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**Department of Political Science  
UNIVERSITY OF TORONTO**

**INNOVATION AND GOVERNANCE  
POL 408H 1 F / POL 2338H 1 F  
Fall 2016**

**Instructor:** Harald Bathelt  
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**Office Hours:** Tuesday, 2:30-3:30 PM and 6:30-7:30 PM  
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**Lecture Hours:** Tuesday, 4:00-6:00 PM  
**Lecture Room:** UC 148 (University College)

**Course Description:**

The course discusses a broad range of topics related to innovation and governance including (i) technological change and its social and economic consequences, (ii) the spatial effects which result from this, and (iii) necessities for innovation policies at different territorial levels. As the international competitiveness of industrial economies cannot be based on cost advantages alone, future growth in the knowledge-based economy will be increasingly based on capabilities related to knowledge generation and innovation. As a consequence, questions of performance in innovation and support policy will become decisive at the firm, regional-state and national-state levels.

The seminar is divided into four main parts. The first deals with conceptual foundations of innovation processes, such as evolutionary and institutional views of innovation. In the second part, national configurations of innovation processes and governance are investigated. The third part will deal with innovation processes at the subnational level, focusing on regional innovation and a knowledge-based conception of clustering. The final part of the course discusses aspects of multilevel governance in regional and global contexts. The seminar develops a relational perspective of institution-building and territorial governance which helps us to understand cross-national innovation processes.

This course is inter-disciplinary in nature and uses literature from a number of different fields dealing with innovation, governance and its consequences in economic and social life. The course should, thus, also be of interest to students in Economics, Geography, International Relations, the History and Philosophy of Science and Technology, and Sociology.

Further details regarding the course and suggestions from students will be discussed in class.

**Course Structure:**

This course will be based on a seminar format. Course evaluation will be based on a seminar presentation and a research assignment (including a proposal and a research paper). Active seminar participation will also be marked.

For the research assignment, students are expected to choose a topic which is closely related to the context of the course and, if possible, relate this topic to empirical studies in Canada and/or the US. Students should aim to conduct a comparative study. This could be an investigation of an industry in two countries or two regions; a study of the differences in the organization of regional innovation conditions; or a study comparing specific aspects of two innovation systems. For instance, students could compare the organization of innovation in two regional clusters in Canada, or compare the institutional basis of innovation in a specific industry in Canada or the US (or a specific region in both countries). Often the rule is: the more specific the research question, the better.

The 2-page (double-spaced) *paper proposal* should provide an introduction to the topic, put forward the main question or problem to be addressed, provide a structure of the argument to be advanced, and indicate the conceptual framework used to structure the research. An annotated bibliography should be attached to the 2-page proposal that gives an overview of the sources to be used. It is expected that this proposal and the comments received on it will then provide the basis for the *research paper*. Undergraduate students are expected to hand in a 15-20-page paper (double-spaced) and graduate students a 20-25-page paper (double-spaced) in the last week of classes. To conserve paper, please print all assignments double-sided.

Assignments are expected to be handed in on the due date. Students should bring them to class (or, if not possible, to the Political Science Main Office, Room 3018). The due dates for the assignments are noted below. For lateness, a penalty of 3% per day will be deducted from the mark for the first 7 days. After this 7-day period, papers will receive a grade of 0%. (Special arrangements can only be made based on proper and timely documentation, such as a doctor's note.) Students are strongly advised to keep all rough and draft work as well as hard copies of their research papers and assignments until the marked assignments have been returned and the grades been posted on ROSI.

Students who miss two or more classes without acceptable reasoning and documentation, such as a doctor's or a registrar's note, will receive 0% on their seminar participation mark.

**Blackboard:**

The course uses the management system Blackboard which helps to establish efficient communication between instructor and students. One of its advantages is that students can access their marks at any time on an individual basis. Questions related to the course should be directed to the instructor. An answer will usually be provided within 2-3 days, except for the weekend. In urgent cases, students should discuss issues with the instructor in person or by telephone.

To access the Blackboard-based course website, go to the UofT portal login page at <http://portal.utoronto.ca> and log in using your UTORid and password. If you need information on how to activate your UTORid and set your password for the first time, please go to <http://www.utorid.utoronto.ca>. The Help Desk at the Information Commons and telephone assistance under 416-978-HELP can also answer other related questions.

Once you have logged into the portal using your UTORid and password, look for the “My Courses” module, where you will find a link to this course website along with links to all your other Blackboard-based courses. At times, the instructor or teaching assistant may decide to send out important course information by e-mail. To this end, all UofT students are required to have a valid UofT e-mail address. You are responsible for ensuring that your UofT e-mail address is set up AND properly entered in the ROSI system.

