

DCODE NETWORK

RETHINK DESIGN – CHANGE OUR FUTURE



PHD PROGRAM
INFO PACK

WE ARE LIVING IN THE MIDST OF A DIGITAL TRANSFORMATION OF SOCIETY.

The industrial revolution happened, and it's over. Yet, design practice is stuck in the past and struggles to reconcile human values and algorithmic logics into socially, economically and politically sustainable models. We lack the knowledge, skills and roles within companies or organisations to design for interaction with autonomous technologies in ways actually beneficial to humankind, and thus to responsibly anticipate and steer this transformation. Imagining and manifesting alternative futures has to be a proactive effort.

It's time to rethink design and create new pathways to the future.

**ELISA GIACCARDI
DCODE Project Lead and Supervisor
#WeAreDCODE**

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WHY YOU SHOULD APPLY

CROSS-DOMAIN APPLICATIONS

Design-driven ecosystems for the digital transformation of society

It means that our PhD researchers will be working in sectors that cut across private and public sectors, and connect domains such as **urban mobility, energy sharing, health and care, insurance, banking and digital ethics**.

WORKING IN PROTOTEAMS

Signature of DCODE is the idea of **prototeams**. Teams of PhD researchers with different disciplinary backgrounds will be iteratively deployed in different real-world contexts to develop and prototype future design roles and practices.

A programme of training will be provided including core research skills, design research methods, public engagement and communication, participatory leadership, responsible innovation, digital inclusion and literacy, gendered perspectives and legal/policy issues around Artificial Intelligence. This will be delivered in collaboration with a network of **internationally leading companies and organisations** including Philips/Design Innovation, RISE/Digital Ethics, AMS/Responsible Urban Digitization, Advance Care Research Center/Legal & General and Centrum Cyfrowe/Communia.

PhD researchers will also be funded to attend international events and conferences. A dedicated mentoring programme on **inclusion and diversity** will be available for all recruits.

REAL-WORLD CHALLENGES

AMS (Amsterdam Institute for Advanced Metropolitan Solutions), RISE (Research Institutes of Sweden) and ACRC (Advance Care Research Centre) are expected to play a key role in setting up a context and help identify **concrete cases and design challenges** for the work of the prototeams, in collaboration with the DCODE project team, the other non-academic partners, and their broader network of stakeholders. Cases and assignments will feed the development of approaches, methods, propositions and solutions from the PhD researchers.

A POST-INDUSTRIAL APPROACH

DCODE is a pioneering PhD training programme, which aims to develop future researchers and leaders capable of anticipating and guiding the digital transformation of society towards inclusive and sustainable futures. **DCODE positions agency as foundational to digital design today, just like function was critical to industrial design.** This new foundation will require the holistic integration of five key research challenges identified in both engineering and the social sciences.

INTERNATIONAL ENVIRONMENT

Being part of the DCODE network offers unique possibilities for training: dedicated summer/winter schools for all PhD candidates in which training will be delivered by renowned academics and practitioners; participation in prototeams of PhD candidates with different disciplinary backgrounds who will engage with the real world to ethically develop and iteratively prototype future technologies, design roles and practices; exchanges abroad for training and collaboration with others partners; a wealth of resources for European training and collaboration.

EXCELLENT SUPERVISION

PhD candidates will be supervised by multidisciplinary, cross-organizational teams of leading figures in the field, including:

SASKIA BAKKER, Philips Design Innovation, NL
SOMAYA BEN ALLOUCH, Amsterdam University of Applied Sciences, NL
ROY BENDOR, Delft University of Technology, NL
JACKY BOURGEOIS, Delft University of Technology, NL
ALESSANDRO BOZZON, Delft University of Technology, NL
NAZLI CILA, Delft University of Technology, NL
ELISA GIACCARDI, Delft University of Technology, NL
IRINA JACKIVA, Transport and Telecommunications Institute, LV
GERD KORTUEM, Delft University of Technology, NL
PETER LLOYD, Delft University of Technology, NL
DARIA LOI, Mozilla, Inc.
EWA LUGER, University of Edinburgh, UK
JENS-ERIK MEI, University of Copenhagen, DK
DAVE MURRAY-RUST, Delft University of Technology, NL
BETTINA NISSEN, University of Edinburgh, UK
LARISSA PSCHETZ, University of Edinburgh, UK
JEROEN RAIJMAKERS, Philips Design Innovation, NL
JOHAN REDSTRÖM, Umeå Institute of Design, SE
MARCO ROZENDAAL, Delft University of Technology, NL
NEIL RUBENS, Transport and Telecommunications Institute, LV
IRINA SHKLOVSKI, University of Copenhagen, DK
RACHEL CHARLOTTE SMITH, Aarhus University, DK
CHRIS SPEED, University of Edinburgh, UK
HEATHER WILTSE, Umeå Institute of Design, SE

