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## PRESS RELEASE

# Young scientists from Vienna, Tyrol and Styria honoured with Hans Roth Environmental Award

**How can hazardous fires caused by improperly disposed of batteries at disposal firms be prevented? The question was asked by Dr Thomas Nigl of the University of Leoben who, with his final dissertation, was honoured with this year's Hans Roth Environmental Award for Austria. The results of a risk analysis and strategic measures have already been incorporated into a guideline entitled 'Fire protection for waste and resource management' issued by the Association of Austrian Disposal Firms (VOEB) and are helping to reduce fires incidents in practice. The Hans Roth Environmental Award has been issued every year for outstanding Bachelor or Master's theses and dissertations since 2005. At the heart of the award is the continued development and expansion of the innovative waste and recycling economy in Austria.**

Representing Vienna's City Councillor for Economic Affairs Peter Hanke, Councillor and Climate Committee Chairwoman Nina Abrahamczik presented five young scientists with the "Hans Roth Environmental Award 2021", donated by Saubermacher, yesterday evening at Vienna City Hall. Prizes are awarded for innovative ideas relating to the circular economy, where those ideas help to create ecological benefits for society. In addition to the main prize, which went to Dr Thomas Nigl of the University of Leoben, awards were also given to Alexej Parchomenko of Vienna University of Technology, Alice do Carmo Precci Lopes of the University of Innsbruck, Hannah Roswitha Muther of the University of Graz and Andreas Barth of Vienna University of Natural Resources and Life Sciences. The varied topics of the final dissertations show the comprehensive tasks of a future-focused circular economy – from electrical/electronic waste recycling paths in the global environment to the efficiency of circular

economy processes and audience-specific awareness raising of waste avoidance. The main prize winner received 3000 Euros, while winners from the other partner universities each receive 1500 Euros.

**Promoting climate and environmental protection** ‘Green technologies and environmental protection have top priority in Austria. The close cooperation between the worlds of science, business and technology help to ensure that we attract maximum international attention,’ emphasised Vienna city councillor Peter Hanke at the awards ceremony. ‘With these combined skills, we are equipping ourselves for future climate and environmental protection challenges. Their research is a major contribution.’ The award winners were honoured yesterday evening at an awards ceremony held at Vienna City Hall, under coronavirus protection measures.

**A basis for innovation** ‘It is hugely important to me to promote research activities and to motivate young people to develop solutions for a liveable future. The competence and commitment of our young experts impresses me again and again every year,’ said sponsor and chairman of the Saubermacher Supervisory Board Hans Roth.

### **The winners at a glance:**

#### **Winner of the Hans Roth Environmental Award for Austria (main prize):**

**Thomas Nigl, University of Leoben** with his dissertation ‘Fire-hazardous waste – risk analysis and evaluation of device batteries and lithium-ion batteries in waste management systems’ (title translated from German).

In his dissertation, Dr Nigl looks at both the historical development of fire events caused by batteries in waste streams and at strategies and measures to reduce these events. The results of the risk analysis and measures are now part of the guideline entitled ‘Fire protection for waste and resource management’ issued by the Association of Austrian Waste Management Firms (VOEB).

#### **Winner of the Hans Roth Environmental Award – Vienna University of Technology:**

**Alexej Parchomenko** with his dissertation ‘Development of a method for determining the resource efficiency of circular economic strategies’ (title translated from German).

In his dissertation, Mr Parchomenko develops a tool to evaluate the efficacy of different levels of the circular economy. With this, recycling, reprocessing and life-cycle change can be evaluated and, at the same time, suggestions made for which approach is most effective in terms of labour costs, energy usage and technology.

**Winner of the Hans Roth Environmental Award – University of Graz:**

**Hannah Roswitha Muther** with her master's thesis 'Measures survey and categorisation of awareness raising activities in waste prevention' (title translated from German).

In her thesis, Ms Muther looks at residual domestic waste and prevention measures in Graz between 2017 and 2018. The result is a categorised catalogue of measures for waste prevention activities in the regional capital. At the same time, she links the two research areas of waste prevention in domestic households and audience segmentation, a tool used in marketing.

**Winner of the Hans Roth Environmental Award – University of Innsbruck:**

**Alice do Carmo Precci Lopes** with her dissertation 'Mechanical pretreatment of residual waste for co-digestion in wastewater treatment plants'.

