

## **Appendix 2**

### **The DRUID Conferences**

## Conferences

### Programme for the DRUID Winter Seminar, December 1–2, 1995

Friday the 1<sup>st</sup>.

10.30 Arrival on Højstrupgaard  
Eiler Jensens Vej 1  
DK 3000 Helsingør  
Phone: +49 21 03 55  
fax: + 49 21 05 56

Coffee

10.30 – 11.00 Introduction by Bengt-Åke Lundvall on the *objectives, perspectives and organisation of DRUID*

11.00 – 12.30 Session 1:  
**System-oriented Perspectives on Industrial Dynamics**  
Chairman: Björn Johnson  
Bengt-Åke Lundvall: *The social Dimension of the Learning Economy*  
Discussants: Brian Loasby, Finn Valentin and Henrik Bang  
Esben Sloth Andersen: *Schumpeter versus Neo-Schumpeterian Evolutionary Economics*.  
Discussants: Giovanni Dosi, Peter Maskell and Kirsten Foss

12.30 – 14.00

Lunch

14.00 – 14.40

Session 2:

#### **Dynamics of Firms**

Chairman: Finn Valentin

Nicolai Juul Foss: *On the Rationales of Corporate Headquarters*

Discussants: Jacques de Bandt, Björn Johnson and Keld Laursen

14.50 – 15.30

Jens Frøslev Christensen: *The Dynamics of Innovative Assets and the Strategic Coherence of the Technology Base*

Discussants: Brian Loasby, Jesper Lindgaard, Christensen and Mette Præst

15.30 – 15.50 Coffee

15.50 – 16.30 Poul Rind Christensen (and P.H. Andersen, P. Blenker):

*The Internationalization of Subcontractors: In Search of a Theoretical Framework*

Discussants: Morris Teubal, Lars Gelsing and Klaus Lindegaard

16.40 17.20

Session 3:

#### **Dynamics of Learning and Specialisation**

Chairman: Peter Lotz

Keld Laursen: *Horizontal Diversification in the Danish National System of Innovation: The case of Pharmaceuticals*

Discussants: Morris Teubal, Maj Andersen og Nana Køster

17.20 – 18.00

Chairman: Peter Maskell

Bent Dalum and Gert Villumsen: *Are OECD Export Specialisation patterns 'Sticky'? Relations to the Convergence-Divergence Debate*  
Discussants: Giovanni Dosi, Peter Lotz and Mark Lorenzen

**International Guests:**

Jacques de Bandt, Professor LAPATSES, France  
Giovanni Dosi, Professor, Libero Istituto Universitario, Italy  
Dominique Foray, Professor, Université Paris Dauphine, France  
Brian Loasby, Professor, University of Stirling, Scotland  
Morris Teubal, Professor, The Jerusalem Institute for Israel Studies

**Title of papers for the DRUID 1995 Winter Seminar**

Bengt-Åke Lundvall: The Social Dimension of The Learning Economy.

Espen Sloth Andersen: Schumpeter versus Neo-Schumpeterian Evolutionary Economics.

Nicolai Juul Foss: On the Rationales of Corporate Headquarters.

Jens Frøslev Christensen: The Dynamics of Innovative Assets and the Strategic Coherence of the Technology Base.

Poul Rind Christensen: The Internationalisation of Subcontractors.

Keld Laursen: Horizontal Diversification in the Danish National System of Innovation: The Case of Pharmaceuticals.

Peter Maskell: Learning in the Village Economy of Denmark: The role of Institutions and Policy in Sustaining Competitiveness.

Bent Dalum & Gert Villumsen: Are OECD Export Specialisation Patterns "Sticky"? Relations to the Convergence-Divergence Debate.

## Programme for the DRUID Summer Seminar, April 19–20, 1996

Friday 19<sup>th</sup>

9.45 Arrival on Sophienberg Castle  
Rungsted Strandvej 219  
DK-2960 Rungsted Kyst  
Phone: +45 45 76 09 00  
Fax. +45 45 76 35 25  
and:  
Rungstedgaard, Rungsted Strandvej 107, DK-2960 Rungsted Kyst  
Phone: +45 42 86 44 22

Coffee

10.00 – 10.30 *Introduction by Bengt-Åke Lundvall*  
10.30 – 11.45 Presentation of the 3 Research Themes by:  
Theme A:  
**The Firm as a Knowledge-creating and Knowledge Accumulation Entity**  
*Project 1: The Dynamics of Economic Organization and Knowledge Accumulation in the firm (including 5 sub-projects)*  
*Project 2: Relations between Technical and Organizational Change, productivity and Demand for Labour at the Level of the Firm*  
Project coordinator: Jens Frøslev Christensen  
Theme B:  
**Competence Building and Interfirm Dynamics**  
Project coordinator: Esben Sloth Andersen  
Theme C:  
**International Competitiveness and the National and Regional Systems of Innovation**  
*Project 2: Regional Innovation Systems and Environment*  
*Project 3: Competitiveness and National Systems of Innovation: Pathdependency in International specialization*  
Project coordinator: Björn Johnson  
11.45 – 12.00 *Presentation of the book project by Peter Maskell*  
12.00 – 13.30 Lunch  
13.30 – 15.30 Visiting Karen Blixen's home in Rungstedlund  
15.30 – 15.45 Coffee  
15.45 – 17.15 Discussion in 3 groups of DRUID (Research Themes, Research and Ph.D.Projects)  
**Ph.D.-projects and plans:**  
*Interorganizational Learning in the green Transformation*  
by Maj M. Andersen  
*Knowledge and Technology Flows in National Systems of Innovation*  
by Ina Drejer  
*A taxonomy and theory of Innovation*  
by Frank Skov Kristensen  
*The role of Inducement Mechanisms in the Interplay between International Specialization in Trade and Technology*  
by Keld Laursen

*Information Technology, Productivity and Organizational Change*  
by Søren Nymark  
*The Dynamics of Technological Capabilities and Research Strategies*  
by Mette Præst

17.30 – 19.00 *New trends in the Research on Industrial Dynamics* (Freeman and Malerba)  
19.30 Dinner

Saturday the 20<sup>th</sup>

8.00 – 9.00 Breakfast

9.00 – 12.00 *Changes in the Production and use of Knowledge with focus on the Codification Trend* (panel with Llerena, Columbo, Foray, Hatchuel, Loasby, Winter and Nightingale)

10.30 – 10.45 Coffee

12.00 – 13.30 Lunch

13.30 – 16.00 *Industrial policy in the Learning Economy* (panel with DeBandt, Jørgen Rosted, Morris Teubal, Keith Smith, Luc Soete, Nobuo Tanaka)

14.30 – 14.45 Coffee

16.00 – 16.30 *Future Activities and Seminars*

16.30 – Departure from Rungsted to Nansensgade

International Guests:

Dominique Foray, Professor, Université Paris Dauphine, France

Brian Loasby, Professor, University of Stirling, Scotland

Sidney G. Winter, Professor, The Wharton School, U. of Pa., U.S.A.

Jacques De Bandt, Professor, LATAPSES, France

Chris Freeman, Professor, Merit, Holland

Nubuo Tanaka, Director, MITI, Japan

Franco Malerba, Professor, Università Commerciale Luigi Bocconi, Italy

Armand Hatchuel, Professor, Université Paris Dauphine, France

Massimo Columbo, Professor, Politecnico di Milano, Italy

Luc Soete, Professor, Merit, Holland

Poul Nightingale, Ph.D.-student, SPRU, U.K.

Patrick Llerena, BETA, ULP, France

Morris Teubal, Professor, The Jerusalem Institute for Israel Studies

Keith Smith, Professor, STEP-group, Oslo

Jørgen Rosted, Head of Demartement, Ministry of Industry

Jens Nyholm, Advisor, Ministry of Industry

Stephen Martin, Director, CIE

Charles Edquist, Professor, Tema T, University of Linköping

## Programme for the DRUID Winter Seminar, January 8-10, 1997

Wednesday the 8th

16.45 Arrival on Scanticon Borupgaard  
Nørrevej 80  
DK-3070 Snekkersten  
Tel. +45 42 22 03 33  
Fax. +45 42 22 03 99

Coffee

17.15 - 17.30 Introduction by Bengt-Åke Lundvall  
17.30 - 18.30 *The state of the art in the field of  
Industrial Dynamics*, Bo Carlsson  
19.00 Dinner

