

***Deciphering the New Challenges to Universities:***

***Knowledge Economy and its impact on universities in terms of internal organization, relations to firms, and public policy***

**Monday 11th September – Wednesday 13th September 2017**

Monday 11th and Tuesday 12th: Ågrenska Villa

Wednesday 13th: Viktoriagatan 13, Room: Viktoriasalen

***Organized by:***

Maureen McKelvey, Professor at IIE

Guido Buenstorf, Professor, University of Kassel and Visiting Professor at IIE

Astrid Heidenmann Lassen, Associate Professor, Aalborg University & Visiting Professor at IIE

Ethan Gifford, PhD and Post-doctoral Scholar

***Institute of Innovation and Entrepreneurship (IIE)***

Department of Economy and Society, School of Business, Economics and Law (Handelshögskolan), University of Gothenburg, [www.handels.gu.se/iie](http://www.handels.gu.se/iie)

***Workshop sponsored by:***



* Handelshögskolan: Partnersprogrammets internationaliseringsstöd
* Handelshögskolan: Visiting Professors Program
* IIE: Department of Economy and Society, Institute of Innovation and Entrepreneurship (www.handels.gu.se/iie)
* IMIT: Institute for Management of Innovation and Technology (www.imit.se)

**Why this workshop?**

The purpose of workshop is to bring together a select group of researchers, to discuss leading current research on *“Deciphering the New Challenges to Universities: Knowledge Economy and its impact on internal organization, relations to firms, and public policy”.*

Our research is relevant for current societal debates. Key insights relate to how to recognize and measure scientific excellence; why there are tensions between autonomy and higher level decisions such as strategy and planning; and analyzing knowledge communities and networks in relation to individual, organizational and national institutional structures. Active debates are ongoing globally on these issues.

Traditionally, universities were seen as places of academic research and higher education. They tended to be loosely coupled organizations characterized by a high degree of professorial self-governance, exemplified by the professors’ privilege in relation to intellectual property and freedom to teach. New challenges have arisen in the shift to the knowledge economy.

To a larger extent than previously, universities have taken – or been forced to accept - additional missions and objectives, notably regarding technological innovation, societal impact and regional development. At the same time, the universities increasingly pursue organization-level strategies, and internal professional management and indicators are increasingly important, sometimes at the expense of professorial self-governance. Business and society expect more impact, and more direct impact, from universities and find new organizational forms to co-develop knowledge. Moreover, for public policy, science policy and innovation policy to encourage universities to stimulate business and social innovation are increasingly interdependent.

The workshop themes, in relation to our analysis of the new challenges of the knowledge economy are therefore:

* Theme 1: Inside the University
* Theme 2: University-Industry Interactions
* Theme 3: Universities’ Impact on Firms and/or Society

This workshop provides an opportunity to discuss these important topics, based on current research. We also give the opportunity for PhD students to present, as well as leading scholars, and encourage much discussion.

We wish to thank the sponsors listed on the first page! There are no workshop fees. IIE through the generous support of the Swedish Foundation for Humanities and Social Sciences (*Riksbanken Jubileumsfond*) and Handelshögskolans Partnersprogrammets internationaliseringsstöd will cover the cost of the locality, coffees and lunches as well as travel and hotel for invited guests.

This workshop is organized as part of the RJ research program headed by McKelvey, namely “How Engineering Sciences can Impact Industry in a Global World: A Longitudinal Study of Chalmers’ Interactions with Companies”.

We are working on a special issue of a journal. More information at the workshop.

**Practicalities:**

***Workshop times and location****:*

*NOTE! The workshop will be held at two separate locations!* Ågrenska Villan (Mon, Tuesday) and Viktoriagatan 13 (Wed).

On Monday September 11th (11:45 – 17:30) is at Ågrenska Villan, Högåsplatsen 2. Conference is held in Stenasalen, which is floor underneath the entrance floor. We have booked Mölnlyckerummet on 2nd floor as an extra work space / meeting room. Wifi is username guw81141 and password teNY-128

Dinner Monday is at 7:30 pm at Resturan Kometen, Vasagatan 28. Kometen is an iconic resturant in Gothenburg – where the design is retro and it has long been a meeting place for artists. Today, it is under the direction of Leif Mannerström, a famous Swedish chef.

