sad

The magnificent city of Novi Sad is the second largest city in Serbia and the capital of autonomous province of Vojvodina. City's natural landscape and the numerous galleries, museums and monasteries make it one of the most popular destinations in region. The city lies on the Danube river, which splits Petrovaradin fortress and the city centre.

Petrovaradin fortress, as a city's art centre, is a place which mysterious underground keeps intriguing explorers from around the world, due to its rich history.

Novi Sad is elected as European Youth Capital for 2019, as well as European Capital of Culture for 2021 for its large cultural and creative potential. As one of the leading educational and research centres in Central Europe, the University of Novi Sad is home to more than 50,000 students and 5,000 employees. With beautiful harmony of nature and modern architecture, the central University building will be the venue where main conference activities are held.

Novi Sad is also home to 18 year old music festival EXIT, the winner of 'Best Major European festival' award (more information: www.exitfest.org/en). Bring your highest spirit with you, because EXIT begins immediately after the conference!



Venue

[Matica Srpska](#) is the oldest Serbian literary, cultural and scientific institution. The Library of Matica Srpska has more than 3,500,000 publications, and the Gallery of Matica Srpska is a rich collection of Serbian paintings from the XVIII to the XX centuries.



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Due to the spread of COVID-19 virus we have decided to postpone EMEC21 until next year.

It will take place in the period of first week of December 2021.

4) Albert Lebedev:

To the summer school in Arkhangelsk, june 2020

NArFU and [Association of Chemistry and the Environment](#) (ACE) together expressed a strong intention to come together and organize a Summer school related to chemical instrumentation as a tool for identification of different organic pollutants in the environment. ACE has personnel with experience in the organization of international events and on the other hand, NArFU is willing to share with students their instrumental park, as well as knowledge and experience in instrumentation.

This Summer school will be held at the [Core Facility Center "Arktika"](#), which is known as the most powerful analytical laboratory in the Russian Federation, using its unique instrumentation base. During school a number of analytic instruments will be used, such as different type's mass spectrometers, X-ray instruments, Atomic Absorption Spectrophotometer, ICP emission spectrometer, Liquid and Gas Chromatography systems.



The Organizing Committee is looking forward to welcoming you to Arkhangelsk, Russia in the period from 21.06.2020 to 28.06.2020.

Organization

The European Association of Chemistry and the Environment and Northern (Arctic) Federal University

Northern (Arctic) Federal University (NArFU) was established in June 2010 by merging a number of leading Arkhangelsk higher educational institutions. It includes 7 higher schools, 2 institutes, 3 colleges and 3 branches providing educational services to over 17,000 students. Staff consists of over 1160 lecturers. NArFU has more than 70 agreements of international cooperation with partner universities.

One of the major NArFU research focuses is the Arctic development. Core areas of NArFU academic focus are high technologies and knowledge-intensive sectors, infrastructure development and Northern Sea Route, natural resources management, environmental protection, health and well-being, social sphere and human resources in the High North.

As a federal university NArFU develops a system of higher professional education that will optimize regional educational structures and strengthen links between educational institutions and economic and social spheres in the North-West of Russia.



Due to the spread of COVID-19 virus we have decided to postpone this Summer School until next year.

It will take place in the period from 20.06.2021 to 27.06.2021.

5) Filipe Rocha – researcher/scholar from EMEC20, with Idalina Bragança¹ and Vera Homem¹:
**Sewage sludge reuse in agricultural fertilization –
a portuguese ongoing study**

