Alminica AB
Ulrika, Sweden

Research
Innovation
Training
Education

ALMINICA

About

Research and innovation for deeptech

Alminica AB was founded by Dr. Mikael Syväjärvi in 2016
www.alminica.se

Experience from research regarding growth of advanced materials since 1995, such as graphene on silicon carbide, and novel approaches of silicon carbide for new energy applications. Since 2005 Dr Syväjärvi is active in the entrepreneurial discovery process by creating startups and technology transfer from research and innovation. He has experience from broader contexts for research to market, such as avenues in European research and innovation strategy for smart specialisation for regional economic growth, and strategic national innovation programmes. He is active in global partnerships for promoting impact from research, educating next generation research leaders, and establishing value chains as tool to contribute to sustainable development goals using energy and environmental technologies from advanced materials.

Research to business: training, skill development, courses, project partner. Visit R2B portal www.researchtobusiness.tech

Founder of EMPIRI (Energy and Environmental Materials International Research and Innovation) network in energy materials. Visit: www.empiriworld.org (also in social media like Facebook, Linkedin, Youtube, Twitter).

About

Research and innovation for deeptech

Founding member of innovation ecosystem Ulrikaringen: www.ulrikaringen.se

Coordinator of MSCA and Erasmus+ network in Sweden for hosting, secondments, non academic training, staff and student exchange. Visit MSCA Sweden: www.mscasweden.se (also in social media like Facebook, Twitter).

Shared data for next generation business growth using blockchain and NFTs. Focus areas: (i) deeptech from research and innovation; (ii) decentralized and user-centric innovation ecosystem by utilizing blockchain technology and other decentralized protocols in which users have greater control over their data. This enables more secure, transparent, and autonomous digital experiences to foster innovations.

Research to business: training, skill development, courses, project partner.

More than 220 publications in crystal growth and semiconductor materials, h-index 32; about 4000 citations.

Present focus is on serial entrepreneurship and supporting deeptech to business and growth of innovation ecosystems.

An Innovation Ecosystem

In Ulrika, Sweden

Acting all over the world using competence and digitalization

A partnership by place based innovation

Two essential international innovation actors in the innovation ecosystem are Alminica AB and International Association of Advanced Materials (IAAM).
Alminica AB has JMS Center for Research Utilisation as educational division, and ICM Research Institute in research.
IAAM has the Institute of Advanced Materials and Institute of AI and Robotics as research and educational acting bodies.

Together these interact with local actors to create a glocal partnership (global and local context in combination).

Team collaboration is the essence that creates progress. The diversity is a strength that facilitates the global partnerships.

www.ulrikaringen.se
www.alminica.se
www.researchutilisation.eu
www.icmresearchinstitute.se
www.iaamonline.org
www.iaam.se

Training and Courses

Educate the young generation and strengthen active researchers

Partnership create capacity that contributes to sustainable development goals. That will mainly happen by active young researchers and students supported by trainings and courses.

- Courses with focus on energy, environment, health, innovation, impact creation, research to business.
- Training online as well as onsite at Stenåkra Business and Competence Center in Ulrika Campus.

The innovation ecosystem partners have focus on collaborative efforts. This means that any interested individual or organization can get in touch with us about their interest in research, education, courses, or training.

Impact

Impact and capacity building

A knowledge based community for building impact and capacity, and grow network

How does it benefit you?

Our innovation ecosystem experts have experience in leading research and innovation, entrepreneurship, digitalization, and bringing research to societal use. They help you to develop skills in innovation, creativity, impact creation, communication, and leadership, positioning you at the forefront of emerging technologies and promoting yourself as a leader in your field.

Invest in your career by enhancing your skills and gaining an understanding of how to bring your research to societal use.

Emerging technologies

Emerging technologies involve multiple disciplines and interdisciplinary collaboration. Developing skills in working across different fields helps you to identify new research opportunities and create emerging technologies.

Value of network

Building a strong network is crucial for success in any field. We can provide you with training on how to build and maintain professional relationships, as well as strategies for identifying and connecting with potential collaborators and partners.

Grow your career and leadership

Community as investment into the future career

Career and leadership

Engage in society to show leadership and where your research findings contribute

Leaders in research and innovation must engage with the society and show how their findings contribute to real-world problems.

Staying up-to-date with the latest research trends and technologies is essential because you will have the ability to adapt to changes in the field.

Leadership training provides you with the skills needed for strategic planning, research positioning, and build network for collaborations which create progress in research and career.

Being part of a community helps you to develop ability to think creatively and innovatively. This leads to efficient problem-solving that makes you effective in developing new research avenues and technologies.

Communication is crucial to inform about your work to policymakers, industry professionals, and the general public. By investing in communication and outreach training, your skills in transfering of knowledge will be valuable ifor the society.

Your success as a researcher depends on your ability to create impact that matters and build your capacity to do so.

Our trainings, courses, and educational activities faciltate all this

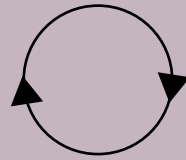# Research to Business
Certificate Training

Coordinated by Dr. Mikael Syväjärvi

Individual training

Benefit by impact to own case

10 transfer of knowledge sessions

Join any time

Certificate Training

Impact by research

Career

Training Plan:

(i) 10 Individual Training sessions. Personal one-to-one meeting every 2-3 weeks.
(ii) Attend the Transfer of Knowledge (ToK) sessions.
(iii) Own research impact assignment.
The training program is 6 months. Enter at any time.
 Complete training by following the training circle.
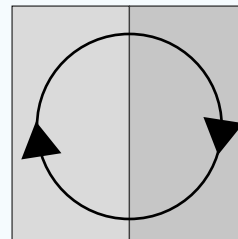
Certificate Training

10 ToK sessions per training program.
At each session there is a focus topic.
Topic is discussed at second half of session.
Participants are expected to be active.