Tuesday 12th (9:00-15:20 then coffee) is at Ågrenska Villan, Högåsplatsen 2. Conference is held in Stenasalen which is floor underneath the entrance floor. We have booked Mölnlyckerummet on 2nd floor as an extra work space / meeting room. Wifi is username guw81141 and password teNY-128

Tuesday 12th we end early, and then we will have dinner on a boat Strömma, with shrimp and fish buffet. The boat leaves from Lilla Bommens torg at 18:30 sharp. Student guides will leave the hotel Elite Park Avenue Hotel at 17:30 and walk to the boat in downtown Gothenburg. You need to be at the wharf by 18:00-18:15.

Wednesday September 13th (9:00 – 12:00) will take place at Viktoriasalen in Viktoriagatan 13. This building is where our offices are located. Go inside the main entrance, through to the open space in the back. The room is on the left. We have also booked the room A243 as an extra work space / meeting room. Wifi is eduroam.

***Hotel:***

Invited guests are staying at the Elite Park Avenue Hotel, Address: Kungsportsavenyen 36. The hotel is located on the central avenue in Gothenburg and a short walk to both workshop locations. The airport bus stops just outside as well as a taxi stand. Student guides will pick you up at hotel to walk to the locations.

***Presentations and discussants:***

Each paper is allocated a total of 35 minutes. That is 15 min presentation, followed by 5 min for the discussant and 15 min for general discussion and author responses.

***Dropbox:*** Presenters need to send their papers to Ethan Gifford (ethan.gifford@gu.se). All papers will then be made available in a joint Dropbox folder, but only to workshop participants. Please also send directly to your discussant.

***The weather:***Swedes say there is no bad weather, only bad clothing. An umbrella is advised as it may rain in Gothenburg in late summer and early fall. Expect to walk in the city and we will be on a boat for dinner on Tuesday.

***Food:***Please let Ethan know about special preferences concerning food (vegetarian, any allergies etc.) at least a week in advance!

***Contact information:***If you are delayed, please contact Ethan Gifford.

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**Monday September 11th :**

**Held at Ågrenska Villan, Högåsplatsen 2,from 11:45 to 17:30**

*11:30 Student guides leave from Elite Park Avenue Hotel*

*11:45-13:00 Lunch at Ågrenska Villan*

**13:15 -13:30 Opening of Workshop by Maureen McKelvey**

*Theme 1: Inside the University, Chair: Maureen McKelvey*

***13:30 – 14:05***

***Presentation by Guido Beunstorf***

***Discussant: Merle Jacob***

“How far is the reach of excellence in science policy? An analysis of spillover effects in German research funding”

by Guido Buenstorf and Johannes Koenig

Compared to other (notably Anglo-Saxon) countries, the German university system has traditionally been considered to be more homogenous in the quality and reputation of universities. Outright competition among universities was eschewed, and science policy used to emphasize their mission to provide highly-skilled graduates and help foster the economic and social development of their host regions. Even though research funding was far from evenly distributed across universities, the observed concentration of funding tended to be seen as undesirable – not least because of the strong positions that the German *Länder* have in education policy. However, in a policy shift that has remained controversial to date, the German federal government in the 2000s reoriented its research funding toward a stronger emphasis on academic excellence. This shift was epitomized by the *Exzellenzinitiative* of 2006. It has increased the concentration of *DFG* funds both at the university level and at the regional level. Critics argue that the new policy focus will lead to tail a stratified university system in which many universities may lose their capacity to engage in high-level research. In the long run, then, the majority of universities may be relegated to be mere teaching institutions. This might also entail stronger imbalances than were traditionally tolerated in universities’ capacity to support the development of their home regions through their research and engagement with the private sector. In this paper, we argue that whether such problematic repercussions of the shift toward excellence actually materialize strongly depends on the extent to which it affects other sources of research funding besides the *Exzellenzinitiativ*e itself and the *DFG* funding more broadly. We use panel data on the full population of German universities and adopt a difference-in-difference approach to study whether spillovers to other sources of are observable. We find little evidence of such spillover effects.

