

<b>Project title:</b>	<b>THE STRATEGIES AND PRACTICES OF LONG-LIFE PRODUCTS IN CIRCULAR ECONOMIES</b>
<b>Discipline</b>	<b>Design, Design Ecologies</b>
<b>Key words:</b>	Product sufficiency, circular economy, product (eco)literacy, sustainable consumption, system adaptation.
<b>Supervisory team:</b>	<b>Emma Dewberry, Matthew Cook</b>
<b>URL for lead supervisor's OU profile</b>	<a href="http://www.open.ac.uk/research/people/eld5">http://www.open.ac.uk/research/people/eld5</a>

### Project Highlights:

- Mapping the design ecologies of different product systems
- Critical reflections on practices of design and use in contexts of circular resource flows.
- Creating typologies of product repair and adaptation in contexts of circular resource flows.

### Overview:

This design-led project will generate theories, methods and tools for investigating, simulating and reasoning about systems of resource flow through the multiple lives of products. It will consider the change in operations and behaviours necessary, alongside technological developments, to create resilient products in a resource scarce world. This will involve looking for greater product system efficiencies and understanding the need for changes to consumption based on logics of sufficiency. Mapping system product ecologies provides an opportunity to understand people-product relationships using ethnographic methods and data mapping to narrate the current lives of products and the challenges and opportunities available to redesign product life stories. Insights into everyday product use and peoples' perceptions of, and actual, functional life will provide useful data to identify new product attributes and inform product literacies required for creating long life products and parts, which can endure over multiple life spans. The research will explore the relationship between product technologies, product lifetime, peoples' product literacy and circular resource flows. It is envisaged that the research will focus on radical and disruptive sustainable product-systems, informed by the interdependencies evident in the circular economy. The research directly responds to the *UK Industrial Strategy Grand Challenge of Clean Growth* in defining new ways in which we see and use products to negotiate our material present and

deliver an equitable distribution of resources in the future.

### Project Aim:

To explore different product ecologies in various contexts to provide critical oversight on the challenges of circular strategies and product longevity through a deeper understanding of the relationships between people, products and new patterns of production and consumption.

The scope of the research will answer **questions** such as:

- How do current strategies of resource efficiency such as circular resource flows, effectively create ecological benefits through product systems?
- How does digital technology and behaviours of use influence the nature of product ecologies over time?
- What challenges and opportunities arise for design practice through the adoption and adaption of resource optimisation strategies?
- How can product design practices create ecological value over time and what tensions arise through a change in resource value and priorities?

### Methodology:

The research is inductive and qualitative in nature and will involve both theory creation and the development of new practices to support long-life products. This experimental combination provides a useful foundation for curating more resilient and adaptable product systems.

An anticipated trajectory for the research would involve an early literature review to establish the context and inter-disciplinary aspects of the research scope. It may explore the characteristics of product life and define

relevant design policy, process, practice and attributes that respond to the themes of the research and the gaps, challenges and opportunities identified in the literature.

A unique exploration of product systems will be required as this work is unlikely to reside in secondary sources. Product ecologies of low-tech and high tech products will be mapped to show the relational aspects between products, people, resources flows, and infrastructures and systems of production and consumption. Ethnography and narrative will be employed to observe products in use and in situ. These rich product-people-system pictures will provide illustrations of new scenarios of product life and the consumption relationships, structures, systems and knowledge required to support these evolving transactions.

Defining emerging narratives and ways to communicate product knowledge through multiple lives, product repair and adaptation and new types of business and product policy will require engagement with industry, designers, design agencies and policy makers. It is expected that this phase of the research will consolidate key findings and provide a critical review of the emerging product life typologies in development.

The successful candidate will be encouraged to disseminate their work to different audiences, in different ways, at each stage of the PhD. This both helps develop skills in creating academic argument and dialogue and also supports the verification of the research via external review, as the work progresses.

### **Additional reading:**

Hobson, Kersty and Lynch, N. (2016) Diversifying and de-growing the circular economy: radical social transformation in a resource-scarce world. *Futures* 82, pp. 15-25.10.1016/j.futures.2016.05.012

Irwin, Terry. (2015) Transition Design: A Proposal for a New Area of Design Practice, Study, and Research. *Design and Culture*. 7. 229-246. 10.1080/17547075.2015.1051829.

Meadows, Donella (2008) *Thinking in Systems*. Ed. by Diana Wright, Chelsea Green Publishing, London. ISBN:9781603580557

Sharon Prendeville, Grit Hartung, Clare Brass, Erica Purvis & Ashley Hall (2017) Circular Makerspaces: the founder's view, *International Journal of Sustainable Engineering*, 10:4-5, 272-288, DOI: [10.1080/19397038.2017.1317876](https://doi.org/10.1080/19397038.2017.1317876)

Princen, Thomas (2005) *The Logic of Sufficiency*. The MIT Press, Cambridge MA. ISBN: 9780262661904

### **Further details:**

Students should have a strong academic background in design or a related subject. They should have experience of, or evidence interest in, sustainability-related research. The student will join a well-established team of design researchers at the Open University.

Please contact **Dr Emma Dewberry** [emma.dewberry@open.ac.uk](mailto:emma.dewberry@open.ac.uk) for further information.

### **Applications should include:**

- A 1000 word cover letter outlining why the project is of interest to you and how your skills match those required
- An academic CV containing contact details of three academic references
- [Open University application form](#)
- Applicants will need to demonstrate good competence in the English language. To be eligible for a full award, a student must have no restrictions on how long they can stay in the UK and have been ordinarily resident in the UK for at least 3 years prior to the start of the studentship.

**Applications should be sent to** [STEM-EI-PhD@open.ac.uk](mailto:STEM-EI-PhD@open.ac.uk) by **24.04.20**

