



**The Role of  
Universities in  
Innovation and  
Regional Development**

# RUNIN Project Main Findings on Universities, Innovation and Regional Development

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*RUNIN meets Rogaland*  
Stavanger, Norway  
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# Agenda

1. RUNIN Work Packages and Initial Goals
2. WP 3: People and Networks
3. WP 4: Policies and Interventions
4. WP 5: Places and Territories
5. WP 6: Practices and Governance
6. Final Insights

# 1. RUNIN Work Packages and Initial Goals

Research Theme	Main Linkages Explored	Main Approaches	Main Methods
<b>(3) People and Networks</b>	Networks of researchers with firm employees Student mobility to firms	Network analysis Analysis of learning and education	In-depth interviews Large-scale surveys Register data Case studies
<b>(4) Policies and Intervention</b>	Networks of universities with policy-makers	Policy analysis Higher education management Network analysis	Comparative analysis Case studies Large-scale surveys
<b>(5) Places and Territories</b>	Territorial context of university-firm networks Extra-regional linkages	Network analysis Regional systems analysis	In-depth interviews Large-scale surveys Register data Case studies
<b>(6) Practices and Governance</b>	Practices of interaction Governance of universities and networks	Financial performance analysis Strategy analysis Discourse analysis	Register data Comparative analysis Case studies Large-scale surveys

## 2. WP # 3 – People and Networks

### UNIVERSITY-INDUSTRY NETWORKS



**ESR 2:** Rhoda Ahoba-Sam (UL)

*“Networks of Individuals in University-Industry relationships”*

**Supervised by:** David Charles (NU).  
**Co-supervised by:** Dzamila Bienkowska (LiU).

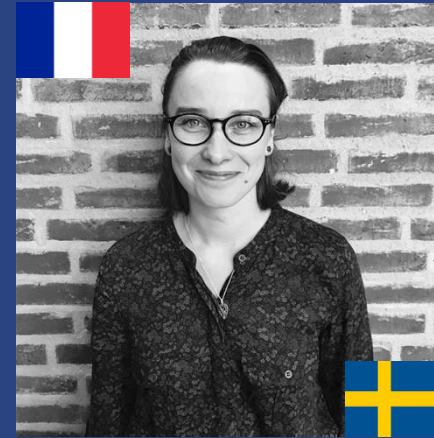


**ESR 3:** Gerwin Evers (AAU)

*“The role of university-industry interaction for regional industrial development”*

**Supervised by:** Christian Østergaard (AAU).  
**Co-supervised by:** Rebecca Herron (UL).

### DOCTORAL EDUCATION



**ESR 1:** Eloïse Germain-Alamartine (LiU)

*“Doctoral education in the entrepreneurial university: enhanced employability?”*

**Supervised by:** Magnus Klofsten (LiU).  
**Co-supervised by:** Pere Ortin (UAB).



**ESR 4:** Saeed Moghadam-Saman (UiS)

*“Intersectoral collaborations of doctoral researchers and generic skills acquisition – A critical realist inquiry”*

**Supervised by:** Bjørn Asheim (UiS).  
**Co-supervised by:** Magnus Klofsten (LiU).

## Networks of Individuals in University-Industry relationships

- **Motivation** of academics to engage locally:
  - presence of **regional advantages** relevant for advancing their research agenda.
- Academic networks exhibit **heterogeneous characteristics**:
  - explain academics' **causal and effectual** tendencies in decision-making.
- **International and local networks** are inter-linked and complementary:
  - sources of **new knowledge**;
  - required **relevance** to embed newly acquired knowledge.



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### LATEST PUBLICATIONS

Ahoba-Sam, R. (2019). *Why do academics engage locally? Insights from the University of Stavanger*. *Regional Studies, Regional Science*, 6:1, 250-264.

Ahoba-Sam, R. & Charles, D. (2019). *Building of Academics' Networks—An analysis based on Causation and Effectuation theory*. *Review of Regional Research*, 1–19.

RUNIN WP 04/2018 Rhoda Ahoba-Sam, Maria Salomaa & David Charles. *On overcoming the barriers to regional engagement: Reflections from the University of Lincoln*.

## The role of university-industry interaction for **regional industrial development**

- The establishment of a university can be used as policy instrument to **revitalize peripheral regions**:
  - example of Aalborg university and its region.
- Through human capital production universities can support **regional economic specialization**:
  - importance of degrees related to local industrial specialization.
- Firms **refocus their hiring** when collaborating with a university:
  - to absorb university knowledge through graduates.