***14:05 – 14:40***

***Presentation by Paul Nightingale***

***Discussant: Oscar Llopis-Corcoles***

***14:40 – 15:15***

***Presentation by Magnus Holmén***

***Discussant: Paul Nightingale***

“Towards an explanation of university competition and transformation: Stakeholders, signals and capabilities”

by Magnus Holmén and Daniel Ljungberg

The aim of this paper is to theoretically explain how and why universities change and compete, by conceptualizing the emergent strategies of universities as an evolutionary process of selection and adaptation, which over time leads to university transformation. A framework is created where signaling by the universities act as the key mechanism through which stakeholders select universities and their services. Especially important here is those signals which are costly, i.e. difficult or time consuming to create and send, since those convey more reliable information regarding the quality and/or value of specific services offered by the university.  In the framework, “boundedly rational universities” adapt to stakeholder selection by investing in capabilities to send costly signals. These investments differentially influence the screening and selection of the stakeholders, since stakeholders - such as students, firms and government actors - have differential interests across research, education and social services. Universities therefore need to invest in different signals for different stakeholders and services, while at the same time being resource constrained.  Over time, the universities therefore choose to reinvest and specialize in the capabilities where its signals perform the best, while disinvesting in capabilities with ineffective signals, which leads to emergent strategic change and in the long to university transformation. The paper discusses implications.

**15:15 – 15:45 coffee break**

*Theme 1: Inside the University (con’t) Chair: Guido Buenstorf*

**15:45 – 16:20**

***Presentation by Linus Brunnström***

***Discussant: Bart van Looy***

“Carrots Instead of Sticks: How Universities Support Commercialization in a Non Bayh-Dole Context”

by Linus Brunnström

In most countries, policy makers have decided that the university itself should be the owner of intellectual property, not the State or inventor. The US started this trend with the Bayh-Dole Act of 1980 and since then most other Western countries have followed suit, but the merits of university ownership are highly questioned. Sweden, however, stands out as different; legislature defines the individual as the owner. Recent studies suggest that Sweden has fared well with inventor ownership. Based on interviews with key individuals at three Swedish universities, this study aims to explain how universities support commercialization and how this process is influenced by policy-making, financing and reluctant researchers. I find that under inventor ownership, universities, but also the Government, offer support without ownership claims in the resulting firm or sold IP if the researcher is active. If the researcher is inactive for whatever reason there are still several strategies to achieve commercialization.

**16:20 – 16:55**

***Presentation by Anders Broström***

***Discussant: Vincent Mangematin***

*Academic breeding grounds: Home department conditions and early career performance of academic researchers*

by Anders Broström

This study investigates how research group characteristics relate to the early career success of PhD candidates who are trained in the group. In particular, we study how the citation impact of early-career PhDs is related to the scientific strength, the staff composition, and the funding of the group. Using data on a cohort of Swedish doctoral graduates in science, engineering, mathematics and medicine, three sets of findings are obtained. First, scientific strength is clearly inherited between senior members of the group and PhD students. Second, controlling for scientific strength and funding, groups with a smaller number of PhD students are more conducive research environments. Third, PhD students trained in groups whose funding for PhD research is conditioned by funder influence over the topic of thesis research are more likely to stay in academia. Controlling for career destination, however, PhDs from such groups have lower than average scientific productivity and citation impact.

**16:55 – 17:30**

***Presentation by Rögnvaldur Sæmundsson***

***Discussant: Markus Perkmann***

“A Recent Crisis in Regenerative Medicine: Analyzing Governance in order to Identify Public Policy Issues”

by Maureen McKelvey, Rögnvaldur Sæmundsson, and Olof Zaring

This paper focuses upon issues that public policy makers need to address, when trying to stimulate world-leading research into new areas, which are potentially also valuable to solving societal challenges. Our analysis helps contribute to the theoretical discussions about governance of new knowledge. We focus upon the sequence of events surrounding the main actors of a recent crisis of regenerative medicine in Sweden. We define governance theoretically, and use a conceptual model in order to structure the empirical analysis. Regenerative medicine is an interesting setting to explore these topics, not least because both public and private actors are often involved, and because governments struggle with how to promote “translational research”, e.g. diffusing scientific research into clinical practice. Our case study helps understand the process that led up to a crisis in regenerative medicine and identifies and discusses four issues that need to be addressed by policy makers.

