

**Call for Applicants – 15 Early Stage Researcher Positions available within the  
H2020-MSCA-ITN-2018 project  
Realising the Transition to the Circular  
Economy: Models, Methods and Applications  
(ReTraCE)**

**Deadline:** 15<sup>th</sup> January 2019

Applications are invited for 15 Early Stage Researcher (ESR) 3-year fixed-term positions to be funded by the Marie-Sklodowska-Curie Innovative Training Network “ReTraCE” – Realising the Transition towards the Circular Economy” ([www.retrace-itn.eu](http://www.retrace-itn.eu)) within the Horizon 2020 Programme of the European Commission.

This network (led by Dr. Andrea Genovese, from the University of Sheffield) brings together an exceptionally strong team of world-leading experts from a wide set of beneficiaries and partners in order to achieve breakthroughs in understanding how the transition towards a Circular Economy (CE) can be realised in a successful way in the European context, both within existing organisations and industries as well as through innovative and sustainable business models. The proposed approach is inherently multi-disciplinary, drawing upon research that will advance significantly the state-of-the-art in terms of the current understanding of the applicability of the CE paradigm from Economic, Environmental and Social points of view, providing policy insights and implications for practice. The consortium of 10 beneficiaries (including 7 academic and 3 non-academic groups from the UK, The Netherlands, Belgium, Sweden, Italy, Greece and Germany) will design and deliver world class multidisciplinary training to 15 Early Stage Researchers (ESRs), offering them an extended and valuable program of international exchanges and secondments through the wide network of partner organisations (from public, private and third sector) involved in the proposal.

The network builds on the success of previous projects in which beneficiaries have successfully delivered high impact research and knowledge exchange. ReTraCE is specifically designed to train a cohort of new thought leaders capable of driving the transition towards a more sustainable mode of production and consumption in Europe in the next decades, who will directly facilitate the implementation of the recently adopted ambitious Circular Economy strategy of the European Commission, which is closely linked to Sustainable Development Goals (SDGs). Indeed, it is envisaged that ESRs will be employable not only by research institutions, but also by public sector bodies and within a wide range of manufacturing and service industries which will require new professional profiles for realising the transition towards the CE.

**Available Positions**

15 Early Stage Researcher positions (with PhD enrolment), on a 3-year fixed-term basis.

**Research Fields**

The research project is inherently multi-disciplinary and it is articulated in four Work Packages, involving the following disciplines:

- WP1 (including ESR1, ESR2, ESR3, ESR4): Operational Research; Operations, Logistics and Supply Chain Management;
- WP2 (including ESR5, ESR6, ESR7, ESR8): Environmental Management; Environmental Sciences; Life Cycle Assessment and Environmental Accounting;
- WP3 (including ESR9, ESR10, ESR11, ESR12): Political, Ecological and Behavioural Economics;
- WP4 (including ESR13, ESR14, ESR15): Development Policy; Sustainable Management; Science, Technology and Innovation Studies.

### Benefits and salary

The successful candidates will receive an attractive salary in accordance with the Marie Skłodowska-Curie Actions (MSCA) regulations for early stage researchers. The exact salary will be confirmed upon appointment and is dependent on the country correction coefficients (to allow for the difference in cost of living in different EU Member States)<sup>1</sup>.

Basic gross rates include a living allowance (€3270 per month), a mobility allowance (€600 per month) and a family allowance (€500, if applicable). ESRs will also get access to funds covering Research, Networking and Training costs. ESRs will also be enrolled for PhD studies at institutions which are part of the consortium. Funding will cover the entire 36-month period. In addition to individual scientific projects, all fellows will benefit from further continuing education, which includes internships and secondments at non-academic organisations, a variety of training modules as well as transferable skills courses and active participation in workshops and conferences.

### Eligibility Criteria

*Early-stage researchers (ESR)* are those who are, at the time of recruitment by the host, in the first four years (full-time equivalent) of their research careers and do not hold a doctorate. This is measured from the date when they obtained the degree which formally entitles them to embark on a doctorate, either in the country in which the degree was obtained or in the country in which the research training is provided, irrespective of whether or not a doctorate was envisaged. The following further conditions apply:

- *Conditions of international mobility of researchers:* ESRs can be of any nationality. They are required to undertake physical, transnational mobility (i.e. move from one country to another) when taking up their appointment. At the time of selection by the host organisation, researchers must not have resided or carried out their main activity (work, studies, etc.) in the country of their host organisation for more than 12 months in the 3 years immediately prior to their recruitment. Short stays, such as holidays, are not taken into account.
- *English language:* Network fellows (ESRs) must demonstrate that their ability to understand and express themselves in both written and spoken English is sufficiently high for them to fully engage with the ReTraCE research, training and networking activities. Participating institutions might also have specific rules in place for testing English proficiency.