WHAT YOU NEED TO KNOW

KEY DATES & INTERVIEWS

Job applications **open on January 8, 2021**.
Calls close on February 14, 2021 (ESR 2-15), and **March 15, 2021** (ESR 1).
PhD start date is **June 1, 2021** (or as close to this date as possible)

Selected candidates will be invited for online interviews:

- First round interviews: **March 1-12, 2021** (ESR 2-15)
- Second round interviews: **March 22-26** (ESR 2-15)
- Online interviews for ESR1: **March 15-26, 2021**

ESSENTIAL CRITERIA

A background and experience in design, anthropology, media studies, science and technology studies, design informatics, human-data/AI interaction, artificial intelligence, and machine learning, or other relevant field. Ability to conduct and deliver high quality research both independently and as part of an interdisciplinary team. Excellent communication skills in English, both in written and oral.

DESIRABLE CRITERIA

Prior engagement and experience with data-driven design or digital advocacy. Relevant co-design and/or prototyping skills (e.g., software development, interactive prototyping, user experience and service design), depending on vacancy.

MSCA ELIGIBILITY & MOBILITY CRITERIA

DCODE is funded by the [European Union](#) and to be eligible:

- **You must not already hold a PhD** and have less than four years of research experience since you gained the degree that qualifies you for this post, that is, a master's degree (MSc, MA or MFA degree), or equivalent. You will need a master degree at the moment of your starting date (June 1, 2021).
- **You must not have resided or carried out your main activity** (work, studies, etc.) **in the selected country for more than 12 months in the 3 years** immediately prior to your recruitment, and you must work on the project full-time.
- **You are expected to be embedded for two to four months at other organizations** in the consortium as part of placements and assignments, before returning to complete their PhD in their respective institutes.

APPLICATION PROCESS

MULTIPLE APPLICATIONS

You are allowed to apply for multiple positions, but you are **required to indicate this in the cover letter and indicate priority**. Keep in mind that you will have to apply separately and for each position you will have to add to your application package a research statement of 3 to 5 pages. Please observe that incomplete applications will not be processed.

APPLICATION PROCESS

You should submit:

- A **short cover letter** explaining your personal motivation in pursuing a PhD as part of DCODE, including how you see the PhD fitting into your career trajectory
- A **CV**, which should include details of your eligibility (degree and residency)
- A **research statement** outlining what questions would you be interested in pursuing within the scope of the PhD, and how would you go about addressing those questions (3 to 5 pages)
- **Diploma and transcripts of records** (BSc and MSc)
- **1–3 recommendation letters** or **contact details** (see vacancy)
- A **sample of writing**, e.g., master thesis, scientific publications, professional or popular science writing
- **Other information for consideration**, e.g. design portfolio, artworks, patents, professional media content (if any).
- Applicants to positions in **Aarhus (ESR 1)** and **Edinburgh (ESR 9-11)** will also need to submit an **English language certificate**. See specific vacancy post.

Please observe that incomplete applications will not be processed.

COVID FLEXIBILITY

The COVID-19 outbreak has caused major disruptions for many researchers, projects and organisations, including those working with EU funding. DCODE may adopt a flexible approach to how mobility rules are applied, including remote working and online collaboration until travel and relocation become feasible.

DESIGNING PATHWAYS TO ...

DCODE offers 15 PhD positions in the following areas

INCLUSIVE DIGITAL FUTURES

Anthropologists, data scientists and engineers need to be better integrated in the fuzzy front end of the design process, so that early steps can be made in designing algorithms that are conducive to sustainable digital futures. How do we understand human-machine relations and shape the desired interaction between algorithms and humans?

Work with anthropologists, engineers, and computer scientists across the EU and the UK.

TRUSTED INTERACTIONS

Designing for interaction with and across decentralised systems requires new ways to navigate and negotiate concurrent and conflicting needs, and the potential imbalance in the relationship between people and predictive systems. How we achieve that human interaction across decentralised systems remains appropriate, in the interest of people and society at large?