Research impact assignment by own case
(specific for your benefit).

Training schedule
- 10 Individual meetings
- 10 ToK sessions
- Online mode (Zoom)

Igniting Discussions and The Sharing
of Valuable Thoughts by Organizing
Regular Discussion-Oriented Events

Coordinated by Dr. Mikael Syväjärvi

Certificate by ICM Research **Institute**

Certificate is given when research
impact assignment is finalized

www.researchtobusiness.tech

Details of Training Plan:

There are many unknown factors for research to business and no recipes. It will not happen fast. We will need to create own capacity to facilitate how our research can come to next level. We can build our capacity by sharing experiences, examples and create knowledge transfer.

The training consists of 10 transfer of knowledge topics. These serve as exercises to understand the general principle of business from research cases.

Each participant will have their specific Research impact assignment. This is taken from your own case. You will describe this and build a research towards business roadmap. Each participant will get support and feedback by the lecturer and experts. It will act to build experience in describing potential business roadmap and impact from your research.

Impact

Topics

- Emerging technologies motivation by current technology
- Why publishing needs new approaches for usefulness
- Learn from silicon and silicon carbide generations
- Look into the future today
- The importance of value chain
- Technology alignment with place based innovation
- The entrepreneurial discovery process as career
- Go international from the start
- Disseminate to create partnerships
- Become leading to take lead

About

Dr. Mikael Syväjärvi is founder of **Alminica AB** that is an SME providing innovation services and has **ICM Research Institute** as research body.

He is active in research regarding growth of advanced materials since 1995, such as graphene on silicon carbide, and novel approaches of silicon carbide for new energy applications. Since 2005 active in the entrepreneurial discovery process by creating startups and technology transfer from research and innovation. He has experience in broader contexts for research to market, such as avenues in European research and innovation strategy for smart specialisation for regional economic growth, and strategic national innovation programs. He is active in global partnerships for impact from research, educating next generation research leaders, and establish value chains and digitalization as tool to push development of energy and environmental technologies from advanced materials.

Capacity building

Certificate

A certificate is provided
by ICM Research **Institute**
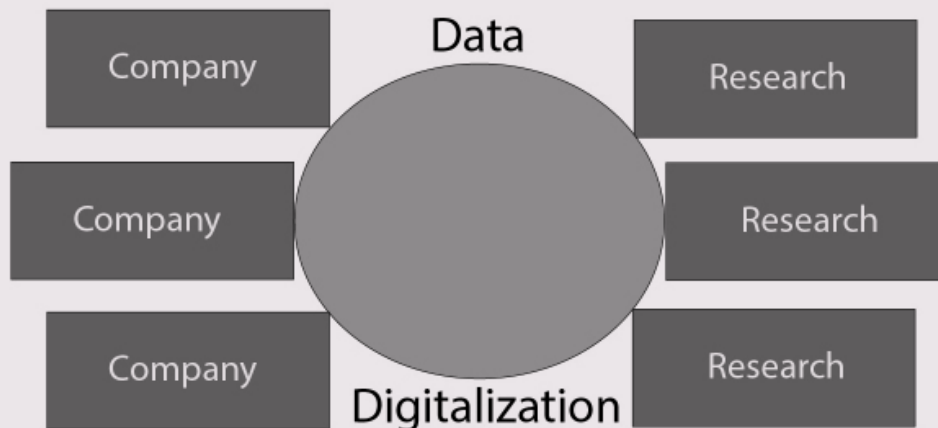after completed training,

www.icmresearchinstitute.se

Shared data in multistakeholder community

**Research to business | Impact creation | Utilisation
Shorten time to market | New business creation**

Open publishing and innovation are important, but sharing data is the key to creating impact and new business opportunities.

The old one-to-one collaboration model is slow and inefficient. Instead, multistakeholder communities enable researchers to network, gain funding, and combine data from different sources to gain valuable insights. This fosters transparency and trust, which are essential for creating businesses.

By embracing shared data and multistakeholder processes, researchers and SMEs can unlock new innovations and create more efficient solutions for real-world problems.

Impact and financial values are created using digitalization.

Block chain and NFTs are means to secure the future impact and values.

Share today for values tomorrow

Data sharing in a community that acts jointly

Research to business | Impact creation | Utilisation
Shorten time to market | New business creation

Shared data revolutionizes research and create new business opportunities. It enables researchers to network and gain funding opportunities, combine data from different sources, and save time and resources.

Invest in data sharing today to position for the future

Digitalisation to Business

Certificate Training

From opens source and embedded systems
to computer vision and artificial intelligence
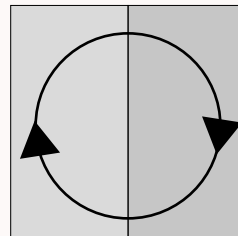
Coordinated by Dr. Yassin Jomni

Training Plan:

(i) 10 Individual Training sessions. Personal one-to-one meeting every 2-3 weeks.
(ii) Attend the Transfer of Knowledge (ToK) sessions.
(iii) Own Digitalization Concept assignment.
The training program is 6 months. Enter at any time.
Complete training by following the training circle.

