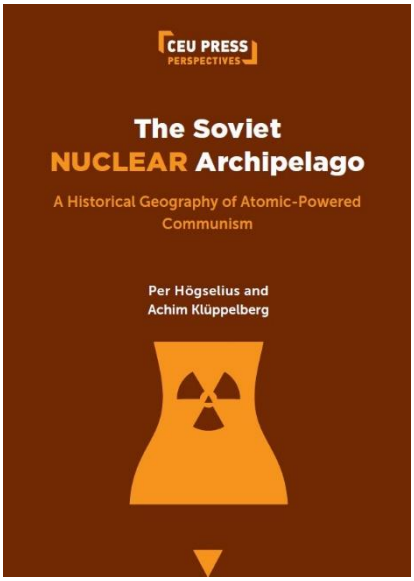
NUCLEARWATERS: Putting Water at the Centre of Nuclear Energy History

Newsletter April 2023

The ERC project NUCLEARWATERS, based at KTH Royal Institute of Technology in Stockholm, explores the connections between nuclear energy and water in historical perspective. The goal is to rewrite the global history of nuclear energy by putting water at the centre of the analysis. Led by **Per Högselius**, the project comprises seven senior and junior researchers, who collectively examine the "wet" history of nuclear energy from a range of thematic and geographical angles.

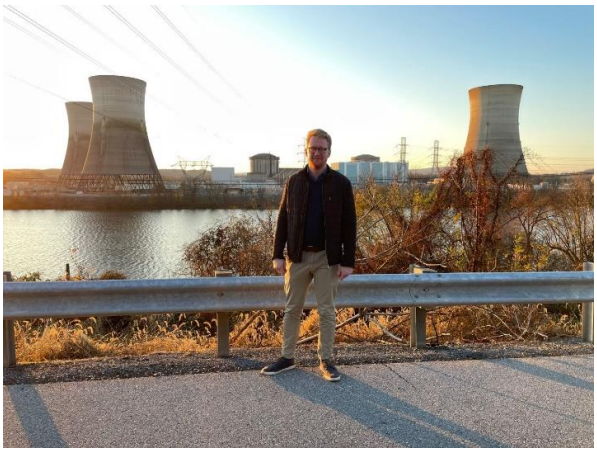
In terms of scholarly publications, the project is now entering an intense phase where numerous articles, essays, books and three PhD theses along with a special issue and an edited volume will come to fruition within the next year or so. Most recently, **Alicia Gutting** has published results from her doctoral research about drinking water quality in the vicinity of the Nuclear Research Centre in Karlsruhe, Germany. The article appeared in *Risk, Hazards & Crisis in Public Policy*, an interdisciplinary journal that overlaps with our interests in multiple ways. Meanwhile **Siegfried Evens'** book chapter "Les risques de refroidissment: l'eau comme frontière spatiale et temporelle de l'énergie nucléaire" appeared in an edited volume published by the Presses Universitaires de Rennes. Another article, now accepted for publication, is **Achim Klüppelberg's** "'Completely Original and Progressive': How Gidroproekt Combined Nuclear and Hydraulic Expertise at the South Ukraine Energy Complex". It will appear in *Europe-Asia Studies*, a leading journal in the field of Soviet and East European studies. Furthermore, **Per Högselius'** already published article in *Technology & Culture*, "Atomic Shocks of the Old", was recently highlighted as one of the most-read 2022 articles in the journals published by the Johns Hopkins University Press. In terms of books, **Per Högselius'** and **Achim Klüppelberg's** co-authored *The Soviet Nuclear Archipelago: A Historical Geography of Atomic-Powered Communism* is scheduled for release by the Central European University Press in early autumn and now has a cover.



The project's three PhD students – **Alicia Gutting**, **Siegfried Evens** and **Achim Klüppelberg** – went abroad during the autumn and winter for long-term stays at universities in Switzerland, the United States and Germany. This helped them expand their networks, sharpening their writing, presenting their results to new and old colleagues, attend courses and conferences, access new archival sources, and visit nuclear sites. **Alicia Gutting** departed for the University of Bern in Switzerland upon invitation from **Christian Rohr**, one of Europe's leading scholars

in environmental and climate history. She stayed for three months and presented her article on cooling water negotiations in the history's department's Higher Seminar. NUCLEARWATERS project leader **Per Högselius** visited Alicia in Switzerland in connection with a joint research presentation on riverine nuclear energy at the workshop "Nuclear Renaissance: Technology, Society and Sustainable Development", held at the University of Basel in December 2022. After the workshop, Alicia and Per went together on a nuclear road trip to visit the Swiss nuclear power plants of Leibstadt, Beznau and Mühleberg. They also did archival research together at the regional archives of Aarau. Alicia further participated in a doctoral workshop on how to write environmental history organized by the Rachel Carson Centre.