Work with designers and researchers with tech backgrounds across EU and UK.

SUSTAINABLE SOCIO-ECONOMIC MODELS

Data-driven technologies are enabling business models and economies that are far from fair. How can we conceptualise and promote the currency of alternative values, and sustain more transparent and inclusive socio-economic models in the digital society?

Work with designers and economists across the EU and the UK.

DEMOCRATIC DATA GOVERNANCE

Contracts between service providers, users and third parties are often problematic in terms of how flows of data are generated and shared. How can we enable more democratic forms of digital sovereignty and deliberation for how data and algorithms are governed?

Work with designers and other professionals with a background or active interest in policy making.

FUTURE DESIGN PRACTICES

The responsible and sustainable digital transformation of society will require new post-disciplinary and cross-sector design practices, upholding anticipatory, deliberative and responsive innovation approaches. How can we bring together the learning of the DCODE prototeams, and identify best practices?

Do you have experience in design, ethnographic, industrial, or organizational practices? We want to hear from you.

INCLUSIVE DIGITAL FUTURES

How to understand machine behaviour and shape the desired interaction between algorithms and humans?

[ESR1] **Design anthropology for sustainable human-machine relations**

DK: University of Aarhus,
Department for Digital Design and
Information Studies
Supervisory team: Dr. Rachel Charlotte
Smith, Prof. Elisa Giaccardi, Dr. Daria Loi
Inquiries: [Dr. Rachel Charlotte Smith](#)

This project is about exploring how anthropology, data science and engineering can work together in the fuzzy front end of the design process and address the unanticipated consequences of human-machine relations, so that early steps can be made in designing algorithms that are conducive to sustainable digital futures. A central outcome of the project will be a novel design anthropology approach to human empowerment in the design of algorithms, based on new understandings, scenarios and principles of human-machine relations.

[ESR2] **Design and engineering methods for principled development of data, models and behaviours**

NL: Delft University of Technology,
Faculty of Industrial Design Engineering
Supervisory team: Dr. Dave Murray-Rust,
Prof. Alessandro Bozzon, Prof. Irina Jackiva
Inquiries: [Dr. Dave Murray-Rust](#)

This project is focused on developing novel methods and tools for shaping, testing and evolving machine behaviour. In this project we will investigate the adaptation of approaches drawn from data science and HCI to explore how behaviour, models and data can be developed concurrently in a principled manner. This will support the design of machine learning driven systems that work and grow alongside humans.

[ESR3] **Machine learning methods for sustainable design futures**

LV: TTI, Data Analytics and Artificial
Intelligence Research Cluster
Supervisory team: Prof. Neil Rubens,
Dr. Nazli Cila, Prof. Somaya Ben Allouch
Inquiries: [Prof. Neil Rubens](#)

This project is about developing machine learning methods suitable for design tasks in which human needs and values are driving forces, instead of the typical focus on efficiency and optimisation. In this project you will investigate what machine learning metrics are most apt for guiding these tasks and for navigating the associated design trade-offs (e.g., between accuracy and fairness).

TRUSTED INTERACTIONS

How do we achieve that human interaction across decentralised systems remains appropriate, in the interest of people and society at large?