*19:15 Leave from Elite Park Avenue Hotel*

*19.30 Dinner at the Resturangen Kometen, Vasagatan 28*

 Invited: only authors, discussants and specially invited guests

 We will pay for 1 drink with the meal per participant.

**Tuesday September 12th :**

**Held at Ågrenska Villanfrom 9:00 to 15:20 then coffee**

***8:30 and 8:40 Student guides from Elite Park Avenue Hotel***

*Theme 1: Inside the University (con’t), Chair: Rögnvaldur Saemundsson*

**9:00 – 9:35**

***Presentation by Markus Perkmann***

***Discussant: Paul Nightingale***

“Social Valuation across multiple audiences: the interplay of ability and identity judgments”

by Riccardo Fini, Julien Jourdan, Markus Perkmann

How is an evaluating audience influenced by prior evaluations made by another audience? This question is critical to individuals and organizations reaching out to multiple audiences for key resources. By extending prior work on how evaluators rely on previous evaluations made by their peers, we develop theory about how evaluators’ assessments are shaped by previous evaluations made by an external (non-peer) audience. We argue that the latter represent exogenous indices that affect evaluators in two opposing ways: they positively influence peer valuation by pointing to candidates’ unobservable abilities; yet, since they are conferred by an external audience, they are also indicative of candidates’ deviation from an expected peer identity. The combination of the two opposite effects suggests an inverted-U shaped relationship between exogenous indices and peer valuation. We further argue that this effect is moderated by the identity proximity between audiences, and the availability of previous peer evaluations (endogenous indices). We test and find support for our arguments using empirical evidence on the peer valuation of 9,502 academic scientists applying for research grants at a leading research university. Our work contributes to the understanding of valuation and socially endogenous inferences, and has important implications for the management of organizations in multi-audience environments.

**9:35 – 10.10**

***Presentation by Vincent Mangematin***

***Discussant: Guido Buenstorf***

“Science Dynamics: How Principal Investigators Learn”

by Conor O’Kane, Vincent Mangematin, James Cunningham, and Jing Zhang

When scientists lead successful research grant applications and become principal investigator (PI) they transition from “pure” scientist to a position charged with multiple new activities, responsibilities and stakeholder interactions. Their identity is affected by the enactment of these new and changed roles. Despite the growing visibility and importance of PIs in science, to date the roles they undertake remain poorly defined and their identity unknown. Drawing on data from 41 interviews with New Zealand based health science PIs we examine how they are learning new roles. Our findings provide evidence that PIs are learning three roles – science organizer, project manager and engaged scientist - to enact their identity. We suggest PIs select the type (identity) of PI they are based on how they navigate, combine and learn these roles. Based on our findings we propose that the continued emergence of the PI identity will establish a new “elite” within science that will both parallel and challenge its age old hierarchical organization. We discuss the implications of our findings for practicing PIs as well as funding bodies and policy makers interested in improving the quality and impact of their R&D investment.

 ***10:10 – 10:30 coffee break***

*Theme 2: Economic and Social Impact: Networks and Academic Engagement*

*Chair: Olof Zaring*

**10:30 – 11:05**

***Presentation by Evangelos Bourelos***

***Discussant: Bastian Rake***

“Universities and their involvement in industrial invention as seen through academic patents”

by Evangelos Bourelos, Maureen McKelvey and Olof Zaring

Innovation and entrepreneurship have been seen as powerful tools in Sweden during recent decades, in order to stimulate economic and societal transformation. The metaphor of the ‘Swedish paradox’ is based upon the idea that the extensive investment into research and development by companies and the Swedish state have not been translated into business innovations and economic growth. Moreover, the metaphor has become a powerful one to instigate changes in society and public policy, such as stimulating ‘excellence’ in universities, stressing that universities should contribute to economic growth and societal change (third mission), stimulating entrepreneurship, developing tools so that public policy can stimulate innovation in business, and so forth. However, much of this debate and the underlying metaphor are based upon particular and not so firm assumptions about the relevant empirical facts.

