Entrepreneurship @ IST Austria
April 11, 2014
Entrepreneurship and “Scientific presentation and Conduct”?

→ Look at role models
→ Understand your thoughts and expectations
→ Share with you ideas how to foster entrepreneurial activities at IST
Markus Wanko

Role at IST:

• Support spin off and industrial liaisons activities, develop technology park

Professional background:

• VC investment manager (Safeguard, EIF), focusing on seed stage co-founded portfolio companies
• Management consultant/Principal (Boston Consulting Group)
• Investment Director QIA, Board member of start ups at QSTP
• Mentor and Business Angel for Startups

MBA MIT Sloan, MSc TU Vienna, Mag. WU Vienna
MIT Entrepreneurship Center
Angela Belcher: Using nature to grow batteries

Founded in 2002 by Angela Belcher of MIT and Evelyn Hu of the UC, Santa Barbara

Original idea: Use nanostructured inorganic material, fabricated and shaped by biological molecules to create novel materials and processes for a variety of industries → Batteries, PV cells, catalysts, displays

Raised $1.8m in 2003, hired CEO (Michael Knapp); $12m in 2005; Scientific founders on SAB

Continued to develop biological and traditional chemical route

Silver nanowires: transparent conductive layers for flexible touchscreens

Oxidative coupling of methane (OCM)
Potential to revolutionize petrochemical industry
Prof. Hermann Kopetz: Vienna based IT company, founded on the basis of research projects at TU Vienna in 1997

Time triggered computer systems: Significantly improved reliability and predictability vs traditional event driven

- research project partnership with Daimler, Bosch and Airbus
- founded company on friends & family money and mezzanine grant and started to work with automotive OEMs
- Decided to stay at TU “because small tech company needs an ongoing flow of new ideas”
- Issues getting major OEMs dependent on small company controlling core IP
- Branch out into other industries: Aerospace – NASA research project with Honeywell and Motorola that resulted on TTP be using in the engines of F 16 fighter jets
- Comeback into automotive – Audi; other industries power networks, wind turbines etc.
And even closer to home

Cofounded in 1996 by Herbert Edelsbrunner as a provider of surface reconstruction and 3D sculpting tools

Building on research by Herbert at University of Illinois at Urbana Champaign

Herbert kept pursuing his scientific career and acted as an advisor to Raindrop Geomagic

Company was acquired in 2013 by 3D systems for $55mln

Learnings (which Herbert is happy to share himself…)

- Instrumental in developing idea and product: contact with industry (in his case facilitated through National Supercomputing Center at the University of Illinois)
- Unhelpful: University’s TTO that focused on licensing technology to his company rather than helping company grow
- Different concepts of time between academia and industry: Solving pressing customer issue vs. pursuing big research idea over the longer term
The vision of IST’s founders

“A daring long-range vision, hopefully to become a reality a few decades from now, would envisage IST Austria as a flourishing basic research organization, contributing to the expansion of scientific knowledge in its fields of research, accompanied by an industrial park including a significant number of small and medium enterprises, leading to industrial products in Austria and other countries and training a new generation of scientists for industry and for universities.”

Haim Harari, Olaf Kübler, Hubert Markl (2006)
What are your interests and expectations?
90 research groups across natural sciences and CS who are among the best in their fields globally.

Publications

Graduates

Ideen

...leading to...

Innovations

Corporate Research Organizations/groups

Tech SMEs

Research institutions

Start-ups

Corporate partners (outside IST PARK)

IST Spin-offs

Institutional support to pro-actively seek to commercialize research findings and provide tools and network to researchers.
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Ideen

Jobs

License

Revenue/equity

Increased attractiveness for hiring

Shared infrastructure
How are we going about it?