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Pacing the striking growth of human population, wastewater treatment is increasing worldwide over the past years, especially in dense urban areas. In 2017, about 2.4 billion people, mostly from developed countries, lived in households served by sanitation infrastructures connected to wastewater treatment plants (WWTPs), representing only 31% of human population [1]. A rise in the number of WWTPs in the years to come is hence expected, either to answer the public health and environmental concerns resulting from municipal wastewaters disposal, or to ensure the proper treatment of industrial effluents. However, undoubtedly necessary, wastewater treatment leads to the production of tons of solid waste, which disposal must be addressed carefully [2]. Sewage sludge consists of the semi-solid stream resulting from the processes employed in WWTPs and its composition may vary greatly, depending on the characteristics of the treated effluents and the layout of the treatment processes employed. The solid phase of dewatered activated sewage sludge consists of a mixture with high amount of biodegradable organic matter (average 50-70%), mineral components (30-50%), nitrogen, phosphorus, and several other classes of substances, micronutrients, and living organisms [3]. Due to its composition, sewage sludge use as soil amendment for agricultural practices has shown positive effects increasing the soil organic matter content, as well as the rectification of micro and macro nutrients levels, reducing the dependence of inorganic fertilizers [3]. In fact, mineral-based fertilization is the most common solution employed in agricultural practices, relying on scarce natural resources and high energy consumption on its production and transportation [4]. To overcome its dependency on external supply of inorganic fertilizers and promote a more sustainable agricultural production based on a circular economy model, the European Commission is encouraging the usage of organic by-products and waste-based fertilizers. Such products

could replace up to 30% of the inorganic fertilizers currently used, while solving the disposal problem of some waste (e.g. sewage sludge, manure, biodegradable residues). A political agreement on the matter has been reached by the European Institutions and works are being conducted for the creation of new regulations that will open the Single Market to organic waste-based fertilizers in 2022 [5].

Despite the potential benefits of the usage of organic and waste-based fertilizers, this topic shall be addressed carefully. Due to the provenience of the waste streams used as raw materials, such as sewage sludge, the presence of several contaminants, some of them persistent and bioaccumulative in the environment, may pose a risk to the ecosystems that should not be neglected. Personal care products (PCPs), pharmaceuticals, flame retardants, nanoparticles, microplastics, pesticides, household and industrial detergents, heavy metals, and several other chemical substances that are continuously released down-the-drain are all potentially present in these new raw materials. And although most of these substances are present at very low concentrations in wastewaters, their physicochemical properties may promote their migration to the sewage sludge, especially hydrophobic compounds, turning it a vector of contamination to the soil compartment [6]. This concern is not new, as the Council Directive 86/278/EEC [7], which regulates the reuse of sewage sludge for agricultural practices in the European Union since 1986, already set limits for the concentration of heavy metals and nutrients. However, and despite the detection and measurement of some hazardous emergent organic pollutants in sewage sludge, no European regulations exist till now for the presence of organic contaminants. An ongoing working document currently under review by the European Union prioritizes the creation of limits for polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs), among other classes of organic contaminants [8], and some of these classes of compounds, due to its classification as carcinogenic and persistent in the environment, are already legislated in some Member States [9].

In our work group, a research project is currently taking place studying the agronomic impact of sewage sludge/compost usage for soil amendment. AGRONAUT Project - Agronomic Impact of Sludge Amendment Using a Comprehensive Exposure Viewpoint - intends to improve the knowledge on the safety use of sewage sludge/compost on cropland. A monitoring plan in Portugal is currently taking place, sampling sewage sludge from several municipal WWTPs across the country, to provide data on the concentrations of two classes of emergent pollutants, volatile methylsiloxanes (VMSs) and synthetic musk compounds (SMCs), as well as other legislated parameters in Portuguese Law, as polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), heavy metals, microorganisms and agronomic parameters. This project also aims to study the possible migration of the contaminants present in the sludge to the soil compartment, to assess plant uptake in field tests and ultimately to evaluate environmental and human risks involved in this practice.