Therefore paper focuses on the descriptive empirical overview of academic patents in Sweden. The contribution of this paper is to present facts and empirical overview of academic patents in Sweden in a straight-forward manner, in order to impact on going discussions related to public policy. The paper describes the implications for public policy in relation to universities and science policy.

**11:05 – 11:40**

***Presentation by Ida Hermansson***

***Discussant: Helen Lawton-Smith***

“Bringing Engineering and Equestrian Sports Together: Exploring how the university initiates and implements academic engagement with society”

by Ida Hermansson, Maureen McKelvey and Olof Zaring

This working paper explores how the university starts academic engagement with the society, by distinguishing what happens with individual level at universities (e.g. researchers and students) and organizational level (e.g organizational strategy for societal impact). We focus upon the process of creating new forms of academic engagement with society, which has not received much attention in previous research. Academic engagement with society derives from the concept of academic engagement with industry, but is broaden beyond firms or industry per se. Within the academic engagement literature (which draws naturally in turn upon organizational learning literature), we use analytical concepts about this process, and distinguish the two levels of the individual and organizational level, in order to establish who had the ideas, where resources were obtained, and how goals were formed in this process. The case study is of the meeting of engineering and equestrian sports, specifically around activities by Chalmers University of Technology (hereafter Chalmers and CST), and the use and development of engineering knowledge to improve equestrian sports. Our analysis of the case study is based upon a study of the involvement of individuals in terms of students, researchers, and of the involvement of the organization (university) through activities for explicit societal impact. Our analysis of this process has led to the discovery that this process can be divided into two distinct phases of initiation and implementation, where the initiation phase is driven by individuals and the implementation phase is driven by the organization.

***11:45-12:45 Lunch at Ågrenska Villan***

*Theme 2: Economic and Social Impact: Networks and Academic Engagement (con’t)*

*Chair: Sven Lindmark*

**13:00 – 13:35**

***Presentation by Johannes Koenig***

***Discussant: Daniel Ljungberg***

"Private-sector employment of doctoral graduates in Germany: First findings from a large-scale record matching approach"

by Johannes Koenig, Dominik Heinisch, Anne Otto and Guido Buenstorf

Private-sector employment of doctoral graduates is a well-established and potentially powerful channel of knowledge transfer from universities to the private sector. Long before knowledge transfer was considered a core mission of universities, some high-tech industries employed large numbers of doctoral graduates in their research and development departments. The historical chemical industry in Germany is a case in point. But how well does this “embodied” knowledge transfer to the private sector work today? In this paper we report first results from a large-scale record matching project that links data on all doctoral dissertations completed in Germany with social security records providing detailed information about individual career trajectories. This approach allows us to reconstruct the private-sector careers of doctoral graduates. Our initial results indicate that a substantial share of doctoral graduates are overqualified for their positions, which gives rise to questions about the absorptive capacity of the German economy for doctoral graduates. Both in terms of job adequacy and remuneration we find considerable variation in outcomes across disciplines. In addition, while few doctoral graduates are unemployed we find a substantial share of female graduates who work part-time. Ten years after graduation, less than 60 per cent of the female graduates are in full-time employment.

**13:35 – 14:10**

***Presentation by Bart van Looy***

***Discussant: Evangelos Bourelos***

“Does involving academics make a difference? Assessing the contribution of (Flemish) academics to the development of firms’ technological capabilities”

 by Bart van Looy and Hanne Petters

Within this contribution, we analyze the contribution of academics to corporate technology development. Firm patents which implicate (Flemish) academic inventors were contrasted with patents developed in-house. Two distinctive patterns emerge. First, firms involve academics relatively more when exploring new technological fields. Nevertheless, the majority of inventions in which academics become involved still reside in domains familiar to the firm (exploitation). Second, the impact of academic involvement differs significantly depending on whether contributions are situated within known or novel domains. When working in domains in which the firm has previous experience, academic involvement leads to more ‘dead-ends’ (for the firms) and hence less consecutive inventions (by the firms implied).  The opposite holds when firms engage academics while exploring new domains. Overall these findings/patterns suggest that firms and academics enact complementary roles when collaborating to develop technology.