### **Academic integrity**

Academic integrity is fundamental to learning and scholarship at the University of Toronto. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that the UofT degree that you earn will be valued as a true indication of your individual academic achievement, and will continue to receive the respect and recognition it deserves. For further details and information on academic integrity, see <http://www.artsci.utoronto.ca/osai/students>.

### **Turnitin.com:**

The course uses Turnitin.com, a web-based program to deter plagiarism and ensure academic integrity. Normally, students will be required to submit their research papers (NOT the paper proposals) to Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University’s use of the Turnitin.com service are described on the Turnitin.com website. The submitted hardcopy of the research paper and electronic version must be identical.

If, as a student, you object to using Turnitin.com, please see the course instructor to establish appropriate alternative arrangements for submission of your written assignments. This must be done at least 4 weeks before the submission deadline.

Plagiarism is a serious academic offence and will be dealt with accordingly. For further clarification and information on plagiarism, please see the University of Toronto’s policy on Plagiarism at <http://www.writing.utoronto.ca/advice/using-sources>.

The submission of the final research papers to Turnitin.com is done through the Blackboard-based website, without the need to register separately with Turnitin.com. Students have to select “Course Materials” from the Blackboard course menu and click the “Research Paper”

link to upload and submit their research papers. Help regarding this process is available through [portal.help@utoronto.ca](mailto:portal.help@utoronto.ca) (see also the information on the Blackboard-based course website).

**Accessibility Needs:**

The University of Toronto is committed to accessibility. If you require accommodations for a disability, or have any accessibility concerns about the course, the classroom or course materials, please contact Accessibility Services as soon as possible at [accessibility.services@utoronto.ca](mailto:accessibility.services@utoronto.ca) or <http://www.accessibility.utoronto.ca/>.

**Required Readings:**

Course readings will be accessible online through the Blackboard-based course website (information will be provided in the first week of classes).

**Course Evaluation:**

The course evaluation will be based on the following aspects:

- 20% 2-page paper proposal plus annotated bibliography (due class 7: October 25)
- 20% presentation and seminar participation
- 60% research paper (due class 12: December 6)

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**TOPICS: Fall Term 2016**

**A. Conceptual foundations of innovation processes**

1. Introduction to the course: Innovation as an interactive, social process
2. Proximity, innovation and learning
3. Institutions and innovation

**B. Innovation and national governance**

4. National innovation systems and the case of Canada
5. Varieties of capitalism and the cases of Germany vs. the US
6. The innovation systems of Britain and France

**C. Innovation and subnational governance**

7. Regional or regionalized innovation systems?
8. Toward a knowledge-based conception of clusters
9. Regional knowledge bases/clusters in Canada

**D. Relational and multilevel governance in global context**

10. Multilevel governance and innovation policy
11. Cross-national governance and the role of boundary spanners
12. Regional governance and cluster policy

**Readings by Topic: Fall Term 2016**

Readings marked by an asterisk (\*) are core readings on each topic which all students are required to read. Graduate students are expected to read 1-2 additional texts per week.

**1. Introduction to the course: Innovation as an interactive, social process**

\*Anderson, P. and Tushman, M. L. (1990): Technological discontinuities and dominant designs: A cyclical model of technological change. Administrative Science Quarterly 35: 604-633.

\*Dosi, G. (1988): The nature of the innovative process. In: Dosi, G., Freeman, C., Nelson, R. R., Silverberg, G. and Soete, L. L. G. (Eds.): Technical Change and Economic Theory. London, New York: Pinter, pp. 221-238.

\*Rigby, D. K., Gruver, K. and Allen, J. (2009): Innovation in turbulent times. Harvard Business Review 87 (6): 79-86.

Pavitt, K. (2005): Innovation process. In: Fagerberg, J., Mowery, D. C. and Nelson, R. R. (Eds.): The Oxford Handbook of Innovation. Oxford: Oxford University Press, pp. 86-114.

Powell, W. W. and Grodal, S. (2005): Networks of innovation. In: Fagerberg, J., Mowery, D. C. and Nelson, R. R. (Eds.): The Oxford Handbook of Innovation. Oxford: Oxford University Press, pp. 56-85.

Schumpeter, J. (2003): The process of creative destruction. In: Schumpeter, J. (Ed.): Capitalism, Socialism and Democracy. London and New York: Routledge (first published in 1943), pp. 81-86.

**2. Proximity, innovation and learning**

\*Nonaka, I., Toyama, R. and Nagata, A. (2000): A firm as a knowledge-creating entity: A new perspective on the theory of the firm. Industrial and Corporate Change 9: 1-20.

