Overview of ACES Initiatives:
Case's Recruitment and Retention Strategies

- Recruitment
  - Endowed Chairs
  - Search Committee Toolkit
  - Active Recruiting
  - Distinguished Lectureships
  - New Hiring Guidelines

- Leadership Development
  - Partner Hiring Policy
  - Critical Mass
  - Climate
  - Coaching
  - Networking
  - Opportunity Grants
  - Student Training
  - Accountability
  - Mentoring
  - Transparency

NSF Fundable Departments

Web Resources

- Academic Careers in Engineering & Science
  www.cwru.edu/admin/aces/index.htm

- Faculty Diversity Office
  www.cwru.edu/president/aaction/aaceo.html
Further Reading

_Why So Slow: The Advancement of Women_ by Virginia Valian, Distinguished Professor of Psychology and PI of the Gender Equity Project, Hunter College (CUNY)

- Chosen by the NSF as recommended reading
- Read by ACES participants (chairs, deans, coaches, etc.)
- Discusses: gender schema definition, mountains out of molehills, how bias operates
University Spin-Offs: Why You Should Care

Scott Shane
April 6, 2005

What's are University Spin-offs?

- Companies founded to exploit inventions of faculty, staff or students of universities (that make material use of university resources and are assigned to universities)

Some Examples of University Spin-offs

Genentech
In Business For Life

CHIRON

Page 1
Why You Should Care About University Spin-offs: Personal

- Commercialize inventions large companies ignore
- Are a necessary step in the development of many technologies
- Provide a way for inventors to gain financially from their inventions
- Allow inventors to remain involved in the development of their inventions
- Are becoming an increasingly common commercialization vehicle

Spin-off Formation Rates Have Increased Over the Past 20 Years

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Why You Should Care About University Spin-offs: Policy

- Create good jobs
- Generate new industrial clusters
- Attract venture capital to a region
- Are valuable companies
Making It Happen
Case: Tech Transfer and the Real World

Anita Blake
Director, Technology Transfer
Case Western Reserve University

Outline

> Introduction
> Tech Transfer at Case (A Quick Review)
> Speaker Backgrounds
> New Company Formation: When and Why
> Issues Facing New Companies
> Basics of Funding and Venture Capital
> Deal Structure and Ownership
> Case Technology Ventures

The Tech Transfer Mission

> To lead the successful commercialization of ideas generated by people at Case through:
  > Licensing to established companies
  > Licensing to companies that we create
Speaker Background

- Lynn Ann-Gries
  - Chief Investment Officer, JumpStart, Inc.
  - Fund Manager, JumpStart Fund I
  - Former Investment Banker (McDonald Investments)
- BA, Smith College
- MBA, NYU

Speaker Background

- Nick Frololini
  - Assistant VP for Technology Transfer
  - Managing Director, Case Technology Ventures
  - Joined Case in October 2001
  - Trained as an industrial engineer/economist (Carnegie Mellon)
  - Past eight years in technology commercialization and business creation
  - Redift Group, Director, M&A
  - VentureBank@PRC, CTO
  - Accenture, Analyst, Natural Resources

Start-Up Companies at Universities

- Wide Range of Incubation Support
  - Organizer's function/start-up documentation package (legal)
  - Physical incubation services (BioEnterprise)
  - Business advice and assistance
  - Financial support (prototypes, recruiting, etc.)
- Case Technology Ventures
  - Recent Case Initiative
  - Funds new companies based on Case IP
- JumpStart, Inc.
  - Business accelerator working with companies in NE Ohio
  - Makes direct investments in carefully selected companies
  - Facilitates regional programming to promote an entrepreneurial community
NewCo vs. Established Companies

- License to existing company or create a new company?
- NewCo's make the most sense when:
  - Technology requires a paradigm shift
  - Lycos @ Carnegie Mellon
  - Faculty/researchers want to start a new company
  - and understand the risks and requirements
- Development work beyond the university research lab is required to make the technology ready for the commercial market

Key Issues for NewCos

- Can we attract customers?
  - A better mousetrap is nice, but...
- Can we recruit experienced management?
  - Researchers are not usually qualified to be CEOs
  - Time requirements for founders can be high
- Can the idea be funded?
  - Short-term and long-term
  - Venture investors, angels, grants
- Can the company be grown?
  - Large, growing markets or surviving "great to great?"

