Welcome!

17th March, 2016
Espoo
<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30</td>
<td>Morning Coffee</td>
<td></td>
</tr>
<tr>
<td>9:00</td>
<td>Welcome</td>
<td>Pekka Berg and Hani Tarabichi (Aalto/IMI)</td>
</tr>
<tr>
<td>9:15</td>
<td>Who are we?</td>
<td>All together</td>
</tr>
<tr>
<td>9:30</td>
<td>How to communicate during the Course?</td>
<td>Hani</td>
</tr>
<tr>
<td>9:45</td>
<td>Course description – Why this Course?</td>
<td>Pekka and Hani</td>
</tr>
<tr>
<td>10:00</td>
<td>Collaborative Innovation Management - Theoretical Corner Stones</td>
<td>Pekka and Hani</td>
</tr>
<tr>
<td>11:00</td>
<td>Collaborative Innovation Management</td>
<td>Ursula Lumme (Metsä-Group)</td>
</tr>
<tr>
<td>12:00</td>
<td>Lunch</td>
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<tr>
<td>13:00</td>
<td>Kemira and Neste Corporate Challenge</td>
<td>Auli Salakka and Markku Patajoki</td>
</tr>
<tr>
<td>13:15</td>
<td>Ericsson Corporate Challenge</td>
<td>Kirsi Mikkonen et.al</td>
</tr>
<tr>
<td>13:30</td>
<td>Metsä-Fibre Corporate Challenge</td>
<td>Jukka Rantanäki et.al</td>
</tr>
<tr>
<td>13:45</td>
<td>MSD Corporate Challenge</td>
<td>Antero Vanhala et.al</td>
</tr>
<tr>
<td>14:00</td>
<td>Teaming-Up</td>
<td>Pekka and Hani</td>
</tr>
<tr>
<td>14:15</td>
<td>Delivery of 1st Homework – Working in the teams starts</td>
<td>Pekka and Hani</td>
</tr>
<tr>
<td>15:30</td>
<td>Wrap-up of the day and next steps</td>
<td>Pekka and Hani</td>
</tr>
<tr>
<td>16:00</td>
<td>End of the day</td>
<td>Pekka and Hani</td>
</tr>
</tbody>
</table>
Who are We?

Please tell in 1 minute:
1. Your name?
2. Your Discipline?
3. Master/Doctoral/Company Student?
4. Why did You take this course?
5. The biggest hoped for learning of this course?
Dr. Pekka Berg is Research Director of Aalto University Department of Industrial Engineering and Management and founder and also Director of the Innovation Management Institute under the Aalto University. He is, as well, a partner and consultant to Innoman ltd. He is working with the companies like Toyota, Volkswagen, Nokia, Panasonic, Mitsubishi, Rolls-Royce, Wärtsilä, Electrolux, Kone, Metso, Rautaruukki, UPM and Fortum.

Hot today/ Teaching activities:
• Aalto University School of Science, Aalto Ventures Program, Collaborative Innovation Management, COINNO-course
• Aalto University, International Design Business Management Program, Innovation and Project Management, IPM-course
• Aalto University, Aalto Pro, Diploma in Product Development Program
• Aalto University, Aalto EE, MBA, Innovation Management

Hot today/ Research activities:
• MAIN: Management of Intangibles - Discontinuous Innovation Approach
• RAPI: Rapid Innovation Practices
• UXI: User Experience and Innovation
• RINE: Requirements for Innovative Environments in Future Industrial Services
Hani Tarabichi is a researcher at Aalto University Department of Industrial Engineering and Management. He is a co-lecturer at Aalto Ventures Program (AVP), and project supervisor at International Design and Business Management (IDBM). Hani is a program Coordinator at Vertical Health and Wellbeing Accelerator. Hani enjoys inspiring young minds to pursue their dreams through mentoring and coaching at various startup events.

Hot today/ Teaching activities
• Aalto University School of Science, Aalto Ventures Program, Collaborative Innovation Management, COINNO-course, Introduction to IT and Ventures
• Arcada AMK, Entrepreneurial Ventures
• Aalto University, International Design Business Management

Hot today/ Research activities:
• Alsmie: Collaborative open innovation curriculum for SMEs
• DIGI-HEEL: Efficient integration of Highly Educated Emigrant Labor
• DIGI-Relief: Gap curriculum for disaster stricken areas
Jussi Pihlajamaa is Research Manager of Aalto University Department of Industrial Engineering and Management. He is, as well, a partner and consultant to Innoman ltd. He is working with the companies like SSAB, YLE, Konecranes, Metso, Valmet, UPM and Fortum.