Thursday the 9th

09.00 - 10.30 Session 1: **Interactive Learning and the theory of the firm**  
Part 1  
Jens Frøslev Christensen: *The Dynamics of the Diversified Corporation and the Role of Central Management of Technology*  
Discussants: Poul Rind Christensen and Massimo Colombo  
Mikael Iversen: *Concepts of Synergies - Towards a clarification*  
Discussants: Bengt-Åke Lundvall and Massimo Colombo  
Mark Lorenzen: *The creation of routines in an interactive perspective*  
Discussants: Nicolai Juul Foss and Massimo Colombo  
11.00 - 12.30 Part 2  
Peter Maskell: *The Process and Consequences of UBIQUIFICATION*  
Discussants: Dominique Foray  
Lars Gelsing & Kent Nielsen: *Promoting Inter-firm Networks in Industrial Policy - Danish evidence*  
Discussants: Kristian Philipsen and Dominique Foray  
Poul Rind Christensen og Poul H. Andersen : *The Pen & the Needle - Interorganizational dynamics of Combining Fields of Knowledge Lessons from Novo Nordisk*  
Discussants: Frank Skov Kristensen and Dominique Foray  
13.30 - 15.00 Session 2: **Organisational change and innovation**  
Reinhard Lund and Allan Næs Gjerding: *The flexible company. Innovation, work organisation and human resource management*  
Discussants: Mikael Iversen and Charles Edquist  
Reinhard Lund: *Flexibility, New Technology, Product/market innovation and organisational change in two economic sectors*  
Discussants: Jens Frøslev Christensen og Charles Edquist  
Bengt-Åke Lundvall, Poul Thøis Madsen, Frank Skov Kristensen: *Increased flexibility, innovativeness and human resource development as a response to increased competition*  
Discussants: Poul H. Andersen and Charles Edquist

15.30 - 17.30

**Session 3: Technological opportunities and International Specialisation**

Bent Dalum, Keld Laursen and Gert Villumsen: *The Long Term Development of OECD Export Specialisation Patterns: Despecialisation and 'Stickiness'*

Discussants: Esben Sloth Andersen and Lynn Mytelka

Keld Laursen: *The Impact of Technological Opportunity on the Dynamics of Trade Performance*

Discussants: Peter Lotz and Lynn Mytelka

Peter Lotz: *Interdependencies between export specialisation, health care expenditures, and research activities*

Discussants: Bent Dalum and Lynn Mytelka

Olman Segura-Bonilla: *Institutional Changes, Innovation and Forestry in Central America*

Discussants: Maj Andersen and Lynn Mytelka

Friday the 10th

**Session 4: National Systems of Innovation, the Learning Economy and Economic Growth**

09.00 - 10.30

Part 1

Nicolai Juul Foss: *The Growth Theory: Some Intellectual Growth Accounting*

Discussants: Keld Laursen and Jan Fagerberg

Esben Sloth Andersen: *An Evolutionary Model of Structural Economic Dynamics*

Discussants: Jan Fagerberg

Birgitte Gregersen and Björn Johnson: *Learning Economies, Innovation Systems and European Integration*

Discussants: Gert Willumsen and Jan Fagerberg

11.00 - 12.30

Part 2

Ina Drejer: *The Knowledge Structure of the Danish Economy - does formal education matter in production?*

Discussants: Mark Lorenzen and Dieter Ernst

Jesper Lindgaard Christensen and Ina Drejer: *Finance and Innovation System or Chaos*

Discussants: Peter Maskell and Dieter Ernst

Maj Andersen: *Interorganisational learning in the green transformation - A Competence based explanation*

Discussants: Björn Johnson and Dieter Ernst

**International Guests:**

Bo Carlsson, Case Western Reserve University, USA

Massimo Columbo, Professor, Politecnico di Milano, Italy

Charles Edquist, Professor, University of Linköping, Sweden

Jan Fagerberg, Professor, NUPI, Norway

Lynn Mytelka, UNCTAD, Geneva, Switzerland  
Dieter Ernst, Guestprofessor, Aalborg University  
Staffan Laestadius, Professor, The Royal School of Technology, Stockholm, Sweden

### **Papers presented at the conference:**

#### *Interactive Learning and the Theory of the Firm*

Jens Frøslev Christensen: The Dynamics of the Diversified Corporation and the Role of Central Management of Technology

Discussants: Poul Rind Christensen and Massimo Colombo

Mikael Iversen: Concepts of Synergies - Towards a clarification

Discussants: Bengt-Åke Lundvall and Massimo Colombo

Mark Lorenzen: The creation of routines in an interactive perspective

Discussants: Nicolai Juul Foss and Massimo Colombo

Peter Maskell: The Process and Consequences of UBIQUIFICATION

Discussants: Klaus Lindegaard and Massimo Colombo

Lars Gelsing & Kent Nielsen: Promoting Inter-firm Networks in Industrial Policy - Danish evidence

Discussants: Kristian Philipsen and Poul Rind Christensen

Poul Rind Christensen og Poul H. Andersen : The Pen & the Needle - Interorganizational dynamics of Combining Fields of Knowledge Lessons from Novo Nordisk

Discussants: Frank Skov Kristensen and Staffan Laestadius

#### *Organizational Change and Innovation*

Reinhard Lund and Allan Næs Gjerding: The flexible company. Innovation, work organisation and human resource management

Discussants: Mikael Iversen and Charles Edquist

Reinhard Lund: Flexibility, New Technology, Product/market innovation and organisational change in two economic sectors

Discussants: Jens Frøslev Christensen og Charles Edquist

Bengt-Åke Lundvall, Poul Thøis Madsen, Frank Skov Kristensen: Increased flexibility, innovativeness and human resource development as a response to increased competition

Discussants: Poul H. Andersen and Charles Edquist

#### *Technological opportunities and International Specialisation*

Bent Dalum, Keld Laursen and Gert Villumsen: The Long Term Development of OECD Export Specialisation Patterns: De-specialisation and 'Stickiness'

Discussants: Esben Sloth Andersen and Lynn Mytelka

Keld Laursen: The Impact of Technological Opportunity on the Dynamics of Trade Performance

Discussants: Peter Lotz and Lynn Mytelka

Peter Lotz: Interdependencies between export specialisation, health care expenditures, and research activities

Discussants: Bent Dalum and Lynn Mytelka

Olman Segura-Bonilla: Institutional Changes, Innovation and Forestry in Central America

Discussants: Maj Andersen and Lynn Mytelka

National Systems of Innovation, the Learning Economy and Economic Growth

Nicolai Juul Foss: The Growth Theory: Some Intellectual Growth Accounting

Discussants: Keld Laursen and Jan Fagerberg

Esben Sloth Andersen: An Evolutionary Model of Structural Economic Dynamics

Discussants: Bengt-Åke Lundvall and Jan Fagerberg

Birgitte Gregersen and Björn Johnson: Learning Economies, Innovation Systems and European Integration

Discussants: Gert Willumsen and Jan Fagerberg

Ina Drejer: The Knowledge Structure of the Danish Economy - does formal education matter in production?

Discussants: Mark Lorenzen and Dieter Ernst

Jesper Lindgaard Christensen and Ina Drejer: Finance and Innovation System or Chaos

Discussants: Peter Maskell and Dieter Ernst

Maj Andersen: Interorganisational learning in the green transformation - A Competence based explanation

Discussants: Björn Johnson and Dieter Ernst

## Programme for the DRUID Summer Seminar, June 1–3, 1997

Sunday the 1<sup>st</sup>

19.30 Arrival on Hotel Skagen  
Gl. Landevej 39  
DK-9990 Skagen  
Tlf. +45 98 44 22 33  
Fax. +45 98 44 21 34

20.00 Dinner at Hotel Skagen

Monday the 2<sup>nd</sup>

8.00 – 9.00 Breakfast

09.00 – 12.30 Plenary Session 1:

### **Competition and Industrial Dynamics**

Chairman: Jens Frøsløv Christensen

G. B. Richardson: *Competition, Innovation and Increasing Returns*

Discussant: Ed Steinmueller

Giovanni Dosi/Orietta Marsili: *Industrial Structures and Dynamics: Evidence, Interpretation and Puzzles*

Discussant: Michael Storper

Bo Carlson: *Competition and Industrial Dynamics - Innovation, Entry, and Spill overs*

Discussant: Esben Sloth Andersen

Benjamin Coriat: *Firms, competition and selection - Strengths and limits of the Evolutionary Approach*

Discussant: Patrick Llerena

Morris Teubal: *Restructuring and Embeddness of the Business Sector - A Systems of Innovation Perspective on Diffusion Policy*

Discussant: Björn Johnson

10.030 – 11.00 Coffee

12.30 – 13.30 Lunch

13.30 – 15.45 Visiting Michael & Anna Ancher's House inkl. coffee

16.00 – 19.30 Parallel Sessions 2.1 and 2.2

### Session 2.1: **Competition and dynamics in IT-related sectors**

Massimo Colombo (with Paola Carrone): *Capabilities in the Multimedia Regime -The case of Telecommunications Operators*

Discussants: Robin Mansell/Bent Dalum

Ed Steinmueller: *The Evolution of Competitive Advantage in the Global Semiconductor Industry: 1947-1996*

Discussants: Massimo Colombo/Mette Præst

Robin Mansell: *Relocations of Competition in the field of Information and Communications Technology*

