



Ansökan

2025-08-19

2025-07464	Rosen, Johanna	VR-EXCBT
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Information om ansökan Utlisningsnamn: Bidrag för planering av framtida excellenskluster inom banbrytande tekniker 2025 (Vetenskapsrådet) Bidragsform: Nätverksbidrag Sökt inriktning: Banbrytande tekniker Ämnesområde utlysning: NT, MH, HS, UV		
Projekttitel: En nationell plattform för AI-accelererad materialutveckling Projektstart: 2025-10-01 Sökt beredningsgrupp: VR-EXCBT Klassificeringskod: 20501. Keramiska och pulvermetallurgiska material, 20506. Metallurgi och metalliska material, 10210. Artificiell intelligens Nyckelord: AI-driven materials innovation, Automation and autonomous laboratories, Energy materials (generation, storage, conversion), Interdisciplinary research and infrastructure, Sustainable technologies and competitiveness		
Medverkande		
Medverkande forskare: Igor Abrikosov Födelsedatum: 19651015 Kön: Man Land: Sverige		Dr-examen: 1997-12-18 Akademisk titel: Professor Arbetsgivare: Linköpings universitet
Medverkande forskare: Per Eklund Födelsedatum: 19771119 Kön: Man Land: Sverige		Dr-examen: 2007-05-10 Akademisk titel: Professor Arbetsgivare: Uppsala universitet
Medverkande forskare: Michael Felsberg Födelsedatum: 19741112 Kön: Man Land: Sverige		Dr-examen: 2002-02-12 Akademisk titel: Professor Arbetsgivare: Linköpings universitet
Medverkande forskare: Feng Gao Födelsedatum: 19810221 Kön: Man Land: Sverige		Dr-examen: 2011-11-26 Akademisk titel: Professor Arbetsgivare: Linköpings universitet
Medverkande forskare: Per Persson Födelsedatum: 19710929 Kön: Man Land: Sverige		Dr-examen: 2001-06-01 Akademisk titel: Professor Arbetsgivare: Linköpings universitet

Medverkande forskare: Xiaodong Zou

Födelsedatum: 19640104

Kön: Kvinna

Land: Sverige

Dr-examen: 1995-06-01

Akademisk titel: Professor

Arbetsgivare: Stockholms universitet

Projektinformation

Projekttitel (svenska)

En nationell plattform för AI-accelererad materialutveckling

Projekttitel (engelska)

Accelerating Materials Innovation and Scientific Excellence in Sweden (AMAISE)

Abstract och populärvetenskaplig beskrivning

Abstract (engelska)

Addressing current and future societal needs, particularly in sustainability, requires new technologies, components, and devices, with advanced materials playing a key role. Accelerated development and implementation of such materials in strategic areas is critical. Functional materials and AI are strategic priorities for Sweden, and this proposal outlines the planning of a national Excellence Cluster (EC) to drive groundbreaking technologies through AI-accelerated materials science and engineering.

While the cluster will develop broadly applicable knowledge and methods, the initial impact case will focus on energy materials (generation, storage, and conversion) addressing major unresolved challenges. By teaming materials and computer scientists with expertise in machine learning (ML) and automation, we will accelerate all pillars of materials science; theory and modeling, synthesis, characterization, and testing, ultimately targeting inverse design, providing materials with target properties, on demand.

A constellation of internationally leading researchers in materials science, AI, social sciences and humanities, also including industry, will plan the EC. Activities will span from fundamental research to production, involving national infrastructures such as ARTEMI, NAISS, MAX IV, and the Berzelius AI/ML cluster. Planning will include seminars, workshops, and a landscape analysis to identify and connect with leading initiatives at the AI/materials interface.

Populärvetenskaplig beskrivning (svenska)

En nationell plattform för AI-accelererad materialutveckling

För att möta globala utmaningar som klimatförändringar, hållbar energi och resurseffektivitet krävs en ny generation avancerade material, framtagna och implementerade betydligt snabbare än dagens metoder tillåter. *Både funktionella material och artificiell intelligens (AI) är identifierade strategiska prioriteringsområden i Sverige.* Detta förslag presenterar ett Excellenskluster (EC) som samlar världsledande kompetens inom materialvetenskap, AI och automation för att radikalt öka tempot vad gäller innovation och teknologi kopplat till materialutveckling.

Klustret kommer att skapa en integrerad plattform där modellering, syntes, karakterisering och testning av material och komponenter kopplas samman och accelereras via AI-baserade metoder och autonoma laboratorier. Detta möjliggör snabb återkoppling mellan teori och experiment, drastiskt förkortade tider för materialutveckling, och en snabbare väg från vetenskapligt genombrott till implementering, för svensk industri. Aktiviteterna tar avstamp i energi-relaterade material för lagring, omvandling och produktion, t.ex. för batterier, solceller och katalys, vilket är avgörande för elektrifiering, förnybar energi och ett fossilfritt samhälle. Tänka framtida expansområden inkluderar halvledare, kvantteknologi, och hållbar tillverkning.

Med bas i starka forskningsmiljöer vid LiU, SU, och UU, och i nära samverkan med industri, kommer klustret att nyttja infrastrukturer som MAX IV, ARTEMI, NAISS och Berzelius. Klustret inkluderar även humanistiska och samhällsvetenskapliga perspektiv, så att nya teknologier utvecklas ansvarsfullt och med samhällelig förankring.

Genom workshoppar, industridialog och internationella samarbeten planerar vi för ett EC som ska placera Sverige i global framkant för AI-driven materialvetenskap, och leverera hållbara, högpresterande material som stärker konkurrenskraften, bidrar till klimatmålen, och gynnar vårt samhälle på lång sikt.

Beräknad projekttid

2025-10-01 - 2026-03-31

Planerad användning av forskningsinfrastruktur

Planerad användning av forskningsinfrastruktur

Ja

Forskningsinfrastruktur/er

ARTEMI - Nationell Forskningsinfrastruktur för Elektronmikroskopi

NAISS - National Academic Infrastructure for Supercomputing in Sweden

MAX IV-laboratoriet

Annan forskningsinfrastruktur

MyFab and ESS may also be used (will be discussed).

Övriga ansökningar och bidrag

Är någon eller flera av punkterna aktuella för dig?

Ja

Motivering och redogörelse för relationen mellan de olika projekten och/eller ansökningarna (engelska)

I have a VR Project grant, not overlapping with the topic of the Excellence Cluster proposal.

No other proposals have been submitted on the same project idea or with this constellation of researchers.

Planering för användning av bidraget

Planering för användning av bidraget (engelska)

Se nästa sida för bilaga.

Accelerating Materials Innovation and Scientific Excellence in Sweden (AM^AISE)

Description of the research area

Research area and suggested cluster

We suggest a VR Excellence Cluster (EC) at the intersection of materials science and computer science (artificial intelligence (AI) and automation), for accelerated materials science and innovation.

The ability to rapidly develop, design, discover, and deploy advanced materials is a cornerstone of future technological advancement across sectors such as energy, electronics, and health technologies, and increasingly important for Sweden's global competitiveness. Even more pressing; as climate and resource challenges grow more urgent, there is a critical need for tailored materials and components with high functionality, performance, and reduced development timelines. Yet, conventional approaches to materials development, relying on iterative cycles of modeling, synthesis, and testing, remain time consuming and resource intensive. The urgent need for advanced materials with tailored properties calls for a paradigm shift toward *AI-accelerated materials innovation*.

The proposed EC unites leading Swedish researchers connecting materials science with AI and automation. The cluster will establish an integrated national platform spanning theoretical prediction, automated synthesis, real-time characterization, and device/component testing, all accelerated and guided by state-of-the-art machine learning, AI for science, and autonomous laboratory systems. Our ultimate goal is inverse design; starting with the desired properties of a material, then determining and optimizing the material itself, to deliver on-demand solutions for Swedish industry. Recent advances have shown that machine learning can dramatically accelerate steps from atomic-scale simulation to functional device validation. However, today's efforts remain fragmented across different research areas and limited in integration. What is urgently needed is a coherent, cross-disciplinary research effort that can 1) link predictive multiscale modeling with experimental feedback in real time, 2) develop autonomous and adaptive experimentation platforms, and 3) design AI-based systems that can learn physical principles, manage uncertainty, and propose novel materials and processing pathways.

Linköping University (LiU) has exceptionally strong research environments of both materials science and AI, both ranked #1 in Sweden.¹ Notably, both WISE (Wallenberg Initiative – Materials Science for Sustainability) and WASP (Wallenberg AI, Autonomous Systems and Software Program) are directed from LiU. Further, LiU coordinates VR national infrastructures in advanced electron microscopy (ARTEMi) and supercomputers (NAISS), and hosts the KAW-funded AI/ML supercomputer Berzelius. Stockholm University (SU) and Uppsala University (UU) have leading research environments in structural characterization and catalysis (including the WISE technology platform CircuLab), and materials chemistry and batteries (directing Battery 2030+), respectively. *Connecting these different environments and platforms with outstanding research environments at other Swedish universities and institutes as well as MAX IV, will provide an interdisciplinary Excellence Cluster in AI-accelerated materials science and innovation, allowing direct communication channels and knowledge transfer, which can enable breakthroughs that neither could achieve independently.* Bridging between research disciplines by educating people at the intersection of these research areas is timely and highly valuable for academia as well as industry.

¹ Shanghai global ranking 2024, Materials Science and Engineering, LiU ranked # 1 in Sweden, G. Marklund et al., Strategiska tekniker för Sverige, VINNOVA report, ISBN: 978-91-89905-17-7.

Examples of international leading initiatives and challenges to be resolved

The Materials Project at Lawrence Berkeley National Laboratory,² part of the Materials Genome Initiative and a leader in materials informatics, has predicted properties for over 100,000 (existing and hypothetical) materials, helping researchers identify candidates for, e.g., batteries, catalysts, and semiconductors.³ Microsoft's Azure Quantum Elements used machine learning for battery materials discovery,⁴ for reduced lithium usage and accelerated lab productivity. Google DeepMind's AlphaFold, while originally focused on protein folding, has inspired similar models for inorganic materials.⁵ The Open Catalyst Project, applies graph neural networks to speed up development of catalysts.⁶ Together, these initiatives exemplify how AI can accelerate materials development, compressing timelines from decades to months. Still, identified areas for improvement from these initiatives, as well as from other reported autonomous materials discoveries,⁷ include (in selection) a need for more reliable automated characterization, and a lack of consideration of imperfections in the materials.⁸ Examples of the latter are chemical disorder and other types of defects, crucial for materials stability and materials properties, typically being overlooked in many open databases where a majority of materials are ideal compounds. Furthermore, many of the discovered new materials (such as Microsoft's suggested battery material) do not outperform those currently being used.

Another major challenge in accelerated materials development is not just using or creating AI-based tools, but applying them with a clear understanding of their limitations and appropriate use, so that the outputs are scientifically meaningful and reliable, e.g., by injecting geometric invariances and physical constraints into the data driven models. Further, success stories to date emphasize that high-quality data was essential to achieving useful results. The need for AI and automation in materials science is vast, but we face a key obstacle: a lack of sufficient, high-quality data to properly train and validate models. OPTIMADE is an example of a multi-institutional consortium trying to address this problem,⁹ but to fully realize the potential of AI in this field, we must pair better (and more) data with better-informed use of AI tools, while also noting that injection of invariances and constraints reduces the need for data. This topic is closely linked to unified, large-scale, and long-term data storage, a challenge at the national level that needs to be specified accurately in a dialogue between domain experts.

We intend to tackle the above by merging materials science and engineering with computer science, including automation. Involving leading experts in respective fields, we will introduce tools for materials innovations developed in pace with known as well as new ML-based methods for theoretical modelling, automated synthesis, advanced (*in situ*, *in operando*) characterization, materials and device testing, at short time scales and down to atomic level. One out of many examples includes high-throughput transmission electron microscopy (TEM) on 1D, 2D, and 3D materials, combining advanced methods with AI for, e.g., structure and image interpretation, and setting up parameters for *in situ* experiments. Through experts in automation and sustainability, we also intend to address scalable and sustainable production. The concerted efforts employ the national research infrastructures ARTEMIS, MAX IV and NAISS.

Strategic relevance

The Excellence Cluster will provide templates for accelerated materials development/design. While the EC will ensure that performed fundamental research supports current long-term

² Directed by Kristin Persson, a LiU guest professor and also being involved in this proposal

³ A. Jain *et al.*, APL Mater. **1**, 011002 (2013)

⁴ C. Chen *et al.*, Journal of the American Chemical Society **146**, 29 (2024)

⁵ J. Jumper *et al.*, Nature **596**, 583 (2021)

⁶ L. Chanussot *et al.*, ACS Catalysis **11**, 6059 (2021)

⁷ N. Szymanski *et al.*, Nature **624**, 86 (2023)

⁸ J. Leeman *et al.*, PRX Energy **3**, 011002 (2024)

⁹ M. L. Evans *et al.*, Digital Discovery **3**, 1509 (2024)

industrial transformation goals, chosen initial impact cases are directed towards energy materials (energy storage, catalysis, solar cells, and nuclear materials), solving outstanding challenges in the respective areas. The cluster aims to successively expand to other areas of materials science and engineering.