- [ESR4] **Designing for multi-intentional interaction**
- NL: Delft University of Technology,
Faculty of Industrial Design Engineering
Supervisory team: Prof. Elisa Giaccardi,
Dr. Dave Murray-Rust, Prof. Johan Redström
Inquiries: [Prof. Elisa Giaccardi](#)
- This project is focused on the challenges of decentralised interaction with data-driven systems, and the development of novel design principles for multi-intentional interaction. In this project we will explore how future interfaces can manifest the potentially conflicting needs of the many users of a data-driven product-service system (“multi-intentionality”), and focus on the use of techniques that can provide an additional layer of legibility of the system’s behaviour and enable trust.
- [ESR5] **Designing co-predictive relations**
- NL: Delft University of Technology,
Faculty of Industrial Design Engineering
Supervisory team: Dr. Roy Bendor,
Prof. Elisa Giaccardi, Prof. Johan Redström
Inquiries: [Dr. Roy Bendor](#)
- This project is focused on the challenges of delegation in the relationship between people and co-predictive systems, and the development of novel design principles for predictive relations. In this project we will explore how different forms of recursive interplay between user and system (“co-performance”) can provide handles to a more equitable interaction between people and predictive systems, and how such forms of interaction may shape users’ sense of futurity.
- [ESR6] **Designing for contestable systems**
- SK: University of Umeå,
Umeå Institute of Design
Supervisory team: Prof. Johan Redström,
Dr. Marco Rozendaal, Prof. Elisa Giaccardi
Inquiries: [Prof. Johan Redström](#)
- This project is focused on the challenges involved in making it possible for people to contextualise and negotiate a data-driven system’s response (“response-ability”) in and through use. In this project we will explore what features, mechanisms and techniques need to be designed and implemented in the front-end for people to understand, contest and possibly repair inappropriate actions by a system. Working with research through design, we aim to create an annotated collection of design examples and interaction features for contestable data-driven systems.
- [ESR7] **Designing for trusted collaboration in human-AI teams**
- NL: Philips, Design Innovation
Supervisory team: Dr. Saskia Bakker,
Prof. Peter Lloyd, Prof. Somaya Ben Allouch
Inquiries: [Dr. Saskia Bakker](#)
- This project will explore the design of AI-enabled clinical decision-support systems from the point of view of human-AI collaboration. In particular, it will explore the different roles AI-powered systems can play in medical teams, e.g. to provide continuity and knowledge transfer across teams. You will leverage data and AI as a design material in the creative process and impact people’s lives through meaningful AI- and data-enabled experience concepts.

SUSTAINABLE SOCIO-ECONOMIC MODELS

How to sustain inclusive approaches in designing data-driven products, services and business models?

[ESR8]

Multi-sided value in data-driven services

DK: University of Copenhagen,
Department of Computer Science
Supervisory team: Prof. Irina Shklovski,
Prof. Jens-Erik Mai, Dr. Ewa Luger
Inquiries: [Prof. Irina Shklovski](#)

This project is focused on exploring the role of economic exchange in the maintenance of informal social relations bound by data-driven technologies. The research will be based on case studies of existing socio-technical networks 'in the wild', to explore how existing services construct value propositions and what is actually delivered in the end.

[ESR9]

Co-creating multi-sided value propositions

UK: University of Edinburgh,
Institute of Design Informatics
Supervisory team: Prof. Chris Speed,
Dr. Bettina Nissen, Dr. Rachel Charlotte Smith
Inquiries: [Prof. Chris Speed](#)

This project will explore the design methods that are required to capture and represent value. In particular, to investigate and co-develop with commercial, civic and public partners design scenarios that surface the various values generated and exchanged through data and better balance the interests of multiple stakeholders.

[ESR10]

Designing sustainable socio-economic futures

UK: University of Edinburgh,
Institute of Design Informatics
Supervisory team: Dr. Bettina Nissen,
Prof. Chris Speed, Dr. Heather Wiltse
Inquiries: [Dr. Bettina Nissen](#)

This project will involve the design of prototypes that rebalance the co-creation of value through data, allowing people to identify alternative values and testing their currency through prototype services. It will focus on developing specific workshops formats that will enable both commercial and civic stakeholders to design how data should flow between parties.

DEMOCRATIC DATA GOVERNANCE

How to design principles and mechanisms for public deliberation and data governance across decentralised systems?

[ESR11] **Envisioning models of data governance**

UK: University of Edinburgh,
Institute of Design Informatics
Supervisory team: Dr. Ewa Luger,
Prof. Irina Shklovski, Dr. Daria Loi
Inquiries: [Dr. Ewa Luger](#)

This project is focused on the development of new models of governance through distributed and decentralised services, with the intention of generalising for cross-sector use. The successful applicant will explore, in particular, how to identify, define and manage dynamic relationships between people, communities, companies and governments to uncover where tensions may arise and explore solutions in an inclusive way.

[ESR12] **Designing alternatives for the Terms of Service (ToS)**

SK: University of Umeå,
Umeå Institute of Design
Supervisory team: Dr. Heather Wiltse,
Prof. Johan Redström, Dr. Larissa Pschetz
Inquiries: [Dr. Heather Wiltse](#)

This project is focused on what ethical frameworks may be used for supporting new types of contracts between service providers, users and third parties. In this project we will review and critique existing terms of service (ToS) to initiate a shift from 'terms of use' to new forms of 'social contracts' that better distributes power and control, and provides a company's social license to operate. Here, our objective will be to develop and design a negotiable and dynamic 'social contract' model, based on a critique of existing ToS.