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<sup>1</sup>Correction coefficients can be retrieved at the following link:

[http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-msca\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-msca_en.pdf)

## **Selection Process**

All applications must be completed according to individual institutional procedures, which can be accessed from this document clicking on associated links.

Candidates are encouraged to apply to multiple positions (please, see related links).

General enquiries can be directed at the email address [retrace@sheffield.ac.uk](mailto:retrace@sheffield.ac.uk) and to local coordinators (whose emails are specified for each individual project).

Local ReTraCE Recruitment Committees will shortlist candidates for each individual position. Specific arrangements will be communicated for each position; in general, candidates could be expected to deliver a 20-minute presentation about their proposed research project within the framework of the ESR position they are applying for.

Selected ESRs are to start their research as quickly as possible (target: 1<sup>st</sup> May 2019).

## **Main Duties and Responsibilities**

Applicants are expected to have an outstanding education record, be highly motivated and proactive, have excellent organisation and communication skills, be able to work independently as well as in a team, and be eager to disseminate research results through publications and presentations at international conferences and seminars. Fluency in English is a prerequisite. Women are especially encouraged to apply.

In general, all ESR positions will be dealing with the following main duties:

- Conduct research into the design and development of novel research in each related theme in collaboration with researchers from the host institution as well as with those from the entire ReTraCE network.
- Undertake reporting requirements for the project, present results to collaborators, to members of the research group and to external audiences.
- Read academic papers, journals and textbooks and attend conferences to keep abreast of developments.
- Prepare journal papers and presentations either in-house or at national/international conferences or seminars to disseminate research findings.
- Write supporting documents to contribute to and support the work of the research group, e.g. reports, interim reports and grant applications.
- Carry out administrative roles as required; arranging project progress meetings, etc.
- Other duties, commensurate with the post and H2020-MSCA-ITN regulations.

Details of individual ESR projects are reported in the following; application webpages can be accessed by clicking on the associated links. Further details can be provided by the main contacts listed for each of the projects.

### ESR1

**Host Institution:** The University of Sheffield (UK)

**Project Title:** *Measuring and improving the Circular Economy potential of supply chains*

**Objectives:** (i) To develop a review of existing applications of Circular Economy at a supply chain level; (ii) To develop an indicators' system for measuring the *Circular Economy* potential of existing supply chains; (iii) To identify suitable interventions for the improvement of the *Circular Economy* potential of existing supply chains; (iv) To identify and characterise suitable strategies and collaborative mechanisms for the adoption of such interventions at a supply chain level; (v) To develop mathematical models for describing such strategies and mechanisms, along with their effectiveness.

**Required Background and Skills:** MSc in Industrial Engineering, Operational Research, Operations Management or related topics. Good knowledge of Operational Research methods.

**Main Contact:** Dr Andrea Genovese, [a.genovese@sheffield.ac.uk](mailto:a.genovese@sheffield.ac.uk)

Click [here](#) to apply for the ESR1 position

### ESR2

**Host Institution:** The University of Sheffield (UK)

**Project Title:** *Models and methods for the design of Circular Supply Chains*

**Objectives:** (i) To review the extant literature about network design models for circular (openloop and closed-loop) supply chains; (ii) To identify research gaps (also in terms of identifying challenges to link academic understanding to the real-world business organisations); (iii) To develop scalable models and methods (capable of dealing with big and diverse data) for supporting real-world organisations in designing their circular (open-loop and closed-loop) supply chains by addressing complex logistical and reverse logistical problems (location issues, transportation and consolidation problems). (iv) To develop decision support systems to optimise the overall performance of circular supply chains.

**Required Background and Skills:** MSc in Industrial Engineering, Operational Research, Operations Management or related topics. Good knowledge of Operational Research methods.

**Main Contact:** Dr Andrea Genovese, [a.genovese@sheffield.ac.uk](mailto:a.genovese@sheffield.ac.uk)

Click [here](#) to apply for the ESR2 position

### ESR3

**Host Institution:** The University of Kassel (Germany)

**Project Title:** *Risk management in multi-tier circular supply chains*

**Objectives:** (i) To understand the environmental, social and economic risks related to the operationalisation of multi-tier circular supply chains that may hinder the implementation of a Circular Economy. (ii) To develop a number of company cases as a first exploratory stage of the research; (iii) To develop a large-scale survey based data collection about risk management practices in circular supply chains; (iv) To develop a predictive model (based on Structural Equation Modelling) linking risk management practices and expected performances in multi-tier circular supply chains.