Sweden has been globally recognized for materials innovation, advanced manufacturing, and digitalization, with strong industrial networks in energy, automotive, telecom, mining, and process industries. By accelerating the pace of materials design, development and production, this cluster intends to support national priorities such as 1) battery and electrification technologies, 2) semiconductors, quantum, and sensor technologies, 3) green steel and advanced alloys, and 4) sustainable materials and circular technologies. The cluster will position Sweden as a key player in the global strive towards sustainable, tailored and high-performance materials.

Network description and mode of cooperation

The collaborating partners, strengthening the planning process

A strategic new constellation is formed between strong research and innovation environments at LiU, SU, and UU, synergetic with national research infrastructures, programs, centers, and projects, and in collaboration with industry and international initiatives. The researchers involved are internationally acclaimed authorities in their respective field, and they take specific and complementary roles in planning the proposed EC: The team is led by PI **Johanna Rosen, LiU** (Wallenberg Scholar, ERC awardee, SFO director) together with co-PIs **Feng Gao, LiU** (Wallenberg Scholar, ERC awardee), **Igor Abrikosov, LiU** (Wallenberg Scholar), **Michael Felsberg, LiU** (ELLIS fellow and DAGM Olympus awardee), **Per Persson, LiU** (ARTEMI director), **Xiaodong Zou, SU** (Wallenberg Scholar, Arrhenius medal awardee), and **Per Eklund, UU** (Senior Wallenberg Academy Fellow, ERC awardee). In addition to the applicants above, there will be partners representing humanities and social science perspectives, among them **Virginia Dignum, UmU** (EURAI Fellow) and **Daniel Västfjäll, LiU** (Wallenberg Scholar), and a large network in industry and academia.

The contributions of each partner to the research theme

The proposed EC sets the stage for a new, national, large-scale interdisciplinary research environment with leading researchers. The planning stage integrates four departments at LiU with three departments at UU, SU and UmU. *It should be noted that the planning stage may identify other relevant areas, at other universities, with required complementary expertise.*

The applicants (in bold) and their main area of research, see Table below, cover the pillars of materials science (theory, synthesis, characterization, and testing), computer science (required for advancing AI-accelerated materials development), and including, but not being limited to, materials for energy and catalysis. They also represent a large network of relevant Swedish industry. Further, additional prominent researchers in leading positions, with matching expertise, will take part in planning the EC. Key individuals are listed below.

Johanna Rosen (LiU, materials design, synthesis)	Fredrik Lindsten (LiU, statistical ML)
Igor Abrikosov (LiU, theory & modelling)	Björn Alling (LiU, Dep. Dir. NAISS, storage)
Xiaodong Zou (SU, characterization, catalysis)	Julia Westermayr (Leipzig/SU, ML, chemistry)
Feng Gao (LiU, device & performance, solar cells)	Jesper Jacobsson (LiU, automation)
Per Persson (LiU, Dir. ARTEMI, analysis, defects)	Lars Hultman (LiU, metallurgy, thin films)
Per Eklund (UU, coatings, nuclear materials)	Patrik Johansson (UU, Head Battery 2030+)
Michael Felsberg (LiU, ML for computer vision)	Fredrik Heintz (LiU, machine reasoning and ML)
Virginia Dignum (UmU, social and ethical AI)	Daniel Västfjäll (LiU, cognitive psychology)
Kristin Persson (Berkeley, materials informatics, director of Materials Project)	

We include humanities and social (HS) science perspectives by research on how relevant information about technological innovations can reach individuals and decision-makers and persuade them to initiate behavioral change both at the individual and system levels, for societal development. Further, opportunities, challenges, and risks associated with emerging technologies are explored through research on social and ethical aspects of AI. Industry will initially be represented by the network Innovative Materials Arena (IMA), in turn representing 106 companies in the central of Sweden, all active within the field of advanced materials. All in all, with our joint expertise, we are in a unique position to take a radically new approach to pushing the frontiers of accelerated materials design and innovation.

A structure for collaboration

The group of applicants together with HS and industry representatives will constitute a steering group at the core of the planning activities, led by main applicant Rosen. Every applicant represents a key area, and will be responsible for, during the planning stage, developing a vision for that area and for connecting to relevant expertise. Again, individuals as well as universities beyond those mentioned in the present document may be included in the process. A broader group of people, listed above, will all be actively involved in the work of planning the EC, contributing with an extensive network and with extensive knowledge in their area of research as well as in related national/international initiatives.

Forms of collaboration

The collaboration around planning the Excellence Cluster (EC) will involve coordinated seminars, meetings, and workshops. The planning process will begin with individual pre-discussions between members of the steering group and the coordinator/leader (Rosen), followed by a one-day workshop in early November. This workshop will include the broader group identified for involvement in the EC planning (see list above). Core research areas and related questions will be outlined, discussed, and responsibilities will be assigned to specific individuals (applicants and HS representatives). Assigned tasks may include organizing topic-specific workshops or conducting surveys to gather insights in key areas relevant to the EC.

A dedicated workshop will also be organized with representatives from industry. Round-table discussions will be used to identify industrial needs in general, and needs related to energy-related materials and applications in particular (for our chosen impact cases). We plan to invite representatives from FOI and RISE, as well as experts in life cycle assessment (LCA), to ensure that we address challenges related to sustainability, scalability, and production. In parallel, we will conduct a landscape analysis of leading European and global initiatives at the intersection of AI and materials science. The results of this analysis will be presented in a seminar for a targeted audience, and potential strategies for connecting with relevant initiatives will be explored.

In addition to coordinating research areas and related research questions, we will also discuss and plan concrete strategies for addressing issues such as gender balance, support for early-career researchers, and approaches to attracting international expertise (recruitment). Further relevant topics include assessing the need for existing or new research infrastructure to support the long-term goals of the EC.

Finally, to maintain momentum and ensure progress, bi-weekly online meetings with the steering group will be held throughout the planning phase. An additional in-person workshop will take place at the end of January, focused on consolidating the planning process, summarizing all outcomes, and finalizing the content for the cluster proposal report.

Beskrivning av meriter

Meritbeskrivning (engelska)

Materials Science is a prioritized research area at LiU, ranked #1 in Sweden. In 2010, LiU was awarded a Swedish Government Strategic Area Grant (SFO) grant in Materials Science, which remains at full thrust, with myself as Director. I also lead the Materials Design division (> 30 members), which has developed into an internationally recognized research environment. Our work integrates theory and experiment, following the paradigm of process–structure–property–theory investigations for knowledge-based design of new multifunctional materials. This approach has resulted in the realization of nearly 100 new materials and high-impact publications in leading Science and Nature journals. Our activities span high-throughput predictive modelling, experimental synthesis, and characterization/testing of 1D, 2D, and 3D materials, both as powders and thin films. We are advancing the research frontier into novel areas, including borides (KAW Project Grant), energy materials (SSF Program Grant), and AI-assisted development of 2D materials (KAW Project Grant). As principal investigator and program leader in these initiatives, and with recognition from two ERC grants and my appointment as a Wallenberg Scholar since 2019, I have extensive experience in initiating, establishing, and leading large interdisciplinary efforts, including those bridging materials science and AI. This is further demonstrated by securing a NEST project in 2025, linking materials and computer science for accelerated development of MXene-like materials. A core strategy of my division is to combine fundamental science with entrepreneurship, which has led to several start-up companies. In addition, I have served in various national and institutional commissions of trust, and as a member of IVA. These roles have provided me with valuable leadership experience and a strong network in academia and industry, crucial for maintaining leadership in demanding positions at the intersection of research and innovation.

Sökandes publikationer och andra forskningsoutputs (engelska)

Se nästa sida för bilaga.

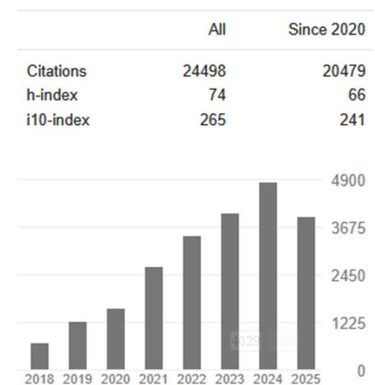
Bibliometrics:

I have **350** publications in peer reviewed journals,
 9 submitted/accepted patents, and 4 book chapters.
 Citations > **24 000**, h-index **74** (see google scholar profile to the right)

Link to online bibliometric profile:

Google Scholar profile: Johanna Rosen, LiU:

<https://scholar.google.com/citations?user=kKgvcLoAAAAJ&hl=en>

**1. Selection of research outputs**

1) *Titanium oxysulfate-derived 1D lepidocrocite titanate nanostructures* S. Maity*, M. Ibrahim, H. Badr, T. Reji, M. Q. Hassig, T. Zhang, C. Li, **J. Rosen***, M. W. Barsoum*
 Advanced Materials Interfaces **12**, 2400866 (2025)

I initiated and led the project together with Barsoum. The work forms the foundation for three patent applications, and a planned (fall 2025) start-up company (TiCiel), producing sustainable materials for energy and sunscreen application. Example of output from an SSF program directed by me.

2) *MAX phases – past, present, and future* M. Dahlqvist*, M. Barsoum, **J. Rosen***
 Materials Today **72**, 1 (2024)

Initiated and led the project. The paper summarize the field of MAX phases (laminated 3D ceramic materials) and also present high-throughput simulations which predict further directions for realization of new MAX phases, for new application areas. Also example of data generation that is currently used for several ongoing projects involving machine learning.

3) *Synthesis of goldene comprising single-atom layer gold* S. Kashiwaya, Y. Shi, J. Lu, D. Sangiovanni, G. Greczynski, M. Martinson, M. Andersson, **J. Rosen**, Lars Hultman*
 Nature Synthesis **3** 744 (2024)

Example of a new type of 2D metal based on gold, realized within my division and using novel synthesis methods that we have developed, currently being used also for other noble metals. The work is patented by us, and the foundation for a company being started fall 2025 (Goldene AB).

4) *Enhanced photocatalytic performance of a rGO-Ca₂Fe₂O₅ nanocomposite for photodegradation of emergent pollutants* D. Sankar Vavilapalli*, L. Qin, J. Palisaitis, **J. Rosen***
 npj Clean Water **7** 41 (2024)

I initiated and led the project. The work shows the strength of our interdisciplinary approach, combining expertise in materials science, physics, and chemistry to realize new materials for water purification. This is the start of a close collaboration with industry (SGS).

5) *Two-dimensional materials by large-scale computations and chemical exfoliation of layered solids* J. Björk*, J. Zhou*, P. O. Å. Persson, **J. Rosen***
 Science **383** 1210 (2024)

I initiated and led the project. The paper presents a new approach for predicting new 2D materials, and high-throughput simulations performed using this approach. Example of output from a KAW project directed by me. Example of data generation currently used for ongoing projects involving machine learning, in close collaboration with computer scientists.

6) *Boridene: Two-dimensional Mo_{4/3}B_{2-x} with ordered metal vacancies obtained by chemical exfoliation* J. Zhou*, J. Palisaitis, J. Halim, M. Dahlqvist, Q. Tao, I. Persson, L. Hultman, P. O. Å. Persson, **J. Rosen***
 Science **373** 801 (2021)

I initiated and led the project. The paper pushes the frontier of making 2D materials from selective etching. The first example of a 2D metal boride, obtained by a combination of

predictive modelling and experimental verification. To date shown promise for Al ion batteries and catalysis. Example of output from a KAW project directed by me.

7) *The world of two-dimensional carbides and nitrides (MXenes)* A. VahidMohammadi, **J. Rosen**, Y. Gogotsi*

Science **372** 6547 (2021)

Invited review paper, summarizing the large and expanding field of MXenes, and suggesting directions of further research and areas of applications. I wrote a related more in-depth (invited) review in Chemical Reviews in 2024, on materials design from theoretical and experimental perspectives, including a critical discussion on related modelling and AI/ML approaches.

8) *Out-of-plane ordered laminate borides and their two-dimensional Ti-based derivative from chemical exfoliation* M. Dahlqvist*, J. Zhou, I. Persson, B. Ahmed, J. Lu, J. Halim, Q. Tao, J. Palisaitis, J. Thörnberg, P. Helmer, L. Hultman, P. O. Å. Persson, **J. Rosen***

Advanced Materials **33** 2008361 (2021)

I initiated and led the project. Shows the strength of combining theoretical predictions, verifying synthesis, and advanced characterization.

9) *W-based atomic laminates and their two-dimensional derivative $W_{1.33}C$ MXene with vacancy ordering* R. Meshkian, M. Dahlqvist, J. Lu, B. Wickman, J. Halim, J. Thörnberg, Q. Tao, S. Li, S. Intikhab, J. Snyder, M. W. Barsoum, M. Yildizhan, J. Palisaitis, L. Hultman, P. O. Å. Persson, **J. Rosen***

Advanced Materials **30** 1706409 (2018)

I initiated and led the project. Shows the strength of combining theoretical predictions, verifying synthesis, and advanced characterization/testing. (Patented results.)