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### LATEST PUBLICATIONS

Evers, G. (2019). *The impact of the establishment of a university in a peripheral region on the local labour market for graduates*. *Regional Studies, Regional Science*, 6:1, 319-330.

RUNIN WP 11/2018 Gerwin Evers. *The impact of the establishment of a university in a peripheral region on the local labour market for graduates*.

RUNIN WP 03/2018 David Fernández Guerrero & Gerwin Evers. *Co-creation of Localised Capabilities between Universities and Nascent Industries: The Case of Aalborg University and the North Denmark Region*.

# Doctoral education in the entrepreneurial university: enhanced **employability**?

## Research highlights:

- Doctoral education is **key** in the university's regional impact
- Main challenge: **PhDs' employability** outside academia
- The **entrepreneurial university model** is particularly relevant in this issue

## Main recommendations:

- **Entrepreneurial university management:** 'brand' doctoral education
- **Regional employers:** communicate needs and work with university
- **PhDs:** interact with employers
- **Other regional stakeholders:** create meeting opportunities (e.g. job fairs)



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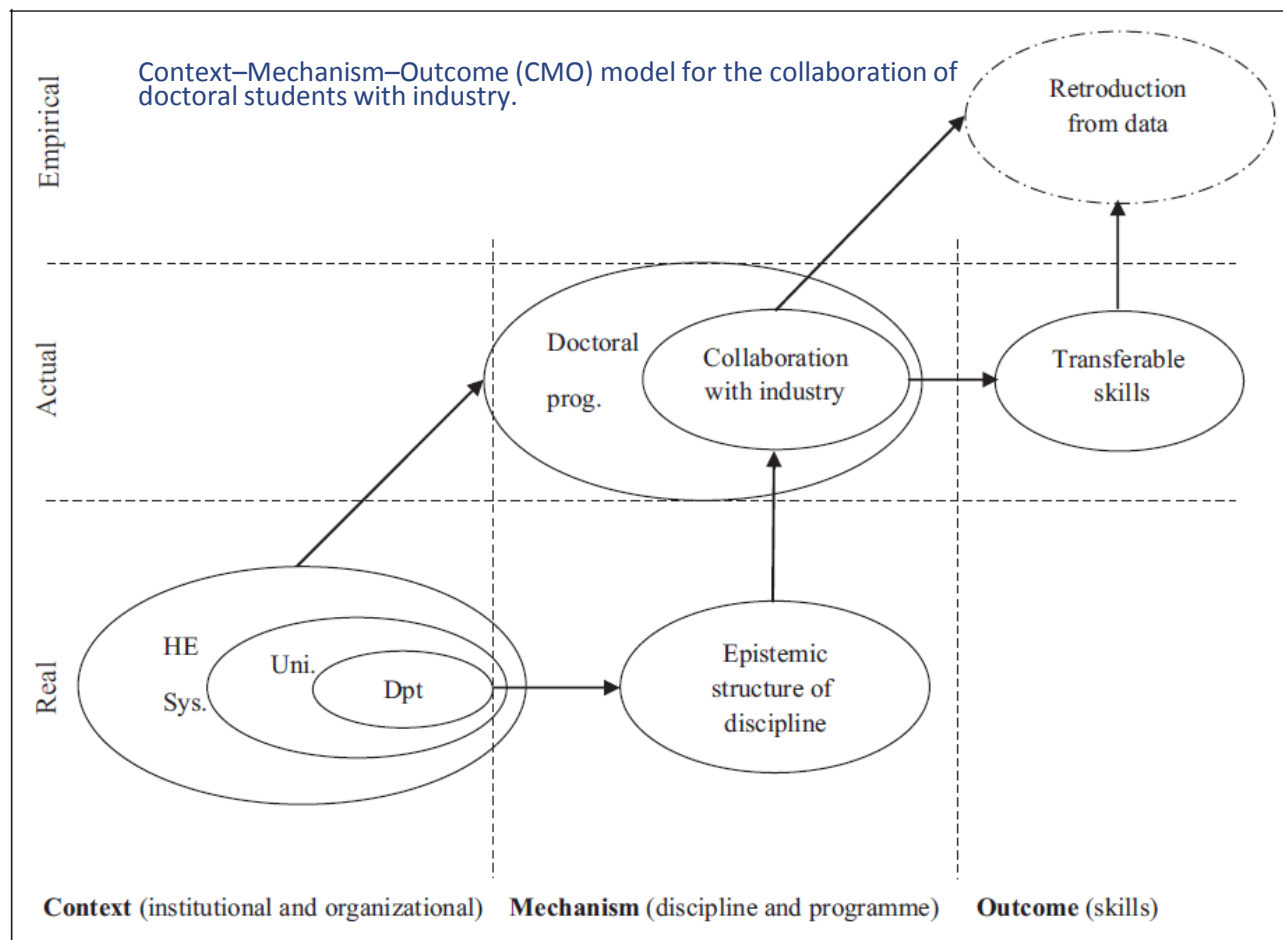
## LATEST PUBLICATIONS