\*Torre, A. and Rallet, A. (2005): Proximity and localization. Regional Studies 39: 47-59.

Boschma, R. (2005): Proximity and innovation: A critical assessment. Regional Studies 39: 61-74.

Gertler, M. S. (1995): 'Being there': Proximity, organization, and culture in the development and adoption of advanced manufacturing technologies. Economic Geography 71: 1-26.

Lundvall, B.-Å and Johnson, B. (1994): The learning economy. Journal of Industry Studies 1:

23-42.

### 3. Institutions and innovation

- \*Bathelt, H. and Glückler, J. (2014): Institutional change in economic geography. Progress in Human Geography 38: 340-363.
- \*Hargadon, A. B. and Douglas, Y. (2001): When innovations meet institutions: Edison and the design of the electric light. Administrative Science Quarterly 46: 476-501.
- \*Olive, D. (2012): The last picture show. Toronto Star, January 7.
- Barley, S. R. and Tolbert, P. S. (1997): Institutionalization and structuration: Studying the links between action and institution. Organization Studies 18: 93-117.
- Denzau, A. T. and North, D. C. (1994): Shared mental models: Ideologies and institutions. Kyklos 47: 3-31.
- Johnson, B. (1992): Institutional learning. In: Lundvall, B.-Å. (Ed.): National Systems of Innovation. Towards a Theory of Innovation and Interactive Learning. London: Pinter, pp. 23-44.
- North, D. C. (1991): Institutions. Journal of Economic Perspectives 5: 97-112.
- Setterfield, M. (1993): A model of institutional hysteresis. Journal of Economic Issues 27: 755-774.
- Von Tunzelmann, N. (2003): Historical coevolution of governance and technology in the industrial revolutions. Structural Change and Economic Dynamics 14: 365-384.

### 4. National innovation systems and the case of Canada

- \*Lundvall, B.-Å. and Maskell, P. (2000): Nation states and economic development: From national systems of production to national systems of knowledge creation and learning. In: Clark, G. L., Feldman, M. P. and Gertler, M. S. (Eds.): The Oxford Handbook of Economic Geography. Oxford: Oxford University Press, pp. 353-372.
- \*Niosi, J. (2000): Canada's National System of Innovation. Montreal, Kingston: McGill-Queen's University Press. Chapter 2: Canada's R&D System.
- \*The Expert Panel on Business Innovation (2009): Innovation and Business Strategy: Why Canada Falls Short. Ottawa: Council of Canadian Academies. Chapter 3: The Innovation Performance of Canadian Business. URL: <http://www.scienceadvice.ca/uploads/eng/assessments%20and%20publications%20and>

[%20news%20releases/inno/%282009-06-11%29%20innovation%20report.pdf](#).

Archibugi, D., Howells, J. and Michie, J. (1999): Innovation systems and policy in a global economy. In: Archibugi, D., Howells, J. and Michie, J. (Eds.): Innovation Policy in a Global Economy. Cambridge: Cambridge University Press, pp. 1-17.

Boyer, R. (1988): Technical change and the theory of 'régulation'. In: Dosi, G., Freeman, C., Nelson, R. R., Silverberg, G. and Soete, L. L. G. (Eds.): Technical Change and Economic Theory. London, New York: Pinter, pp. 67-94.

Breschi, S. and Malerba, F. (1997): Sectoral innovation systems: Technological regimes, Schumpeterian dynamics and spatial boundaries. In: Edquist, C. (Ed.): Systems of Innovation. Technologies, Institutions, and Organizations. London, Washington: Pinter, pp. 130-156.

Lundvall, B.-Å. (1992): Introduction. In: Lundvall, B.-Å. (Ed.): National Systems of Innovation: Towards a Theory of Innovation and Interactive Learning. London: Pinter, pp. 1-19.

McFetridge, D. G. (1993): The Canadian system of industrial innovation. In: Nelson, R. R. (Ed.): National Innovation Systems: A Comparative Analysis. Oxford: Oxford University Press, pp. 299-323.

## **5. Varieties of capitalism and the cases of Germany vs. the US**

\*Hall, P. A. and Soskice, D. (2001): An introduction to varieties of capitalism. In: Hall, P. A. and Soskice, D. (Eds.): Varieties of Capitalism: The Institutional Foundations of Comparative Advantage. Oxford, New York: Oxford University Press, pp. 1-68.

Block, F. and Keller, M. R. (2008): Where Do Innovations Come From? Transformations in the US National Innovation System, 1970-2006. Working Papers in Technology Governance and Economic Dynamics, No. 35. Tallinn: Tallinn University of Technology. URL: <http://technologygovernance.eu/files/main/2011051801183232.pdf>.