10) *Two-dimensional $Mo_{1.33}C$ MXene with divacancy ordering prepared from parent 3D laminate with in-plane chemical ordering* Q. Tao, M. Dahlqvist, J. Lu, S. Kota, R. Meshkian, J. Halim, J. Palisaitis, L. Hultman, M. W. Barsoum, P. O. Å. Persson, **J. Rosen***

Nature Communications **8** 14949 (2017)

I initiated and led the project. Another example showing the strength of combining theoretical predictions, verifying synthesis, and advanced characterization/testing. (Patented results.)

2. Relevant peer-reviewed research outputs from 2017–2025

Original articles (in selection)

Predicting A-element substitution and MXene formation in reactions between MAX phases and molten salts

J. Björk, **J. Rosen**

Accepted for publication in Angewandte Chemie (2025)

Sulfur-functionalized MXenes nanosheets for efficient electrocatalytic hydrogen evolution

L. Qin, J. Jiang, J. Halim, J. Palisaitis, P. O. Å. Persson, **J. Rosen**

ACS Applied Energy Materials **8**, 9069 (2025)

Expanding the structural and compositional space of two-dimensional $M_2X_2T_y$ materials via simulated etching of layered YM_2X_2 phases

P. Helmer, R. M. Ronchi, J. Björk, **J. Rosen**

Chemistry of Materials **37**, 4617 (2025)

Titanium oxysulfate-derived 1D lepidocrocite titanate nanostructures

S. Maity, M. Ibrahim, H. Badr, T. Reji, M. Q. Hassig, T. Zhang, C. Li, **J. Rosen**, M. W. Barsoum

Advanced Materials Interfaces **12**, 2400866 (2025)

Combined in- and out-of-plane chemical ordering in super-ordered MAX phases (s-MAX)

M. Dahlqvist, **J. Rosen**

Nanoscale **17**, 13787 (2025)

Johanna Rosen

Defect engineering of $\text{Mo}_{2-x}\text{CT}_z$ MXenes through precursor alloying and effects on electrochemical properties

R. M. Ronchi, N. Chen, J. Halim, P. O. Å. Persson, **J. Rosen**

Chemistry of Materials **37**, 4005 (2025)

Enhanced photocatalytic performance of rGO- $\text{Ca}_2\text{Fe}_2\text{O}_5$ nanocomposite for photodegradation of emergent pollutants

D. Sankar Vavilapalli, L. Qin, J. Palisaitis, **J. Rosen**

npj Clean Water **7**, 41 (2024)

Synthesis of goldene comprising single-atom layer gold

S. Kashiwaya, Y. Shi, J. Lu, D. Sangiovanni, G. Greczynski, M. Martinson, M. Andersson, **J. Rosen**, Lars Hultman

Nature Synthesis **3** 744 (2024)

Two-dimensional materials by large-scale computations and chemical exfoliation of layered solids

J. Björk, J. Zhou, P. O. Å. Persson, **J. Rosen**

Science **383**, 1210 (2024)

One-dimensional lepidocrocite titania mesoparticles integrated with activated carbon for high-performance supercapacitor applications

S. Maity, L. Qin, A. Petruhins, M. W. Barsoum, **J. Rosen**

Journal of Energy Storage **101**, 113895 (2024)

Advanced materials provide solutions towards a sustainable world - A policy brief from the Swedish Wallenberg Initiative on Materials Science for Sustainability (WISE)

L. Hultman, O. Eriksson, M. Berggren, S. Mazur, ... **J. Rosen, et al.**

Nature Materials **23**, 160 (2024)

MAX phases – past, present, and future

M. Dahlqvist, M. Barsoum, **J. Rosen**

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Atomic scale design of MXenes and their parent materials - from a theoretical and experimental perspective

J. Zhou, M. Dahlqvist, J. Björk, **J. Rosen**

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Thick electrodes of a self-assembled MXene hydrogel composite for high-rate energy storage

L. Qin, J. Jiang, L. Hou, F. Zhang, **J. Rosen**

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Computationally-driven discovery of quaternary tantalum-based MAB-Phases: $\text{Ta}_4\text{M}''\text{SiB}_2$ ($\text{M}'' = \text{V}, \text{Cr}, \text{or Mo}$): synthesis, characterization, and elastic properties

Ahmed S. Etman, J. Halim, H. Lind, M. Dorri, J. Palisaitis, J. Lu, L. Hultman, P. O. Å. Persson, **J. Rosen**

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M_5X_4 – A family of MXenes

M. Downes, C. E. Shuck, R. Lord, M. Anayee¹, M. Shekhirev, R. Wang, T. Hryhorchuk, M. Dahlqvist, **J. Rosen**, Y. Gogotsi

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Experimental and theoretical investigations of out-of-plane ordered nanolaminate transition metal borides: M_4CrSiB_2 ($\text{M} = \text{Mo}, \text{W}, \text{Nb}$)

J. Halim, P. Helmer, J. Palisaitis, M. Dahlqvist, J. Thörnberg, P. O. Å. Persson, **J. Rosen**

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MXene-based multifunctional smart fibers for wearable and portable electronics

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P. Helmer, J. Halim, J. Zhou, R. Mohan, B. Wickman, J. Björk, **J. Rosen**,

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Bottom-up, scalable synthesis of nanofilament based two-dimensional titanium carbo-oxide flakes

H. Badr, T. El-Melegy,..... *37 authors in total*.... P.O.Å. Persson, **J. Rosen**, Y. Hu, M.

Barsoum

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Boridene: Two-dimensional $\text{Mo}_{4/3}\text{B}_{2-x}$ with ordered metal vacancies obtained by chemical exfoliation

J. Zhou, J. Palisaitis, J. Halim, M. Dahlqvist, Q. Tao, I. Persson, L. Hultman, P. O. Å.

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A coustomicrofluidic synthesis of pristine ultrathin $\text{Ti}_3\text{C}_2\text{T}_z$ MXene nanosheets and quantum dots

H. Alijani, A. Rezk, M. Khosravi Farsani, H. Ahmed, J. Halim, P. Reineck, B. Murdoch, A. El-Ghazaly, **J. Rosen**, L. Yeo

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The world of two-dimensional carbides and nitrides (MXenes)

A. VahidMohammadi, **J. Rosen**, and Y. Gogotsi

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J. Björk, **J. Rosen**

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L. Grossmann, B. T. King, S. Reichlmaier, N. Hartmann, **J. Rosen**, W. M. Heckl, J. Björk, M. Lackinger

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Ultrafast, one-step, salt-solution-based acoustic synthesis of Ti_3C_2 MXene

A. E. Ghazaly, H. Ahmed, A. R Rezk, J. Halim, P. Persson, L. Y Yeo, **J. Rosen**

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Bioinspired multisensory neural network with crossmodal integration and recognition

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Theoretical prediction and synthesis of a family of atomic laminate metal borides with in-plane chemical ordering

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Synthesis of Ti_3AuC_2 , $Ti_3Au_2C_2$ and Ti_3IrC_2 by noble metal substitution reaction in Ti_3SiC_2 for high-temperature-stable Ohmic contacts to SiC

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Medverkande forskares publikationer och andra forskningsoutputs (engelska)

Se nästa sida för bilaga.

List of 10 publications and/or other research outputs

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a. Corresponding authors: M. Bykov, **I. A. Abrikosov**
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M Magnuson*, **P Eklund***, C Polley (*=corresponding authors)
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2. *Structural and electronic properties of $Sc_{1-x}W_xN_y$ thin films on MgO (001)*
S Chowdhury, HG Yanez, SK Honnali, G Greczynski, POÅ Persson, A le Febvrier, M Magnuson, **P Eklund** [*Applied Materials Today* **44**, 102730 \(2025\)](#)
3. *Reflective, polarizing, and magnetically soft amorphous neutron optics with ^{11}B -enriched B_4C*
A Zubayer*, N Ghafoor, KA Thórarinsdóttir, S Stendahl, A Glavic, J Stahn, G Nagy, G Greczynski, M Schwartzkopf, A le Febvrier, **P Eklund***, J Birch*, F Magnus*, F Eriksson*
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4. *Chemical-scissor-mediated structural editing of layered transition metal carbides*
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6. *Solid-State Janus Nanoprecipitation Enables Amorphous-Like Heat Conduction in Crystalline Mg_3Sb_2 -Based Thermoelectric Materials*
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H Fashandi, M Dahlqvist, J Lu, J Palisaitis, SI Simak, IA Abrikosov, J Rosen, L Hultman, M Andersson, A Lloyd Spetz, **P Eklund** [*Nature Materials* **16**, 814 \(2017\)](#)

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Per Persson

List of 10 publications and/or other research outputs

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5. *Atomically resolved structural and chemical investigation of single MXene sheets* L.H. Karlsson, J. Halim, M.W. Barsoum, and **P.O.Å. Persson** **Nano Letters** **15**, 4955 (2015)
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7. *Two-dimensional materials from large-scale computations and chemical exfoliation of laminated solids* J. Björk, J. Zhou, **P.O.Å. Persson** and J. Rosen **Science** 383 1210 (2024)
8. *Chemical scissor-mediated structural editing of layered transition metal carbides* Haoming Ding, Youbing Li, Mian Li, Ke Chen, Kun Liang, Guoxin Chen, Jun Lu, Justinas Palisaitis, **Per O. Å. Persson**, Per Eklund, Lars Hultman, Shiyu Du, Zhifang Chai, Yury Gogotsi, Qing Huang **Science** 379 6637 (2023)
9. *W-based atomic laminates and their two-dimensional derivative $W_{1.33}C$ MXene with vacancy ordering* R. Meshkian, M. Dahlqvist, J. Lu, B. Wickman, J. Halim, J. Thörnberg, Q. Tao, S. Li, S. Intikhab, J. Snyder, M. W. Barsoum, J. Palisaitis, L. Hultman, **P.O.Å. Persson**, J. Rosen **Advanced Materials** **30**, 1706409 (2018)
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Xiaodong Zou

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3. Discovery of Novel Nanoporous Materials Advanced by Electron Crystallography, **Xiaodong Zou**, Chemistry Challenges of the 21st Century: Proc 100th Ann. Inter. Solvay Conf. Chem. 167-173 (2024).
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8. High-throughput continuous rotation electron diffraction data acquisition via software automation. Magdalena O. Cichocka, Jonas Ångström, Bin Wang, **Xiaodong Zou**, Stef Smeets, *J. Appl. Cryst.* **51**, 1652-1661 (2018).
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Michael Felsberg

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2. From Missing Pieces to Masterpieces: Image Completion with Context-Adaptive Diffusion, P. Shamsolmoali, M. Zareapoor, H. Zhou, **M. Felsberg**, D. Tao, and X. Li, Trans. PAMI (2025)
3. Efficient Motion Prompt Learning for Robust Visual Tracking, J. Zhao, X. Chen, Y. Yuan, **M. Felsberg**, D. Wanf, and H. Lu, in ICML (2025)
4. All Languages Matter: Evaluating LMMs on Culturally Diverse 100 Languages, A. Vayani, ..., **M. Felsberg**, ..., and F. S. Khan, in CVPR (2025)
5. DiffSF: Diffusion Models for Scene Flow Estimation, Y. Zhang, B. Wandt, M. Magnusson, and **M. Felsberg**, in NeurIPS (2024)
6. Flexible Distribution Alignment: Towards Long-tailed Semi-supervised Learning with Proper Calibration, E. Sanchez Aimar, N. Helgesen, Y. Xu, M. Kuhlmann, and **M. Felsberg**, in ECCV (2024)
7. On Learning Deep $O(n)$ -Equivariant Hyperspheres, P. Melnyk, **M. Felsberg**, M. Wadenbäck, A. Robinson, and C. Le, in ICML (2024)
8. RoMa: Revisiting robust losses for dense feature matching, J. Edstedt, Q. Sun, G. Bökman, M. Wadenbäck, and **M. Felsberg**, in CVPR (2024)
9. TetraSphere: A neural descriptor for $O(3)$ -invariant point cloud classification, P. Melnyk, A. Robinson, M. Wadenbäck, and **M. Felsberg**, in CVPR (2024)
10. Setformer is what you need for vision and language, P. Shamsolmoali, M. Zareapoor, E. Granger, and **M. Felsberg**, in AAAI (2024)

Motivering av sökt budget

Motivering av sökt budget (engelska)

The estimated budget (including 45 % OH) contributes to salaries (approximately one month and two weeks for main applicant and co-applicants, respectively), scientific and administrative coordination, workshops, landscape analysis, planning of HS and security aspects, and outreach activities (connecting to industry), necessary to prepare a full Excellence Cluster proposal report.

1. Salaries: Up to 900 kSEK

- **Main applicant:** 200 kSEK. For leading coordination and proposal planning/writing, initiating dedicated activities, participating in landscape analysis, etc.
- **Co-applicants:** 100 kSEK each. For contributing with coordination and proposal planning/writing, and administering local relevant activities.
- **Coordinator:** Administrative coordination and landscape analysis (2-4 weeks). For organization of meetings/workshops/round-table discussions, managing communication, collecting data/information, and preparing reports. Up to 100 kSEK in total.

1. Workshops: Up to 100 kSEK

- Two one-day workshops (November and January) involving up to 20 participants from academia, industry, and national infrastructures.
- Costs include venue rental, technical support, catering, travel (and, if needed, accommodation) for all participants.