**Required Background and Skills:** MSc in Industrial Engineering, Operations and Supply Chain Management or related topics. Knowledge of empirical research and statistical methods.

**Main Contact:** Prof. Stefan Seuring, [seuring@uni-kassel.de](mailto:seuring@uni-kassel.de)

Click [here](#) to apply for the ESR3 position

#### **ESR4**

**Host Institution:** The University of Kassel (Germany)

**Project Title:** *Relationship management in circular supply chains*

**Objectives:** (i) To analyse relationships among different actors within a multi-tier circular supply chain (CSC) and improve the implementation of CSCs. (ii) To analyse the influence and the importance of leadership styles for the implementation and stability of CSCs; (iii) To develop a survey about relationship management and leadership practices in CSCs for understanding how these impact on the performance of supply chains. (iv) To develop a predictive model (based on Structural Equation Modelling) linking relationship management and leadership practices and expected performances in CSCs.

**Required Background and Skills:** MSc in Industrial Engineering, Operations Management, Supply Chain Management or related topics. Good knowledge of empirical research and statistical methods.

**Main Contact:** Prof. Stefan Seuring, [seuring@uni-kassel.de](mailto:seuring@uni-kassel.de)

Click [here](#) to apply for the ESR4 position

#### **ESR5**

**Host Institution:** Parthenope University of Naples (Italy)

**Project Title:** *Assessment of environmental costs and benefits of product reuse/recycling*

**Objectives:** (i) To develop integrated biophysical assessment tools (based on the integration of LCA and Emergy Accounting) for monitoring and measuring costs & benefits, environmental impacts, progresses and bottlenecks of production systems in their pathway towards increased circularity (at micro and meso levels); (ii) To design a set of performance indicators to describe the environmental impact of recovery and disposal processes; (iii) To identify regulatory, organisational and technical solutions that are capable to remove barriers and promote increased circularity in the field of manufacturing industries; (iv) To test the tool applicability to applicability to a selection of real-world case studies (e.g.: construction materials, road materials, metals). (v): To design and model broad scale circularity scenarios, to assess costs and benefits of chosen solutions and their impacts on users (urban, regional, national economy).

**Required Background and Skills:** MSc in Environmental Science or related topics. Good knowledge of Environmental Accounting methods.

**Main Contact:** Prof. Sergio Ulgiati, [sergio.ulgiati@uniparthenope.it](mailto:sergio.ulgiati@uniparthenope.it)

Click [here](#) to apply for the ESR5 position

#### **ESR6**

**Host Institution:** Parthenope University of Naples (Italy)

**Project Title:** *Recovery of energy and materials from collection and treatment of organic residues*

**Objectives:** (i) To evaluate circular patterns for treatment/recovery/disposal of urban waste organic residues, agricultural residues, industrial residues towards bioenergy and platform chemicals production via biological conversion (specific case studies: waste cooking oil, slaughterhouse waste, wastewater sludge and fermentation digestate); (ii) To identify the benefits related to the implementation of industrial eco-parks in terms of industrial organic waste and wastewater treatment, exchange of still usable resource flows, and agro-industrial integration (composting, fertirrigation, bioconversion); (iii) To evaluate to what extent the demand for energy, biomaterials, chemicals and fertilizers of the Campania Region (Italy) can be met by creating

appropriate loops of resources and what are the needed processes and infrastructures in order to provide an understanding and a procedure which can be applied to other local and regional economies.

**Required Background and Skills:** MSc in Environmental Science or related topics. Good knowledge of Environmental Accounting methods.

**Main Contact:** Prof. Sergio Ulgiati, [sergio.ulgiati@uniparthenope.it](mailto:sergio.ulgiati@uniparthenope.it)

Click [here](#) to apply for the ESR6 position

### ESR7

**Host Institution:** Olympia Electronics S.A (Greece); PhD enrolment at Parthenope University of Naples (Italy)

**Project Title:** *Material streams identification and evaluation*

**Objectives:** (i) To develop methodologies for material streams identification and evaluation in selected industries; (ii) To identify regulatory, organisational and technical solution that are capable to remove barriers and promote increased circularity in selected industries; (ii) To identify and evaluate circular patterns in selected industries (with particular focus on electric and electronic equipment industry); (iii) To identify and evaluate the potential of establishing EcoIndustrial Parks for selected industries (with particular focus on electric and electronic equipment industry).