Hot today/ Courses:
• Aalto University School of Science, Aalto Ventures Program, Collaborative Innovation Management, COINNO-course
• Aalto University, International Design Business Management Program, Innovation and Project Management, IPM-course

Hot today/ Research activities:
• BACI: Backstage Interaction for Effective Collaboration and Innovation
• MAIN: Management of Intangibles - Discontinuous Innovation Approach
• RAPI: Rapid Innovation Practices
• UXI: User Experience and Innovation
• RINE: Requirements for Innovative Environments in Future Industrial Services
AALTO-PROCESSES COMBINING RESEARCH, EDUCATION AND INDUSTRY

Pekka Berg
## Summary of the Aalto University Strategy

**Vision**
The best connect and succeed at Aalto University, an institution internationally recognised for the impact of its science, art and learning.

**Goal**
A world-class university by year 2020

<table>
<thead>
<tr>
<th>Universal mission</th>
<th>National mission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contributions to a better world</td>
<td>Competitiveness and welfare of Finland</td>
</tr>
</tbody>
</table>

### Core strategies and KPIs

<table>
<thead>
<tr>
<th>Research excellence</th>
<th>Pioneering education</th>
<th>Trend-setting art</th>
<th>Societal impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original, impactful, interdisciplinary</td>
<td>Students in focus, a new learning culture and approaches</td>
<td>Art, architecture and design as key drivers for improving living environments</td>
<td>Adding value through entrepreneurship, business liaison and societal interactions</td>
</tr>
</tbody>
</table>

**Strategic enablers**
Leadership; Internationalisation; Services; Infrastructure

**Culture built on common values**
Passion; Courage; Freedom; Responsibility; Integrity

**Schools**
Arts, Design and Architecture; Chemical Technology; Economics; Electrical Engineering; Engineering; Science
competitive advantage is a closed knowledge system

competitive advantage is an open knowledge system

Research Projects & Resources
Test bed environment

Idea: Dr. Ade Mabogunje, Prof. Larry Leifer, Stanford University
Edited by Dr. Pekka Berg, Helsinki University of Technology

knowledge & competitive advantage

corporate practice

piloted method

academic prototype

competitive advantage is an open knowledge creation system

Products & Mfg Resources

Tools & Methods

Brokers/ Resources Coaching Training Consultants

Tools & Methods
Innovation Management Research evolution in IMI

1995

Product Development

Innovation Management

Fuzzy Front End

Service Innovation

Radical and Discontinuous Innovation

Innovation Enablers

Customer and User Understanding

Rapid, Agile, Lean Innovation

Business Model Innovation

Emerging Ecosystems

Commercialization of Digitalization

2000

2003

Intrapreneurship vs Entrepreneurship

Measurement

“Regeneration of Manufacturing Industries”

2008

2011

2012

2015

Aalto University School of Science
Courses in IREP

IDBM / IPM
International Design Business Management/Innovation and Project Management

AVP / COINNO
Aalto Ventures Program/Collaborative Innovation Management

American University
KoneCranes
Kemira
NSFTelecom
RAY
UNICEF
Toyota
Wärtsilä
PACE

CENTRO

Rautaruukki
Stora Enso
Outotec
Ovako
Kemira
Culminatum Innovation
Rolls-Royce
Tikkurila
Rautaruukki

Metsä-Fibre
Rautaruukki

Academic year 2013-2014
Academic year 2012-2013
Academic year 2011-2012
Academic year 2010-2011
AALTO VENTURES PROGRAM
1,600 For-credit students
10,000 Participants
70 Nationalities
## AALTO VENTURES PROGRAM MINOR

### Inspiration & Introduction

**Choose one course**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TU-91.2000</td>
<td>Changemakers</td>
<td>1</td>
</tr>
<tr>
<td>TU-91.2003</td>
<td>New Venture Development I</td>
<td>3</td>
</tr>
<tr>
<td>T-128.1000</td>
<td>Introduction to Software Business and Venturing</td>
<td>2</td>
</tr>
</tbody>
</table>