Support bridge building between basic research and application

- Systems, resources, incentives, attitudes, role models to help develop research findings into innovations
- Inspire and identify ideas
- Nurture ideas
- Capture value for IST
- Industry
- Spin off

Develop focus areas / cluster

- Iterative process to see around which areas critical mass can be reached, in terms of research, industry interest, other research institutions
- Potential fields: CS (CV, Emb. Syst., SW testing, security), Neuro, Screening, Fluid dyn.

Pursue contacts and leads

- Follow structured process based on focus areas
- Allow room for serendipity, follow leads and contacts from all possible directions (Faculty, MIT AA, BCG, AISV, pioneers, ABA, K‘bg, ecoplus, etc.)

Structural implications / requirements

Tech Park facilities (but: Ideas before Concrete…)

Institute of Science and Technology Austria
The first step: **Inspiring people** and **Identifying** potential applications

Have role models share their experience at IST

“IST Entrepreneurship Society”?  

Encourage and support researchers to engage in discussion with industry

Present and discuss ideas with peers

Prof Brian Korgel  
University of Texas

“Science meets VC, creating companies from a scientific idea”  
IST Austria, May 30, 2014

Paul Thurk  
Arch Ventures

IST AUSTRIA

Institute of Science and Technology Austria
Develop research findings towards an *innovation*

Create setting within which research findings can be developed further through initial technical development, market/IP research and initial feedback from industry

**Support**
- in finding initial resources/hiring
- and industry discussion partners

**A mini grant program**
- Small grants to allow researchers to hire initial technical development, market and IP research resources to define and develop a first commercial idea
- Flexible, not tied to grant call deadlines, to allow researchers to work according to their schedule (e.g. outside recruiting, or publ. deadline season)
- Cash support to use external support and/or additional access to SSU, where applicable

**Source of fundraising**
- Should initially be kick started through IST funding
- Should then become source of industry sponsoring

Objective should be to get into a dialogue with industry/potential customers and get ready to submit follow on grant applications (FFG, aws etc)
Establish cooperative relations with **Industry**

| Research cooperation | • Informal (invitation to scientific talks at IST Austria (mailing list))
|                      | • Sponsoring of student, cooperating with corporate R&D staff, joint grant calls (e.g. FFG Bridge))
|                      | • Structured joint programs including PR, MoU
|                      | → Identification of target companies and areas of joint research interest
| Shared infrastructure | • Light/electronic microscopy, Preclinical facility, 3D printing, know how
|                      | → Resulting from research cooperation
| Recruiting | • Events for students to help get orientation in broader job spectrum
| | • Dedicated Internship programs, such as MS Research, Google, tttech..
| | → Identify target companies and HR heads, invite to events (e.g. SIT, HR event, arrange workshops, discuss internship opportunities with comps.)
| Product/Service placement | • Offer to companies to introduce faculty and students to product and service offer
| | → Link Industrial Liaisons program with procurement
| Tech Park | • Location of research staff at IST PARK
| | → Present plans for tech park to industry early on as an option but not a prerequisite for cooperation with IST
| Donations | • Enlarge IST Austria donor base
| | → Communicate IST Austria’s co-financing need, develop price tickets for various cooperation initiatives

**Ideas for discussion**
Support spin offs

**Incubator / Accelerator**
- Integrate start up services in a structured facility
- Provide lab and office space for spin offs
- Access to corporate services (lawyers, accountants, web design etc.)
- Support in navigating Austrian/EU start up grant network
- Austrian schemes are quite generous in comparison and a good source for seed funding
- Access to business angels who provide seed funding and expertise
- Entrepreneurs in Residence program to build network of potential managers to complement the scientific founders teams

**Grant support**
- Provide access to venture capital funds
- Dedicated seed funds that are used to working with university projects
- International – able to link founders with right networks
- Sufficient size to be able to carry science based company through

**EIR / BA**
- Competition with external jury and prize for winning team
- Structured support process for participating teams

**VC platform**
- Entrepreneurship course at IST

**Business plan challenge**
- Entrepreneurship course at IST
Companies or R&D consortia; up to 80% of project cost

Research consortia
Bridge FP (10% cost by company/in kind)
Bridge 1 (20% cost by company)

Studies undertaken by external providers for companies

Coaching
Start up centers (A+B)...