Cadorin E., Germain-Alamartine E., Bienkowska D., Klofsten M. (2019) *Universities and Science Parks: Engagements and Interactions in Developing and Attracting Talent*. In: Kliewe T., Kesting T., Plewa C., Baaken T. (eds) *Developing Engaged and Entrepreneurial Universities*. Springer, Singapore

Germain-Alamartine E. & Moghadam-Saman S. (2019) *Aligning doctoral education with local industrial employers' needs: a comparative case study*, *European Planning Studies*.

Etzkowitz, H., Germain-Alamartine, E., Keel, J., Kumar, C., Smith, K. N., Albats, E. (2019) *Entrepreneurial university dynamics: Structured ambivalence, relative deprivation and institution-formation in the Stanford innovation system*. *Technological Forecasting and Social Change*, 141, 159-171.

# Intersectoral collaborations of doctoral researchers and generic skills acquisition: A critical realist inquiry



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## LATEST PUBLICATIONS

Moghadam-Saman, S. (2019). *Collaboration of Doctoral Researchers with Industry: A Critical Realist Theorization*. *Industry and Higher Education*.

Germain-Alamartine E. & Moghadam-Saman S. (2019) *Aligning doctoral education with local industrial employers' needs: a comparative case study*, *European Planning Studies*.

RUNIN WP 05/2019 - Saeed Moghadam-Saman. *How do mechanisms' 'tendency' within critical realism influence our understanding of structure-agency relations?*



## Intersectoral collaborations of doctoral researchers and generic skills acquisition: A critical realist inquiry

- Intersectoral collaboration opportunities depend on **academic disciplines**:
  - hard-applied and soft-pure disciplines vs. hard-pure and soft-applied disciplines
- Acquisition of **generic skills** :
  - more comprehensive when in parallel and in balance with the development of discipline-specific skills
- **Design of programmes**:
  - Collaborative doctoral programmes: **in close collaboration with industrial partners**
  - Generic skills courses: **at the department or faculty level** (rather than university level).



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### LATEST PUBLICATIONS

Moghadam-Saman, S. (2019). *Collaboration of Doctoral Researchers with Industry: A Critical Realist Theorization*. *Industry and Higher Education*.

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RUNIN WP 05/2019 - Saeed Moghadam-Saman. *How do mechanisms' 'tendency' within critical realism influence our understanding of structure-agency relations?*

### 3. WP # 4 – Policies and Interventions



**ESR 5:** Liliana Fonseca (UA)

*“The Role of Universities in Regional Innovation Policies and Practices”.*

**Supervised by:** Carlos Rodrigues (UA).  
**Co-supervised by:** Joan Lluís Capelleras (UAB).



**ESR 6:** Lisa Nieth (Twente Regio)

*“It takes both sides to build a bridge: Universities as institutional entrepreneurs in knowledge-based regional development”.*

**Supervised by:** Paul Benneworth (UT).  
**Co-supervised by:** David Charles (NU).



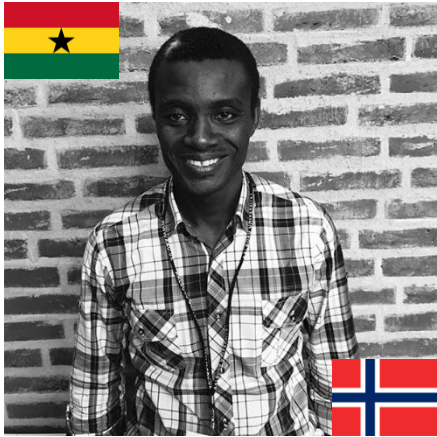
**ESR 7:** Maria Salomaa (UL)

*“Entrepreneurial universities, rural regions: A comparative analysis on university engagement through Structural Funds programmes in the UK, Finland and Portugal”.*