### Knowledge & Skills

Choose one or two courses to fill the credit unit requirement

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TU-91.2009</td>
<td>Entrepreneurial Finance</td>
<td>5</td>
</tr>
<tr>
<td>TU-53.129</td>
<td>Entrepreneurial Leadership</td>
<td>5</td>
</tr>
<tr>
<td>TU-91.2044</td>
<td>Entrepreneurial Marketing</td>
<td>5</td>
</tr>
<tr>
<td>TU-91.2045</td>
<td>Design and Innovation in Context</td>
<td>6</td>
</tr>
<tr>
<td>TU-91.2046</td>
<td>Managing Innovative Sales</td>
<td>3-6</td>
</tr>
<tr>
<td>TU-91.2038</td>
<td>Strategies for Growth and Renewal</td>
<td>3-5</td>
</tr>
<tr>
<td>TU-91.9910*</td>
<td>Course with Varying Content in Strategy</td>
<td>1-20</td>
</tr>
<tr>
<td>T-128.2500</td>
<td>Management of a Software Venture</td>
<td>6</td>
</tr>
<tr>
<td>T-128.6000</td>
<td>Growth and Internationalization of Software SMEs</td>
<td>4</td>
</tr>
<tr>
<td>T-76.5750</td>
<td>Seminar on ICT-law: &quot;Exploitation of IPR&quot;</td>
<td>3</td>
</tr>
<tr>
<td>23E56000</td>
<td>Sales Competition Course</td>
<td>6</td>
</tr>
</tbody>
</table>

### Integrative project experience

Choose one course

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>25E44000</td>
<td>Venture Formation</td>
<td>6</td>
</tr>
<tr>
<td>T-106.5750</td>
<td>Aalto Service Camp</td>
<td>3-8</td>
</tr>
<tr>
<td>T-128.5400</td>
<td>Software Entrepreneurship Seminar</td>
<td>4</td>
</tr>
<tr>
<td>Kon-41.4002</td>
<td>Product Development Project</td>
<td>10</td>
</tr>
<tr>
<td>TU-E5050</td>
<td>Collaborative Innovation Management (CO-INNO)</td>
<td>5</td>
</tr>
<tr>
<td>TU-22.1185</td>
<td>Industrial Management, Special Topics</td>
<td>1-10</td>
</tr>
</tbody>
</table>
Dynamics of the triple helix: particular role of the parties in innovation

Triple Helix Approach for Innovation

1. Impacts
2. Offering
3. Activity
4. Enablers

Customers / Users?
The main learning approaches are group work activities and supporting lectures. During the course the participants work on corporate challenges in intrapreneurship in order to learn about innovation activity and create the solution for corporate challenge (pbl).

Strong focus on visualization and physicalization of new ideas by iterative mockup prototypes.
Offering vs. Process vs. Enablers

**ENABLERS**

**PHASE:**
- Invention
- Planning
- Offering Development
- Commercialization

**PROCESS**
- Strategy
- Cross-functional teams
- Competence
- Roadmaps
- Portfolio
- Development
- Business Process
- Decision Making
- Speed
- Costs

**OFFERING**
- Customer Interaction
- Goods
- Service
- New Business Concept Innovation

**FOCUS ON:**
- Creativity
- Business Intelligence, Foresight
- Cross-functional teams
- Business Competence

© IMI
Enablers / Innovative Environment

Social environment:
- Trust and safety
- Risk taking
- Freedom
- Clear vision
- Collaboration
- Concrete support

Virtual environment:
- Text
- Audio
- Picture & Video
- 3-D

What practices support and inhibit innovativeness? (in relation to the recognised enablers of the three environments)

What practices create and support the characteristics of social, physical and virtual environments identified as beneficial for innovativeness?

Innovation process

Offering
Some COINNO Corporate projects 2011->

- Outotec: Improving cooperation between Outotec and its Customers in R&D projects
- Ovako: Improving machinability
- Rautaruukki: Enhancing value for customers through special products and services
- Stora Enso: Plastic/Aluminium by-product from Recycling Liquid Packaging Board - Analysis of alternative profitable uses
- Kemira: Idea management by Idea Lasso
- Metso: New way of working in China in order to gain good customer understanding for R&D
- Rautaruukki: Providing deeper co-operation opportunities for OEM-customers
- Rolls-Royce: Selling ideas further internally within the organization and externally for customers in Rolls Royce Marine.
- Culminatum: Tackling unmet wellbeing needs of ageing population
- Tikkurila: Paradigm change in the Paint Industry - How to develop new customer service models?
- Rautaruukki: Energy efficiency through special steels
- Rautaruukki: New cost effective building product made of blast furnace slag
- Rolls-Royce: Office optimization design case
- Metsä-Fibre: Future innovation service concept
Some Tools and Methods Created/Used by IMI