In her dissertation, Ms Lopes looks at co-digestion of biogenic substances with sewage sludge. In view of the high proportion of biodegradable waste in residential waste, she is looking at the potential of replacing the bio-waste that is currently used with residual waste.

**Winner of the Hans Roth Environmental Award – Vienna University of Natural Resources and Life Sciences:**

**Andreas Barth** with his diploma thesis 'Tracing the path of e-waste and plastic waste: from industrialized countries to the hands of informal recyclers'.

The volume of plastic waste and electrical/electronic waste has grown significantly in recent years. Mr Barth's work is a valuable contribution to the field of research on the informality of this waste group in developing countries and on the global trade in waste in general.

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für eine lebenswerte Umwelt

**Practicability and CO<sub>2</sub> reduction emphasised** The Hans Roth Environmental Award has been available to five Austrian universities since 2003 – Vienna University of Technology, Vienna University of Natural Resources and Life Sciences, University of Leoben, University of Graz and University of Innsbruck. Saubermacher CEO Ralf Mittermayr and R&D Manager Astrid Arnberger, a former winner of the Hans Roth Environmental Award for Austria, are responsible for preselecting the final dissertations and theses and for organising and managing the awards process. This year, the independent, top-level jury was composed of one representative from each educational institution: Prof Roland Pomberger/University of Leoben, Prof Rupert Baumgartner/University of Graz, Prof Marion Huber-Humer/Vienna University of Natural Resources and Life Sciences, Prof Helmut Rechberger/Vienna University of Technology and Prof Anke Bockreis/University of Innsbruck. In addition, the jury also featured renowned experts from the fields of business and industry: Franz Eder/voestalpine AG, Christoph Scharff/Altstoffrecycling Austria AG, Christian Holzer/BMKUEMIT, Stefan Pirkner/OMV, Gert Pfleger/Norske Skog Bruck GmbH, Berthold Kren/Lafarge Perlmooser GmbH and Johann Mayr/Dachverband ARGE Österreichische Abfallverbände. In their evaluation, the jury emphasises concrete methods, originality and practicability for implementation and their economic and ecological benefits in day-to-day life. CO<sub>2</sub> reduction is also an important criterion.

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## Photos



Astrid Arnberger, Head of R&D Saubermacher; Alexej Parchomenko, award winner TU Vienna; Helmut Rechberger, Professor TU Vienna; Alice do Carmo Precci Lopes, award winner University of Innsbruck; Rupert Baumgartner, Professor Karl-Franzens-University Graz; Hans Roth, Saubermacher founder; Anke Bockreis, Professor University of Innsbruck; Thomas Nigl, award winner Montanuniversität Leoben; Nina Abrahamczik, Municipal Councillor City of Vienna; Marion Huber-Humer, Professor BOKU Vienna; Hannah Muther, award winner Karl-Franzens-University Graz; Ralf Mittermayr, CEO Saubermacher; Andreas Barth, award winner BOKU Vienna; Roland Pomberger, Professor Montanuniversität Leoben (f.l.t.r.).  
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Alexej Parchomenko, award winner TU Vienna; Alice do Carmo Precci Lopes, award winner University of Innsbruck; Hans Roth, Saubermacher founder; Thomas Nigl, award winner Montanuniversität Leoben; Nina Abrahamczik, municipal councillor City of Vienna; Hannah Muther, award winner Karl-Franzens-University Graz; Andreas Barth, award winner BOKU Vienna; (f.l.t.r.).  
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Other photographs of the awarding of the Hans Roth Environmental Award 2021 can be found at <https://www.flickr.com/photos/saubermacher>

### **About Saubermacher**

Saubermacher AG is an international disposal and recycling company based in Feldkirchen, near Graz. The family company was founded in 1979 by Hans and Margret Roth and is a competent partner for approx. 1600 municipalities and over 42,000 businesses. The company employs some 3,400 employees in Austria, Germany, the Czech Republic, Hungary, Slovenia and Croatia. Saubermacher is the most sustainable waste disposal company in the world. In the sustainability assessment by GRESB in the year before, the environmental pioneer was awarded a sensational first place for the fourth time. Further information can be found at [www.saubermacher.at](http://www.saubermacher.at)

### **Queries**

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