Financing 101

- What is "early-stage financing?"
  - Money brought into a company early in its existence from an outside source under certain terms and conditions (ideally, to help the company grow and move forward)
- A quick note on reality...
  - ALL external funding sources come with strings attached -- there is no such thing as a free lunch
Current Investment Climate

- The financing market is a mess...
  - "Nuclear winter"
  - "Perfect storm"
- The 'Internet bubble' has given way to a 'land of desolation'...
- Financing ANY company is difficult
  - Financing an early-stage company is very, very difficult

Sources of Funding

- Grants
  - Foundations, Federal (e.g., SBIR, STTR), State (e.g., ODD TAF)
- Angel Investors
- Traditional Venture Capital Investors
- Institutional or Professional Investors
- Bootstrapping

Types of Venture Investors

- Angels
  - High 'net worth' individuals — not necessarily professional or experienced investors
  - Lower return expectations
- Seed/Pre-Seed
  - Understand risks of very early-stage technologies
  - Very hard to find
- Early-Stage
  - Looking for a start-up with a good chance of success
  - High return expectations (10X return in 3 to 5 years)
  - Likely to be more "hands on"
Types of Venture Investors

- **Late-Stage**
  - Invest in growing companies with established revenue streams
  - Lower return expectations (lower risk)
  - Not likely to pitch in and help run the company during troubled times

- **Mezzanine**
  - Invest in pre-IPG companies
  - Larger ($10-30MM) deals

Deal Structure

- **Equity**
  - Stock in the new company
  - Common or Preferred
  - Sets a value for the company

- **Convertible Debt**
  - A 'loan' to the company
  - Converted to equity at a later date
  - With a venture capital round
  - Delays valuing the company
  - May provide tax benefits to shareholders

Valuation and Ownership

- **Critical issue:** What is an early-stage company worth?

- **Day 1 - Founders:** 100% of the equity
  - But what does that mean? Are there any assets?
  - Is there any value?

- **Investors will take a substantial share of the company in exchange for an investment**

- **Trade-off:**
  - Big piece of a small pie that may go nowhere
  - Smaller piece of a big pie that is worth something
Valuation Example

Day 1

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<th>Shares</th>
<th>%</th>
<th>$/Share</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Founders</td>
<td>1,000,000</td>
<td>100%</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>University</td>
<td>1,111,111</td>
<td>100%</td>
<td>?</td>
<td>?</td>
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<tr>
<td>Investors</td>
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<td>?</td>
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Day 2

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</thead>
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<tr>
<td>Founders</td>
<td>1,000,000</td>
<td>99%</td>
<td>?</td>
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<tr>
<td>University</td>
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<td>10%</td>
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Day 3

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<tr>
<td>Investors</td>
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<td>35%</td>
<td>?</td>
<td>?</td>
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<td>1,547,161</td>
<td>100%</td>
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<td>?</td>
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Universities and Venture Investing

- Universities 'finance' new ideas and innovations as part of their ordinary course of business...
- Research expenditures/centers of excellence
- Prototype development
- Fronting patent costs
- Several universities are now exploring direct venture funding for companies based on University-owned intellectual property
  - Two models:
    - External venture fund (e.g., Revizon)
    - Internal venture fund (e.g., Case Western)

Case Technology Ventures: Concept

- Create an additional source of capital at Case
- Augment existing tech transfer pre-seed activities
- Promote entrepreneurship
- Potential upside for Case
- Viability for University's contribution to regional economic development
- Funds provided by CTV are used by NewCos for:
  - Developing prototypes
  - Recruiting management talent
  - Creating business/marketing plans
  - Identifying/renting office space/laboratory facilities
  - Retaining corporate counsel
  - Beginning operations
Fund Basics and Deal Structure

- $5 million fund
- $4 million from Case, $1 million from State of Ohio
- $50k to $250k in funding, depending on the needs of the new company
- Convertible debt:
  - Standard documents; market terms and conditions
  - Use of convertible debt avoids the difficulty of valuing equity in an early-stage company
- Oversight by CTV Executive Committee

CTV Process

```
Tech Transfer Office

Test

CTV Pre-Screen

Licent

CTV 1: Screening
CTV 2: Initial Review
CTV 3: Detailed Review
CTV 4: Funding
CTV 5: Monitoring
CTV

Pass
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Case Technology Ventures...

- Will invest in 2 - 4 opportunities each year
- Highly selective approach
- Focus and concentrate on high-potential companies
- Provides follow-on support and guidance
- Is focused internally...
- Case ideas, intellectual property, and people
- Is connected...
- Discussions with dozens of regional investors
- Presentations around the country
- Wants to create success for Case, our researchers, and our region!
Current CTV Portfolio

- Interventional Imaging, Inc. (13)
- Arteriocyte
- Cleveland Nanocrystals

Thanks

- Thank you for your attention...