[ESR13] **Designing mechanisms for public deliberation on data use**

SK: University of Umeå,
Umeå Institute of Design
Supervisory team: Dr. Heather Wiltse,
Prof. Johan Redström, Prof. Gerd Kortuem
Inquiries: [Dr. Heather Wiltse](#)

This project is focused on the possibilities and mechanisms for collaborative deliberation on data collection and use in the public interest. In this project we will explore how different stakeholders can be brought together in collaborative deliberation efforts, and how mechanisms can be built into either commercial or public data-driven platforms to achieve substantive deliberation outcomes in relation to shared matters of concern. Working with research through design, we aim to develop and design mechanisms for collaborative and public deliberation on data collection and use, tested with civil society organisations.

FUTURE DESIGN PRACTICES

What new interdisciplinary and cross-sector design practices are needed for a responsible and sustainable digital transformation of society?

[ESR14] **An ethics-in-action framework for designing data-driven product service systems**

DK: University of Copenhagen,
Department of Computer Science
Supervisory team: Prof. Irina Shklovski,
Prof. Jens-Erik Maj, Dr. Marco Rozendaal
Inquiries: [Prof. Irina Shklovski](#)

This project is focused on exploring how ethical standpoints can be leveraged and enacted across the four areas of design in DCODE, from engineering autonomous systems and designing their interaction with end-users to leveraging new economic and governance approaches in system implementation. The expected outcome is a reasoned collection of best practices upholding principles of inclusivity, deliberation and sovereignty in the design of data-driven product service systems.

[ESR15] **Prototyping new professional roles and design practices for the digital society**

NL: Amsterdam University of Applied
Sciences, Digital Life Centre
Supervisory team: Dr. Nazli Cila,
Prof. Elisa Giaccardi, Prof. Johan Redström
Inquiries: [Prof. Elisa Giaccardi](#)

This project is about identifying the post disciplinary knowledge and skills needed for future collaboration across different disciplines and sectors in the field of design, with focus on prototyping new professional roles and developing future job profiles. In this project we will explore how the iterative deployment of small teams with different disciplinary background in real-world settings (“prototeams”) within DCODE enables us to speculate, situate and understand the emerging and future needs of responsible and inclusive design practices.

WE ARE DCODE

DCODE PARTNERS

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AMSTERDAM UNIVERSITY OF APPLIED SCIENCES
Digital Life Centre
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Östra Strandgatan 30
Umeå Arts Campus
SWEDEN

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Edinburgh EH8 9YL
UNITED KINGDOM

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Kattenburgerstraat 5
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1018 JA Amsterdam
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RESEARCH INSTITUTES OF SWEDEN (RISE)
Lindholmospiren 7 A
417 56 Göteborg
SWEDEN

CENTRUM CYFROWE
Chmielna 24/2
00-020 Warszawa
POLAND

STAY IN TOUCH

APPLICATION GENERAL INQUIRIES

Please visit our website www.dcode-network.eu for submitting your application. See also [EURAXESS](#).

Do you have more questions? Just email us.

General inquiries can be sent to: info@dcode-network.eu
For eligibility queries, please include a summary CV.

PHD SPECIFIC INQUIRIES

Inquiries on the specific PhD position should be directed to:

ESR1: [Dr. Rachel Charlotte Smith](#)
ESR2: [Dr. Dave Murray-Rust](#)
ESR3: [Prof. Neil Rubens](#)
ESR4: [Prof. Elisa Giaccardi](#)
ESR5: [Dr. Roy Bendor](#)
ESR6: [Prof. Johan Redström](#)
ESR7: [Dr. Saskia Bakker](#)
ESR8: [Prof. Irina Shklovski](#)
ESR9: [Prof. Chris Speed](#)
ESR10: [Dr. Bettina Nissen](#)
ESR11: [Dr. Ewa Luger](#)
ESR12: [Dr. Heather Wiltse](#)
ESR13: [Dr. Heather Wiltse](#)
ESR14: [Prof. Irina Shklovski](#)
ESR15: [Prof. Elisa Giaccardi](#)

DCODE GENERAL CONTACT

For any further queries on the PhD program and research network please contact us: info@dcode-network.eu

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RETHINK DESIGN – CHANGE OUR FUTURE



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