Discussants: Peter Lotz/Maj Andersen

Dieter Ernst: *High-Tech Competition Puzzles. How Globalization Affects Firm Behaviour and Market Structure in the Electronics Industry*

Discussants: Svend Hylleberg/Nana Køster

**Session 2.2: Globalisation and changing patterns of competition**

Chairman: Peter Maskell

Michael Storper: *Social Impacts of Globalisation - Production, Consumption and Inequality in Global Context.*

Discussants: Poul H. Andersen/Mark Lorenzen

Claude Serfati (with Francois Chesnais): *Long Horizon Investment under a Globalised Finance Dominated Accumulation Regime. An Interpretation of the Levelling Off and Decline of R&D in the 1990s*

Discussants: Michel Delapierre/Jesper Lindgaard Christensen/

Lynn Mytelka & Michel Delapierre: *Industrial Dynamics, Knowledge-Based Networked Oligopolies and the Emergence of New Modes of Competition*

Discussants: Jens Nyholm/Olman Segura

Franco Malerba (with Timothy Bresnahan): *Industrial Dynamics and the Evolution of Firms' and nations' Competitive Capabilities in the World Computer Industry*

Discussants: Morris Teubal/Gert Villumsen

17.30 – 18.00

Pause

19.30 – 20.00

Dinner

Tuesday 3<sup>rd</sup>

08.00 – 09.00

Breakfast

09.00 – 10.30

Plenary Session 3.1

**Session 3.1: Stability and change in industrial structures**

Chairman: Patrick Llerena

Esben Sloth Andersen: *The Schumpeterian Trade-off in an Evolutionary Model of Structural Economic Change*

Discussants: Bo Carlsson/Henrik Sornn-Friese

Peter Lotz: *Stable Industries in Turbulent Environments*

Discussants: Dieter Ernst/Klaus Lindegaard

Bengt-Åke Lundvall: *Industrial Dynamics in a small open economy*

Discussants: Franco Malerba/Keld Laursen

10.30 – 11.00

Coffee

11.00 – 12.30

Plenary Session 3.2

Round table on *Implications of globalisation, the learning economy and the information society for competition policy*

Chairman: Bo Carlsson, Svend Hylleberg, Finn Lauritzen, G.B. Richardson, Ed Steinmueller, Bengt-Åke Lundvall and Lynn Mytelka

13.00 – 14.00

Lunch

14.00

Departure

**International Guests:**

Carlsson, Bo, Professor, Case Western Reserve University

Colombo, Massimo, Professor, Politecnico di Milano

Delapierre, Michel, Professor, Université de Paris

Dosi, Giovanni, Professor, IASA, Austria

Hylleberg, Svend, Professor, Aarhus University

Lauritzen, Finn, Director Konkurrencerådet  
Llerena, Patrick, Professor, Beta ULP  
Loasby, Brian, Professor, University of Stirling  
Malerba, Franco, Professor, Università Commerciale Luigi Bocconi, Italy  
Mansell, Robin, Professor, University of Sussex  
Marsili, Orietta, Professor, University of Sussex  
Mytelka, Lynn, UNCTAD, Geneva, Switzerland  
Nyholm, Jens, Advisor, Ministry of Industry  
Rytter, Niels, Kontochef, Konkurrencerådet  
Richardson, G B, Oxford  
Serfati, Claude, Professor, Université de Versailles  
Smith, Keith, Professor, STEP-group, Oslo  
Steinmueller, Ed, professor, University of Sussex , UK  
Storper, Michael, Professor, UCLA & University of Marne-la-Vallée  
Teubal, Morris, Professor, The Jerusalem Institute for Israel Studies

### **Papers presented at the conference:**

Robin Mansell: Relocations of Competition in the Field of Information and Communication Technology

Massimo G. Colombo (and Paola Garrone): Capabilities in the Multimedia Regime. The Case of Telecommunications Operators.

George B. Richardson: Competition, Innovation and Increasing Returns.

Benjamin Coriat (and O. Weinstein): Sur la Théorie Évolutionniste de la Firme.

Dieter Ernst: High-Tech Competition Puzzles. How Globalization Affects Firm Behaviour and Market Structure in the Electronics Industry.

Franco Malerba (and Timothy Bresnahan): Industrial Dynamics, Knowledge-Based Networked Oligopolies and the Emergence of New Modes of Competition.

Lynn K. Mytelka & Michel Delapierre: Industrial Dynamics, Knowledge-Based Networked Oligopolies and the Emergence of New Modes of Competition.

Claude Serfati (and Francois Chesnais): Long Horizon Investment under a Globalised Finance Dominated Accumulation Regime: An Interpretation of the Levelling Off and Decline of R&D in the 1990s.

Bengt-Åke Lundvall: Competition and Industrial Dynamics in a Small Open Economy.

## Programme for the DRUID Winter Seminar, January 8-10, 1998

Thursday the 8th.

15.30 Arrival on Kongebrogården  
Kongebrovej 63  
DK-5500 Middelfart  
Phone: +45 64 41 11 22  
Fax: +45 64 41 11 80

Coffee

16.00 - 18.30 Session 1:  
Maj Andersen "*Evolutionary and resource based theories on interorganisational learning*"  
Discussants: Edward Lorenz and Frank Skov Kristensen  
Jens Frøslev Christensen "*Building Innovative Assets and Dynamic Coherence in Multi-Technology Companies*"  
Discussants: Rod Coombs and Mette Præst  
Nicolai Juul Foss "*Edith Penrose and the Penrosians -or, why there is still so much to learn from the theory of the Growth of the Firm*"  
Discussants: G.B. Richardson and Maj Andersen  
19.00 -  
20.30 - 21.30 Dinner  
*Industrial Dynamics*  
Bo Carlson and Bengt-Åke Lundvall

Friday the 9th.

9.00 - 10.45 Session 2:  
Bent Dalum, Keld Laursen and Gert Villumsen "*Is there such a thing as a good export specialisation pattern? An European Perspective*"  
Discussants: Mario Pianta and Lars Gelsing  
Ina Drejer "*Technological Interdependence in Danish Economy - A Comparison of Methods for Identifying Technology Flows*"  
Discussants: Pekka Ylä Antilla and Peter Maskell  
Keld Laursen "*Do Inter-sectoral Linkages Matter for International Export Specialisation?*"  
Discussants: Pekka Ylä Antilla and Dieter Ernst  
11.00 - 13.00 Session 3:  
Allan Næs Gjerding "*International competitiveness by "orgfensive" means. Some observations on technical innovation and organisational change in the Danish private business sector*"  
Discussants: Rod Coombs and Kristian Philipsen  
Kristian Philipsen and Esben Sloth Andersen "*The Evolution of Credence Goods in Customer Markets. Discussants*"  
Discussants: Bo Carlson and Jesper Lindgaard Christensen  
Mark Lorenzen "*Cultural Learning: What is culture and how Does it matter for learning?*"  
Discussants: Edward Lorenz and Allan Næs Gjerding  
Volker Mahnke "*Can contractual theories of the firm explain the existence of knowledge-intensive firms?*"

	Discussants: Bo Carlson and Edward Lorenz
13.00 - 14.00	Lunch
14.00 - 16.00	Cultural Arrangement
16.00 - 18.30	Session 4: Kirsten Foss " <i>Technological Interdependencies, Specialization and Coordination: A Property Rights Perspective on The Nature of the Firm</i> " Discussants: Bo Carlsson & Peter Maskell Nicolai Juul Foss & Mikael Iversen " <i>Promoting Synergies in Multiproduct Firms: Toward a Resource-based View</i> " Discussants: Rod Coombs & Pekka Ylä Antilla Peter Maskell " <i>Outsourcing versus integration: The role of knowledge and space</i> " Discussants: Kirsten Foss & Esben Sloth Andersen Sei-Myung Chang " <i>The Semiconductor Technological Systems in Korea and Taiwan</i> " Discussants: Dieter Ernst & Keld Laursen
19.00 -	Dinner
January 10th. 9.00 - 10.30	Session 5: Mette Præst " <i>An Empirical Model of Firm Behaviour: A Dynamic Approach to Competence Accumulation and Strategic Behaviour</i> " Discussants: Morten Overgaard Nielsen and Nicolai Juul Foss Marco Valente " <i>Technological Competition: A Qualitative Product Life Cycle</i> " Discussants: G.B. Richardson and Keld Laursen
10.45 - 11.45	Closing round table on <i>Transaction costs and trust</i> with Edward Lorenz, G.B.Richardson, Peter Maskell, Nicolai Juul Foss and Lars Gelsing
12.00-13.30	Lunch
14.00	Departure

#### **International Guests:**

Bo Carlsson  
Rod Coombs  
Edward Lorenz  
Mario Pianta  
G.B. Richardson  
Mario Pianta  
Pekka Ylä Antilla

#### **Papers presented at the conference:**

Andersen, Maj Munch: Evolutionary and resource based theories on interorganisational learning.  
Discussants: Ned Lorenz & Frank Skov Kristensen.