**Required Background and Skills:** MSc in Environmental Science, Industrial Engineering, Supply Chain Management or related topics. Good knowledge of Environmental Accounting and Statistical methods.

**Main Contact:** Mrs. Sissy Fotopoulou, [sfotopoulou@olympia-electronics.gr](mailto:sfotopoulou@olympia-electronics.gr)

Click [here](#) to apply for the ESR7 position

### ESR8

**Host Institution:** Tata Steel (UK); PhD enrolment at University of Sheffield (UK)

**Project Title:** *Methods and tools for evaluating the life cycle cost of new products based around the Circular Economy*

**Objectives:** (i) To identify how key sectors (such as steel, construction and automotive) typically evaluate life cycle cost and perform monetary valuation of externalities; (ii) To identify appropriate methods for including social & environmental externality costs within conventional whole life cost models; (iii) To develop life cycle cost models for evaluating product innovations relating to the Circular Economy particularly in the context of extending product life and reuse; (iv) To utilise such techniques for performing comparisons of linear and circular production systems (for improving life-cycle costing estimates).

**Required Background and Skills:** MSc in Environmental Science/Engineering or related topics. Good knowledge of Environmental Accounting using techniques such as Life Cycle Assessment.

**Main Contact:** Dr Nick Coleman, [nick.coleman@tatasteelurope.com](mailto:nick.coleman@tatasteelurope.com)

Click [here](#) to apply for the ESR8 position

### ESR9

**Host Institution:** University of Kent (UK)

**Project Title:** *Assessing economic efficiency of the Circular Economy*

**Objectives:** (i) To establish a framework of definition for assessing the economic efficiency of the Circular Economy; (ii) To identify the critical factors, key assumptions and constraints in the



development of models for assessing the economic efficiency of the Circular Economy; (iii) To develop models (based on Input-Output and Computable General Equilibrium frameworks) for assessing Circular Economy economic efficiency based on both the definition framework and the critical factors, key assumptions and constraints; (iv) To provide case-based examples of the implementation of the Circular Economy economic efficiency models across different stages of the Circular Economy value chain network (products, processes, firms, industries and economywide) in the European context; (v) Based on different Circular Economy opportunity and growth scenarios, validate the economic efficiencies that need to be achieved for the delivery of the different scenarios.

**Required Background and Skills:** MSc in Management Science, MSc/MA in Economics or related topic. Good knowledge of Computational General Equilibrium frameworks, InputOutput Analyses and good numerical modelling skills.

**Main Contact:** Dr Adolf Acquaye, [A.A.Acquaye@kent.ac.uk](mailto:A.A.Acquaye@kent.ac.uk)

Click [here](#) to apply for the ESR9 position

### ESR10

**Host Institution:** ABIS - Academy of Business in Society (Belgium), in collaboration with University of Exeter (UK) for completion of the PhD

**Project Title:** The discourse of Circular Economy in the EU policy and public debate

**Objectives:** i) To analyse the Discourse of the Circular Economy in the European Union and to map and its regulatory development. ii) To analyse the origin, adoption and diffusion of the Circular Economy strategy at the level of the European Union institutions; iii) To identify and analyse the networks of stakeholders that participated in the construction of the discourse around the Circular Economy in the European context; iii) To compare the Circular Economy strategy as defined by the European Union with possible alternative framings that emerge from stakeholders' activities or other regulatory environments.

**Required Background and Skills:** MSc/MA in Management, Political Economy, Ecological Economics, Political Ecology, Science and Technology Studies or related topics. Qualitative research methods in particular Critical Discourse Analysis, Content Analysis and Ethnographic Methods. Knowledge of French will be considered an asset

**Main Contact:** Dr Mario Pansera, [mario.pansera@abis-global.org](mailto:mario.pansera@abis-global.org)

Click [here](#) to apply for the ESR10 position

### ESR11

**Host Institution:** Dalarna University (Sweden)

**Project Title:** *The Circular Economy in a Free-Market Context*

**Objectives:** (i) To review current applications of Circular Economy in the international context (mainly at meso and macro levels); (ii) To investigate the applicability in the European context, mainly characterised by self-organized systems (free-market economic principles) and in national contexts characterised by different rates of growth/de-growth; (iii) To understand and analyse empirically the role of financial and fiscal policies and incentives to boost the transition to CE.