10 ToK sessions per training program.
At each session there is a focus topic.
Topic is discussed at second half of session.
Participants are expected to be active.

Digital Concept assignment
by own choice (specific for your benefit).

Training schedule
- 10 Individual meetings
- 10 ToK sessions
- Online mode (Zoom)

Coordinated by Dr. Yassin Jomni

Certificate by ICM Research Institute

Certificate is given when research
digitalization assignment is finalized

www.researchtobusiness.tech

Details of Training Plan:

The training consists of 10 transfer of knowledge topics. These serve as exercises to understand the general principle of digitalization concepts and technologies.

Each participant will have their specific Digitalization Conept assignment. This is taken from your own interest. You will describe this and build a digital future scenario. Each participant will get support and feedback by the lecturer and experts. It will act to build competence in relevant digitalization concepts and technologies.

Topics

- The open enigma: open source, open culture, open hardware, open access, open data, etc
- Introduction to advanced digital technologies (examples from industry)
- Computer vision: Image processing and detection
- Implementation computer vision algorithms into embedded systems
- Applications in research and development in healthcare, automotive, defense
- Embedded software with focus on safety, cyber security for real time applications
- AI and ML implementation into embedded systems
- Robotic operating systems
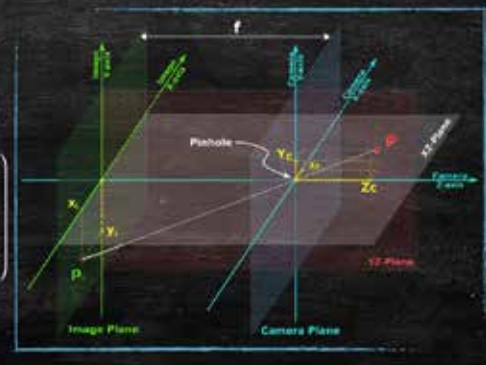- Modern software development
- Shared data for faster R&D to market

About

Dr. Yassin Jomni is a researcher, scientist, serial entrepreneur, engineer and book writer with an extensive experience in Algorithm Design and Engineering, Artificial Intelligence, Machine Learning, Computer Vision, Embedded Systems Design and Engineering as well as Embedded Systems safety and cyber security.

He has an extensive experience working in a wide number of fields ranging from district heating, flow metering, health tech, telecom, automotive, defense and aerospace industries.

Dr. Jomni is also active in early R&D to business and has founded three startups and co-owned one.
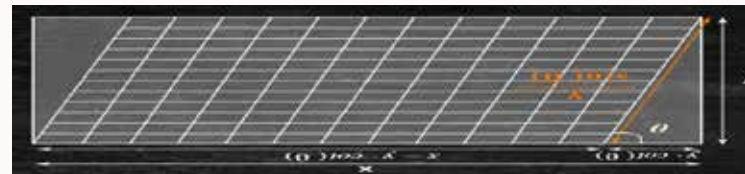
Certificate Training

Certificate

After completed training, a certificate is provided by the ICM Research **Institute**

www.icmresearchinstitute.se

Advanced Digital Technologies

The future that is here today

Artificial Intelligence | Machine Learning | Computer Vision | Machine Vision | Embedded Systems | Cyber Security

Artificial Intelligence is the creation of intelligent machines that learn and solve problems. Machine Learning is a type of AI that enables machines to learn from experience and improve their performance without being explicitly programmed. Computer Vision is a subset of AI involving teaching machines to interpret and understand visual information such as images and videos. Embedded Systems are integrated software and hardware systems that perform specific functions.

These fields are interconnected, and progress in one field can lead to advancements in others. For example, Machine Learning algorithms are used in Computer Vision to improve image recognition, and Embedded Systems is used to develop devices that use Artificial Intelligence and Computer Vision algorithms to perform tasks such as facial recognition. Overall, these fields work together to create intelligent systems that can perceive and interact with the world around us.

In more detail:

Artificial Intelligence is the creation of intelligent machines that can think, learn, and solve problems like humans. AI involves various techniques such as rule-based systems, expert systems, decision trees, and neural networks. The AI systems can be further divided into two types: narrow or weak AI and general or strong AI.

Machine Learning (ML) is a subfield of AI that involves the development of algorithms that can learn and improve their performance based on experience. Machine Learning algorithms are trained on large datasets to recognize patterns and make predictions or decisions. There are three main types of ML, including supervised learning, unsupervised learning, and reinforcement learning.

Computer Vision is a subfield of AI that involves teaching computers to interpret and analyze visual data from the world around us, such as images, videos, and 3D models. Computer Vision involves a wide range of techniques such as object detection, image segmentation, facial recognition, and motion analysis.

Embedded Systems refers to the integration of software and hardware components into a single system that performs a specific function. Embedded systems are used in a wide range of applications such as smartphones, automobiles, medical devices, and industrial control systems. Embedded Systems can be programmed using various languages such as C, C++, and assembly language.

Advanced Digital Technologies
The added value for students and researchers

Artificial Intelligence | Machine Learning | Computer Vision | Machine Vision | Embedded Systems | Cyber Security

University students and researchers with an interest in entrepreneurship can have value of understanding artificial intelligence, machine learning, computer vision, and embedded systems. It helps to identify opportunities for new products and services, create a competitive advantage, better understand their customers, improve their business operations, and stay up-to-date with the latest trends. These technologies are evolving quickly, so staying informed can help them develop innovative solutions and stay ahead of the competition.