1. Landscape analysis and networking: Up to 100 kSEK

- Mapping of leading national and international initiatives at the AI-materials interface.
- Includes literature review, targeted interviews with stakeholders, and (potentially) short visits/travel to selected international initiatives (e.g. in Europe) to explore collaboration opportunities, etc.

1. Activities focused towards HS/security, outreach and industry engagement: Up to 100 000 SEK

- Dialogue with industry, and organization of at least one dedicated industry round-table meeting.
- Meetings focused towards discussing psychological, social, ethical and security aspects of the Excellence Cluster, also involving FOI, and planning of related relevant research activities within the cluster.

The listed allocations ensure that the planning stage is well-coordinated, inclusive, and internationally connected, laying a strong foundation for the proposed Excellence Cluster.

CV

CV - Johanna Rosen

Projektledare: Johanna Rosen
Födelsedatum: 19750428
Kön: Kvinna
Land: Sverige

Dr-examen: 2004-12-15
Akademisk titel: Professor
Arbetsgivare: Linköpings universitet

Doktorsexamen

Examen	Organisation	Avhandlingens titel (originalspråk)	Handledare
10304. Den kondenserade materiens fysik, 2004-12-15	RWTH Aachen University	Theoretical and experimental studies related to the compositional and structural evolution of alumina thin films	Jochen Schneider

Utbildning

Forskarutbildning			
Examen	Organisation	Avhandlingens titel	Namn på handledare
Doktorsexamen, 10304. Den kondenserade materiens fysik, 2004-12-15	RWTH Aachen University, Tyskland	Theoretical and experimental studies related to the compositional and structural evolution of alumina thin films	Jochen Schneider
Licentiatexamen, 10304. Den kondenserade materiens fysik, 2002-12-13	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Characterization of Metal Plasma Streams from Arc Discharges in a Reactive Environment	Jochen Schneider

Utbildning på grund- och avancerad nivå	
År	Examen
2000	10304. Den kondenserade materiens fysik, Magisterexamen, Linköpings universitet, Sverige

Arbetsliv

Anställningar			
Period	Anställning	Del av forskning i anställningen (%)	Arbetsgivare
januari 2016 - Nuvarande	Professor, Tillsviareanställning	100	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)
maj 2011 - december 2015	Lektor, Tillsviareanställning	100	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)
maj 2007 - april 2011	Forskarassistent, Tidsbegränsad anställning	100	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)

Postdoktorvistelser		
Period	Organisation	Ämne
augusti 2005 - maj 2007	Sydney University, Australien, Applied and Plasma Physics	10304. Den kondenserade materiens fysik
mars 2005 - augusti 2005	RWTH Aachen University, Tyskland, Materials Chemistry	10304. Den kondenserade materiens fysik
januari 2005 - mars 2005	Lawrence Berkeley National Lab, USA, Plasma group	10303. Fusion, plasma och rymdfysik

Uppehåll i forskningen	
Period	Beskrivning
2007-11-23 - 2017-04-30	Parental leave of in total ~37 months between Nov 2007 and April 2017, for daughter Lovisa (born 2007), son August (born 2009), daughter Alva (born 2010), daughter Linnea (born 2012), and daughter Agnes (born 2015).

Meriter och utmärkelser

Docentur		
År	Ämne	Organisation
2008	103. Fysik	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)

Handledda personer			
Handledda personer	Lärosäte (handledld person)	Roll	Antal
Doktorand	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare	15
Doktorand	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Bihandledare	11
Postdok	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare	23

Bidrag erhållna i konkurrens					
Period	Finansiär	Projektledare	Din roll	Delbelopp (kr)	Totalt belopp (kr)
2026 - 2030	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Rosen, Felsberg	Projektledare	0	25 000 000
2025 - 2029	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Rosen	Projektledare	0	20 000 000
2025 - 2028	Marianne och Marcus Wallenbergs stiftelse (MMW), Sverige - Annan forskningsfinansiär	Västfjäll, Rosen	Projektledare	0	10 000 000
2023 - 2028	Europeiska Unionen (EU),	Rosen	Projektledare	0	20 000 000
2021 - 2025	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Rosen, Strömme, Persson, Heintz	Projektledare	0	29 000 000
2018 - 2023	SSF - Stiftelsen för strategisk forskning, Sverige - Annan forskningsfinansiär	Johanna Rosen	Projektledare	0	33 731 000
2016 - 2020	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Johanna Rosen	Projektledare	0	37 500 000
2013 - 2018	VR - Vetenskapsrådet, Sverige - Annan forskningsfinansiär	Johanna Rosén	Projektledare	0	18 000 000
2012 - 2017	SSF - Stiftelsen för strategisk forskning, Sverige - Annan forskningsfinansiär	Lars Hultman / Johanna Rosen	Medverkande	0	25 900 000
2010 - 2015	Europeiska Unionen (EU),	Johanna Rosen	Projektledare	0	13 500 000

Priser och utmärkelser				
År	Land	Namn på priset/utmärkelsen	Utfärdare	Beskrivning
2021	Sverige	Göran Gustafssons pris i fysik	Göran Gustafssons stiftelse, utdelat av KVA	
2019	Tyskland	Mercator Fellow	Technische Uni. Darmstadt and Uni. Duisburg-Essen	
2018	Sverige	Wallenberg Academy Fellow - extension	KAW	12000000 in total for 5 years.
2015	Sverige	Tage Erlanders pris i fysik	KVA	275 000 kr i personligt pris, utfärdat av KVA.
2012	Sverige	Wallenberg Academy Fellow	KAW	
2007	Sverige	Ingvar Carlsson Award	SSF	3000000 SEK
2005	USA	Welch Scholarship	IUVSTA	Stipendie på 15000 US\$.
2005	Sverige	Hans Werthen Scholarship	IVA	Stipendie på 175000 SEK.
2005	Tyskland	Borchers-Plakette	RWTH Aachen University	För att ha genomfört min doktorsexamen "with distinction".
2005	Tyskland	Friedrich-Wilhelm-Preis	RWTH Aachen University	Pris för forskning genomförd under min doktorandtid.

Andra meriter		
Period	Typ av merit	Beskrivning
2023 - 2025	Academy membership	Member of the Royal Swedish Academy of Engineering Sciences (IVA)
2019 - 2025	Invited presentations	~35 invited/keynote/plenary lectures in international conferences in Europe, Asia, and USA 2020 – 2025: 3 Plenary lectures (USA x2, Spain), 6 Keynote lectures (Florida, China x2, France, Germany, Taiwan), and 11 invited presentations in international conferences.
2019 - 2025	Commision of trust for LiU	- Director of SFO "Advanced Functional Materials (AFM)" (2024-present). - Vice Director of SFO "Advanced Functional Materials (AFM)" (2018-2024). - Vice Head of Department (IFM, LiU (20%), responsible for research/research strategy (2021-2025) - Member of the Vice Chancellor Research Council (2021- present) - Chair, the Strategy Council at the Dept. of Physics, Chemistry and Biology (IFM) (2018-2024)
2018 - 2025	Organization of scientific meetings	- 2024/2025 Program Chair and General Chair of ICMCTF, San Diego, USA (~600 participants, industry/academia) - 2020/2021 Chair (organizer) of Topical Symp. on boride materials at ICMCTF, San Diego, USA (April 2020/21), and of Symp. on MXenes at Spring MRS, Phoenix, USA (April 2020) - 2019 Chair (organizer) of Int'l Beilstein Nanotechnology Symposium, Mainz, Germany (2019) - 2019 Chair, Swedish Physics Days (~300 people), LiU, Sweden (2019) - 2018 Chair, int'l IUVSTA-workshop on boride materials (~70 people) Vadstena, Sweden (2018) - 2014 – 2020 Member of Int'l Advisory Board, Int'l conference: CIMTEC, Perugia, Italy (2014, 2016, - 2018, 2020, 2022), and ICACC, Daytona Beach, Florida (2018, 2020, 2022)
2010 - 2025	Commercialization	9 patents granted/published/pending on new 3D, 2D and 1D materials, and new synthesis processes. Three start-up companies associated with some of these patents, to be registered 2025/2026: Donguri, Goldene AB, and TiCiel.

Period	Typ av merit	Beskrivning
2017 - 2022	Board member	Member of RFI (the Council for Infrastructures) at the Swedish Research Council (VR)
2017 - 2022	Academy membership	Elected member of the Young Academy of Sweden.
2018 - 2020	Board member	Member of the Board of Directors of the company Höganäs (Höganäs, Sweden).
2017 - 2019	Board member	Member of the Board of the "Svenska fysikersamfundet" (KVA)

CV - Igor Abrikosov

Medverkande forskare: Igor Abrikosov

Födelsedatum: 19651015

Kön: Man

Land: Sverige

Dr-examen: 1997-12-18

Akademisk titel: Professor

Arbetsgivare: Linköpings universitet

Utbildning

Forskarutbildning		
Examen	Organisation	Namn på handledare
Doktorsexamen, 10304. Den kondenserade materiens fysik, 1997-12-18	Moskva institutet av stål och legeringar, Ryssland, Theoretical Physics Division	Yurii Vekilov

Arbetsliv

Anställningar				
Period	Anställning	Del av forskning i anställningen (%)	Arbetsgivare	Övrig information
september 2003 - Nuvarande	Professor, Tillsvidareanställning	100	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	
januari 1999 - augusti 2003	Senior Researcher, Tidsbegränsad anställning	100	Vetenskapsrådet	
januari 1999 - augusti 2003	Lektor, Tillsvidareanställning	100	Uppsala universitet, Sverige, Inst för fysik och astronomi	The position was financed via VR Senior Researcher grant
juli 1995 - januari 1999	Forskarassistent, Tidsbegränsad anställning	100	Uppsala universitet, Sverige, Inst för fysik och astronomi	
juli 1993 - juni 1995	Visiting Scientists, Tidsbegränsad anställning	100	Uppsala universitet, Sverige, Inst för fysik och astronomi	
mars 1992 - juni 1993	Visiting Scientists, Tidsbegränsad anställning	100	Danmarks Tekniske Universitet	

Meriter och utmärkelser

Docentur		
År	Ämne	Organisation
1997	103. Fysik	Uppsala universitet, Sverige, Inst för fysik och astronomi

Handledda personer			
Handledda personer	Lärosäte (handledd person)	Roll	Antal
Doktorand	Uppsala universitet, Sverige	Huvudhandledare	2
Doktorand	Linköpings universitet, Sverige, Centrum för Biomedicinska Resurser (CBR)	Huvudhandledare	19
Doktorand	Linköpings universitet, Sverige	Bihandledare	5
Postdok	Uppsala universitet, Sverige	Huvudhandledare	3
Postdok	Linköpings universitet, Sverige	Huvudhandledare	25

Bidrag erhållna i konkurrens				
Period	Finansiär	Projektledare	Din roll	Totalt belopp (kr)
2025 - 2030	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Igor Abrikosov	Projektledare	18 000 000
2024 - 2027	VR - Vetenskapsrådet, Sverige - Annan forskningsfinansiär	Igor Abrikosov	Projektledare	3 860 000
2020 - 2023	VR - Vetenskapsrådet, Sverige - Annan forskningsfinansiär	Igor Abrikosov	Projektledare	4 000 000
2020 - 2024	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Igor Abrikosov	Projektledare	18 000 000
2019 - 2024	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Igor Abrikosov	Projektledare	30 400 000
2016 - 2019	VR - Vetenskapsrådet, Sverige - Annan forskningsfinansiär	Igor Abrikosov		4 032 000
2012 - 2015	VR - Vetenskapsrådet, Sverige - Annan forskningsfinansiär	Igor Abrikosov	Projektledare	3 348 000
2012 - 2016	SSF - Stiftelsen för strategisk forskning, Sverige - Annan forskningsfinansiär	Igor Abrikosov	Projektledare	10 000 000
2008 - 2010	KVA - Kungliga Vetenskapsakademin, Sverige - Annan forskningsfinansiär	Igor Abrikosov	Projektledare	1 450 000
2007 - 2011	SSF - Stiftelsen för strategisk forskning, Sverige - Annan forskningsfinansiär	Igor Abrikosov	Projektledare	10 000 000

Priser och utmärkelser				
År	Land	Namn på priset/utmärkelsen	Utfärdare	Beskrivning
2024	Sverige	Wallenberg Scholar (Renewal)	Knut och Alice Wallenbergs Stiftelse	

År	Land	Namn på priset/utmärkelsen	Utfärdare	Beskrivning
2019	Sverige	Wallenberg Scholar	Knut och Alice Wallenbergs Stiftelse	
2016	Sverige	Fellow of the Royal Swedish Academy of Sciences (KVA)	The Royal Swedish Academy of Sciences (KVA)	
2014	USA	Outstanding Referee Award	American Physical Society	
2007	Sverige	Göran Gustafsson Prize in Physics		
2000	Sverige	Oscar prize		