*Theme 2: Economic and Social Impact: Networks and Academic Engagement (con’t)*

*Chair: Astrid Heidenmann Lassen*

**14:15 – 14:50**

***Presentation by Oscar Llopis-Corcoles***

***Discussant: Anders Broström***

“Reaching scientific and innovation outcomes: interaction with beneficiaries and relational network content”

by Oscar Llopis-Corcoles, Pablo D’Este, Maureen McKelvey, and Alfredo Yegros

This study contributes to advance understanding on the micro-level foundations of the relationship between scientific research and innovation. We adopt a relational approach to scientific research networks through the analysis of the content of network ties, in contrast to more standard network approaches which are grounded on structural features of networks. We argue that the perceived legitimacy afforded through ties within research networks play a critical role in reconciling the conflicting logics of science and innovation. The proposed hypotheses are empirically tested in the context of the Spanish biomedical research system, drawing on a large scale survey of biomedical scientists. Our results indicate that the scientists’ acquisition of legitimacy through their research network play a critical role in the context of the translation from scientific research to technological achievements and innovations. Our findings also show that past scientific impact has a reinforcing effect on the relationship between legitimacy acquisition and technological achievements. On the contrary, we find that direct interaction with beneficiaries provides an alternative path to reconcile the conflicting logics of science and market, by compensating for the lack of acquired legitimacy from research network.

**14:50 – 15:25**
***Presentation by Bastian Rake***

***Discussant: Deborah Strumsky***

“Unlocking the importance of alliance partners for the quality and impact of company publications”

by Maureen McKelvey and Bastian Rake

Recent research suggests that companies, particularly in science-based industries, publish scientific articles in order to achieve strategic goals. Since they often do so in collaboration with other organizations, this paper takes the next step by analyzing the influence of the number as well as the organization type of alliance partners on publication quality and impact. To make this argument, we analyze publications involving biotechnology or pharmaceutical companies and compare the results to publications that do not involve a company. The empirical analysis is based on a unique dataset in pharmaceutical cancer research. The results indicate that companies need to carefully select their R&D alliance partners, as shown in the literature. Our results indicate that increasing the number of partners may have diminishing returns. More surprisingly, companies should focus on establishing R&D alliances with other companies to increase the probability of high-quality scientific publications. However, in terms of scientific impact, i.e., forward citations, companies do not benefit from having different types of alliance partners, but alliances with well-connected partners may increase the scientific impact of company publications.

**15:20 coffee break**

***17:30 Student guides leave from Elite Park Avenue Hotel***

**18:00-18:15 All meet at the Strömma boats**

Address: Lilla Bommens torg

**18:30-21:30 Strömma Shrimp and salmon cruise**

Invited: All participants in the workshop

We pay for the shrimp & salmon buffet as well as coffee and a cake.

We pay for the welcome drink when you arrive on the boat

You pay yourself for a drink with dinner, etc.

**Wednesday September 13th at Viktoriagatan 13 from 8:45 – 12:00**

**Room: Viktoriasalen, Viktoriagatan 13**

*Theme 3: Universities and knowledge in relation to entrepreneurship, commercialization & public policy*

*Chair: Mark Flynn*

8:30 Viktoriasalan open

8:20 and 8:30 Student guides leave from Elite Park Avenue Hotel

***9.00 – 9.35***

***Presentation by Merle Jacob***

***Discussant: Magnus Holmèn***

“Re-norming Research Systems: Funding instruments and the institutionalization of new practices in science”

by Merle Jacob and Leila Jabrane

Science policy may be regarded as having two parts, one normative, the other regulative. The normative part consists of a rationale for why science should be publicly funded and an underlying but seldom explicated commitment that science is the path towards achieving the normative goals of the policy. The regulative part consists of rules, instruments, organisational arrangements, etc. for the conduct, funding and general governance of science. This paper takes its point of departure in the argument that competitive funding of research no longer respects this artificial divide but instead aims to unite these two objectives by using funding as a tool to change research systems. We investigate this assumption through a qualitative case study of a funding initiative directed at scholars in the HSS area. We use the concept of institutional work to analyse the interview data. The concept of institutional work describes actions, activities, etc that individuals and/or organisations pursue in order to maintain or disrupt institutions (Lawrence and Suddaby, 2006).