Christensen, Jens Frøslev: Building Innovative Assets and Dynamic Coherence in Multi-Technology Companies.  
Discussants: Rod Coombs & Mette Præst.

Dalum, Bent; Keld Laursen and Gert Willumsen: Is there such a thing as a good export specialisation pattern? An European Perspective. Discussants: Mario Pianta & Lars Gelsing.

Drejer, Ina: Technological Interdependence in Danish Economy - A Comparison of Methods for Identifying Technology Flows. Discussants: Pekka Ylä Antilla & Peter Maskell.

Foss, Kirsten: Technological Interdependencies, Specialization and Coordination: A Property Rights Perspective on The Nature of the Firm. Discussants: Bo Carlsson & Peter Maskell.

Foss, Nicolai Juul: Edith Penrose and the Penrosians -or, why there is still so much to learn from the theory of the Growth of the Firm. Discussants: G.B. Richardson & Maj Andersen.

Gjerding, Allan Næs: International competitiveness by "orgfensive" means. Some observations on technical innovation and organisational change in the Danish private business sector. Discussants: Rod Coombs and Kristian Philipsen.

Foss, Nicolai Juul & Iversen, Mikael: Promoting Synergies in Multiproduct Firms: Toward a Resource-based View. Discussants: Rod Coombs & Pekka Ylä Antilla.

Jørgensen, Kenneth: Information technology and organizational change - A case study in a Danish subsidiary company. Discussants: Mark Lorenzen & Volker Mahnke.

Lorenzen, Mark: Cultural Learning: What is culture and how Does it matter for learning? Discussants: Ned Lorenz & Allan Næs Gjerding.

Laursen, Keld & Ina Drejer: Do Inter-sectoral Linkages Matter for International Export Specialisation? Discussants: Pekka Ylä Antilla & Dieter Ernst.

Mahnke, Volker: Can contractual theories of the firm explain the existence of knowledge-intensive firms? Discussants: Bo Carlsson & Edward Lorenz.

Maskell, Peter: Outsourcing versus integration: The role of knowledge and space. Discussants: Kirsten Foss & Esben Sloth Andersen.

Præst, Mette: An Empirical Model of Firm Behaviour: A Dynamic Approach to Competence Accumulation and Strategic Behaviour. Discussants: Morten Overgaard Nielsen & Nicolai Juul Foss.

Philipsen, Kristian and Esben Sloth Andersen: The Evolution of Credence Goods in Customer Markets. Discussants: Bo Carlsson & Jesper Lindgaard Christensen.

Valente, Marco: Technological Competition: A Qualitative Product Life Cycle. Discussants: G. B. Richardson & Keld Laursen.

Sei-Myung Chang: The Semiconductor Technological Systems in Korea and Taiwan. Discussants: Dieter Ernst & Keld Laursen.

**Programme for the Conference: "Competences, Governance and Entrepreneurship". The DRUID 1998 Summer Conference, Bornholm, June 9-11, 1998.**

Tuesday, June 9

- 10.00 Departure from Copenhagen Airport
- 11.00 Arrival at Hotel Fredensborg, Bornholm
- 11.30 - 13.00 Lunch
- 13.00 - 13.15 Opening addresses  
Finn Junge-Jensen, President of Copenhagen Business School  
Nicolai Foss, organizer of the conference
- 13.15- 14.00 Keynote address (plenary session)  
Bo Carlsson and Bengt-Åke Lundvall: *"Industrial Dynamics Revisited: What Have We Learned?"*
- 14.00 - 15.15 Session A: **Fundamental Perspectives**  
Chair: Bo Carlsson  
Sidney G. Winter: *"Evolutionary Production Theory: Principles and Elements"*  
Richard N. Langlois: *"Capabilities and Governance: the Rebirth of Production in the Theory of Economic Organization"*  
Paul Geroski: *"The Growth of Firms in Theory and Practice"*  
Discussants: Ulrich Witt and Giovanni Dosi  
Session B: **Competences and Technology Strategy**  
Chair: Bengt-Åke Lundvall  
Franco Malerba: *"Knowledge Proximity and Technological Diversification"*  
Mette Præst: *"Processes of Technological Competence Accumulation: A Synthesis"*  
Jens Frøslev Christensen: *"Pursuing Corporate Coherence in Decentralized Governance Structures: the Role of Technology Management in Multi- Product Companies"*  
Discussants: Massimo Colombo and Finn Valentin
- 15.15 - 15.45 Coffee break
- 15.45 - 17.00 Session C: **Perspectives on Interfirm Organization**  
Chair: Peter Maskell  
Bart Nooteboom: *"Competence in Mutual Dependence"*  
Massimo Colombo: *"The Choice of the Form of Strategic Alliances: Transaction Cost Economics and Beyond"*  
Anoop Madhok: *"Cost, Value, and the Management of Interfirm Collaborations"*  
Discussants: Steen Thomsen and Henrik Lando  
Session D: **Competences, Transaction Costs, and Strategy**  
Chair: Jens Frøslev Christensen  
Kirsten Foss and Nicolai Foss: *"The Knowledge-Based Perspective: Some Organizational Economics Foundations"*  
Jack Nickerson: *"Toward an Economizing Theory of Strategy"*

- Nicholas Argyres: "*Contractual Commitments, Bargaining Power, and Governance Inseparability: Incorporating History into the Transaction Cost Theory of Firm*"
- Discussants: Torger Reve and Oliver Williamson
- 17.00 Session E: **Competences and Transaction Costs**  
(plenary session)  
Chair: Volker Mahnke  
*Roundtable* with Oliver Williamson, Sidney Winter, Brian Loasby, Bengt-Åke Lundvall, G.B. Richardson, Jay Barney, and Giovanni Dosi
- 19.00 Dinner
- Wednesday, June 10
- 9.00 - 9.30 Keynote address (plenary session)  
G.B. Richardson: "*Production, Planning and Prices*"
- 9.30 - 10.45 Session A: **Evolution and Industrial Organization**  
Chair: Rikard Stankiewicz  
Esben Sloth Andersen: "*The Evolution of the Organisation of Industry*"  
Martin Fransman: "*Analysing the Evolution of Industry: the Relevance of the Telecommunications Industry*"  
Frank Kristensen: "*Towards a Dynamic Theory of Industrial Organisation*"  
Discussants: Vivien Walsh and Stan Metcalfe
- Session B: **Evolution and the Firm**  
Chair: Nicolai Foss  
Ulrich Witt: "*Between Entrepreneurial Leadership and Managerial Governance - The Contingent Ontogeny of the Firm Organization*"  
Luigi Marengo: "*Interdependencies and Division of Labor in Problem Solving Techniques*"  
Giovanni Dosi: "*Learning to Govern and Learning to Solve Problems*"  
Discussants: Richard Langlois and Brian Loasby
- 10.45 - 11.00 Coffee break
- 11.00 - 12.30 Session C: **Empirical Work on the Competence Perspective**  
Chair: Peter Maskell  
Guido Reger: "*European Technology Policy and Internationalization: An Analysis against the Background of the International Innovation Strategies of Multinational Enterprises*"  
Torben Pedersen: "*Do MNCs Learn Through Their International Operations?*"  
Birgitte Andersen and Vivien Walsh: "*Co-Evolution of Technological Systems, Blurring of Industry Boundaries, and Broadening of Competences in the Chemical Industry*"  
Discussants: Keld Laursen and Bo Carlsson
- Session D: **Real Options and the Theory of the Firm**  
Chair: Steen Thomsen  
Ron Sanchez: "*Uncertainty, Flexibility and Economic Organization: Foundations for an Option Theory of the Firm*"  
Jay B. Barney: "*Transaction Costs, Real Options, Learning and Property Rights*"

Eric Pfaffman: *"How Does a Product Influence the Boundaries of the Firm?"*  
 Discussants: Jack Nickerson and Volker Mahnke

12.30 - 13.30 Lunch

13.30 Sightseeing on Bornholm

18.30 Dinner

20.30- Session E: **Technology and Competence Accumulation** (plenary session)  
 Chair: Jens Frøslev Christensen  
 Keith Pavitt: *"Technologies, Products and Organisation in the Innovating Firm: What Adam Smith Tells us and Joseph Schumpeter Doesn't"*  
 Rod Coombs and Stan Metcalfe: *"Distributed Capabilities and the Governance of the Firm"*  
 Gunnar Eliasson: *"The Nature of Economic Change and Management in the Knowledge-Based Information Economy"*  
 Discussants: Charles Edquist and Bengt-Åke Lundvall

Thursday, June 11

8.45 - 9.15 Keynote address (plenary session)  
 Oliver E. Williamson: *"Strategic Management and Core Competences: A Transaction Cost Economics Perspective"*