Boyer, R. (2005): How and Why Capitalisms Differ. MPIfG Working Paper 05/4. Köln: MPIfG. URL: [http://www.mpifg.de/pu/mpifg\\_dp/dp05-4.pdf](http://www.mpifg.de/pu/mpifg_dp/dp05-4.pdf).

Haddow, R. (2008): How can comparative political economy explain variable change? Lessons for, and from, Canada. In: White, L. A., Simeon, R., Vipond, R. and Wallner, J. (Eds.): The Comparative Turn in Canadian Political Science. Vancouver: UBC Press, pp. 221-237.

Mowery, D. C. (1998): The changing structure of the US national system: Implications for international conflict and cooperation in R&D policy. Research Policy 27: 639-654.



Mowery, D. C. and Rosenberg, N. (1993): The U.S. national innovation system. In: Nelson, R. R. (Ed.): National Innovation Systems: A Comparative Analysis. Oxford: Oxford University Press, pp. 29-75.

Whitley, R. D. (2000): The institutional structuring of innovation strategies: Business systems, firm types and patterns of technical change in different market economies. Organization Studies 21: 855-886.

## **6. The innovation systems of Britain and France**

\*Chesnais, F. (1993): The French national innovation system. In: Nelson, R. R. (Ed.): National Innovation Systems: A Comparative Analysis. Oxford: Oxford University Press, pp. 192-229.

\*Walker, W. (1993): National innovation systems: Britain. In: Nelson, R. R. (Ed.): National Innovation Systems: A Comparative Analysis. Oxford: Oxford University Press, pp. 158-191.

Campbell, J. L. and Pedersen, O. K. (2014): The National Origins of Policy Ideas : Knowledge Regimes in the United States, France, Germany, and Denmark. Princeton: Princeton University Press (Chapter 3: The decline of dirigisme in France, pp. 84-128).

## **7. Regional or regionalized innovation systems?**

\*Asheim, B. T. and Isaksen, A. (1997): Location, agglomeration and innovation: Towards regional innovation systems in Norway? European Planning Studies 5: 299-330.

\*Bathelt, H. (2003): Geographies of production: Growth regimes in spatial perspective 1 – Innovation, institutions and social systems. Progress in Human Geography 27: 763-778.

Cooke, P. (2004): Introduction: Origins of the concept. In: Braczyk, H.-J., Cooke, P. and Heidenreich, M. (Eds.): Regional Innovation Systems: The Role of Governances in a Globalized World. 2nd Edition. London: UCL Press, pp. 2-25.

Howells, J. (1999): Regional systems of innovation? In: Archibugi, D., Howells, J. and Michie, J. (Eds.): Innovation Policy in a Global Economy. Cambridge: Cambridge University Press, pp. 67-93.

## **8. Toward a knowledge-based conception of clusters**

\*Bathelt, H. and Glückler, J. (2011): The Relational Economy: Geographies of Knowing and Learning. Oxford: Oxford University Press. Chapter 7: Local Buzz and Global

Pipelines.

- \*Cohendet, P., Grandadam, D., Simon, L. and Capdevila, I. (2014): Epistemic communities, localization and the dynamics of knowledge creation. Journal of Economic Geography 14: 929-954.
- \*Porter, M. E. (1990): The Competitive Advantage of Nations. New York: Free Press. Chapter 3: Determinants of National Competitive Advantage.
- Bathelt, H., Malmberg, A. and Maskell, P. (2004): Clusters and knowledge: Local buzz, global pipelines and the process of knowledge-creation. Progress in Human Geography 28: 31-56.
- Boschma, R. and Frenken, K. (2011): Technological Relatedness and Regional Branching. In: Bathelt, H., Feldman, M. P. and Kogler, D. F. (Eds.): Beyond Territory: Dynamic Geographies of Knowledge Creation, Diffusion, and Innovation. London, New York: Routledge, pp. 64-81.
- Grandadam, D., Cohendet, P. and Simon, L. (2013): Places, spaces and the dynamics of creativity: The video game industry in Montreal. Regional Studies 17: 1701-1714.
- Malmberg, A. and Maskell, P. (2002): The elusive concept of localization economies: Towards a knowledge-based theory of spatial clustering. Environment and Planning A 34: 429-449.
- Martin, R. and Sunley, P. (2003): Deconstructing clusters: Chaotic concept or policy panacea? Journal of Economic Geography 3: 5-35.
- Owen-Smith, J. and Powell, W. W. (2004): Knowledge networks as channels and conduits: The effects of spillovers in the Boston biotechnology community. Organization Science 15: 5-21