With a solid understanding of these technologies, entrepreneurial students and researchers can identify new opportunities for innovative products and services. They can come up with ideas that leverage these technologies to solve complex problems or improve existing solutions. By incorporating advanced digital technologies into their business models, students and researchers can create a competitive advantage over traditional businesses that are not leveraging these technologies. They can develop products that are more efficient, effective, and user-friendly, giving them an edge in the marketplace. Advanced digital technologies can help students better understand their customer needs and pain points. They can use these technologies to develop solutions that address these needs and improve customer satisfaction. They can also use these technologies to improve their own business operations, for example use ML to automate repetitive tasks or computer vision to analyze data and make more informed decisions. The digital technologiesare rapidly evolving fields, and staying up-to-date on the latest advancements and trends can be incredibly valuable. This knowledge can help to develop innovative solutions and stay ahead in their market.

Innovation and Business for Societal Impact

Certificate Training

Prioritise sustainable and resilient societal impact value with business and innovation based on EU New Bauhaus Compass model

Coordinated by Dr. Hyekyung Imottesjo

Training Plan:

(i) 10 Individual Training sessions. Personal one-to-one meeting every 2-3 weeks.
(ii) Attend the Transfer of Knowledge (ToK) sessions.
(iii) Own Societal Impact assignment.
The training program is 6 months. Enter at any time.
Complete training by following the training circle.

10 ToK sessions per training program.
At each session there is a focus topic.
Topic is discussed at second half of session.
Participants are expected to be active.

Societal Impact assignment
by own choice (specific for your benefit).

Training schedule
- 10 Individual meetings
- 10 ToK sessions
- Online mode (Zoom)
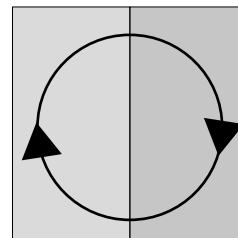
Innovations from research and technology
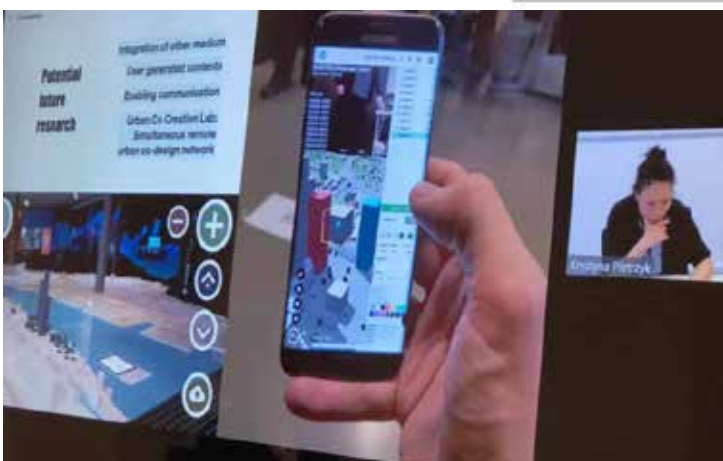
Coordinated by Dr. Hyekyung Imottesjo

Certificate by ICM Research Institute

Certificate is given when societal impact assignment is finalized

www.researchtobusiness.tech

Details of Training Plan:

The training consists of 10 transfer of knowledge topics. These serve as exercises to understand the general principle of innovation and business for societal impact. This course adopts EU New Bauhaus Compass model as primary societal impact guidelines.

Each participant will have their specific Societal Impact assignment. This is taken from your own interest. It will be formulated during 10 individual meetings. You will describe this and build a societal scenario in a an area of your interest. Each participant will get support and feedback by the lecturer and experts. It will act to build competence in relevant societal impact understanding.

- Session 1: Identifying the real needs and challenges of stakeholders for need-based services and innovation: Develop preliminary proposals
- Session 2: Enhance projects for societal impact based on EU New Bauhaus Compass model: Learn the sustainability concepts and develop scenarios for integration in the projects; To repurpose; To close the loop; To regenerate
- Session 3: Enhance projects for societal impact based on EU New Bauhaus Compass model: Learn the concept of 'Together' and develop scenarios for integration in the projects. To include; To consolidate; To transform
- Session 3: Enhance projects for societal impact based on EU New Bauhaus Compass model: Learn the concept of 'Beautiful' and develop scenarios for integration in the projects. To include; To consolidate; To transform
- Session 4: Enhance projects working processes for societal impact based on EU New Bauhaus Compass model: Learn the concept of 'Participatory Process' and develop scenarios for integration in the projects. To consult; To co-develop; To self-govern

- Session 5: Enhance projects working processes for societal impact based on EU New Bauhaus Compass model: Learn the concept of 'Transdisciplinary approach' and develop scenarios for integration in the projects.   To be multidisciplinary; To be interdisciplinary; To be beyond-disciplinary
- Session 6: Enhance projects working processes for societal impact based on EU New Bauhaus Compass model: Learn the concept of 'Multi-level engagement' and develop scenarios for integration in the projects. To work locally; To work across levels; To work globally
- Session 7: Enhance projects working processes for societal impact based on EU New Bauhaus Compass model: Learn the concept of 'Multi-level engagement' and develop scenarios for integration in the projects. To work locally; To work across levels; To work globally
- Session 8: Enhance projects by assessing scalability, transferability, and innovative dimensions
- Session 9: Develop timelines, milestones, realistic and logical sequencing of business and innovation plans, expected output and contribution
- Session 10: Evaluation of final project proposals

About

Dr Hyekyung Imottesjo is an architect, urban designer and a researcher within the field of built environment. She specializes in urban planning systems based on complex adaptive system's theory and innovative visualisation and digitalisation. She has received her PhD from Chalmers University in Gothenburg, Sweden and has been involved in urban collaborative designing platform development as well as developing innovation ecosystems for societal impact.