9.15 - 10.30 Session A: **Knowledge, Decisions and the Firm**  
 Chair: Esben Sloth Andersen  
 Brian J. Loasby: *"Decision Premises and Economic Organisation"*  
 Neil Kay: *"Some Rude Thoughts on the Growth of Firms"*  
 Patrick Llerena: *"The Theory of the Firm in an Evolutionary Perspective: a Critical Development"*  
 Discussants: Ron Sanchez and Keith Pavitt

Session B: **Learning, Communication and Internal Organization**  
 Chair: Kirsten Foss  
 Jacques de Bandt: *"Competence and Organizational Learning Requirements for Complex Knowledge Production"*  
 Henrik Lando: *"Communication Costs, Individual and Collective Ownership"*  
 Mark Casson: *"An Entrepreneurial Theory of the Firm"*  
 Discussants: Stan Metcalfe and Nicholas Argyres

10.30 - 10.45 Coffee break

10.45 - 12.00 Session C: **The Role of Geographical Proximity**  
 Chair: Bent Dalum  
 Kristian Philipsen: *"The Role of Entrepreneurship in the Development of a Local Industrial Cluster"*  
 Mark Lorenzen: *"Information Costs, Learning, and Trust"*  
 Dieter Ernst: *"What Permits Small Firms to Compete in High-Tech Industries?"*  
 Discussants: Peter Maskell and Mark Casson

Session D: **Extended Views of Governance**  
 Chair: Esben Sloth-Andersen

Steen Thomsen and Torben Pedersen: "*Ownership Structure and Economic Performance in the Largest European Companies*"

Paul H Andersen: "*Organizing International Technological Collaboration in Subcontractor Relationships: An Investigation of the Knowledge-Stickiness Problem*"

Allan Næss Gjerding: "*Technical Collaboration as Social Construction: Some Observations on Tacit Knowledge and Shared Meaning*"

Discussants: Birgitte Andersen and Massimo Colomo

13.00 Departure for Rønne Airport

### **International Guests:**

Nicholas ARGYRES, University of California, Los Angeles

Robert BURGELMAN, Stanford University

Bo CARLSSON, Case Western University

Mark CASSON, University of Reading

Kathleen CONNER, University of Ohio

Rod COOMBS, Manchester University

Harold DEMSETZ, University of California, Los Angeles

Giovanni DOSI, University of Rome

Sumantra GHOSHAL, London Business School

Jean-Francois HENNART, University of Illinois

Richard N. LANGLOIS, University of Connecticut

Brian J. LOASBY, University of Stirling

James G. MARCH, Stanford University

John Stanley METCALFE, Manchester University

Anoop MADHOK, University of Utah

Luigi MARENGO, University of Trento

Cynthia MONTGOMERY, Harvard Business School

Bart NOOTEBOOM, University of Groningen

George B. RICHARDSON, Oxford

David J. TEECE, University of California, Los Angeles

Oliver E. WILLIAMSON, University of California, Berkeley.

Sidney G. WINTER, The Wharton School

### **Papers presented at the conference:**

Birgitte Andersen and Vivien Walsh: Co-Evolution of Technological Systems, Blurring of Industry Boundaries and Broadening of Competencies in the Chemical Industry

Esben Sloth Andersen: The Evolution of the Organisation of Industry

Poul Houman Andersen: Organizing International Technological Collaboration in Subcontractor Relationships An Investigation of the Knowledge-Stickiness Problem

Nicholas S. Argyres and Julia Porter Liebeskind: Contractual Commitments, Bargaining Power, and Governance Inseparability: Incorporating History into the Transaction Cost Theory of the Firm

Jacques De Bandt: Competence, Organisational Learning and Training Requirements for Complex Knowledge Production.

Jay B. Barney and Woonghee Lee: Governance Under Uncertainty: Transactions Costs, Real Options, Learning, and Property Rights

Stefano Breschi, Francesco Lissoni and Franco Malerba: Knowledge Proximity and Technological Diversification

Bo Carlsson and Bengt-Åke Lundvall: Industrial Dynamics Revisited: What have we Learned?

Mark Casson: An Entrepreneurial Theory of the Firm

Jens Frøslev Christensen: Pursuing Corporate Coherence in Decentralized Governance Structures. the Role of Technology Management in Multi-Product Companies

Patrick Cohendet and Patrick Llerena: "Theory of the Firm in an Evolutionary Perspective: A critical development"

Massimo G Colombo.: The Choice of the Form of Strategic Alliances: Transaction cost Economics and Beyond

Rod Coombs and Stan Metcalfe: Distributed Capabilities and The Governance of The Firm

Gunnar Eliasson: The Nature of Economic Change and Management in the Knowledge-based Information Economy

Dieter Ernst: What Permits Small Firms to Compete in High-Tech Industries? The Dynamics of Inter-Organizational Knowledge Creation in the Taiwanese Computer Industry

Kirsten Foss and Nicolai Foss,: The Knowledge-Based Approach: A Perspective From Organizational Economics

Martin Fransman: Analysing the Evolution of Industry: The Relevance of the Telecommunications Industry

Paul A. Geroski: The Growth of Firms in Theory and in Practice

Allan Næs Gjerding: Technical collaboration as social construction Some observations on tacit knowledge and shared meanings

Neil Kay: Some Rude Thoughts on The Growth of Firms

Frank Skov Kristensen: Understanding Learning in Technological Trajectories: Combining Organizational Integration and Industrial Dynamics

Richard N. Langlois and Nicolai J. Foss: Capabilities and Governance: the Rebirth of Production in the Theory of Economic Organization

Brian J Loasby: Decision Premises and Economic Organisation

Mark Lorenzen: Information cost, learning, and trust Lessons from co-operation and higher-order capabilities amongst geographically proximate firms

Anoop Madhok: Transaction Costs, Firm Resources and Interfirm Collaboration

Luigi Marengo: Interdependencies and Division of Labour in Problem-Solving Technologies

Frieder Meyer-Krahmer and Guido Reger: European Technology Policy and Internationalization: An Analysis behind the Background of the Innovation Strategies of Multinational Enterprises

Jack A. Nickerson: Toward An Economizing Theory of Strategy

Bart Nooteboom, Gjalt de Jong, Robert W. Vossen, Susan Helper and Mari Sako: Competence in Mutual Dependence

Keith Pavitt: Technologies, Products & Organisation in The Innovating Firm: What Adam Smith Tells us and Joseph Schumpeter Doesn't

Torben Pedersen: Do MNCs learn through their international operations?

Eric Pfaffmann: How Does a Product Influence the Boundaries of the Firm? A Competence-based Theory of Vertical Integration and Co-operation

Kristian Philipsen: Entrepreneurship as organizing - A literature study of entrepreneurship

Mette Præst: Processes of Technological Competence Accumulation: A Synthesis

George B. Richardson: Production, Planning and Prices

Ron Sanchez: Uncertainty, Flexibility, and Economic Organization: Foundations for an Options Theory of the Firm

Steen Thomsen and Torben Pedersen: Ownership Structure and Economic Performance in the Largest European companies

Sidney G. Winter: Toward an Evolutionary Production Theory Principles and Elements

## Programme for the DRUID Winter Seminar, January 7-9, 1999

Thursday the 7th

15.30 Arrival at Scanticon Comwell  
Kongevejen 195  
2840 Holte

Coffee

16.00 – 18.30 Session 1: **The regional and international dimension**  
Chairperson:  
*Local external influences on SME export marketing activity: An empirical analysis*  
Andersen, Poul Houman  
Commentators:  
Alice Lam/Jesper L. Christensen  
*Market institutions and interorganisational learning*  
Andersen, Maj Munch  
Commentators:  
Ken Green/Michael Iversen  
*Modularization in black-box design: Implications for Supplier-buyer Partnerships*  
Juliana Hsuan  
Commentators:  
Ned Lorenz/Kirsten Foss  
*Proximity and coordination*  
Filippi, Maryline  
Commentators:  
Alice Lam/Peter Maskell

19.0 Dinner

20.30 – 21.30 Session 2: Guest Speaker  
Chairperson: Bo Carlsson  
*Firm Strategies, Innovation and Sustainable growth*  
Ken Green

Friday the 8<sup>th</sup>

9.00- 12.30 Session 3: **From micro to macro**  
Chairperson: Esben Sloth Andersen

11.00 – 11.15 Coffee  
*The Role of Technological Linkages in a Leontief Scheme – From static Structures to Endogenous Evolution of Technical Coefficients*  
Drejer, Ina  
Commentators:  
Bo Carlsson/Bent Dalum  
*Competition, transformation and polarisation in the learning economy — illustrated by the Danish case*  
Bengt-Åke Lundvall and Peter Nielsen