Andra meriter		
Period	Typ av merit	Beskrivning
1994 - 2023	Invited Presentations at international conferences	Invited presentations at more than 100 international conferences (6 Plenary/Keynote), including APS, MRS, TMS, DPG, and Psi-k meetings, 2 invited tutorial at CECAM.
1995 - 2023	On-going Editorial and Review Missions	Editorial Board Member, Nature PJ Computational Materials. Reviewer of scientific papers for large number of international journals, including Nature Materials, Phys. Rev. Lett., Rev. Mod. Phys., Appl. Phys. Lett., Chem. Phys. Lett., Phys. Rev. B. Reviewer of applications for the US Department of Energy, the American Chemical Society, ESF, EU, NOW, Netherlands, WWTF, Austria, RSF, ERC, EU and FWF, Austria. Examination Faculty Opponent/Committee Member of 16 PhD Dissertations. Examiner of 4 Licentiate Thesis.
2005 - 2023	Member of Program Committees for International Conferences	Totally about 30 conferences. Main examples: 2013 Symposium D3II at EUROMAT2013, Sevilla, Spain. 2015 Psi-k2015 Conference, San Sebastian, Spain, as a Trustee. 2016 54th EHPRG International Meeting, Bayreuth, Germany, session organizer. 2022 48th International Conference on Metallurgical Coatings and Thin Films (ICMCTF22), San Diego, USA, session organizer. 2022 Defects in solids for quantum technologies, DSQT22, Stockholm, Sweden. 2022 Psi-k2022 Conference, Lausanne, Switzerland
2018 - 2023	Director	Materials Science Laboratory for Advanced Functional Materials, the Strategic Research Area formed with the grant from the Swedish Government with a budget 32 543 000 SEK/year (for 2023).
2007 - 2023	Academic Leadership	Main examples: 2014- European Network Psi-k Board of Trustees Member (www.psi-k.net). 2019- Member (from 2022 Chair) of the Nomination committee for elections to the Royal Swedish Academy of Sciences (KVA) class Physics. 2020- Member (from 2023 Chair) of the Göran Gustafsson Prize committee in Physics. 2022- Member of the Gregori Aminoff Prize committee, a highly prestigious international prize in the field of crystallography. 2018 – 2022 Board Member, National Supercomputer Centre, Linköping, Sweden. 2015 – 2020 Member of Scientific Advisory Board of a European e-science Center of Excellence “Novel Materials Discovery (NOMAD) Laboratory”, http://nomad-coe.eu/ . 2009 - 2014 Board Member: Dep. of Physics, Chemistry and Biology, Linköping University. 2007 – 2012, 2016 Member of 2 evaluation panels at the Swedish Research Council (VR).
2004 - 2010	Entrepreneurial achievements	Computer clusters Green, AFM and Matter built in collaboration with NSC
2001 - 2006	Leadership and Management Training	INGVAR-I Program from Swedish Foundation for Strategic Research (SSF)

Medverkande forskare: Per Eklund
Födelsedatum: 19771119
Kön: Man
Land: Sverige

Dr-examen: 2007-05-10
Akademisk titel: Professor
Arbetsgivare: Uppsala universitet

Utbildning

Forskarutbildning		
Examen	Organisation	Namn på handledare
Doktorsexamen, 10304. Den kondenserade materiens fysik, 2007-05-10	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Lars Hultman

Utbildning på grund- och avancerad nivå	
År	Examen
2002	20599. Annan materialteknik, Civilingenjörsexamen/motsv, Linköpings universitet, Sverige

Arbetsliv

Anställningar				
Period	Anställning	Del av forskning i anställningen (%)	Arbetsgivare	Övrig information
mars 2024 - Nuvarande	Professor, Tillsvidareanställning	90	Uppsala universitet, Sverige, 139 Inst för kemi - Ångström	
januari 2023 - Nuvarande	Professor, Tillsvidareanställning	80	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Leave of absence from March 1, 2024
december 2021 - december 2022	Biträdande professor, Tillsvidareanställning	80	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	
december 2012 - november 2021	Lektor, Tillsvidareanställning	80	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	
juni 2015 - juli 2015	Professor	100	Université de Poitiers, Frankrike, Visiting Professor (Institut P')	
januari 2009 - november 2012	Forskarassistent	90	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	

Period	Anställning	Del av forskning i anställningen (%)	Arbetsgivare	Övrig information
juni 2010 - juli 2010	Professor	100	Université de Poitiers, Frankrike, Visiting Professor (Institut P')	
juni 2007 - december 2008	Postdoktor	100	Aarhus Universitet, Danmark, iNano	
juli 2008 - december 2008	Forskare	100	Centre National de la Recherche Scientifique, Frankrike, LEM-ONERA [part time 50%]	
januari 2003 - maj 2007	Doktorand	90	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	

Postdoktorvistelser		
Period	Organisation	Ämne
juni 2007 - december 2008	Aarhus Universitet, Danmark, iNano	10304. Den kondenserade materiens fysik

Forskarutbyten			
Period	Typ	Organisation	Ämne
juni 2019 - juli 2019	Gästforskare	Ningbo Institute of Materials Technology and Engineering	10304. Den kondenserade materiens fysik
mars 2017 - mars 2017	Gästforskare	IIT Mandi	10304. Den kondenserade materiens fysik
juli 2016 - juli 2016	Gästforskare	Ningbo Institute of Materials Technology and Engineering	10304. Den kondenserade materiens fysik
december 2015 - december 2015	Research exchange (gästforskare) and teaching intensive courses	Indian Institute of Technology, Kharagpur, Indien, Materials Science Centre	20599. Annan materialteknik
juni 2015 - juli 2015	Gästprofessor	Université de Poitiers, Frankrike, Visiting Professor [Institut P']	10304. Den kondenserade materiens fysik
juli 2014 - juli 2014	Gästforskare	Ningbo Institute of Materials Technology and Engineering	10304. Den kondenserade materiens fysik
juni 2010 - juli 2010	Gästprofessor	Université de Poitiers, Frankrike, Visiting Professor [Institut P']	10304. Den kondenserade materiens fysik

Period	Typ	Organisation	Ämne
juli 2008 - december 2008	Gästforskare	Centre Nationale de la Recherche Scientifique, Frankrike, LEM-ONERA [part time 50%]	10304. Den kondenserade materiens fysik
januari 2006 - januari 2006	Visiting PhD student	Drexel University, USA, Dept. of Materials Science and Engineering	10304. Den kondenserade materiens fysik
juni 2005 - juni 2005	Visiting PhD student	University of Illinois Urbana-Champaign, USA, Dept. of Materials Science and Engineering	10304. Den kondenserade materiens fysik

Meriter och utmärkelser

Docentur		
År	Ämne	Organisation
2010	10304. Den kondenserade materiens fysik	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)

Handledda personer				
År	Handledda personer	Lärosäte (handledld person)	Roll	Antal
	Doktorand	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare	13
	Doktorand	Uppsala universitet, Sverige, 139 Inst för kemi - Ångström	Huvudhandledare	6
	Doktorand	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Bihandledare	11
	Postdok	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare	11
	Postdok	Uppsala universitet, Sverige, 139 Inst för kemi - Ångström	Huvudhandledare	3
	Student	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare	20
2029	Doktorand, Tiago Fernandes	Uppsala universitet, Sverige, 139 Inst för kemi - Ångström	Huvudhandledare	
2029	Doktorand, Yi-Ling Lo	Uppsala universitet, Sverige, 139 Inst för kemi - Ångström	Huvudhandledare	
2028	Doktorand, Sara Baserga	Uppsala universitet, Sverige, 139 Inst för kemi - Ångström	Huvudhandledare	
2027	Doktorand, Sagar B. Jathar	Uppsala universitet, Sverige, 139 Inst för kemi - Ångström	Huvudhandledare	
2026	Doktorand, Sanath Kumar Honnali	Uppsala universitet, Sverige, 139 Inst för kemi - Ångström	Huvudhandledare	
2026	Doktorand, Susmita Chowdhury	Uppsala universitet, Sverige, 139 Inst för kemi - Ångström	Huvudhandledare	

Bidrag erhållna i konkurrens

Period	Finansiär	Projektledare	Din roll	Delbelopp (kr)	Totalt belopp (kr)
2025 - 2029	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Per Eklund	Projektledare	0	4 800 000
2025 - 2028	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Per Eklund	Projektledare	0	1 100 000
2025 - 2030	SSF - Stiftelsen för strategisk forskning, Sverige - Annan forskningsfinansiär	Linus von Fieandt	Medverkande	1 500 000	1 500 000
2021 - 2026	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Per Eklund	Projektledare	0	8 750 000
2021 - 2025	VR - Vetenskapsrådet, Sverige - Annan forskningsfinansiär	Per Eklund	Projektledare	0	4 802 000
2021 - 2026	Energimyndigheten, Sverige - Annan forskningsfinansiär	Per Eklund	Projektledare	0	5 000 000
2017 - 2027	VINNOVA - Verket för innovationssystem, Sverige - Annan forskningsfinansiär	Magnus Odén	Medverkande	20 000 000	200 000 000
2016 - 2021	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Per Eklund	Projektledare	0	7 500 000
2014 - 2018	SSF - Stiftelsen för strategisk forskning, Sverige - Annan forskningsfinansiär	Per Eklund	Projektledare	0	10 000 000
2013 - 2018	Europeiska Unionen (EU),	Per Eklund	Projektledare	0	15 000 000

Priser och utmärkelser				
År	Land	Namn på priset/utmärkelsen	Utfärdare	Beskrivning
2019	Sverige	Publons Top Reviewer Award in the area Materials Science	Publons	Ranked #3 of reviewers in Sweden (all topics) and #1 at Linköping University.
2018	Sverige	Publons Top Reviewer Award in the area Materials Science	Publons	
2017	Sverige	Publons Top Reviewer Award in the areas Materials Science, Physics, and Chemistry	Publons	Ranked #3 of reviewers in Sweden (all topics) and #1 at Linköping University.
2013	Sverige	Carl XVI Gustafs 50-årsfond	Kung Carl XVI Gustaf	100.000 SEK in stipend awarded by HM the King to talented young scientists

År	Land	Namn på priset/utmärkelsen	Utfärdare	Beskrivning
2013	Schweiz	World Economic Forum Young Scientist	World Economic Forum	The World Economic Forum's award to young exceptional scientists with commitment to outreach and interaction with society. Awarded at the "Summer Davos" meeting in Dalian, China.
2013	USA	AVS Thin Film Division Paul H. Holloway Award	American Vacuum Society	2 kUSD award to highly merited young scientists in thin film science
2010	Sverige	Ingvar Carlsson Award	Swedish Foundation for Strategic Research (SSF)	3 MSEK repatriation grant to returning postdocs
2006	Storbritannien och Nordirland	Bodycote Prize Paper Competition	Bodycote	Best Paper Award - 5000 USD

Andra meriter

Period	Typ av merit	Beskrivning
2010 - 2029	Funding ID overview (selection)	Individual excellence grants: ERC Starting Grant 2013-2018 (1.5 MEUR), SSF Future Research Leaders 2014-2019 (10 MSEK), SSF Ingvar Carlsson Award 2010-2013 (3 MSEK), Wallenberg Academy Fellow 2016-2021 (7.5 MSEK), Wallenberg Academy Fellow Continuation 2021-2026 (8.75 MSEK). Large project grants (main applicant): Swedish Research Council project grants 2021-2025 (4.8 MSEK), 2017-2020 (3.5 MSEK), 2013-2016 (3.8 MSEK), 2010-2012 (2.4 MSEK), Swedish Energy Agency project grants 2019-2023 (5 MSEK), 2022-2026 (5 MSEK), WISE PhD student 2025-2029 (4.8 MSEK). Strategic Research Area AFM PI grants: 2025-2027 (3.3 MSEK), 2022-2024 (3.3 MSEK), 2019-2021 (3.3 MSEK), 2016-2018 (1.95 MSEK). Industry/innovation-funding: Nordforsk industry PhD, Nordic Innovation Center 2009-2013, Eurostars 2014-2017, VR industry PhD 2013-2016 (Ludvig Landälv), VINNOVA innovative startups 1 and 2 2017-2019 (to HPViCo AB, co-founder), VFT+ (400 kSEK 2019 and 2020), Energy Agency Commercialization (300 kSEK 2022, 1 MSEK 2023+24).
2012 - 2028	Editor, Vacuum	Editor of the journal Vacuum (IF=4.0), Elsevier
2017 - 2027	Deputy Director, FunMat-II VINNOVA Competence Center	Deputy Director of the FunMat-II VINNOVA Competence Center
2024 - 2027	Member of the Board, Myfab Uppsala	Member of the Board, Myfab Uppsala
2011 - 2026	Conference organization	2026 Symposium organizer (convener), CIMTEC, Italy, June 2026 2022 Program committee Advanced Functional Materials Conference, Kolmården, Sweden, Aug 21-23 (250 participants), 2019 Program committee Swedish Physics Days (300 participants), Swedish Physics Society, Linköping Oct. 3-5 2018 Program committee Advanced Functional Materials Conference, Kolmården, Sweden, Aug 22-24 (200 participants), organized by the strategic Research Area AFM at Linköping University 2012- 14 Program committee Int'l Conf. on Plasma Surface Engineering (PSE), Garmisch-Partenkirchen, Germany, Sept. 10-14, 2012 and Sept. 12-16, 2014 2011. Program committee International Conference on Reactive Sputter Deposition (RSD 2011), Linköping, Sweden, December 7-9, 2011. Session chair /organizer at ~15 other international conferences