**Supervised by:** David Charles (NU).  
**Co-supervised by:** Ana Daniel (UA).

***Main findings and outputs on Policies and Interventions will be presented by this Work Package team in the next presentation.***

## 4. WP # 5 – Places and Territories



**ESR 8:** Kwadwo Atta-Owusu (UiS)

*“Universities’ agency in territorial knowledge networks: understanding the determinants of knowledge exchange behaviours in external interactions”.*

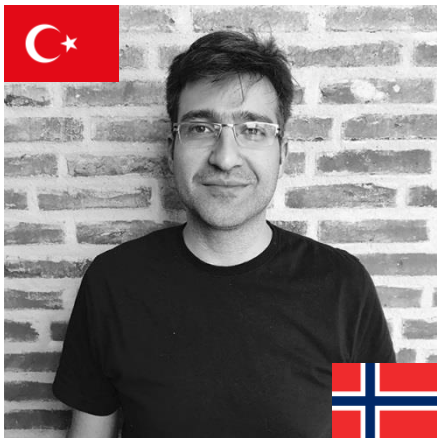
**Supervised by:** Rune Dahl Fitjar (UiS).  
**Co-supervised by:** Paul Benneworth (UT).



**ESR 9:** David Fernández Guerrero (AAU)

*“Exploring the drivers of industry-university collaboration in metropolitan and non-metropolitan regions. A comparative study”.*

**Supervised by:** Ina Drejer (AAU).  
**Co-supervised by:** Artus da Rosa Pires (UA).



**ESR 10:** Utku Ali Riza Alpaydin (UiS)

*“University-Industry Collaborations: A Matter of Proximity Dimensions?”.*

**Supervised by:** Rune Dahl Fitjar (UiS).  
**Co-supervised by:** Christian Østergaard (AAU).

## Universities' agency in territorial knowledge networks: understanding the **determinants of knowledge exchange behaviours** in external interactions

- Academics with extensive networks can help mitigate innovation deficiencies of peripheral regions by acting as **network connectors and channels** for external knowledge flow.
- Knowledge exchange interactions of academics are largely driven by **intrinsic motivation and sense of attachment to a region**.
- Perception of fairness in distribution of rewards by university authorities **does not exhibit any effect** on knowledge exchange interactions.
- University characteristics are much less important **than firm characteristics** in developing university-industry collaborations.
- Whereas regional universities' pursuit of scientific excellence have **adverse impact** on UICs at the local level, firms' cooperation with external partners have **opposite effect**.