Certificate

After completed training, a certificate is provided by the ICM Research **Institute**

www.icmresearchinstitute.se

Courses

Computer Vision and Embedded Engineering

Course responsible: Dr. Yassin Jomni

Computer Vision

Module 1: Introduction to computer vision (examples from industry)
Module 2. Computer vision: Camera calibration and 3D reconstruction
Module 3. Computer vision: Image processing
Module 4. Computer vision: Image detection
Module 5. Implementation computer vision algorithms into embedded systems
Module 6: Applications in research and development in healthcare, automotive, defense

www.researchtobusiness.tech/computer-vision/

Embedded Software Engineering

Module 1: Embedded software with focus on safety, cyber security for real time applications
Module 2: AI and ML implementation into embedded systems
Module 3: Robotic operating systems
Module 4: Modern software development

https://www.researchtobusiness.tech/embedded-software-engineering/

Dr. Yassin Jomni
Zinnova AB

Dr. Yassin Jomni is a researcher, scientist, serial entrepreneur, engineer and book writer with an extensive career working in a wide number of fields ranging from district heating, flow metering, health tech, telecom, automotive, defense and aerospace industries. Dr. Jomni has also founded three startups and co-owned one.

www.zinnova.se

Courses
Energy, Environment and Climate

FUTURE ENVIRONMENTAL TECHNOLOGIES

Course responsible: Mikael Syväjärvi

This courses introduces new concepts in emerging environmental technologies. The participants will be familiar with the emerging technologies which are developed in research. Participation creates an awareness about the future to some regarding innovation and technologies.

SHARING DATA FOR SHORTEN TIME TO MARKET

Course responsible: Mikael Syväjärvi

Sharing data is necessary for making more usefulness. For researchers this is a way to show impact creation. For companies this is a way to position for the new markets which already are entering today.

Module 1. Impact in research and new technologies for shortening time to market. Mikael Syväjärvi.

Module 2. Open source enigma to data and its digitalization. Yassin Jomni.

Module 3. Sharing data and business model by block chain and NFTs. Mats Brodén.

PRACTICAL RESEARCH COMMUNICATION

Course responsible: Mikael Syväjärvi

Opportunities come from interaction and exchange in various ways. Popular scientific articles and other planned outreach activities are nice, but consumes time and energy. Those should be done from time to time, and act more as reference to what you say in more informal ways. That is the purpose of practical research communication. To share experiences, inspire, and get started. Mikael Syväjärvi will share his experiences in how short posts and activities in social media creates new collaborations and opportunities. Another is the effect of making videos. The research communication is favorable for your career.

Courses

Digital Tools, Built Environment, Infrastructure and Urban Transformation

INNOVATION FOR BUILT ENVIRONMENT AND SOCIETAL IMPACT
Course responsible: Hyekyung Imottesjo

The course provides hands-on guidance to identify global and local challenges, and stakeholder needs to develop innovation projects for resilient built environment. The courses offers how to develop project ideas addressing considerations to inclusiveness, transdisciplinarity, sustainability, scalability, innovativeness and other relevant criteria for social impact (using EU New Bauhaus model). The four parts workshop modules include identifying challenges in interdisciplinary setting, developing transdisciplinary project proposal addressing the relevant criteria, excercises to evaluate other proposals applying relevant criterias, and to enhancing proposals based on the evaluation from the peer groups.

ITERATIVE PROTOTYPING FOR DIGITAL TOOL DEVELOPMENT
Course responsible: Hyekyung Imottesjo

Developing digital tools for social impact requires garnering what the true needs of the stakeholders are and iteratively prototyping to meet the user needs. During this course, students will develop surveys to understand the stakeholder needs, and identify relevant technologies. In interdisciplinary setting, the students will develop a conceptual prototype based on the identified needs of the stakeholders. With survey, questionnaires, students will introduce the concept to the stakeholders to develop a further wishlists for such digital tools. Students will use the wishlists to develop design element categories and specifications for the first prototype. Students will evaluate the concept of the tool, and the specifications for the prototype, and identify opportunities and risks of implementing the

Dr Hyekyung Imottesjo is an architect, urban designer and a researcher within the field of built environment. She specializes in urban planning systems based on complex adaptive system's theory and innovative visualisation and digitalisation. She has received her PhD from Chalmers University in Gothenburg, Sweden and has been involved in urban collaborative designing platform development as well as developing innovation ecosystems for societal impact.

Transdisciplinary deep teaching for impact

Requirements to respond
to complexity of global challenges

Interconnectedness of global systems make the challenges complex, with solutions addressing certain challenge posing threat and exacerbating challenges in other areas. In this context, it is critical for the future young generations to tackle these unforeseeable challenges through multi-faceted, transdisciplinary perspectives by fostering complex questions as well as answers. By approaching challenges through critical lens of inquiry is not only necessary but is required.