Period	Typ av merit	Beskrivning
2009 - 2025	PhD juries	Served on 19 PhD juries since 2009 in Sweden (12, incl. 2 via Zoom during the pandemic), Denmark(3), France (2, in French), India (2, off-site evaluator)
2004 - 2025	Publication overview	260 publications (~16000/20000 citations, h=57/62, Web of Science/Google Scholar) including in Science, Nature Materials (x2), Science Advances, Matter, PNAS, JACS, ACS Nano (x4), PRL(x2), PRB (x14), PR-Materials (x2), Advanced Science, Adv. Funct./Energy/Electr Mater. (x4), Angewandte Chemie Int. Ed., APL (x10), JAP (x15), Acta Mater (x10), etc.
2011 - 2025	Proposal evaluator	Proposal evaluator (Sw. sakkunnig), Swedish Research Council, Agence France Nationale de Recherche, Belgian National Science Council, Austrian Science Fund, Polish Research Council, Romanian National Research Council, Georgian National Science Foundation (Rustaveli Foundation), Czech Science Foundation, Volkswagen Stiftung, American Chemical Society (ACS) Petroleum Research Fund
2009 - 2025	Invited / keynote lectures	About 45 invited / keynote lectures at international conferences. Scheduled: CIMTEC, Italy, June 2026, European Ceramic Society, Dresden, August 2025. In 2024: CMCEE, Budapest, Hungary (August 2024), Reactive Sputter Deposition, Ghent, Belgium (December 2024). Selected examples since 2016 ICACC (Daytona Beach, American Ceramic Society), ICMCTF (San Diego, American Vacuum Society), PSE (Plasma Surface Engineering, Garmisch-Partenkirchen), CIMTEC (International Ceramic Conference), Int'l Union of Materials Research Societies (IUMRS, Kyoto), MRS Fall meeting (invited, Boston, US + online)
2002 - 2025	Other leadership experience outside academia:	Judo coach and referee for many years. National A-level ("Elit") referee license. Consistently referee at Swedish Championships and internationally (e.g. European Cup Cadets/Seniors Riga and Berlin, Dutch Open, Belgium Judo Open, Finnish Judo open, Baltic Sea Judo Championships).
2006 - 2025	Peer review	Regular referee for >40 journals, including Nature, Nature Materials, Nature Communications, Nano Letters, Advanced Materials, Advanced Materials, Nanoscale, Applied Physics Letters, Journal of Applied Physics, Chemical Communications, Journal of Materials Chemistry A/C, Acta/Scripta Materialia, Surface and Coatings Technology,... 2017-2019: Publons Top Reviewer Award in the areas Materials Science, Physics, and Chemistry.
2019 - 2024	Head of unit (Sw. enhetschef)	Leadership and formal management position for the research unit "Energy materials" with ~12 members, at the Department of Physics, Chemistry, and Biology (IFM).
2021 - 2024	Deputy Head of the Thin Film Physics Division	Leadership and formal management position (Deputy Head) for the Thin Film Physics Division (~65 employees), at the Department of Physics, Chemistry, and Biology (IFM).
2010 - 2022	Formal leadership and management training	2020-2022 Competence Center Leadership/Management program (VINNOVA, led by RISE) 2019 Linköping University manager training program (14 full days spread over one year) 2016-2020 Wallenberg Academy Fellows leadership forum 2014-2018 SSF Future Research Leaders Leadership training 2010-2012 SSF Ingvar Carlsson Award Leadership training
2011 - 2016	Young Academy of Sweden, Member	Member of the Young Academy of Sweden 2011-2016
2009 - 2016	Theme Leader for thin-film energy materials, FunMat Excellence Center	Leader of the research Theme on thin-film energy materials, FunMat VINNOVA Excellence Center
2013 - 2016	Research Coordinator, FunMat VINNOVA Excellence Center	Research Coordinator (i.e., third in line after the director and vice director) FunMat VINNOVA Excellence Center

Immaterialrätt

Immaterialrätt					
Typ	Datum för beviljning	Status	ID	Licensierad till annan	Produkt klassificering
Patent	2020-08-11	Beviljad	US10738375B 2	Nej	23. Andra icke-metalliska mineraliska produkter
Patent	2005-04-28	Beviljad	WO 2005/038985 A2	Nej	32. Andra tillverkade varor

CV - Michael Felsberg

Medverkande forskare: Michael Felsberg
Födelsedatum: 19741112
Kön: Man
Land: Sverige

Dr-examen: 2002-02-12
Akademisk titel: Professor
Arbetsgivare: Linköpings universitet

Utbildning

Forskarutbildning			
Examen	Organisation	Avhandlingens titel	Namn på handledare
Doktorsexamen, 20208. Datorseende och lärande system (datavetenskapliga aspekter under 10207), 2002-02-12	Christian-Albrechts-Universität zu Kiel, Tyskland, Institut für Informatik und praktische Mathematik	Low-level image processing with the structure multivector	Gerald Sommer

Utbildning på grund- och avancerad nivå

År Examen

1998 10206. Datorteknik, Civilingenjörsexamen/motsv, Christian-Albrechts-Universität zu Kiel, Tyskland

Arbetsliv

Anställningar			
Period	Anställning	Del av forskning i anställningen (%)	Arbetsgivare
november 2008 - Nuvarande	Professor, Tillsvdareanställning	55	Linköpings universitet, Sverige, Institutionen för systemteknik (ISY)
april 2004 - oktober 2008	Lektor, Tillsvdareanställning	80	Linköpings universitet, Sverige, Institutionen för systemteknik (ISY)

Postdoktorvistelser

Period Organisation Ämne

Period	Organisation	Ämne
april 2002 - mars 2004	Linköpings universitet, Sverige, Institutionen för systemteknik (ISY)	20208. Datorseende och lärande system (datavetenskapliga aspekter under 10207)

Forskarutbyten			
Period	Typ	Organisation	Ämne
september 2002 - september 2002	Gästforskare	Technical University Eindhoven	10207. Datorgrafik och datorseende (Systemtekniska aspekter under 20208)
maj 2000 - maj 2000	Gästforskare	Technion Haifa	20208. Datorseende och lärande system (datavetenskapliga aspekter under 10207)

Uppehåll i forskningen	
Period	Beskrivning
2006-03-06 - 2006-03-19	parental leave
2005-10-01 - 2005-12-31	25% parental leave

Meriter och utmärkelser

Docentur		
År	Ämne	Organisation
2005	202. Elektroteknik och elektronik	Linköpings universitet, Sverige, Institutionen för systemteknik (ISY)

Handledda personer			
Handledda personer	Lärosäte (handledd person)	Roll	Antal
Doktorand	Linköpings universitet, Sverige	Huvudhandledare	17
Postdok	Linköpings universitet, Sverige	Huvudhandledare	6
Licentiat	Linköpings universitet, Sverige	Huvudhandledare	8

Bidrag erhållna i konkurrens					
Period	Finansiär	Projektledare	Din roll	Delbelopp (kr)	Totalt belopp (kr)
2025 - 2030	Linköpings universitet, Sverige - Universitet och högskolor	Fredrik Heintz	Medverkande	2 500 000	25 000 000
2025 - 2029	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Fredrik Ronquist	Medverkande	4 200 000	24 000 000
2024 - 2027	Linköpings Universitet, Sverige - Universitet och högskolor	Anders Ynnerman	Medverkande	1 000 000	15 000 000
2023 - 2026	VR - Vetenskapsrådet, Sverige - Annan forskningsfinansiär	Michael Felsberg	Projektledare	0	3 720 000
2020 - 2022	VINNOVA - Verket för innovationssystem, Sverige - Annan forskningsfinansiär	DeepForestry	Medverkande	600 000	3 000 000

Period	Finansiär	Projektledare	Din roll	Delbelopp (kr)	Totalt belopp (kr)
2019 - 2022	VR - Vetenskapsrådet, Sverige - Annan forskningsfinansiär	Michael Felsberg	Projektledare	0	4 000 000
2019 - 2022	VINNOVA - Verket för innovationssystem, Sverige - Annan forskningsfinansiär	Scania	Medverkande	1 600 000	20 000 000
2016 - 2021	SSF - Stiftelsen för strategisk forskning, Sverige - Annan forskningsfinansiär	Patrick Doherty	Medverkande	6 000 000	27 000 000
2015 - 2031	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Amy Loutfi	Medverkande	65 000 000	2 100 000 000
2010 - 2029	SFO, Sverige - Universitet och högskolor	LiU	Medverkande	25 000 000	1 000 000 000

Priser och utmärkelser				
År	Land	Namn på priset/utmärkelsen	Utfärdare	Beskrivning
2024	Italien	Reviewer award	ECCV	
2024	Sverige	Paper award from the Swedish Society for Automated Image Analysis		
2023	Polen	Reviewer award	ECAI	
2022	USA	Most cited author in 2001	IEEE Transactions on Signal Processing	https://exaly.com/author/5313406/michael-felsberg/rankings
2022	USA	Reviewer award	ICML	
2022	USA	Reviewer award	NeurIPS	
2022	Sverige	Paper award from the Swedish Society for Automated Image Analysis		
2021	Tyskland	Honorable mention DAGM-GCPR	DAGM	
2021	Österrike	Best paper award at VISAPP conference		
2005	Tyskland	Olympus award of the German Pattern Recognition Society (DAGM)		

Andra meriter		
Period	Typ av merit	Beskrivning
2017 - 2025	reviewer for VR	Panel member 2024 and 2025
1997 - 2025	Publications	My complete publication list (including CVPR, ICCV, ECCV, PAMI, NeurIPS, AAAI, and ICML publications) can be found at https://scholar.google.se/citations?hl=en&user=lkWfR08AAAAJ&view_op=list_works&sortby=pubdate

Period	Typ av merit	Beskrivning
2006 - 2025	Invited speaker	2025, Keynote at NLDL; 2024, Keynote at PAAISS; 2024, Keynote at ECCV-WS Hyperbolic and Hyperspherical Learning for Computer Vision; 2024, Keynote at NORDTEK; 2023, Qualcomm Inspirational seminar; 2023, Keynote at MERGE annual meeting; 2023, CVPR-WS Anti-UAV Workshop & Challenge; 2021, MAIN - Maths, AI and Neuroscience; 2021, CVPR-WS Robust Video Scene Understanding; 2020, ISCM Keynote; 2020, CVPR-WS Perception Beyond the Visible Spectrum Keynote; 2019, WASP4ALL; 2018, CVCS Keynote; 2017, Human-machine interaction summer school; 2017, GTC, San José; 2017, SCIA tutorial on Deep Features; 2016, European Machine Vision Forum; 2016, Lie Group Analysis and PDEs in Image Analysis; 2012, Computational Vision Summer School; 2012, GS Workshop on Computer Vision and Perception; 2011, ENUMATH mini symposium Parameter Estimation in Image Processing; 2009, European Workshop on Advanced Predictive Sensor-Motor Control; 2008 & 2006, EURANDOM workshops on Image Analysis
2024 - 2025	Fellowship	IAPR (2024), ELLIS (2024), AAIA (2025)
2004 - 2025	PC member (AC = area chair and year)	ECCV (AC 2018), ICPR (AC 2012, 2014, TC 2016), ICCV, SSVM, CVPR (AC 2020, 2022, 2023, 2025), WACV (AC 2024), SIGGRAPH, EMMCVPR, DAGM, SCIA (AC 2013-2017, PC 2019, 2023), IROS, ICRA, BMVC (AC 2019 & 2021), NeurIPS (AC 2023, 2024, 2025), ICLR, ICML (AC 2025), AAAI
2004 - 2024	Reviewer for journals	IEEE T Sig. Proc., T PAMI, T Image Proc., Sig. Proc. Letters, T Circuits and Systems for Video Techn., T NNLS, Pattern Recognition Letters, Signal Processing, Inter. J. Computer Vision, Machine Vision & Applications J., J. Visual Communication & Image Representation, JOSA A, Sensors, Inter. J. Robotics Res. Computing Surveys, Artificial Intelligence Review.
2007 - 2024	Associate editor	associate editor: J. Mathem. Imag. & Vision (until 2017), Image & Vision Comp. (until 2018), J. Real-Time Image Proc. (until 2017), Frontiers Robotics & AI (until 2016), PLOS ONE (since 2018), Computer Vision and Image Understanding; guest editor: Pattern Recognition Letters (2016)
2007 - 2024	Organization scientific meetings	Co-organizer ELLIT focus period 2024; Co-organizer SASUF forum workshop 2024; Co-organizer VOTS 2023-2024; Program chair SCIA 2023; WASP ML-cluster leader 2022-2024; Program chair WASP4ALL 2020; Program chair SCIA 2019; General chair CAIP 2017; General co-chair 1st Swedish Symposium on Deep Learning 2017; Track chair ICPR 2016; Co-organizer VOT 2015-2022 Publication chair ICPR 2014; General and program co-chair DAGM symposium 2011; Organizer of Swedish Symposium on Image Analysis 2011; Organizer of SCIA Workshop on Cognitive Systems 2007; Co-organizer of Swedish Symposium on Image Analysis 2007
2017 - 2017	Review for EU-Commission	H2020
2016 - 2016	IEEE Senior Member	