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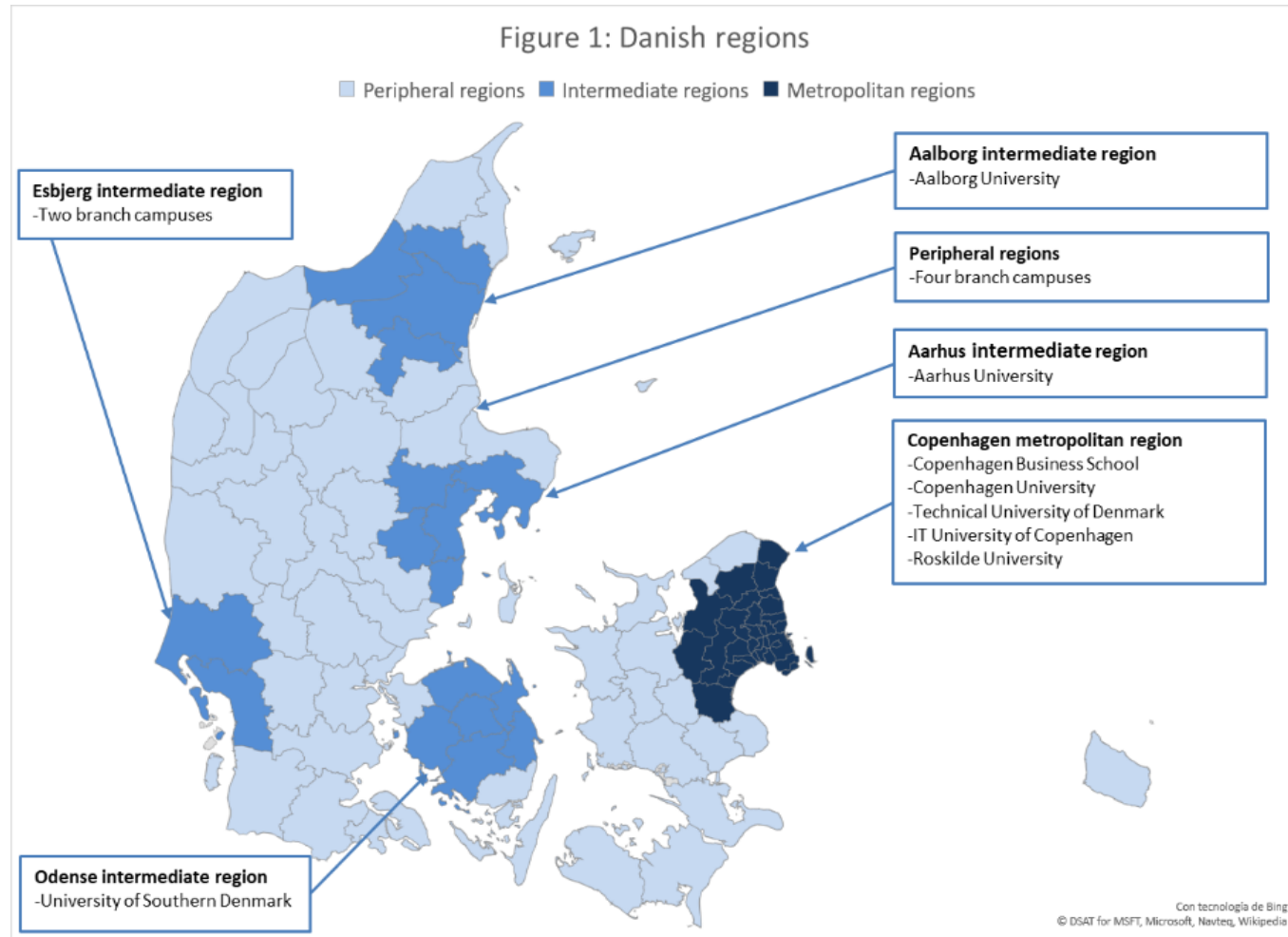
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### LATEST PUBLICATIONS

Atta-Owusu, K. (2019). *Oasis in the desert? Bridging academics' collaboration activities as a conduit for global knowledge flows to peripheral regions*. *Regional Studies, Regional Science*, 6:1, 265-280

RUNIN WP 05/2018 Utku Ali Rıza Alpaydın, Kwadwo Atta-Owusu, Saeed Moghadam-Saman. *The Role of Universities in Innovation and Regional Development: The Case of Rogaland Region*.

# Exploring the drivers of industry-university collaboration in metropolitan and non-metropolitan regions. A comparative study



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## LATEST PUBLICATIONS

RUNIN WP 03/2018 David Fernández Guerrero & Gerwin Evers. *Co-creation of Localised Capabilities between Universities and Nascent Industries: The Case of Aalborg University and the North Denmark Region.*

## Exploring the drivers of industry-university collaboration in **metropolitan and non-metropolitan regions**. A comparative study

### MAIN RESULTS

- In some cases (firms hiring of graduates; or collaborating with technical research institutes), **firms in peripheral regions are more likely to collaborate with universities** than in other regions
- **Local universities play a proactive role** in starting relationships with SMEs from sectors traditionally not linked to university research. Pressures from customers and competitors incentivise these SMEs to develop university links into full-blown collaborative research.

### RECOMMENDATIONS

- **Financing third mission activities** oriented to support regional businesses' innovative activities
- **Financing graduate employee voucher schemes**
- **Incentivising collaboration** between firms and technical research institutes; and tripartite collaborations also involving universities
- **Incentivising interactions** between firms and customers



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## University-Industry Collaborations: A Matter of Proximity Dimensions?

### MAIN RESULTS

- **UICs are not limited to patents, publications;** other mechanisms are more prevalent.
- UICs happen mostly in the local sphere, but **differences in terms of UIC types** should be acknowledged.
- The **effect/significance of dimensions varies** and mostly depends on the type of UIC.

### RECOMMENDATIONS

- Discern the richness and heterogeneity of UIC types and develop policies accordingly
- Nurture local relationships and equally take steps to ensure extra-regional knowledge flows.
- Invest in absorptive capacity of firms and allow flexibility for universities for research-oriented interactions.
- Foster sustainability of collaborations (repetitive collaborations) for commercial results such as patents and spin-offs.
- Increase the effectiveness of joint organizational structures (collaborative research centres, TTOs).