Proof of concept up to €200k
Cond. Repayable; Non dilute. up to €1,000k
€60m fund for equity investments
Guarantee Up to €2,500k
Pari passu doubling of equity investment by business angel
Business angel exchange

KLIEN
Regional programs (TECNET, RIZ, etc.)
Entrepreneurship at IST Austria

Course proposal

Fall semester 2014

Objectives of the course:

• Motivate students to think about applying research findings
• Providing tools, resources and network
• Link students with students of other universities
• Help develop entrepreneurial programs, processes at IST Austria
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<tr>
<th>Entrepreneurship at IST Austria</th>
<th>Guests</th>
<th>Time</th>
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<tbody>
<tr>
<td><strong>1</strong> What are we here for?  - Role models</td>
<td>tbd</td>
<td>Week 1</td>
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<td><strong>2</strong> What makes a good idea?</td>
<td>K. Matzka (BA); P. Thurk, (VC); W. Lanthaler (CEO Evotec)</td>
<td>Week 2</td>
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<td><strong>3</strong> Build student teams</td>
<td>External, Redlinger Hütte</td>
<td>Week 2</td>
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<td>Individual sessions with each team</td>
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<td>Week 3</td>
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<td><strong>4</strong> Student presentation of initial ideas</td>
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<td>Week 4</td>
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| **5** How do we protect a good idea?  - IP protection | E. Link, Head of Tech Transfer, IST Austria  
S. Salomonowitsch, IP lawyer, tbd | Week 5 |
| **6** How do we test an idea?  - Customers/Industry | Oliver Holle, Founder of Speedinvest, tbd  
Rainer Reich, SVP Boston Consulting Group | Week 6 |
| **7** How to get to proof of concept and a MVP? | Wolfgang Seibold, Earlybird, tbd | Week 7 |
| **8** How to fund it?  - Entrepreneurial Finance and Grants | Eugen Stermetz, Seriel CFO (f-star, igeneon) | Week 8 |
| **9** Who do we need?  - Putting together an entrepreneurial team | S. Scherer, Portfolio Talent Manager (Wellington Ventures), tbd | Week 9 |
| **10** Final presentation by students |        | Week 10 |
Brian Korgel

T. Brockett Hudson Professor of Chemical Engineering
Director, National Science Foundation I/UCRC for Next Generation Photovoltaics
Founder and Director of the Doctoral Portfolio Program in Nanoscience and Nanotech.
American Association for the Advancement of Science (AAAS) Fellow, 2012
Center for Nano- and Molecular Science and Technology, Member
American Institute of Chemical Engineers (AIChE) Professional Progress Award, 2012
B.S. and PhD. University of California at Los Angeles, 1991 / 1997
Post-doctoral Fellow, University College Dublin, Ireland, 1997-1998

Paul Thurf

Paul Thurf is a Managing Director with ARCH Ventures, a $1.5bln venture capital firm that
invests primarily in companies they co-founded with leading scientists and entrepreneurs,
concentrating on bringing to market disruptive innovations in life sciences, physical
sciences and IT. Paul was co-founder and initial CEO of Innovalight (acquired by DuPont-DD) and CoolEdge Lighting. He has participated in the development of ARCH portfolio companies Cambrios, Kotura, Nitronex, and Semprius. Mr. Thurf has also been a key part of ARCH's efforts at Los Alamos National Laboratory and at Sandia National Laboratories in their entrepreneur-in-residence program. He recently established ARCH's Dublin, Ireland office to assess European-sourced technology and investment opportunities. He holds a B.S. in Economics from the Wharton School of the University of Pennsylvania and an M.B.A. from the University of Texas at Austin.