The paper finds that participation in this funding arrangement provided researchers with valuable experience in collaborative research while at the same time deepening their commitment to remain at the university. Researchers observed that their understanding of academic work as a social process was intensified by the experience of having to do research in a context where ones nearest collaborators and co-workers had no experience of research themselves. Younger researchers all reported a sense of being empowered in a fashion that they would not have felt had they been within the university environment because they were required to make decisions about their research work on their own because of the context. Regardless of organizational context, the most common observation was that doing research outside of the university allowed the researcher to gain insight into the types of skills that they possessed.

***9:35 – 10.10***

***Presentation by Ethan Gifford***

***Discussant: Johannes Koenig***

 “Knowledge Intensive Entrepreneurial Firms and Innovations: Exploring (Analyzing) the relationship between their search through external knowledge sources and their innovative performance”

by Ethan Gifford, Daniel Ljungberg and Maureen McKelvey

Knowledge intensive entrepreneurial (KIE) ventures are new, innovative firms, which intensively utilize knowledge in their activities, and exploit innovative opportunities across sectors. Recent literature has conceptualized knowledge intensive entrepreneurship, to include knowledge intensity and innovation in new firms searching for opportunities, in service, low- and mid-tech sectors and industries as well as their high-tech counterparts. This categorization emphasizes the contribution of creative, design-based, and application-based (area of use) knowledge intensity, along with science- and technology-based knowledge intensity stemming from entrepreneurial firms. Based on a large-scale database, this paper addresses how knowledge intensive entrepreneurial ventures utilize external search to obtain new knowledge, and in turn, if this helps their innovative performance. We find that service innovation is not significantly associated with business and operations-based knowledge, but instead with scientific and technical knowledge. We focus upon the implications of our results of which external partners in relation to the role of the university.

***10:10 – 10.30 coffee break***

*Theme 3: Universities and knowledge in relation to entrepreneurship, commercialization & public policy*

*Chair: Johan Brink*

***10:30 – 11:05***

 ***Presentation by Helen Lawton Smith***

***Discussant: Eugenia Perez Vico***

“Universities, innovation cycles and geographies of innovation in the healthcare sector”

by Helen Lawton Smith, Sharmistha Bagchi-Sen, and Laurel Edmunds

This paper examines the relative role of the university as part of a collection of place-specific factors affecting geographies of innovation. We conceptualize geographies of innovation as the part of the value chain that involves downstream operation, that is, the transfer of research from R&D (university-based) to commercialization involving various organizational forms. In doing this analysis, we draw evidence from the healthcare sector in four European bioscience regions. These regions are Medical Delta (MD. Leiden, Rotterdam and Delft, Netherlands) Oxford and the Thames Valley, (OTV, UK), Biocat (Catalonia, Spain) and Life Science Zurich (LSZ, Switzerland). The EU funded HealthTIES project (2010-2013) is the source of the data. The analytical framework, the HealthTIES Innovation Cycle, is organised into three parts: resources (inputs), characteristics of the innovation system, and performance (outcomes). The data analysis show the effect of regional context in terms of the interaction between the system (e.g., the role of the universities) that has evolved and resource availabilities upon outcomes. Case study regions demonstrate various degrees of research intensity and contrasting experiences (e.g., OTV versus LSZ) thereby offering tools for policymakers to strengthen each region and enable cross-regional networks.

***11.05 – 11:40***

***Presentation by Deborah Strumsky***

***Discussant: Ethan Gifford***

“University and US Federally Funded R&D: Technological Search and the Quest for Inventive Novelty”

by Deborah Strumsky

***11:40 – 12:00 Wrap up by Anders Broström, Guido Buenstorf, Astrid Heidenmann Lassen, Maureen McKelvey***

**Participants**

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