Immaterialrätt

Immaterialrätt					
Typ	Datum för beviljning	Status	ID	Licensierad till annan	Produkt klassificering
Patent	2020-09-16	Beviljad	EP 3132231	Sverige - Företag (även statliga och kommunala bolag samt statliga affärsdrivande verk)	74. Tjänster från annan verksamhet inom juridik, ekonomi, vetenskap och teknik

Typ	Datum för beviljning	Status	ID	Licensierad till annan	Produkt klassificering
Egenutvecklade allmänt tillgängliga dataprogram	2018-04-25	Beviljad	https://github.com/micfe03/channel_representation	Nej	72. Tjänster avseende vetenskaplig forskning och utveckling
Egenutvecklade allmänt tillgängliga dataprogram	2012-06-30	Beviljad	https://www.cvl.isy.liu.se/research/ima/monogenic-signal-and-scale-space/monogenic.zip	Nej	72. Tjänster avseende vetenskaplig forskning och utveckling
Patent	2012-05-23	Beviljad	EP2188781	Nej	74. Tjänster från annan verksamhet inom juridik, ekonomi, vetenskap och teknik
Egenutvecklade allmänt tillgängliga dataprogram	2011-01-11	Beviljad	http://liu.diva-portal.org/smash/get/diva2:395634/SOFTWARE01.zip	Nej	72. Tjänster avseende vetenskaplig forskning och utveckling
Patent		Beviljad	EP3048559	Sverige - Företag (även statliga och kommunala bolag samt statliga affärsdrivande verk)	74. Tjänster från annan verksamhet inom juridik, ekonomi, vetenskap och teknik
Patent		Beviljad	PCT/SE2024/050184	Sverige - Företag (även statliga och kommunala bolag samt statliga affärsdrivande verk)	74. Tjänster från annan verksamhet inom juridik, ekonomi, vetenskap och teknik

CV - Feng Gao

Medverkande forskare: Feng Gao
Födelsedatum: 19810221
Kön: Man
Land: Sverige

Dr-examen: 2011-11-26
Akademisk titel: Professor
Arbetsgivare: Linköpings universitet

Utbildning

Forskarutbildning			
Examen	Organisation	Avhandlingens titel	Namn på handledare
Doktorsexamen, 10304. Den kondenserade materiens fysik, 2011-11-26	University of Cambridge, Storbritannien och Nordirland, Cavendish Laboratory	Loss mechanisms in bulk heterojunction organic photovoltaics	Neil Greenham

Utbildning på grund- och avancerad nivå

År	Examen
2007	10304. Den kondenserade materiens fysik, Magisterexamen, Nanjing University, Kina
2004	10304. Den kondenserade materiens fysik, Kandidatexamen, Nanjing University, Kina

Arbetsliv

Anställningar			
Period	Anställning	Del av forskning i anställningen (%)	Arbetsgivare
mars 2020 - Nuvarande	Professor, Tillsvideareanställning	100	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)
oktober 2017 - februari 2020	Lektor, Tillsvideareanställning	100	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)
april 2015 - september 2017	Biträdande lektor, Vikariat	100	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)

Postdoktorvistelser

Period	Organisation	Ämne
februari 2012 - mars 2015	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	10399. Annan fysik

Forskarutbyten

Period	Typ	Organisation	Ämne
maj 2015 - maj 2017	Senior visiting scientist	University of Oxford, Storbritannien och Nordirland, Department of Physics	10304. Den kondenserade materiens fysik

Meriter och utmärkelser**Docentur**

År	Ämne	Organisation
2016	103. Fysik	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)

Handledda personer

År	Handledda personer	Lärosäte (handledd person)	Roll
2026	Doktorand, David Hardy	Linköpings universitet, Sverige	Huvudhandledare
2026	Doktorand, Julia Morat	Linköpings universitet, Sverige	Huvudhandledare
2026	Doktorand, Yu Wang	Linköpings universitet, Sverige	Huvudhandledare
2025	Doktorand, Gulzada Beket	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare

År	Handledda personer	Lärosäte (handledd person)	Roll
2022	Doktorand, Max Karlsson	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare
2022	Doktorand, Weidong Cai	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare
2021	Doktorand, Chaoyang Kuang	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare
2020	Doktorand, Heyong Wang	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare
2020	Doktorand, Hongling Yu	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare
2019	Doktorand, Zhongcheng Yuan	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare
2021	Doktorand, Tanvi Upreti	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Bihandledare
2026	Postdok, Nakul Jain	Linköpings universitet, Sverige	Huvudhandledare
2025	Postdok, Lingewaran Arunagiri	Linköpings universitet, Sverige	Huvudhandledare
2024	Postdok, Tiankai Zhang	Linköpings universitet, Sverige	Huvudhandledare
2023	Postdok, Chunyang Yin	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare
2022	Postdok, Naresh Kumar Kumawat	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare
2021	Postdok, Weidong Xu	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare
2020	Postdok, Ignas Nevinskas	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare
2019	Postdok, Deping Qian	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare
2018	Postdok, Sai Bai	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare

Bidrag erhållna i konkurrens					
Period	Finansiär	Projektledare	Din roll	Delbelopp (kr)	Totalt belopp (kr)
2025 - 2029	VR - Vetenskapsrådet, Sverige - Annan forskningsfinansiär	Feng Gao	Projektledare	0	8 000 000
2025 - 2030	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Feng Gao	Projektledare	0	31 500 000

Period	Finansiär	Projektledare	Din roll	Delbelopp (kr)	Totalt belopp (kr)
2024 - 2029	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Feng Gao	Projektledare	0	20 000 000
2023 - 2026	Europeiska Unionen (EU),	Ioannis Karatasios	Medverkande	2 500 000	43 000 000
2023 - 2027	Swedish Energy Agency, Sverige - Övriga statliga myndigheter	Feng Gao	Projektledare	0	5 000 000
2023 - 2026	VR - Vetenskapsrådet, Sverige - Annan forskningsfinansiär	Feng Gao	Projektledare	0	4 000 000
2022 - 2027	Swedish Government Strategic Research Area in Materials Science on Functional Materials at Linköping University., Sverige - Universitet och högskolor	Feng Gao	Projektledare	0	6 600 000
2022 - 2027	Europeiska Unionen (EU),	Feng Gao	Projektledare	0	2 000 000

Priser och utmärkelser				
År	Land	Namn på priset/utmärkelsen	Utfärdare	Beskrivning
2025	Sverige	Göran Gustafsson Prize in Physics	The Royal Swedish Academy of Sciences	
2025	USA	AI for Sustainability (AI4S) Visiting Professor	Cornell University	
2025	Kina	William Mong Distinguished Lecture	The University of Hong Kong	
2024	Sverige	Wallenberg Scholar	Knut och Alice Wallenbergs Stiftelse	
2022	Sverige	ERC Consolidator Grant	European Commission	
2020	Sverige	SSF Future Researcher Leader	Stiftelsen för Strategisk Forskning	
2020	Sverige	Tage Erlander Prize	The Royal Swedish Academy of Sciences	
2018	Sverige	Wallenberg Academy Fellow	Knut och Alice Wallenbergs Stiftelse	
2017	Sverige	ERC Starting Grant	European Commission	

Andra meriter		
Period	Typ av merit	Beskrivning
2025 - 2030	Coordinator	Coordinator, Wallenberg research project with high scientific potential on organic X-ray detectors

Period	Typ av merit	Beskrivning
2010 - 2025	Reviewer for funding agencies	Frequent proposal evaluator for funding agencies, including ERC (ERC Advanced/ Consolidator/ Starting Grant), United States Department of Energy (DOE), the Swiss National Science Foundation (SNSF), the Dutch Research Council (NWO), Research Foundation – Flanders (DWO), German Research Foundation (DFG), Israel Ministry of Science & Technology, Czech Science Foundation, National Science Center of Poland, the Royal Society (UK), the Spanish State Research Agency, National Natural Science Foundation of China, etc.
2010 - 2025	Invited seminars	Over 50 invited seminars in American, European and Chinese universities and research institutions, including Princeton University, University of Oxford, etc.
2010 - 2025	Reviewer for scientific journals	Frequent reviewer for scientific journals, including Springer Nature (e.g. Nature, Nature Phys./Photonics/Mater./ Nano./Energy/Electron./Commun.), AAAS (e.g. Science, Science Adv.) Wiley (e.g. Adv. Mater., Adv. Energy/Funct. Mater.), RSC (e.g. Energy Environ. Sci., J. of Mater. Chem. A/C), ACS (e.g. JACS, Nano Lett., ACS Nano), Elsevier (e.g. Joule, Matter.), AIP (e.g. Appl. Phys. Lett.), IOP (e.g. Rep. Prog. Phys.) etc.
2006 - 2025	Bibliometric summary	Over 300 publications in high-profile journals, including Science (4), Nature (3) Nature Materials (5), Nature Photonics (6), Nature Energy (8), Nature Electronics (4), Nature Sustainability, Nature Communications (21), Physical Review Letters, Advanced Materials (25), Nano Letters (5). These publications have attracted over 40,000 citations with a h-index of 110 and i10-index of 307.
2015 - 2025	PhD opponent/committee	Opponent/ examination committee/ reviewer for PhD defence at Technical University of Denmark, Uppsala University, Swansea University, Stockholm University, Linköping University, Free University of Berlin, Victoria University of Wellington, Friedrich Alexander Universität Erlangen Nürnberg, University of Groningen, KU Leuven, Eindhoven University of Technology, Okinawa Institute of Science and Technology (OIST), etc.
2018 - 2025	External reviewer for faculty promotion	External reviewer for faculty promotion at Hasselt University, KAUST & City University of Hong Kong
2016 - 2025	Guest (co)editor	Focus Issue on Light Emission in Perovskites for JPhys Photonics (IOP); Special Issue on Perovskite Optoelectronics for EcoMat (Wiley); Special Issue on Emerging Materials for Optoelectronics (Chemical Reviews); Special Issues on Organic Solar Cells for Adv. Energy Mater. (2018 and 2025)
2015 - 2025	Conference organiser	Organising over 10 conference symposia, including E-MRS, ECME, HOPV
2019 - 2025	Member of the steering committee	European Conference on Molecular Electronics
2015 - 2025	Leadership training	2016: EMBO Laboratory Management Course for Group Leaders, Heidelberg, Germany; 2015-2017: VR; 2020-2025: SSF
2021 - 2025	Co-funder	LinXole AB, a startup focusing energy materials
2021 - 2025	Highly Cited Researcher	Clarivate Highly Cited Researcher
2025 - 2025	ERC panel member	ERC Consolidator Grant panel member

CV - Per Persson

Medverkande forskare: Per Persson
Födelsedatum: 19710929
Kön: Man
Land: Sverige

Dr-examen: 2001-06-01
Akademisk titel: Professor
Arbetsgivare: Linköpings universitet

Utbildning

Forskarutbildning		
Examen	Organisation	Namn på handledare
Doktorsexamen, 20599. Annan materialteknik, 2001-06-01	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Lars Hultman

Utbildning på grund- och avancerad nivå	
År	Examen
1997	10304. Den kondenserade materiens fysik, Magisterexamen, Linköpings universitet, Sverige

Arbetsliv

Anställningar			
Period	Anställning	Del av forskning i anställningen (%)	Arbetsgivare
februari 2016 - Nuvarande	Professor, Tillsvdareanställning	100	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)
augusti 2015 - januari 2016	Biträdande Professor, Tillsvdareanställning	100	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)
juli 2010 - augusti 2015	Lektor, Tillsvdareanställning	100	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)
augusti 2007 - juli 2010	Forskare	100	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)
maj 2005 - augusti 2006	Forskarassistent	100	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)
juni 2003 - mars 2004	Forskarassistent	90	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)
juni 2001 - december 2001	Postdoktor	100	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)
januari 1998 - juni 2001	Doktorand	80	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)

Postdoktorvistelser		
Period	Organisation	Ämne
januari 2002 - juni 2003	University of Illinois, USA, Department of Materials Science	10304. Den kondenserade materiens fysik

Forskarutbyten

Period	Typ	Organisation	Ämne
augusti 2006 - juli 2007	Gästforskare	Universitetet i Sydney, Australien, School of Physics	21001. Nanoteknik
mars 2004 - maj 2005	Forskare	FEI Company, Nederländerna, Applications Laboratory	21001. Nanoteknik

Uppehåll i forskningen

Period	Beskrivning
2008-11-26 - 2016-03-25	More than 1000 days parental leave for my 5 children I) Lovisa, born 071126 II) August, born 090616 III) Alva, born 101216 IV) Linnea, born 120513 and V) Agnes, born 151024

Meriter och utmärkelser

Docentur

År	Ämne	Organisation
2010	20599. Annan materialteknik	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)