## **9. Regional knowledge bases/clusters in Canada**

- \*Bramwell, A., Nelles, J. and Wolfe, D. A. (2008): Knowledge, innovation and institutions: Global and local dimensions of the ICT cluster in Waterloo, Canada. Regional Studies 42: 101-116.
- \*Ghent-Mallet, J. (2004): Silicon Valley North: The formation of the Ottawa innovation cluster. In: Shavinina, L. V. (Ed.): Silicon Valley North: A High-Tech Cluster of Innovation and Entrepreneurship. St. Louis: Elsevier, pp. 21-31.
- \*Gilette, F., Brady, D. and Winter, C. (2013): The rise and fall of BlackBerry: An oral history. Bloomberg Businessweek, December 5.

Bathelt, H. and Hecht, A. (1990): Key technology industries in the Waterloo region: Canada's Technology Triangle (CTT). Canadian Geographer 34: 225-234.

Bathelt, H., Kogler, D. F. and Munro, A. K. (2011): Social foundations of regional innovation and the role of university spin-offs. Industry and Innovation 18: 461-486.

Madill, J. J., Haines Jr., G. H. and Riding, A. L. (2004): A tale of one city: The Ottawa technology cluster. In: Shavinina, L. V. (Ed.): Silicon Valley North: A High-Tech Cluster of Innovation and Entrepreneurship. St. Louis: Elsevier, pp. 85-118.

## **10. Multilevel governance and innovation policy**

\*Gereffi, G., Humphrey, J. and Sturgeon, T. (2005): The governance of global value chains. Review of International Political Economy 12 (1): 78-104.

\*Hooghe, L. and Marks, G. (2003): Unraveling the central state, but how? Types of multi-level governance. American Political Science Review 97 (2): 233-243.

Boschma, R. A. (2004): Competitiveness of regions from an evolutionary perspective. In: Regional Studies 38: 1001-1014.

Bresnahan, T., Gambardella, A. and Saxenian, A. (2001): 'Old economy' inputs for 'new economy' outcomes: Cluster formation in the new Silicon Valleys. Industrial and Corporate Change 10: 835-860.

Jessop, B. (2011): The state: Government and governance. In: Pike, A., Rodriguez-Pose, A. and Tomaney, J. (Eds.): Handbook of Local and Regional Development. Routledge: London, pp. 239-248.

Wolfe, D. A. and Gertler, M. S. (2004): Clusters from the inside and out: Local dynamics and global linkages. Urban Studies 41: 1071-1093.

## **11. Cross-national governance and the role of boundary spanners**

\*Coe, N. M. and Bunnell, T. G. (2003): 'Spatializing' knowledge communities: Towards a conceptualisation of transnational innovation networks. Global Networks 3: 437-456.

\*Hsu, J.-y. and Saxenian, A. (2000): The limits to guanxi capitalism: Transnational collaboration between Taiwan and the US. Environment and Planning A 32: 1991-2005.

Depner, H. and Bathelt, H. (2005): Exporting the German model: The establishment of a new automobile industry cluster in Shanghai. Economic Geography 81: 53-81.

Gereffi, G. and Korzeniewicz M. (1990): Commodity chains and footwear exports in the semiperiphery. In: Martin, W. G. (Ed.): Semiperipheral States in the World-Economy. Westport (CT): Greenwood Press, pp. 45-68.

Humphrey, J. and Schmitz, H. (2002): How does insertion in global value chains affect upgrading in industrial clusters? Regional Studies 36: 1017-1027.

## 12. Regional governance and cluster policy

\*Lagendijk, A. and Cornford, J. (2000): Regional institutions and knowledge – Tracking new forms of regional development policy. Geoforum 31: 209-218.

\*Li, P.-F. (2013): How industrial clusters helped light manufacturing. In: World Bank (Ed.): Tales from the Development Frontier: How China and Other Countries Harness Light Manufacturing to Create Jobs and Prosperity. World Bank: Washington (D.C.), pp. 122-145. URL: <https://openknowledge.worldbank.org/handle/10986/15763>.

Amin, A. (2004): Regions unbound: Towards a new politics of place. Geografiska Annaler 86 B: 33-44.

Bathelt, H. and Glückler, J. (2011): The Relational Economy: Geographies of Knowing and Learning. Oxford: Oxford University Press. Chapter 11: Consequences of Relational Policies.

Enright, M. J. (2003): Regional clusters: What we know and what we should know. In Bröcker, J., Dohse, D. and Soltwedel, R. (Eds.): Innovation Clusters and Interregional Competition. Berlin, Heidelberg: Springer, pp. 99-129.