Siegfried Evens visited the STS Department of Virginia Tech in the United States. He was hosted by Sonja Schmid, a leading scholar in the field of nuclear history and STS. Siegfried arrived in August 2022 and stayed for four months. Apart from regular writing work, he took a course on "Nuclear Facilities in Armed Conflict" and presented his research at the department's higher seminar at the Blacksburg Campus. During his stay he engaged with local scholars, peers and nuclear engineers from the US nuclear industry. Siegfried also attended the annual meeting of the Society of History of Technology (SHOT) in New Orleans, held in November 2022. Read more about his experiences from his stay in the US on the NUCLEARWATERS blog.



Siegfried Evens in front of Three Mile Island Nuclear Power Plant, autumn 2022.

Achim Klüppelberg spent six weeks at the Division of History of Technology, led by **Martina Hessler**, at the Technical University of Darmstadt in Germany. He presented his research in the higher seminar there and at the nearby University of Tübingen, where he was welcomed by **Klaus Gestwa**, director of the Institute for Eastern European History and Area Studies.

NUCLEARWATERS project members also went on shorter-term trips. **Per Högselius** visited Germany and worked in the ex-GDR's archives in September and October 2022. He also participated in a Baltic Sea energy conference in Greifswald, presenting his thinking on the Baltic Sea as a transnational nuclear-energetic space. In March 2023 **Siegfried Evens** went to Munich for a stimulating workshop and then to Boston, where he represented the project and presented his research at the annual conference of the American Society of Environmental History (ASEH). Project members also undertook site visits. Apart from the ones already mentioned, **Anna Storm**, **Melina Antonia Buns**, and **Achim Klüppelberg** joined forces with colleagues from Linköping University on a tour to the Olkiluoto Nuclear Power Plant in Finland in late November 2022. They attended presentations by the local staff – among other things about the new European Pressurised Reactor – and participated in a guided tour to the local encapsulation plant for nuclear waste and the Onkalo waste storage site.

From left to right: Melina Antonia Buns, Anna Storm, Marko Marila, Axel Sievers, Achim Klüppelberg, Thomas Keating. In the background one can see Olkiluoto Nuclear Power Plant. The EPR is the one on the top left. By Anna Storm.

Melina Antonia Buns left KTH Royal Institute of Technology for a tenured associate professor position at the University of Stavanger in Norway at the end of 2022. We wish her all the best in her new role there!

We have been proud and happy to receive several prominent guests with nuclear-historical expertise over the past few months. On 20 February 2023 **Robert Jacobs** from the Hiroshima Peace Institute visited the project, presenting his recent book *Nuclear Bodies: The Global Hibakusha* at the Higher Seminar of the Division of History of Science, Technology and Environment. A month later, on 17 March **Eglė Rindzevičiūtė** from Kingston University, London, joined us for several days. Eglė presented her freshly published book on scientific prediction and then served as the discussant at **Achim Klüppelberg's** "final seminar" in doctoral education.

Alicia Gutting's final seminar is scheduled for 30 May. Her PhD research on "The Nuclear Rhine" will be discussed by **Timothy Moss** from Berlin's Humboldt University. **Siegfried Evens'** final seminar, titled "Streams, Steams, and Steels: A History of Nuclear and Non-Nuclear Risk Governance (1850-1990)", is also coming up, scheduled for 13 June. His discussant will be **Markku Lehtonen** from Pompeu Fabra University in Barcelona.

Members of the project plan to take part in the upcoming conference of the European Society for Environmental History (ESEH), to be held in Bern, Switzerland, in August 2023. Among others things, **Anna Storm** and **Achim Klüppelberg** will be presenting their research in the panel "Nuclear Environments: Waste, Animals, Water and Infrastructure in the 20th and 21st Centuries", while **Alicia Gutting** and **Per Högselius** are organizing a panel called "Atomic Rivers". Alicia will also present in the panel "New Voices in Water History", organized by **Ellen Arnold** and **Martin Schmid**.


Lördag 24 december 2022

Sedan 1884

Svenska Dagbladet

Julafton i SvD:

Covid-oturRasmus Hansson tvingas ställa in julen på grund av covid – för tredje året i rad. Nyheter | Sid 22

Vinterland Sveriges bästa stad att fira julen i 2022 korad. Sörmlandsliv | Sid 6

Utmaning Julfirandet tillbaka efter pandemin i städer som New York och Brysselmen med nya kriser. Nyheter | Sid 20

Julgranen vid Rockefeller Center i New York i år.

Stort julkryss Två extra sidor korsord. Korsord | Sid 39–55

Ljudfest Årets bästa poddar – enligt podd-producenter. Kultur | Sid 40

Tävla Var med i SvD:s citattävling och vinn ett fint bokpris. Kultur | Sid 42–43

Karin Thunberg: Över stad och land i kväll breder den stora ensamheten ut sig för dem som ingen har att fira med.

Nyheter | Sid 28

NÄMEN.. VAD ÄR DET? EN ÅNGMASKIN?

NEJ, BÄTTRE – ETT PORTABELT KÄRNKRAFTVERK PÅ 18 KW!