Handledda personer

År	Handledda personer	Lärosäte (handledd person)	Roll
2027	Doktorand, Risha Iylichanda	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare
2026	Doktorand, Hari Thangavelu	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare
2026	Doktorand, Hector Guerra Yanez	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare
2025	Doktorand, Ivan Martinovic	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare
2019	Doktorand, Ingemar Persson		Huvudhandledare
2016	Doktorand, Linda Karlsson		Huvudhandledare
2014	Doktorand, Ingemar Persson	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare
2012	Doktorand, Justinas Palisaitis	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare
2026	Doktorand, Changjie Huang	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Bihandledare
2021	Postdok, Han-Hui Tseng		Huvudhandledare
2018	Postdok, Melike Yildizhan		Huvudhandledare
2017	Postdok, Fanni Misjak		Huvudhandledare
2015	Postdok, Justinas Palisaitis	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare

År	Handledda personer	Lärosäte (handledd person)	Roll
2014	Postdok, Magnus Garbrecht	Linköpings universitet, Sverige, Institutionen för fysik, kemi och biologi (IFM)	Huvudhandledare
2014	Licentiat, Amie Fallqvist		Huvudhandledare

Bidrag erhållna i konkurrens					
Period	Finansiär	Projektledare	Din roll	Delbelopp (kr)	Totalt belopp (kr)
2025 - 2030	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	V Darakchieva	Medverkande	5 000 000	26 000 000
2025 - 2030	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Per Persson	Projektledare	0	20 000 000
2025 - 2030	WISE-WASP (KAW), Sverige - Övriga privata utförare	J Rosen	Medverkande	4 000 000	20 000 000
2024 - 2024	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	P Persson	Projektledare	0	1 000 000
2023 - 2026	Europeiska Unionen (EU),	K Lambrinou	Medverkande	3 500 000	26 000 000
2023 - 2027	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Per Persson	Projektledare	0	4 000 000
2023 - 2027	SSF - Stiftelsen för strategisk forskning, Sverige - Annan forskningsfinansiär	Per Persson	Projektledare	0	2 500 000
2022 - 2024	Faculty Grant SFO Mat LiU No 2009 00971, Sverige - Universitet och högskolor, Sverige	Igor Abrikosov	Projektledare	0	8 500 000
2022 - 2026	VR - Vetenskapsrådet, Sverige - Annan forskningsfinansiär	Per Persson	Projektledare	0	31 889 550
2021 - 2025	Energimyndigheten, Sverige - Annan forskningsfinansiär	Per Persson	Projektledare	0	5 000 000

Priser och utmärkelser				
År	Land	Namn på priset/utmärkelsen	Utfärdare	Beskrivning
2016	Sverige	Research Infrastructure Fellow	SSF-Stiftelsen för Strategisk Forskning	
2008	Sverige	Special Researcher	VR- Vetenskapsrådet	

Andra meriter

Period	Typ av merit	Beskrivning
2020 - 2030	Director	ARTEMI - Swedish National Infrastructure in Advanced Electron Microscopy. ARTEMI include microscopy labs at LTH, CTH, LiU, KTH, SU, and UU
2010 - 2030	General Secretary	Executive board member of SCANDEM, the Nordic microscopy society, founded in 1948
2020 - 2025	Coordinator	NordTEMhub coordinator. Coordinates a network in advanced electron microscopy in the nordic region, funded by NordForsk. The network emphasizes collaboration, exchange and workshops. Includes DTU (Denmark), OU, NTNU (Norway), CTH, LiU, SU (Sweden), AU (Finland)
2020 - 2021	DFG Intl. Reviewer	German Research Council (DFG), Research centre review panel 2020 & 2021
2016 - 2020	Coordinator	Coordinator of ARC, Atomic Resolution Cluster, developing, enabling access and pursuing a unified national infrastructure in Electron Microscopy
2019 - 2019	DFG Intl. Reviewer	German Research Council (DFG), Infrastructure review panel 2019
2017 - 2019	VR Reviewer	Swedish Research Council, Review panel Materials science 2017-19
2017 - 2018	VR Reviewer	Swedish Research Council, Review panel Post Doctors 2017-18

CV - Xiaodong Zou

Medverkande forskare: Xiaodong Zou
Födelsedatum: 19640104
Kön: Kvinna
Land: Sverige

Dr-examen: 1995-06-01
Akademisk titel: Professor
Arbetsgivare: Stockholms universitet

Utbildning

Forskarutbildning		
Examen	Organisation	Namn på handledare
Doktorsexamen, 10499. Annan kemi, 1995-06-01	Stockholms universitet, Sverige, Institutionen för material- och miljökemi	Peder Kierkegaard

Utbildning på grund- och avancerad nivå	
År	Examen
1986	10304. Den kondenserade materiens fysik, Magisterexamen, Beijing University of Science and Technology, Kina
1984	10304. Den kondenserade materiens fysik, Kandidatexamen, Peking Universitet, Kina

Arbetsliv

Anställningar			
Period	Anställning	Del av forskning i anställningen (%)	Arbetsgivare

Period	Anställning	Del av forskning i anställningen (%)	Arbetsgivare
mars 2005 - Nuvarande	Professor, Tillsvdareanställning	100	Stockholms universitet, Sverige, Institutionen för material- och miljökemi
januari 2001 - februari 2005	Forskare	100	Stockholms universitet, Sverige, Institutionen för material- och miljökemi
september 1996 - december 2000	Forskarassistent	100	Stockholms universitet, Sverige, Institutionen för material- och miljökemi
augusti 1988 - juni 1995	Doktorand	100	Stockholms universitet, Sverige, Institutionen för material- och miljökemi
december 1987 - juli 1988	Annan	100	Stockholms universitet, Sverige, Institutionen för material- och miljökemi
juli 1987 - december 1987	Forskarassistent	100	Chinese Academy of Sciences, Kina, Beijing Laboratory of Electron Microscopy

Postdoktorvistelser		
Period	Organisation	Ämne
september 1995 - augusti 1996	Lunds universitet, Sverige, 156350 Geologiska Institutionen	10503. Multidisciplinär geovetenskap

Forskarutbyten			
Period	Typ	Organisation	Ämne
mars 1999 - augusti 1999	Gästprofessor	Universitet i Nantes	10403. Materialkemi

Uppehåll i forskningen	
Period	Beskrivning
2000-09-01 - 2001-08-31	Parental leave 50%
1995-04-08 - 1995-08-31	Parental leave 100%
1989-05-08 - 1990-05-31	Parental leave 90%

Meriter och utmärkelser

Docentur		
År	Ämne	Organisation
1998	10499. Annan kemi	Stockholms universitet, Sverige, Institutionen för material- och miljökemi

Handledda personer			
Handledda personer	Lärosäte (handledd person)	Roll	Antal
Doktorand	Stockholms universitet, Sverige, Kemikum	Huvudhandledare	33
Doktorand		Bihandledare	20

Handledda personer	Lärosäte (handledd person)	Roll	Antal
Postdok	Stockholms universitet, Sverige, Kemikum	Huvudhandledare	51

Bidrag erhållna i konkurrens					
Period	Finansiär	Projektledare	Din roll	Delbelopp (kr)	Totalt belopp (kr)
2025 - 2030	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Xiaodong Zou	Projektledare	0	5 000 000
2023 - 2027	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Xiaodong Zou	Projektledare	0	3 600 000
2021 - 2025	Europeiska Unionen (EU),	Mauro Gemmi	Medverkande	3 250 000	45 300 000
2020 - 2026	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Xiaodong Zou	Projektledare	0	18 000 000
2019 - 2029	VR - Vetenskapsrådet, Sverige - Annan forskningsfinansiär	Xiaodong Zou	Projektledare	0	48 800 000
2017 - 2022	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Belén Martín-Matute	Medverkande	3 500 000	35 785 000
2017 - 2020	VR - Vetenskapsrådet, Sverige - Annan forskningsfinansiär	Xiaodong Zou	Projektledare	0	4 400 000
2013 - 2018	Knut och Alice Wallenbergs Stiftelse, Sverige - Annan forskningsfinansiär	Xiaodong Zou	Projektledare	0	33 364 000
2013 - 2017	VR - Vetenskapsrådet, Sverige - Annan forskningsfinansiär	Xiaodong Zou	Projektledare	0	11 000 000
2006 - 2014	VINNOVA - Verket för innovationssystem, Sverige - Annan forskningsfinansiär	Xiaodong Zou	Projektledare	0	80 000 000

Priser och utmärkelser			
År	Land	Namn på priset/utmärkelsen	Beskrivning
2025	Sverige	Wallenberg Scholar - continuation	
2025	Sverige	IVA Gold Medal	
2019	Sverige	Distinguished professor (Rådsprofessor) of the Swedish Research Council	
2019	Sverige	Wallenberg Scholar	

År	Land	Namn på priset/utmärkelsen	Beskrivning
2012		Arrhenius Medal (Arrhenius-plaketten), given by the Swedish Chemical Society	
2010		K.H. Kuo Award for Distinguished Scientist. given by the Kehsin Kuo Foundation	
2008		Göran Gustafsson Prize in Chemistry, given by the Royal Swedish Academy of Sciences	
2002		Tage Erlander Prize for Science and Technology, given by the Royal Swedish Academy of Sciences	
2000		KVA Research Fellows (särskilda forskartjänster) awarded by the Royal Swedish Academy of Sciences and financed by Knut and Wallenberg Foundation	
1995		Sigrid Arrhenius stipend for one of the best Ph.D. theses in Natural Sciences, SU	

Andra meriter	
Period	Typ av merit
2017 - 2060	Member of The Royal Swedish Academy of Engineering Sciences (IVA)
2016 - 2060	Fellow of the Royal Chemical Society
2019 - 2050	Member of the Royal Swedish Academy of Sciences (KVA)
2020 - 2032	Member of The Nobel Committee for Chemistry
2021 - 2030	Main Editor of the Electron Crystallography section, IUCrJ
2017 - 2026	Member of the IUCr OUP Book Series Committee
2010 - 2025	Member of the Structure Commission of International Zeolite Association.
2016 - 2022	Council Member of the International Zeolite Association
2012 - 2021	Member of the Swedish National Committee for Chemistry.
2015 - 2020	Project Review Panel Member "Hard Condensed Matter", DESY Photo Science.
2015 - 2019	Panel Member (PE5) of the ERC Starting Grant.
2011 - 2017	Panel Member RFI-BG2 "infrastructure for molecules, cell and materials research", Research Infrastructures, the Swedish Research Council.
2010 - 2015	Editor of Zeitschrift für Kristallographie.
2002 - 2011	Member of the Commission on Electron Crystallography of the International Union of Crystallography, 2002-2011.

Immaterialrätt

Immaterialrätt					
Typ	Datum för beviljning	Status	ID	Licensierad till annan	Produkt klassificering

Typ	Datum för beviljning	Status	ID	Licensierad till annan	Produkt klassificering
Patent	2016-03-03	Beviljad	US201600601 29 A1	Nej	72. Tjänster avseende vetenskaplig forskning och utveckling
Patent	2015-08-27	Beviljad	20,150,238,94 5	Nej	72. Tjänster avseende vetenskaplig forskning och utveckling
Software RED data collection – rotation electron diffraction for automated collection of complete 3D electron diffraction data	2012-08-01	Beviljad		Sverige - Företag (även statliga och kommunala bolag samt statliga affärsdrivande verk)	72. Tjänster avseende vetenskaplig forskning och utveckling
Patent	2007-06-14	Beviljad	PCT/EP2006/0 68778	Nej	72. Tjänster avseende vetenskaplig forskning och utveckling
Software Triple – for merging and scaling 3D electron diffraction data, with full treatment of crystallographic symmetry	2005-01-01	Beviljad		Sverige - Företag (även statliga och kommunala bolag samt statliga affärsdrivande verk)	72. Tjänster avseende vetenskaplig forskning och utveckling
Software CRISP – for crystallographic image processing of electron micrographs	1996-06-01	Beviljad		Sverige - Företag (även statliga och kommunala bolag samt statliga affärsdrivande verk)	72. Tjänster avseende vetenskaplig forskning och utveckling

Registrera

Villkor

Ansökan ska förutom av den sökande även signeras av behörig företrädare för medelsförvaltaren. Företrädaren är vanligtvis prefekten vid den institution där forskningen ska bedrivas men beror på medelsförvaltares organisationsstruktur.

Signering av den *sökande* innebär en bekräftelse av att

- uppgifterna i ansökan är korrekta och följer Vetenskapsrådets instruktioner
- eventuella bisysslor och kommersiella bindningar har redovisats för medelsförvaltaren och att det där inte framkommit något som strider mot god forskningssed
- de tillstånd och godkännanden som krävs finns innan forskningen påbörjas, exempelvis tillstånd från Läkemedelsverket eller godkännande från Etikprövningsmyndigheten respektive djurförsöksetisk nämnd
- sökande kommer att följa samtliga övriga villkor som gäller för bidraget.

Signering av *medelsförvaltaren* innebär en bekräftelse av att

- den beskrivna forskningen eller forskningsstödande verksamheten kan beredas plats vid medelsförvaltaren under den tid och i den omfattning som anges i ansökan
- den sökande kommer vara anställd vid medelsförvaltaren under den tid som ansökan avser
- medelsförvaltaren godkänner kostnadsberäkningen i ansökan
- medelsförvaltaren kommer att följa samtliga övriga villkor som gäller för bidraget.

Ovanstående punkter ska ha diskuterats mellan parterna innan företrädaren för medelsförvaltaren godkänner och signerar ansökan.