Preliminary results from the analysis of samples from municipal WWTPs in a first sampling campaign (Summer) indicated compliance with the Portuguese legislated concentration values for heavy metals, PAHs and PCBs. Microbiology analysis revealed an insufficient

biologic stabilization of all sludges, with *Escherichia coli* and *Salmonella sp.* above the legislated values. Considering the two classes of emergent contaminants targeted, SMCs and VMSs were detected in all samples, with higher concentrations for the musk galaxolide (up to 29.3 mg/kg_{dw}), and the cyclic siloxanes (up to 16.8 mg/kg_{dw}), predominantly D5 and D6. These values are in line with personal care products formulations and suggest that more attention shall be given to these emergent compounds, as they are massively used by the population. VMSs, for instance, are a very pertinent example of a class of compounds whose presence has already been documented in sewage sludge at substantial levels before. Regarding their potential harmful and toxic effects, the cyclics D4 and D5 have been restricted by the European Union in wash-off PCPs [10], and recently a restriction request has been sent to ECHA for the same compounds also in leave-on PCPs, alongside an update to include the same restrictions for D6 [11]. Due to their physicochemical properties, they tend to adsorb in organic matter, accumulating in the sludge and potently impacting soils when applied in agricultural fields.

This first glance at the results obtained after the first stage of the established monitoring plan asserts the pertinence of this study in the scientific, social and economic domain in Portugal. The promotion of the reuse of sewage sludge may allow a more sustainable agriculture practice and aims for a circular economy model. However, possible drawbacks of this strategy for the safety of the soil compartment, the agricultural goods produced, and the ultimately to public health cannot be ignored.

Acknowledgments:

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7) Nuno Ratola:
ACE and young researchers - scholars at EMEC20 in Lodz

Following the tradition of the Association of Chemistry and the Environment to encourage the participation of master and Ph.D. students in the EMEC meetings by awarding scholarships covering the conference fee and travel and accommodation expenses up to €500, it was decided to support the participation of 3 young scientists in the 20th Edition in Lodz, in line with the financial status of the Association. The selection procedure was identical to that applied in the preceding years: potential applicants were informed about the possibility of scholarship on the EMEC20 and ACE web pages and also by e-mail dissemination from EMEC20 organizers.

In order to apply, the candidates sent their CV together with a description of their scientific results, a letter of recommendation from their supervisor and certificates of current enrolment and examination results to Dr. Nuno Ratola, the ACE Scholarship Officer. After administrative check, he focused on the eligibility of all applicants as well as on the completeness and validity of all elements provided in each submission. All applications were then distributed to the members of the evaluation committee, comprised by the ACE Board members who had no conflict of interests (i.e. supervisors or co-workers of any of the candidates). Each member of the evaluation committee sent his/her order of candidates to Dr. Nuno Ratola, who summarized and ranked the proposals. Finally, after approval by the evaluation committee members, the final order was published.

In total, 4 applications were received, of which only 3 were considered eligible. Since all of those complied with the standards of the evaluation committee, the following candidates were awarded: Filipe Rocha (University of Porto, Portugal), Balpreet Kaur (Tallinn University of Technology, Estonia) and Tahereh Soleymani Angili (Lodz University of Technology, Poland).



8) Polonca Trebse - small note:
A gift to Josef

At the nineteenth (19) EMEC conference in Clermont Ferrand in December 2018, our colleague and member of the Board of Association of Chemistry and the Environment, prof. Josef Caslavsky retired. He was was a member of the Association of Chemistry and the Environment from the very beginning.

The farewell present should have been delivered to him already in Clermont-Ferrand, but somehow it happened that we missed his departure. Within the next year we kept this gift in the seller of Anne-Marie Delort. In Lodz during Board meeting of ACE in December 2019 we agreed it would be much nicer if we deliver it in person. Anne-Marie sent it to Polonca and she was really happy to be the one to bring it to Josef during student excursion of Slovenian students to Brno, which was every year excellently organised by him.



Josef,

Enjoy every sip with the thought of association ACE and of friends who appreciate and care about you. Thank you for all your efforts, your will and your time dedicated to ACE, all of which today makes an important track in the field of environmental chemistry.

Polonca in the name of ACE Board