**Required Background and Skills:** MSc in Economics, Statistics, Operational Research, Computer Science or related topics. The candidate is required to have completed an empirically focused MSc thesis/dissertation and have a good command of at least five of the following subjects (or equivalent): Database systems, Data Analysis and Statistics, Introduction to

artificial neural networks, Introduction to object oriented programming, Mathematics, Microeconomics, Optimization Techniques and probability theory.

**Main contact:** Dr Catia Cialani, [cci@du.se](mailto:cci@du.se)

Click [here](#) to apply (select PhD research student in Microdata Analysis) **for the ESR11 position**

### ESR12

**Host Institution:** Rotterdam School of Management, Erasmus University (Netherlands) **Project Title:** *What theory of value for a Circular Economy?*

**Objectives:** i) To understand the key differences, if any, between traditional linear and circular economies in terms of value creation; ii) To review current theories of value creation, including both subjective ones (e.g., preference- or utility-based) and intrinsic ones (e.g. cost-based, energybased); iii) To investigate the applicability of current value-creation theories to a Circular Economy; iv) To develop a novel value creation theory for CE systems.

**Required Background and Skills:** MSc/MA in Political Economy, Ecological Economics, Political Ecology, Science and Technology Studies or related topics.

**Main Contact:** Dr. Murat Arsel, [arsel@iss.nl](mailto:arsel@iss.nl)

### ESR13

**Host Institution:** SEERC - The South-East European Research Centre (Greece)

**Project Title:** *Regional development and governance for the transition to the Circular Economy*

**Objectives:** (i) To identify core actors and institutions that could support the transition to a Circular Economy through policy development and implementation in regional contexts; (ii) To provide insight to the development of socially inclusive and responsible mechanisms of local governance for the transition to a Circular Economy. (iii) To identify metrics and indicators of CE-based regional development and to understand how different stakeholders actors influence them; (iv) To identify drivers and barriers to the implementation of regional policies for the transition towards a Circular Economy (e.g. incentives, skills, environmental regulations or establishment of industrial eco-parks).

**Required Background and Skills:** Postgraduate degree (MSc/MA) in a related field (sustainability, management, operations, economics, production systems, regional studies). Good understanding of regional actors/stakeholders and their collaboration (innovation, industry, government, society). Proven quantitative & qualitative research skills. Previous experience in multi-stakeholder collaboration.

**Main Contact:** Dr Adrian Solomon, [asolomon@seerc.org](mailto:asolomon@seerc.org)

Click [here](#) to apply for the **ESR13 position**

### ESR14

**Host Institution:** SEERC - The South-East European Research Centre (Greece)

**Project Title:** *Consumer perception and the transition to the Circular Economy*

**Objectives:** (i) To identify how consumers perceive Circular Economy (by focusing on key related practices) and its role in societal development and regional growth; (ii) To identify the mechanisms that influence consumers perception towards the adoption of CE practices; (iii) To provide insight to the development of new services aimed at the filling current gaps in the adoption of CE practices by consumers, also understanding the potential of services currently provided by the informal sector.



**Required Background and Skills:** Postgraduate (MSc/MA) degree in a related field (sustainability, management, economics, operations, social sciences, regional studies, marketing). Good understanding of consumer behaviour. Proven quantitative and qualitative research skills. Previous experience in consumer behavior assessment. Awareness of the circular economy market.

**Main Contact:** Dr Adrian Solomon, [asolomon@seerc.org](mailto:asolomon@seerc.org)

Click [here](#) to apply for the ESR14 position

### [ESR15](#)

**Host Institution:** Rotterdam School of Management, Erasmus University (Netherlands)

**Project Title:** *Bottom-up circular business model innovation*

**Objectives:** (i) To identify, map and categorise how circular business models emerge from the bottom-up through the self-regulated interaction of networks of stakeholders e.g. such as firms, grassroots organizations, local communities, cooperatives, public bodies; (ii) To identify and analyse the risks, limits and barriers to the diffusion and survival of circular business model innovation throughout the entire firm lifecycle; (iii) To provide insight to incentivise the bottom-up emergence and survival of circular business model innovation.

**Required Skills:** MSc/MA in Management, Sustainable Business, Organizational Studies, Innovation, Ecological Economics, Political Ecology, Science and Technology Studies or related topics. Awareness of qualitative research methods, in particular Grounded Theory, Case Study approaches and Ethnographic Methods.

**Main Contact:** Dr Steve Kennedy, [skennedy@rsm.nl](mailto:skennedy@rsm.nl)

Click [here](#) to apply for the ESR15 position