ÅH, NU BÖRJAR JAG GRINA.. TITTA PÅ DOM GULLIGA SMÅ BRÄNSLESTAVARNA, INTE STÖRRE ÄN HAMSTERPELLETS!

HÅLL RÄTT PÅ DOM. DET TOG TRE VECKOR PÅ DÄRKNET ATT HITTA DOM.

..OCH DET ÄR JU EN MASSA ANDRA TILL BEHÖR.

JÄPP. JODTABLETTER, BLYKALSONGER, EN LITEN LARMSIRÉN ...

HAR VI LÖST SLUTFÖRVARINGEN?

NÅ, DÅ HADE DET DRAGIT IVÄG. JAG TÄNKTE DU KUNDE KASTA DET ÖVER STAKETET VID FORSMARK.

ÅH, BÄSTA JULEN EVER, ÄLSKLING!

ndersson kritiserar en nya regeringen

Jag var helt maktlös och i händerna på en personal som jobbar i ett kaos.

Spelet bakom Akelius köp av Castellum

Läs eSvD under julen

In Sweden, we continue to follow – and participate in – the public discourse about nuclear energy, which has gained further momentum in recent months. On Christmas Eve, one of the country's largest newspapers, much in line with our project's theorization of nuclear energy and its links with older forms of (thermal) hydraulic engineering, jokingly suggested that miniature small modular reactors may replace the classical toy-size steam engines as the perfect Christmas gift! Project members have written multiple newspaper essays and op-eds in an effort to share our research experiences with a wider, non-academic audience, and have featured in interviews for major newspaper such as *Dagens Nyheter* and *Le Monde*. **Per Högselius'** essay on the historical reasons behind the pre-mature closure of four Swedish nuclear reactors between 2016 and 2020 became the fifth most-read essay in *Svenska Dagbladet* during 2022. **Siegfried Evens** and Per Högselius further discussed the reasons, seen from an historical horizon, behind the destruction of a pressurizer at the Ringhals NPP in August 2022, which led to a near eight month unplanned outage of that reactor. **Per Högselius** and **Anna Storm**, moreover, have been involved in recent discussions linked to the ongoing decommissioning of the Ågesta nuclear heat and power plant, in operation from 1964 to 1974 in the south of Stockholm. Linked to that debate, the Swedish

National Museum of Science and Technology opened a new, impressive exhibition on Swedish nuclear energy with the Ågesta NPP at the centre: "Salong Energi – Ågesta Kärnkraft-verk". Per Högselius was invited to participate in a panel debate at the opening of the exhibition, and both Anna Storm and Per feature in a documentary film on Ågesta's history, "Ågesta - A Ripple in Time", directed by **David and Hi-Jin Hodge**. Meanwhile **Achim Klüppelberg** wrote a piece on "Chernobyl as a Post-Soviet Memory Space" published in *Baltic Worlds*. We are glad for these possibilities to

translate our nuclear-historical research into a format that engages the public and can contribute to informed decision-making around the nuclear future of Sweden and beyond.

Further reading

Gutting, Alicia. "What is good drinking water?: 41 Years of risk perception on water quality in the vicinity of the Nuclear Research Centre Karlsruhe, 1956–1997". Risk, Hazards & Crisis in Public Policy.

Lindström, Kati: Keskkonnahumanitaaria. Ühe uurimisala väljakujunemisest läbi suurkonverentside prisma [Environmental Humanities. On the Development of a Research Speciality through the Lens of Major Conferences], in: Methis – Studia Humaniora Estonica 24, No. 30, 13 December 2022.

Evens, Siegfried: Les risques de refroidissment: l'eau comme frontière spatiale et temporelle de l'énergie nucléaire, in: Enquêter dans le nucléaire. Rennes: Presses Universitaires de Rennes, 2022. 251-274.

Storm, Anna. "Scars: Living with Ambiguous Pasts." In: Bangstad, Torgeir Rinke and Pétursdóttir, Þóra (eds.): *Heritage Ecologies.* London and New York: Routledge, 2022.

Klüppelberg, Achim. "Chernobyl as a Post-Soviet Memory Space. How Ideas of Progress and Fear Shaped a Nuclear Heritage Site." *Baltic Worlds,* December 2022, 61-65.

Högselius, Per. "Ågestareaktorn – en kärnkraft för framtiden?" *Svenska Dagbladet*, 16 March 2023.

"The Resurrection of Sweden's Nuclear Programme", *Le Monde,* 14 February 2023 (interview with Per Högselius).

"Så skapade politik och marknad en perfekt storm som stängde reaktorerna", Dagens Nyheter, 7 January 2023 (interview with Per Högselius).

Evens, Siegfried, and Per Högselius. "Rusta upp kärnkraften för att slippa framtida kallduschar". *Dagens Industri,* 1 November 2022.

"Professorn om kärnkraften: det är regeringens tre största utmaningar", *TV4,* 25 October 2022 (interview with Per Högselius).