The courses and trainings offered through the research and innovation ecosystem provide transdisciplinary perspectives with impact taking up the center of attention. Students will learn to develop relevant and critical questions. They will learn to develop methods to formulate relevant questions, and navigating through potential solutions by inter- and transdisciplinary efforts for multiple perspectives, and developing solutions that are complex, adaptable and scalable.

The courses will teach the students to develop relevant skills to develop projects for sustainable and resilient impact. Critical thinking, integrating multiple perspectives, systems thinking are specifically promoted through our deep teaching and training model.

Joint Courses with international universities

We have highly specialized areas of expertise that may not be available at a university. By offering joint courses, universities can gain access to this expertise, enriching the learning experience for their students.

Joint courses can also provide opportunities for collaboration between the private research institute and the university, leading to joint research projects, shared resources, and increased networking opportunities.

Online teaching allows for greater flexibility in scheduling and location, making it easier for students to participate in joint courses regardless of their physical location.

Joint courses are cost-effective as resources are shared and no need of recruiting new lecturers at the university, reducing the overall cost of offering the course at the university.

Joint courses can enhance the reputation and recognition of both institutions, particularly if the courses are designed to address pressing social, economic, or environmental challenges.

How does it work?

The university assigns a lecturer from their staff and who will be course responsible. The university acts to introduce the course in theor education.

We will provide guest lecturers and course content. Content will be planned jointly.
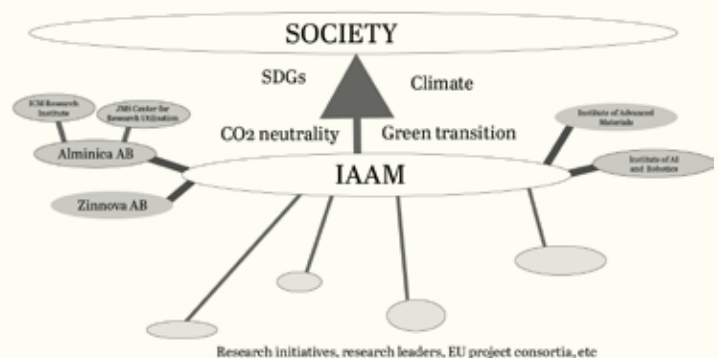
Joint Courses with international universities

Joint courses benefits:

offer university lecturers the opportunity to learn new teaching methods and techniques from our lecturers. This can help to improve the university lecturer's own teaching practice and bring new ideas to their classes.

foster collaborative research opportunities between university lecturers at the university and our lecturers. This can lead to new research ideas and publications, as well as potential funding opportunities.

provide opportunities for university lecturers to connect with colleagues and experts from our network. This can lead to new professional connections, collaborations, and opportunities for professional development.

help to diversify the course offerings at the university, allowing lecturers to offer new and innovative courses that may not have been possible otherwise. This can attract new students and enhance the university's reputation.
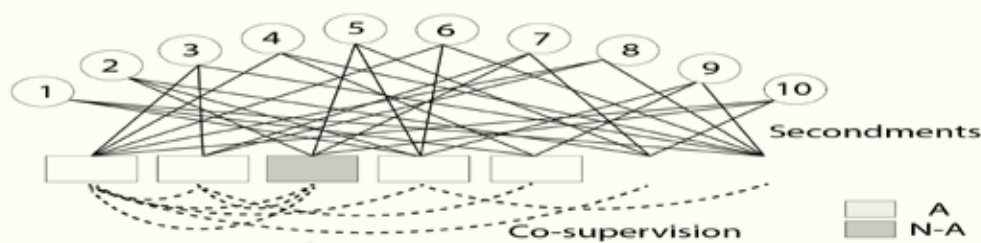
Individual training
and
tailored courses for university

Learn what your need to learn about

Our trainings and courses are adaptable

We provide a toolbox with tools. It is a constant learning. The markets change, the world changes, we change. What is your interest now is modified in a near future.

Our courses are module based. One module can be replaced, added or a new created that is complementary.

That is why we can tailor courses for your interest. The trainings are individual. We focus on your need and provide your own toolbox and tools. Same for universities and other organizations, educational schemes can use courses and modify modules.

Career Development
Creativity and Innovation

CREATIVITY, INNOVATION, AND EDUCATION FOR SUCCESSFUL FUTURE CAREERS

Course responsible: Mikael Syväjärvi and Nasar Ali

Today's education is the future investment. Everything is changing rapidly and becoming global. This means that the students of today must be more adaptive. The course in innovation, future educational aspect and creativity provides an understanding of how the participants can benefit and become successful in their careers.

The course has four modules. These are a combination of lectures, interactive session, group work.

1. Creativity

a. Be creative in an ordinary environment.

b. Create new ideas by breaks in the workday.

c. The power of walk and talk.

2. Innovation

a. The unknown is an opportunity for ideas (risk vs inventive steps).

b. Present the idea and innovation in a context so it makes sense.

3. Education

a. The knowledge is the motor – this gives you the push forward.

b. Learn to learn – how you stay competitive.

4. Networks and communities

a. The network is your future opportunity.

b. Sharing information is an investment.

c. Leadership by initiatives and collaboration.

Career Development
Research Leadership Program

Program responsible: Mikael Syväjärvi and Hyekyung Imottesjo

This leadership program for researchers in advanced materials and innovation provides valuable training and development opportunities for individuals seeking to advance their careers. The program provides participants with the skills and knowledge needed to become effective leaders in the field of advanced materials.