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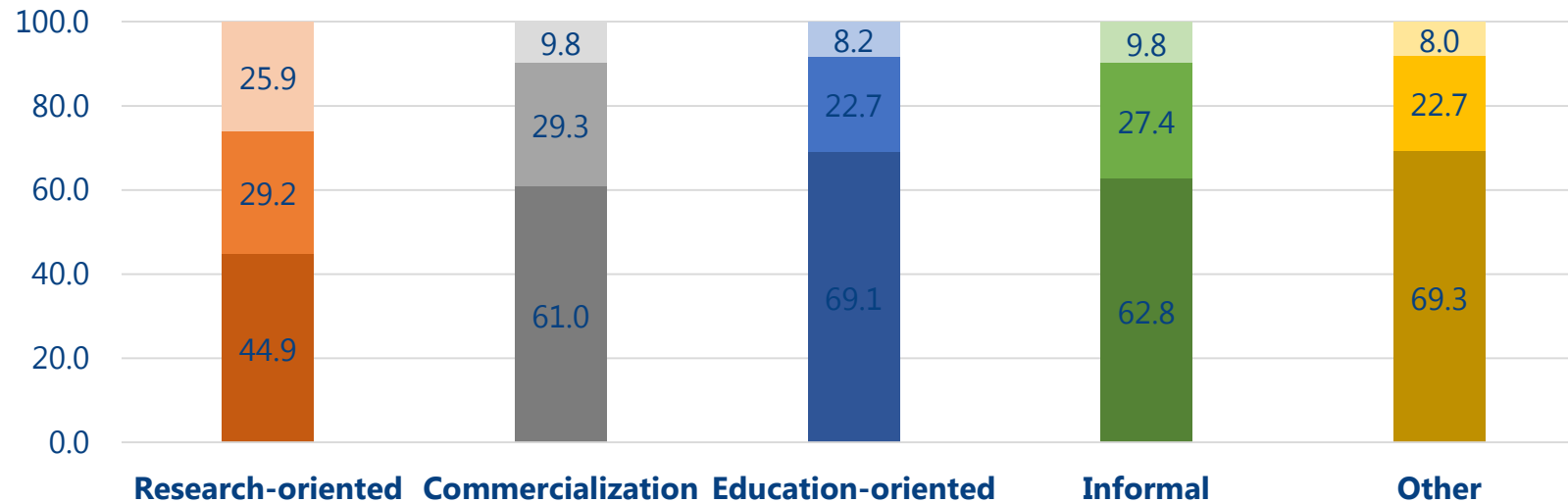
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### **LATEST PUBLICATIONS**

Alpaydin, U. (2019). *Exploring the spatial reach of co-publication partnerships of multinational enterprises: to what extent does geographical proximity matter?* *Regional Studies, Regional Science*, 6:1, 281-298

RUNIN WP 05/2018 Utku Ali Riza Alpaydin, Kwadwo Atta-Owusu, Saeed Moghadam-Saman. *The Role of Universities in Innovation and Regional Development: The Case of Rogaland Region.*

## University-Industry Collaborations: A Matter of Proximity Dimensions?



Effect of Proximity Dimensions	
<b>Research-oriented interactions</b>	(+) Cognitive proximity (+) Institutional proximity (-) Geographical proximity
<b>Commercial-oriented interactions</b>	(+) Social proximity
<b>Informal interactions</b>	(-) Organizational proximity



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Alpaydin, U. (2019). *Exploring the spatial reach of co-publication partnerships of multinational enterprises: to what extent does geographical proximity matter?* *Regional Studies, Regional Science*, 6:1, 281-298

RUNIN WP 05/2018 Utku Ali Riza Alpaydin, Kwadwo Atta-Owusu, Saeed Moghadam-Saman. *The Role of Universities in Innovation and Regional Development: The Case of Rogaland Region.*



## 5. WP # 6 – Practices and Governance



**ESR 11:** Sergio Manrique (UAB)

*“Assessing the impact of university-firm collaboration on firm performance and regional development”.*

**Supervised by:** Emili Grifell-Tatjé (UAB).

**Co-supervised by:** Ragnar Tveteras (UiS).



**ESR 12:** Sofya Kopelyan (UT)

*“New modes of university governance for dynamic regional stakeholder engagement”.*

**Supervised by:** Paul Benneworth (UT) and Harry de Boer (UT).

**Co-supervised by:** Dzamila Bienkowska (LiU).



**ESR 13:** Ridvan Cinar (UA)

*“Culture, the changing nature of innovation and institutional challenges to universities”.*