- Logical Frame (Berg and Pihlajamaa)
- Quality Maturity Measurement (Berg and Pihlajamaa)
- Elements of Service Offering (Edvardsson)
- Service Dominant Logic (Lusch and Vargo)
- Design Thinking (Leifer, Uebernickel)
- Business Models (Osterwalder, Shafer, Gassmann)
- Front-End Process (Poskela)
- Idea portfolios (Loch, …)
- Mock-ups/LEGOS, Modeling clay, Paper, … (Hansen)
- Scenarios (Shoemaker)
- Foresightning/Future Users, Progression Curves, Janus Cones (Stanford Playbook)
- Value Networks (Hamel, Gulati)
- Customer Orientation (Nordlund)
- User Driven Innovation (UDI/NIC)
- Mystery Shopping (Pihlajamaa and Kanto)
- User Experience (Roto)
- Concept Shifting (Seidel)
- Innovation Practice and Organisational Enablers (Lempiälä)
Discontinuous Innovation: Learning to Manage the Unexpected (Series on Technology Management) [Hardcover]

Peter Augsdorfer (Author), John Bessant (Author), Kathrin Moslein (Author), Bettina von Stamm (Author), Frank Piller (Author)

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Open source:
http://foresight.stanford.edu:16080/playbook/
JOHDATUS UUTTA LIIKETOIMINTAA LUOVIEN INNOVAATIOIDEN MAAILMAAN
Apuvälineitä innovaatiotoiminnan kehittämiseen
www.imi.aalto.fi
Methods to foster innovation speed

- **Virtual environments:**
  - *Presentation by Pekka Alahuhta in the Course*

- **Prototyping and mock-ups:**
  - *Prototypes provide the means for examining design problems and evaluating solutions (Houde & Hill, 1997). Other reasons to use prototypes include visualization, editing, ease of communication, functionality testing and proof of concepts (Broek et al., 2000)*

- **3D-printing:**
  - *Presentation by Jouni Partanen in the Course*
Future Innovation Day
Prototype of car’s multimedia interface in year 2020
Power of Prototypes

Figure 3. A paper mockup for a complete seed-to-mouth Indian food system comprising multiple companies, consumers, products, and services for 2023

From: Carleton & Cockayne, 2009, The Power of Prototypes in Foresight Engineering, ICED 09
Prototype of bio-oriented education system in Finland
Firm Teams

Student Teams

Test Bed Empiria

Corporations working for coaching courses
Corporate people doing research

Students working for corporations
Students doing research

Mixed Teams

Corporate Environment

Campus Environment
design-learning loops in corporate and academic activity

Larry Leifer, 2002
Pre-Readings:
See the up-dated list in MyCourses

- NOT mandatory, but useful
- Mandatory
Pre-Readings:
See the up-dated list in MyCourses

• NOT mandatory, but useful
Structure of the course

Day #1: Pre-Course Workshop 18.2.2016
- Introduction to mixed team concept
- Discussing and finalizing case project details

Day #2: Introduction to Innovation 17.3.2016
- Understanding the big picture of innovation paradigm
- Learning the ‘language’

- What is the role of strategy in innovation?
- How offering affects innovation process: for example goods vs. services vs. solutions

- Understanding the different phases in innovation process and their nature
- How the needed capabilities, expertise & tools change between phases

Day #5: Innovativeness & Enablers 28.4.2016
- What is innovativeness or creativity and how to facilitate them?
- What requirements does innovation work pose on physical/social/virtual environment?

Day #6: Case Reports 19.5.2015
- Final Case presentations
- Discussion on findings and results

Day #7: Post-Course Workshop After summer
- Lessons learned and how to implement them in real life and work
- Possibility to discuss learnings in the extended community: company people outside the course etc.
COURSE FORMAT

- Lectures and Exam (34%)
- Assignments (case reports) and independent work (66%)
Welcome Onboard

Dr. Pekka Berg
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Jussi Pihlajamaa
jussi.pihlajamaa@aalto.fi

http://www.imi.aalto.fi
Finland, Europe
Company cases

COINNO 27.2.2014
EXTRA
“We are always studying the same thing”, Mabogunje and Berg 10/19/2003 at 1.10am at Stanford