	<p>Commentators:  Ned Lorenz/Maj M. Andersen  <i>Do export and technological specialisation patterns co-evolve in terms of convergence or divergence?: Evidence from 19 OECD Countries, 1971-1991</i>  Laursen, Keld</p>
	<p>Commentators:  Bo Carlsson  <i>Towards a taxonomy of learning regimes: An empirical analysis of the Danish economy</i>  Kristensen, Frank Skov</p>
	<p>Commentators:  Ken Green/Henrik Sornn-Friese</p>
13.00 – 14.00	Lunch
14.00 – 16.00	A walk in the wood
15.45 – 16.00	Coffee
16.00 – 18.30	<p>Session 4: Firm strategies  Chairperson: Jens Frøslev Christensen</p> <p><i>Modular Product Design: Creating "Technologically Separable Interfaces"</i>  Foss, Kirsten</p> <p>Commentators:  G.B. Richardson/Esben Sloth Andersen  <i>The Economies of Knowledge-Sharing: Production- and Organization Cost Considerations</i>  Mahnke, Volker</p> <p>Commentators:  Eric Brosseau/Poul Rind Christensen  <i>How marketing relationships affect Marketing Organization: Evidence from Denmark</i>  Andersen, Poul Houman &amp; Kristensen, Frank Skov</p> <p>Commentators:  Ned Lorenz/Ina Drejer  <i>Mutualism, Economic Relationships, and Business Strategy</i>  Sornn-Friese, Henrik</p> <p>Commentators:  Alice Lam/Jukka Kaisla</p>
19.00	Dinner
Saturday the 9 <sup>th</sup>	
9.00 – 12.30	<p>Session 5: <b>Markets and knowledge Sharing</b>  Chairperson: Bent Dalum</p>
11.00 – 11.15	<p>Coffee  <i>The Organization of Large, Complex Firms: an Austrian View</i>  Foss, Nicolai Juul &amp; Sautet, Frédéric</p>

Commentators:

Eric Brosseau/ Keld Laursen

*Re-Configurations and Co-Productive Strategies –  
Overcoming bottlenecks for knowledge sharing*

Lojacono, Gabriella

Commentators:

Bo Carlson/Kristian Philipsen

*Competitive Advantage through Intrafirm Synergies*

Iversen, Mikael

Commentators:

G.B. Richardson/Nicolai J. Foss

13.00 – 14.00

Lunch

14.0

Departure

### **International Guests:**

Bo Carlsson, Professor, Case Western Reserve University, USA

Eric Brosseau, Université de Nancy II & ATOM, Paris, France

Ken Green, CROMTEC, Manchester School of Management, UMIST

A.C.L. Lam, CBS, University of Kent, UK

Ned Lorenz, University of Technology of Compiègne, France

G.B. Richardson, UK

### **Papers presented at the conference:**

Maj M. Andersen: Market institutions and interorganisational learning

Poul H. Andersen: Local external influence on SME export marketing collaborative activity: Towards a Research Agenda

Poul Houman Andersen & Frank Skov Kristensen: How does Relationship Marketing Strategies affect Marketing Organisation?: Evidence from Denmark

Ina Drejer: The Role of Technological Linkages in a Leontief Scheme - From Static Structures to Endogenous Evolution of Technical Coefficients

Kirsten Foss: Modular Product Design: Creating "Technologically Separable Interfaces"

Nicolai J. Foss & Frédéric E. Sautet: The Organization of Large, Complex Firms: an Austrian View

Juliana Hsuan: Modularization in Black-Box Design: Implications for Supplier-Buyer Partnerships

Mikael Iversen: Competitive Advantage through Intrafirm Synergies

Frank Skov Kristensen: Towards a Taxonomy and Theory of the Interdependence between Learning Regimes and Sectorial Patterns of Innovation and Competition: an Empirical Analysis of an Elaborated Pavitt Taxonomy applying Danish

Keld Laursen: Do export and technological specialisation patterns co-evolve in terms of convergence or divergence?: Evidence from 19 OECD Countries, 1971-1991

Gabriella Lojacono: Re-configurations and Co-Productive Strategies  
- Overcoming bottlenecks for knowledge sharing -

Bengt-Åke Lundvall & Peter Nielsen: Competition, transformation and polarisation in the learning economy – illustrated by the Danish case

Volker Mahnke: The Economies of Knowledge-Sharing: Production- and Organization Cost Considerations

Henrik Sornn-Friese: The Firm, Decision Premises, and Economic Relationships: A Relational Approach to Economic and Industrial Organization

## **Programme for DRUID's Conference on National Innovation Systems, Industrial Dynamics and Innovation Policy, Rebild, June 9-12, 1999**

**Wednesday, 9 June**

**15:00 - 16:00 # Arrival and registration**

**16:00 - 16:30 # Coffee**

**16:30 - 18:15 # Plenary session I: Opening and introduction [LA]**

- Chair: Peter Maskell
- *Introduction to the problems and topics of the conference*, Bengt-Åke Lundvall, Director of DRUID
- *The concrete goals and organisation of the conference*, Esben S. Andersen (DRUID)
- Poul Skovgaard (Chairman of the Danish Business Development Council): *Using a System Approach when Designing Innovation Policy - the Danish Experience*
- Bo Carlsson (Chairman of the advisory board of DRUID), Staffan Jacobsson, Magnus Holmen & Annika Rickne: *Innovation Systems: Analytical and Methodological Issues* [Proceedings, Vol. I]
- Plenary discussion defining the main tasks of the conference

**18:30 - 20:15 # Dinner**

**20:30 - 21:30 # Plenary session II: Innovation systems in North and South [LA]**

- Chair: Lynn K. Mytelka. Discussant: Franco Malerba
- Keith Smith: *Innovation, Growth and Industrial Structure: Issues for Policy*
- Rodrigo Arocena & Judith Sutz: *Looking at National Systems of Innovation from the South* [Proceedings, Vol. I]

## Thursday, 10 June

### 7 - 9 # Breakfast

### 9:00 - 10:30 # Parallel sessions A

#### A.1: National Innovation Systems in Developing Countries I [SA]

- Chair: Dieter Ernst. Discussants: Bjørn Johnson & José Cassiolato
- Shulin Gu: *Concepts and Methods of NIS Approach in the Context of Less-developed Economies* [Proceedings, Vol. I]
- J.Y.Choung, H.R.Hwang & H.Y.Hwang: *Co-evolution of technology and institution in the developing countries* [Proceedings, Vol. I]
- Klaus Lindegaard & Leiner Vargas: *Are the Central American Export Specialisation Patterns "Sticky"? - The National Systems of Innovation Approach* [Separately distributed paper]

#### A.2: Interindustry and Interfirm Linkages within National Innovation Systems I [F3]

- Chair: Esben S. Andersen. Discussants: Rajneesh Narula & Bart Verspagen
- Keld Laursen & Valentina Meliciani: *The Importance of Technology Based Inter-Sectoral Linkages for Market Share Dynamics* [Proceedings, Vol. I]
- Ina Drejer: *Technological Interdependence in National Systems of Innovation: An International Comparison of Embodied R&D Linkages* [Proceedings, Vol. I]
- Juliana Hsuan: *Modularization in New Product Development: A Mathematical Modeling Approach* [Proceedings, Vol. I]

#### A.3: Organizational Learning within Innovation Systems [F2]

- Chair: Peter Maskell. Discussants: Brian Loasby & Kenneth Jørgensen
- Alice Lam: *Tacit Knowledge, Organisational Learning and Societal Institutions: An Integrated Framework* [Proceedings, Vol. I]

- Allan Næs Gjerding: *The evolution of the flexible firm. New concepts and a Nordic comparison* [Proceedings, Vol. I]

### **10:30 - 11:00 # Coffee**

### **11:00 - 12:30 # Parallel sessions B**

#### **B.1: National Innovation Systems in Developing Countries II [SA]**

- Chair: Dieter Ernst. Discussants: Judith Sutz & Shulin Gu
- Scott Tiffin: *Applying the Learning and Innovation System Paradigm To Design an IDRC Research Funding Program in Latin America* [Proceedings, Vol. I]
- Poh-Kam Wong: *National Innovation Systems for Rapid Technological Catch-up: An analytical framework and a comparative analysis of Korea, Taiwan and Singapore* [Proceedings, Vol. I]
- José Cassiolato & Helena M.M. Lastres: *Local, National and Regional Systems of Innovation in the Mercosur* [Proceedings, Vol. I]

#### **B.2: Interindustry and Interfirm Linkages within National Innovation Systems II [F3]**

- Chair: Esben S. Andersen. Discussants: Allan Næs Gjerding & Poul Houman Andersen
- Chris DeBresson: *An Entrepreneur Cannot Innovate Alone: Networks of Enterprises are Required* [Proceedings, Vol. I]
- Anker Lund Vinding & Preben Sander Kristensen: *Importance of collaboration partners in product development* [Proceedings, Vol. I]
- Jane Marceau: *Dancing the Tango: First results of the DISKO study of Interfirm Collaboration in Australia* [Separately distributed paper]

#### **B.3 The Wider Environment of Innovation Systems [F2]**

- Chair: Björn Johnson. Discussants: Birgitte Gregersen & Keith Pavitt
- Barry Bozeman, Michael Crow & Chris Tucker: *Federal Laboratories and Defense Policy in the U.S.*