The program include modules focused on leadership skills, innovation and entrepreneurship, project management, communication, and strategic thinking. Participants will learn how to identify new opportunities, develop and execute strategies, and lead teams effectively to achieve their goals.

In addition, the program offers opportunities for participants to network with other researchers and professionals in the field of advanced materials, enabling them to build relationships and collaborations that are valuable for their careers.

We have experienced and knowledgeable instructors and mentors who provide guidance and support throughout the program. The the program includes shared experiences, learnings and case studies that allow the participants to apply the skills and knowledge they have learned in a real-world context.

This leadership program for researchers in advanced materials and innovation will help to develop the next generation of leaders in their field, equipping them with the skills and knowledge needed to drive innovation and advance scientific discovery.

- develop skills needed to lead teams effectively, including training in areas such as communication, conflict resolution, and project management
- manage innovation processes, from ideation to commercialization; learn how to develop and implement strategies to encourage innovation within your team
- technical training in advanced materials and related fields; participants will have the knowledge and expertise needed to lead teams working on cutting-edge research projects
- network with other researchers and leaders in the field; advices on how strategically work with conferences, workshops, meeting mentors and advisors
- develop business and entrepreneurship; business plans, pitch ideas, and secure funding for their research projects
- importance of ethical conduct and social responsibility in scientific research; learn how to navigate complex ethical issues and ensure that your research is conducted in a responsible and sustainable manner

Individuals in a crowd

Standing out together

The modern world includes an ever fast change. We have to find our own advantages. Mass courses are not suitable for all. They also become out of date when the world changes.

Dynamics.

What we need today has to be available today.

That is why our courses and trainings are adaptable and more focus on individual needs and organizational needs.

Students and researchers have to show their advantages, skills and relevance. Companies have to be up to date with what is coming from today.

People make change. and push frontiers and businesses.

Onsite

Courses and Training
Research and educational visits
Partnership Meetings
Consortia Building

Onsite including accomodation and full board

Courses, educational programmes and trainings are onsite at Ulrika Campus in Stenåkra Business & Competence Center. It also serves the purspose for planning meetings for building consortia with partnerships. The meetings can be from 2 days (lunch to lunch) to full week (lunch Monday - lunch Friday).

Local business exchange

The local context is essential. The Ulrika innovation ecosystem is a placed based innovation. It uses strengths local and create economic growth and development from the community.

This is why we link forest, heat plant for town heating, digitalization, international network and research. All these interplay in various ways.

The key is to meet and discuss, exchange ideas and other relevant aspects which are useful now or in the future.

Stenåkra Business & Competence Center, the local store, the Ulrika annual market, the grill outside the shop on Saturdays, all these are meeting possibilities.

Development is driven by the community.

Emerging Technologies
linking industry and research
by
partnership creation

From research to business: key drivers for emerging technologies

Innovation capacity

(real) innovation impact from research towards emerging technologies

Advanced Materials

Impact from research

When does an emerging technology go from being emerging to be a technology?

Key enabling technologies

Aspects on bringing the emerging technology to grow new research avenues for potential future (emerging) technologies

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The climate urgency is more urgent than ever. Pulishing will have less importance in coming years. It does not matter how high impact factor journal the publication is in.

We have to show a realistic contribution on how our research is creating usefulness.

Transfer of knowledge to build researchers capacity to show impact of research

It does not need to be a company start-up, or technology transfer. Present the research in some context. Explain how we believe that it will make impact. How it will take next step.

We do not need to know, but we need to propose a sensible suggestion based on our knowledge. It does not matter if that knowledge is aquired by own experience or training at the transfer of knowledge center in Ulrika, Sweden. We have at least made an attempt from our own situation. This is sufficient for a researcher.

There is no way to know which way will the the right to create usefulness of research. Taking a first step is realistic as motivation. It shows the will, courage and determination to be part of global solutions.

Part of Erasmus exchange

Student

Traineeship

Staff

Education and Training

Individual training in an ecosystem of partnership organizations

Ulrikaringen Innovation and Digitalization

- Emerging technologies from advanced materials approaches
- Innovation capacity for sustainable exploitation
- Entrepreneurship from research and innovation
- Business approaches for bringing research to market
- International exchange as facilitator for global change
- Knowledge transfer as tool for sustainable implementation
- Digitalization and online training
- Multicultural meetings and experiences

www.ulrikaringen.se
www.alminica.se
www.researchutilisation.eu
www.icmresearchinstitute.se
www.iaam.se
www.iaamonline.org

ICM Research Institute | Alminica AB
Receiving organization
Contact: Mikael Syväjärvi
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Institute of Advanced Materials
International Association of Advanced Materials
Partner organizations

Erasmus+
EU programme for education, training, youth and sport

The young generation is the one which will create most contribution to long-term goals such as Sustainable Development Goals

Adamo from Italy

"it's so different because in Italy there are a very open spaces in the nature"

"here for me it was discovered in your typical food and the other culture, and this was very a new experience for me"

"You have a very great places, very big places: more in the nature, in the open spaces. You have a lot of lands, and you have a lot of trees in the forest and big trees. So for me, it's very different. Also the temperature is very different also in this Spring period because it is a pleasure to work because you don't feel hot or very warm like in Italy, because it is not so windy and humidity is high. Here you feel fresh and you can stay more comfortable when you work."