**Supervised by:** Artur da Rosa Pires (UA).

**Co-supervised by:** Paul Benneworth (UT).



**ESR 14:** Huong Thu Nguyen (UAB)

*“From triple to quadruple helix: the role of society / citizens / customers in innovation”.*

**Supervised by:** Pilar Marquès (UAB).

**Co-supervised by:** Ina Drejer (AAU).

# Assessing the **impact** of university-firm collaboration **on firm performance** and regional development

- Informal factors such as **trust and personal networks play a key role in the development and consolidation of R&D partnerships.**
- **Firms benefit** from University-Firm Collaboration in terms of **R&D outputs** (innovative products, patent production) as well as in **intrapreneurship, talent acquisition** and a **high level scientific environment.** Such partnerships also generate positive effects in universities and their regions.

- **Firms from the chemicals industry in Spain that collaborate with University.**
  - \* Obtain higher revenues from innovative products.
  - \* Invest more in R&D capital and pay more to R&D staff.
  - \* **Perform higher innovation-related profitability.**
- This **profitability gap** can be decomposed in:  
Technology gap \* Technical efficiency gap \* Size effect \* Price recovery gap

- Multidimensional Approach for Research Impact Assessment (**MARIA Model**): **Responsiveness, Accessibility, Reflexivity, Ecology** and **Adaptability**, as impactful attributes of research.



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## Sergio Manrique



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### LATEST PUBLICATIONS

RUNIN WP 02/2019 - Sergio Manrique.  
**Exploring the Impact of University-Firm Collaboration on Regional Development: The Spanish Case.**

Manrique, S., Wróblewska, M. & Good, B. (2019). **Rethinking Research Impact Assessment: A Multidimensional Approach.** *Fteval Journal for Research and Technology Policy Evaluation*, 48, 161-177.

RUNIN WP 12/2018 - Sergio Manrique.  
**Personal Networks and Trust in Public-Private R&D Partnerships: A Case Study from Spain.**

# University governance in the times of ‘mission stretch’: Implications for the regional mission

## MAIN RESULTS

- Recognition of **four distinct identity types** amongst regionally engaged academics.
- Demonstration of how strategic, scholastic, and stakeholder narratives can **frame the regional mission as institutionally unimportant**.
- Identification of reasons why certain innovative organisational structures **have not added substantial value** to the implementation of the regional mission.

## RECOMMENDATIONS

- **Optimise the mix of identity profiles** in universities’ academic teams to make the pursuit of strategic regional mission objectives more actionable.
- **Reconsider and reformulate strategic narratives** that drive regional engagement at the operational level.
- Make provision **for expanding the actorhood of existing institutional entrepreneurs** who are able to align partners around regional projects.

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## LATEST PUBLICATIONS

RUNIN WP 10/2018 Sofya Kopelyan. Academic ‘boundary work’ in a regionally engaged university

RUNIN WP 02/2018 Sofya Kopelyan & Lisa Nieth. Regional Mission Impossible? The Twente Region and the University of Twente

## Culture, the changing nature of innovation and institutional challenges to universities

- Innovation landscape in Europe has changed significantly over the last four decades and these changes are marked by 3 critical junctures; 1983-1986 (economic, social and political integration of Europe), 1995-2000 (transition from industrial to information society) and 2008-2012 (the shift towards a place based approach).
- Culture itself as a concept is evolving to a degree where the distinction between cultural/art producer and cultural/art consumer has become less and less clear. This has important implications for universities and creates challenges such as new geographies of innovation, new societal partners for innovation.
- Universities are not exempt from the dominant technoeconomic understanding of the innovation and thus they have difficulty in mobilizing their resources systematically to support social innovation.
- Natural resource-based innovations through valorization of waste and sidestream is a legitimate and well-supported university activity that has become sedimented but there seems to be both external and internal factors that threaten the sedimented structure.