*National Innovation System* [Proceedings, Vol. I]

- Raykun R. Tan: *Environment, Critical Success Factor, Strategic Response, and Firm Size/R&D Intensity: An Exploratory Firm Level Study of the Electrical and Electronic Industry in Taiwan* [Separate paper; a misprinted version is found in Proceedings, Vol. I]

**12:45 - 14:00 # Lunch**

**14:00 - 16:00 # Guided walk through "Rebild Bakker"**

**16:00 - 16:30 # Coffee**

**16:30 - 18:15 # Plenary session III: Different perspectives [LA]**

- Chair: Bo Carlsson. Discussants: Jorge Niosi & Birgitte Andersen
- Bengt-Åke Lundvall & Jesper Lindgaard Christensen: *Extending and Deepening the Analysis of Innovation Systems - with Empirical Illustrations from the DISKO Project* [Separately distributed paper]
- Patrick Llerena and Mireille Matt: *Technological Cooperation and Dynamic Performance of Industries: Towards an Evolutionary Foundation of Technology Policies* [Proceedings, Vol. II]
- Michael Storper & Yun-chung Chen: *Globalization, Localization, and Knowledge Flows* [Separately distributed paper]
- General discussion

**18:30 - 20:15 # Dinner**

**20:30 - 21:30 # Plenary session IV: Patents and systems of firms [LA]**

- Chair: Bent Dalum. Discussant: Finn Valentin & Mette Præst
- Bart Verspagen: *The Role of Large Multinationals in the Dutch Technology Infrastructure: A Patent Citation Analysis* [Proceedings, Vol. II]
- Pari Patel & Keith Pavitt: *National Systems of Innovation under Strain: The Internationalisation of Corporate R & D* [Proceedings, Vol. II]

## **Friday, 11 June**

### **7 - 9 # Breakfast**

### **9:00 - 10:30 # Parallel sessions C**

#### **C.1: Knowledge, Learning and Institutions I [SA]**

- Chair: Alice Lam. Discussants: G.B. Richardson & Jens Frøslev Christensen
- Birgitte Andersen & Ian Miles: *Complex Socio-Economic Distributed Innovation Systems in The Knowledge-Based Service Economy: The Music Industry* [Separate paper; a misprinted version is found in Proceedings, Vol. II]
- John Mathews: *From National Innovation Systems to National Systems of Economic Learning: The Case of Technology Diffusion Management in East Asia* [Proceedings, Vol. II]

#### **C.2: Issues of Growth and Industrial Renewal I [F3]**

- Chair: Stan Metcalfe. Discussants: Bruno Amable & Tarmo Lemola
- Esben Sloth Andersen: *National Innovation Systems in the Context of Multisectoral Growth and Development* [Proceedings, Vol. II]
- Franco Malerba: *Sectoral Systems of innovation* [Separately distributed paper]
- Pier Paolo Saviotti: *Growth, production and qualitative change* [Proceedings, Vol. II]

#### **C.3: Globalisation and the National Innovation Systems [F2]**

- Chair: Lynn K. Mytelka. Discussants: Staffan Jacobsson & Jon Sigurdson
- Dieter Ernst: *How Globalization Reshapes the Geography of Innovation Systems: Reflections on Global Production Networks in Information Industries* [Separately distributed paper]
- Lynn Mytelka: *Globalization and investment: A learning and innovation perspective* [Separately distributed paper]

**10:30 - 11:00 # Coffee**

**11:00 - 12:30 # Parallel sessions D**

**D.1: Knowledge, Learning and Institutions II [SA]**

- Chair: Alice Lam. Discussants: Patrick Llerena & Maj Munk Andersen
- Jorge Niosi: *National Systems of Innovation are x-efficient* [Proceedings, Vol. II]
- Frank Skov Kristensen: *The Performance of Different Organisations under Different Market Conditions: An Empirical Analysis of the Organisational Structure and Performance of 1900 Danish Firms* [Proceedings, Vol. II]
- Olman Segura: *Systems of Innovation and Learning from Natural Capital* [Proceedings, Vol. II]

**D.2: Issues of Growth and Industrial Renewal II [F3]**

- Chair: Stan Metcalfe. Discussants: Benjamin Coriat & Morris Teubal
- Staffan Jacobsson, Cecilia Sjöberg & Marie Wahlström: *Alternative specifications of the institutional constraint to economic growth - or why is there a shortage of computer and electronic engineers and scientist in Sweden?* [Proceedings, Vol. II]
- Tarmo Lemola & Christopher Palmberg: *Innovations and Industrial Renewal in Finland: Back to Basics in Innovation Studies* [Proceedings, Vol. II]
- Keld Laursen, Volker Mahnke & Per Vejrup-Hansen: *The Process of Firm Growth From a Knowledge Structure Perspective* [Proceedings, Vol. II]

**D.3: Regional Approaches to Innovation Systems [F2]**

- Chair: Michael Storper. Discussants: Mark Lorenzen & Chris DeBresson
- Aadne Cappelen, Jan Fagerberg & Bart Verspagen: *Lack of regional convergence* [Separate paper; a misprinted version is found in Proceedings, Vol. I]
- Bent Dalum, Magnus Holmén, Staffan Jacobsson, Mette Præst, Annika Rickne & Gert Villumsen:

*Changing the Regional System of Innovation*  
[Separate paper; a misprinted version is found in  
Proceedings, Vol. I]

- Gerd Schienstock: *Regional Competitiveness, Co-operation and Innovation: A Comparative Study of Eight European Regions* [Proceedings, Vol. I]

### **12:45 - 14:00 # Lunch**

### **14:00 - 16:00 # Plenary session V: Institutions and growth [LA]**

- Chair: Bengt-Åke Lundvall. Discussants: Jan Fagerberg & Pier Paolo Saviotti
- Bruno Amable & Pascal Petit: *On Institutions, Innovation and Growth* [Proceedings, Vol. II]
- Stan Metcalfe: *Competitive and Comparative Advantage: (Rough) Notes Toward an Evolutionary Approach to Growth and Foreign Trade* [Separately distributed paper]
- Esben S. Andersen & Morris Teubal: *The Transformation of Innovation Systems: Towards a Policy Perspective* [Proceedings, Vol. II]
- General discussion

### **16:00 - 16:30 # Coffee**

### **16:30 - 18:00 # Plenary session VI: Microfoundations [LA]**

- Chair: Michael Storper. Discussants: Pascal Petit & Gerd Schienstock
- Robin Cowan, Paul A. David & Dominique Foray: *The explicit economics of knowledge codification and tacitness* [Proceedings, Vol. II]
- Benjamin Coriat & Olivier Weinstein: *Organization and Institutions in the Innovation Generation - Towards a theory of "Corporate Systems of Innovation"* [Separately distributed paper]
- General discussion

### **18:30 - 22:00 # Conference dinner**

- After the dinner the Rebild Fiddlers, based in the [Rebild Fiddlers' Museum](#), will tell about their art and entertain. Leader: Niels Jørgen Østergaard

## Saturday, 12 June

### 7 - 9 # Breakfast

### 9:00 - 10:30 # Plenary session VII: Knowledge and policy [LA]

- Chair: Bo Carlsson. Discussants: Keith Smith
- Richard R. Nelson: *Knowledge and Innovation Systems* [Proceedings, Vol. II]
- Charles Edquist: *Innovation Policy - A Systemic Approach* [Proceedings, Vol. II]
- General discussion

### 10:30 - 11:00 # Coffee

### 11:00 - 12:30 # Plenary session VIII: The further research agenda [LA]

- Chair: Esben S. Andersen
- Introduction to round table and general discussion by Bengt-Åke Lundvall
- *Round table*: Charles Edquist, Jan Fagerberg, Lynn K. Mytelka, Bengt-Åke Lundvall, & Richard R. Nelson
- General discussion

### 12:45 - 14:00 # Lunch

### 14:00 - 15:00 # Departure

- After the conference there is a separately organised Workshop on "Globalization of Innovation-Systems. The Challenge for Small Developed Countries" co-organised by ESST Oslo, DRUID and the Danish Council for Industrial Development.