"Another thing I improved here was the language because when I came here my English was not so well. Now, also not well but it is more improved even though I have been here less than two months."

Hosting
Postdoctoral Fellowships

Marie Skłodowska-Curie Postdoctoral Fellowship

for researchers holding a PhD and wishing to acquire new skills through advanced training and international, interdisciplinary, and inter-sectoral mobility.

One of our institutes can be host. Additionally, we can include hosting at SME and that offers additional six months at the end of their fellowship to undertake a placement in a non-academic organisation in Europe.

Academic placement   Non-academic placement

The Marie Curie Fellowship offers postdocs the opportunity to work with top researchers in their field across Europe and beyond, creating opportunities for international collaboration and networking that could be beneficial for their future careers.

The fellowship can provide postdocs with the opportunity to broaden their research experience and develop new skills that can be valuable for future employment prospects. The fellowship offers substantial funding for research projects, enabling postdocs to undertake ambitious research projects that may not have been possible otherwise.

Being awarded a Marie Curie Fellowship is a prestigious achievement, providing postdocs with recognition for their research accomplishments and enhancing their reputation in the academic community.

The fellowship offers a range of career development opportunities, including training in research management, scientific communication, and leadership, which can be valuable for postdocs looking to advance their careers.

More information and application
www.marie-sklodowska-curie-actions.ec.europa.eu/actions/postdoctoral-fellowships

MSCA and Erasmus | Sweden

Portal **www.mscasweden.se** Non academic placement
MSCA researchers can receive additional support to carry out a placement of up to 6 months.

any topic related to technology, advanced materials, innovation, climate, energy, environment, deeptech. We have broad partnership network. Benefits with non academic placement:

Enhanced Transferable Skills: Non-academic placements offer an opportunity to develop transferable skills that are valuable in both academia and industry. These skills can include project management, teamwork, communication, problem-solving, entrepreneurship, and adaptability. Acquiring these skills can broaden your career prospects and make you a more versatile and employable researcher.

Industry Relevance: Non-academic placements enable you to gain firsthand experience of the industrial or commercial sector related to your research area. This exposure can help you understand the practical application of your research, identify industry needs, and align your work with real-world challenges. It can also enhance your knowledge of industry practices, standards, and regulations, making your research more relevant and impactful.

Networking Opportunities: Non-academic placements provide a unique chance to expand your professional network beyond academia. By working with industry professionals, you can establish connections with potential collaborators, industry leaders, and future employers. These connections can be invaluable when seeking job opportunities, securing funding, or initiating future research partnerships.

Broader Perspective: Engaging in non-academic placements allows to gain a broader perspective on your research field. By working in different environments and collaborating with professionals from diverse backgrounds, you can gain insights and alternative viewpoints that may not be readily available within academia. This can contribute to a more well-rounded understanding of your research area and enhance your ability to address interdisciplinary challenges.

Improved Employability: Non-academic placements can significantly enhance your employability, both within and outside academia. Employers often value candidates who have experience in both academic and non-academic settings, as it demonstrates adaptability, versatility, and an understanding of the practical application of research. Such experiences can make you a more attractive candidate for research positions, industry roles, and entrepreneurial ventures.

Funding Opportunities: Some non-academic placements may offer additional funding or stipends, which can supplement the MSCA fellowship and help cover living expenses during the placement.

Rural Growth & Digitalization

Rural development is commonly linked to the misuse of land-intensive natural resources such as forestry and agriculture. Modern ways of working rely on exploitation of the internet. This enables alternative occupations to develop in rural areas, thus freeing the rural growth from its traditional impact on nature.

Rural development is nowadays considered to be of noticeable importance in Sweden, as part of a strategy to improve the productivity by providing a higher socio-economic equality and stability of social and economic nature.

The idea is to offer opportunities through a digital transformation that is further improving people's livelihood

Sweden is vividly supporting new ideas and projects related to rural growth and digitalization. We have gathered information on various such projects, and listed and analyzed them in a dedicated document (in Swedish).

Our purpose is to get new ideas, compare, and find contact information for projects of interest. We also provide a list of different organizations that support start-up

Innovation hub on the countryside

In Linköping's municipality we are focusing our efforts on the creation and development of the Ulrikaringen eco-system. Ulrikaringen aims to become a hub of innovation and entrepreneurship by creating new opportunities through regional, national and international collaborations. Our purpose is to unite the small countryside companies strengthening their ability to design their own future. Via investing to the natural and digital growth of the area, Ulrikaringen shall attract international visitors, meetings, conferences, programs, new projects, etc.

Local to global

Culture and traditions are the things which bond people. These are important for the long-term collaboration. Development projects increase technology readiness level during a number of projects. That means long time aspects of collaboration.

Culture and traditions

This is also an opportunity of inspiration. Creativity feeds creativity. From one avenue to another.

Creativity feeds creative acts

Indo-Scandic Organization is the meeting space for culture and traditions.

Peoples World Commission on Drought and Flood

The People's World Commission on Drought and Flood (PWCDF) was established on the occasion of World Water Week 2022 in Stockholm, Sweden.

The goal is to reduce risks to lives, livelihoods, and ecosystems by building community resilience to extreme weather events such as droughts and floods through community-driven nature rejuvenation.

The secretariat of the commission is located in Ulrika, Sweden
www.pwcdf.org

Follow For All Waters on Facebook and Youtube @forallwaters