universidade  
de aveiro



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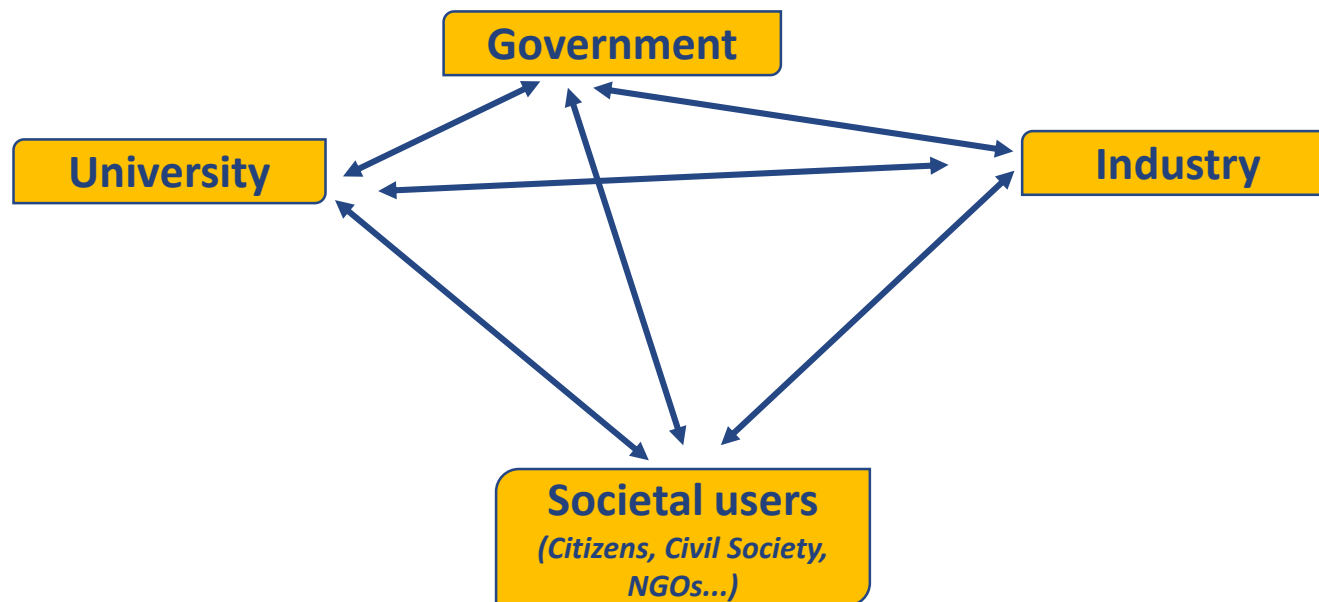
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### LATEST PUBLICATIONS

RUNIN WP 01/2017 Liliana Fonseca & Ridvan Cinar. *Engaged and Innovative Universities in Less-Developed Regions The Case of the University of Aveiro*

Cinar, Ridvan (2019). *Delving into social entrepreneurship in universities: is it legitimate yet?* *Regional Studies, Regional Science*, 6:1, 217-232.

## From triple to **quadruple helix**: the role of society / citizens / customers in innovation



*Elaborated based on Carayannis and Campbell (2009)*

A balancing act between:

- Regional mission vs Internationalisation
- Triple Helix actors vs Societal users (Power relationships)
- Expectation vs Real performance
- Network vs Individual (organisation) benefits

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### LATEST PUBLICATIONS

Nguyen, Huong, & Marques, Pilar (2018). *Implementing the quadruple helix of innovation: Exploring challenges*. ISPIM Innovation Symposium; Manchester : 1-12. Manchester: The International Society for Professional Innovation Management

RUNIN WP 02/2017 Sergio Manrique & Huong Nguyen. *Balancing Regional Engagement and Internationalisation The Case of Autonomous University of Barcelona*

## 6. Final Insights

### Work Package # 3 People and Networks

- Better understanding of how university-industry networks function at the **individual level, in the light of regional development**:
  - Types of networks, motivations, mechanisms.
- **Focus on doctoral education** to increase university-industry interactions and support regional development, through the enhancement of graduates' employability.

### Work Package # 5 Places and Territories

- Better understanding of **knowledge networks and exchange** in university-industry collaboration at **peripheral regions**.
- Revealing **differences of non-metropolitan regions** for university-industry collaboration and industrial development.
- Conceptual and empirical advancements in **the proximity dimensions** of university-industry collaboration.

### Work Package # 6 Practices and Governance

- Understanding the **innovation-related financial impact** of collaboration with university.
- Better understanding of **academics engagement** and **regional mission** in the context of **universities' governance**.
- The role of **evolving culture** in the **understanding of innovation** and its effect on universities.
- Conceptual and empirical advancements in the **role of civil society** in innovation systems.



**The Role of  
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**Tusen Takk!**

For more info:  
[runinproject.eu](http://runinproject.eu)