#### International Guests:

Bruno Amable, CEPREMAP, Centre d'Études Prospectives d'Économie, Paris, France  
Birgitte Andersen, CRIC, University of Manchester and UMIST, Manchester, UK  
Rodrigo Arocena, Universidad de la Republica, Montevideo, Uruguay  
Barry Bozeman, State Data and Research Center, Georgia Tech, USA  
Bo Carlsson, Department of Economics, Case Western Reserve University, Cleveland,

USA

Yann Cadiou, Observatoire des Sciences et des Techniques, Paris, France

José Cassiolato, Economics of Innovation Group, UFRJ/Federal University of Rio de Janeiro, Brazil

Yun-Chung Chen, UCLA, USA

J.Y. Choung, Techno-Economics Dept., ETRI, Korea

Benjamin Coriat, Université Paris XIII, France

Christian DeBresson, Université du Québec á Montréal, Canada

Charles Edquist, Department of Technology and Social Change, Linköping University, Sweden

Olle Edquist, Stiftelsen för Strategisk Forskning, Stockholm, Sweden

Jan Fagerberg, NUPI, Oslo, Norway

Dominique Foray, IRIS-TS, Université Paris Dauphine, France

Shulin Gu, UNU/INTECH, The Netherlands

H.R. Hwang, Techno-Economics Dept., ETRI, Korea

Staffan Jacobsson, Dept. of Industrial Management, Chalmers Technical University of Gothenburg, Sweden

Alice Lam, Canterbury Business School, University of Kent, UK

Tarmo Lemola, Technical Research Centre, Helsinki, Finland

Chaisung Lim, Seoul National University, Korea

Patrick Llerena, BETA, Strasbourg, France

Brian Loasby, University of Stirling, UK

Franco Malerba, Bocconi, Milan, Italy

Jane Marceau, University of Western Sydney Macarthur, Australia

John Mathews, Macquarie University, Sydney, Australia

Mireille Matt, BETA, Strasbourg, France

Valentina Meliciani, SPRU, University of Sussex, UK

Stan Metcalfe, CRIC, University of Manchester, UK

Lynn K. Mytelka, Division on Investment, Technology and Enterprise Development, UNCTAD, Switzerland

Rajneesh Narula, ESST, Oslo University, Norway

Richard R. Nelson, School of International and Public Affairs, Columbia University, New York, USA

Jorge Niosi, Université du Québec á Montréal, Canada

Christopher Palmberg, Technical Research Centre, Helsinki, Finland

Pascal Petit, CEPREMAP, Paris, France

Keith Pavitt, SPRU, University of Sussex, UK

George B. Richardson, Oxford, UK

Pier Paolo Saviotti, INRA-SERD, Grenoble, France

Gerd Schienstock, Work Research Centre, University of Tampere, Finland

Jon Sigurdson, The European Institute of Japanese Studies, Stockholm School of Economics, Sweden

Keith Smith, STEP, Oslo, Norway

Michael Storper, UCLA, USA

Judith Sutz, Universidad de la Republica, Montevideo, Uruguay

Raykun R. Tan, National Central University, Taiwan

Morris Teubal, The Hebrew University of Jerusalem, Department of Economics, Jerusalem, Israel

Scott Tiffin, IDRC, Regional Office for Caribbean and Latin America, Montevideo,

Uruguay

Bart Verspagen, ECIS, Eindhoven, and MERIT, Maastricht, Netherlands

Olivier Weinstein, Université Paris XIII, France

Poh Kam Wong, National University of Singapore, Singapore

### **Papers presented at the conference:**

#### THEME 1: A Methodological and Historical Discussion of Innovation Systems

Bo Carlsson, Staffan Jacobsson, Magnus Holmen & Annika Rickne: Innovation Systems: Analytical and Methodological Issues  
Franco Malerba: Sectoral Systems of innovation

#### THEME 2: Knowledge, Learning and Institutions

Birgitte Andersen & Ian Miles: Complex Socio-Economic Distributed Innovation Systems in The Knowledge-Based Service Economy: The Music Industry  
Bengt-Åke Lundvall & Jesper Lindgaard Christensen: Extending and deepening the analysis of innovation systems - with empirical illustrations from the DISKO-project  
Robin Cowan, Paul A. David & Dominique Foray: The explicit economics of knowledge codification and tacitness  
Bernard Guilhon: The Dynamics of Knowledge in the Pharmaceutical Industry. A Microeconomic Illustration  
John Mathews: From National Innovation Systems to National Systems of Economic Learning: The Case of Technology Diffusion Management in East Asia  
Richard R. Nelson: Knowledge and Innovation Systems  
Jorge Niosi: National Systems of Innovation are x-efficient  
Frank Skov Kristensen: The Performance of Different Organisations under Different Market Conditions: An Empirical Analysis of the Organisational Structure and Performance of 1900 Danish Firms  
Olman Segura: Systems of Innovation and Learning from Natural Capital

#### THEME 3: Organizational Learning within National Innovation Systems

Benjamin Coriat & Olivier Weinstein: Organization and Institutions in the Innovation Generation - Towards a Theory of "Corporate Systems of Innovation"  
Allan Næs Gjerding: The evolution of the flexible firm. New concepts and a Nordic comparison  
Alice Lam: Tacit Knowledge, Organisational Learning and Societal Institutions: An Integrated Framework  
Bart Nooteboom: Discovery and organization: Priorities in the theory of innovation  
Raykun R. Tan: Environment, Critical Success Factor, Strategic Response, and Firm Size/R&D Intensity: An Exploratory Firm Level Study of the Electrical and Electronic Industry in Taiwan

#### THEME 4: Interindustry and Interfirm Linkages within National Innovation Systems

Chris DeBresson: An Entrepreneur Cannot Innovate Alone: Networks of Enterprises are Required  
Ina Drejer: Technological Interdependence in National Systems of Innovation: An International Comparison of Embodied R&D Linkages  
Juliana Hsuan: Modularization in New Product Development: A Mathematical Modeling Approach  
Keld Laursen & Valentina Meliciani: The Importance of Technology Based Inter-Sectoral Linkages for Market Share Dynamics  
Bart Verspagen: The Role of Large Multinationals in the Dutch Technology Infrastructure: A Patent Citation Analysis  
Anker Lund Vinding & Preben Sander Kristensen: Importance of collaboration partners in

product development

#### THEME 5: Issues of Growth and Industrial Renewal

Bruno Amable & Pascal Petit: On Institutions, Innovation and Growth

Esben Sloth Andersen: National Innovation Systems in the Context of Multisectoral Growth and Development

Staffan Jacobsson, Cecilia Sjöberg & Marie Wahlström: Alternative specifications of the institutional constraint to economic growth - or why is there a shortage of computer and electronic engineers and scientist in Sweden?

Tarmo Lemola & Christopher Palmberg: Innovations and Industrial Renewal in Finland: Back to Basics in Innovation Studies

Keld Laursen, Volker Mahnke & Per Vejrup-Hansen: The Process of Firm Growth From a Knowledge Structure Perspective

Stan Metcalfe: Competitive and Comparative Advantage: (Rough) Notes Toward an Evolutionary Approach to Growth and Foreign Trade

Pier Paolo Saviotti: Growth, production and qualitative change

#### THEME 6: National Innovation Systems in Developing Countries

Rodrigo Arocena & Judith Sutz: Looking at National Systems of Innovation from the South

José Cassiolato & Helena M.M. Lastres: Local, National and Regional Systems of Innovation in the Mercosur

J.Y.Choung, H.R.Hwang & H.Y.Hwang: Co-evolution of technology and institution in the developing countries

Shulin Gu: Concepts and Methods of NIS Approach in the Context of Less-developed Economies

Scott Tiffin: Applying the Learning and Innovation System Paradigm To Design an IDRC Research Funding Program in Latin America

Poh-Kam Wong: National Innovation Systems for Rapid Technological Catch-up: An analytical framework and a comparative analysis of Korea, Taiwan and Singapore

Klaus Lindegaard & Leiner Vargas: Are the Central American Export Specialisation Patterns "Sticky"? - The National Systems of Innovation Approach

#### THEME 7: Regional Approaches to Innovation Systems

Aadne Cappelen, Jan Fagerberg & Bart Verspagen: Lack of regional convergence

Bent Dalum, Magnus Holmén, Staffan Jacobsson, Mette Præst, Annika Rickne & Gert Villumsen: Changing the Regional System of Innovation

Mette Præst: An Empirical Study of Regional Differences in the Danish Innovation System

Gerd Schienstock: Regional Competitiveness, Co-operation and Innovation: A Comparative Study of Eight European Regions

#### THEME 8: Globalisation and the National Innovation Systems

Dieter Ernst: How Globalization Reshapes the Geography of Innovation Systems.

Reflections on Global Production Networks in Information Industries

Lynn Mytelka: Globalization and investment: A learning and innovation perspective

Pari Patel & Keith Pavitt: National Systems of Innovation under Strain: The Internationalisation of Corporate R & D

Michael Storper & Yun-chung Chen: Globalization, Localization, and Knowledge Flows

#### THEME 9: National Innovation System Policy

Esben S. Andersen & Morris Teubal: The Transformation of Innovation Systems: Towards a Policy Perspective

Barry Bozeman, Michael Crow & Chris Tucker: Federal Laboratories and Defense Policy in the U.S. National Innovation System

Charles Edquist: Innovation Policy - A Systemic Approach

Keith Smith: Innovation, Growth and Industrial Structure: Issues for Policy  
Patrick Llerena and Mireille Matt: Technological Cooperation and Dynamic Performance of  
Industries: Towards an Evolutionary Foundation of Technology Policies