How to Develop Effective Private Sector Academic Interactions: 
"You want me to deliver WHAT by WHEN?!!"

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OUTLINE

• Drivers
• Environmental/process barriers
• Communication styles/differences
• Overcoming perceptions
• Changing environments/benefits
• Critical elements of effective collaborations
• Identifying collaboration resources
• Alternatives to classic collaboration
• Example of improved process
• Example of an effective collaboration
Why Pharma and Academia Partner

Academia:

- provides a resource for specific expertise and techniques/technology
- may provide services/resources more cost effectively
- may provide a resource for target generation and/or molecular templates
- may provide a resource for training

- **Academia and Pharma have a mutual interest in the Science**
Why Pharma and Academia Partner, cont.

Pharma:
• provides a resource unencumbered funding
• provides a resource for state of the art technology
• provides a resource for interesting molecules
• provides translational and applied research

• Funding agencies and the general public are looking for deliverables from all of the money invested in medical research
Drivers/Pressures are Different in Academia and Pharma

<table>
<thead>
<tr>
<th>Pharma</th>
<th>Academia</th>
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<tbody>
<tr>
<td>• The Patient is waiting</td>
<td>• Tenure</td>
</tr>
<tr>
<td>• Timelines (fail fast)</td>
<td>• Publishing</td>
</tr>
<tr>
<td>• Decision criteria</td>
<td>• Scholarly Activities</td>
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<tr>
<td>• Issue resolution</td>
<td>• “Academic freedom”</td>
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<tr>
<td>• Patent life</td>
<td>• Knowledge/training</td>
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<tr>
<td>• Cost</td>
<td>• Financial support</td>
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<tr>
<td>• Teamwork</td>
<td>• Individual success</td>
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<td>• Company success/shareholders</td>
<td>• Complete understanding of a problem</td>
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<td>• Broad and flexible expertise</td>
<td>• Becoming the Expert in a specific area. “focus for life”</td>
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<tr>
<td>• Do what needs to be done to</td>
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<td>answer the specific question</td>
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<td>and move on</td>
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Environmental and Process Barriers to Effective Collaborations

**Pharma**
- Bureaucracy
- Intellectual Property
- Need for speed
- Changing priorities
- Lack of understanding of the Academic environment
- Funding

**Academia**
- Bureaucracy
- Risk aversion
- Inertia
- Timelines
- **Rewards system**
- Individualism/silos
- Diversity of environment (Systems, Depts, Colleges)
- Management structure
**We Really Don’t speak the Same language**

<table>
<thead>
<tr>
<th>Pharmaceutical Jargon</th>
<th>Academic Jargon</th>
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<tbody>
<tr>
<td>API</td>
<td>CGA</td>
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<tr>
<td>POC</td>
<td>RO1…</td>
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<td>ADME</td>
<td>ULAR</td>
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<td>PDM</td>
<td>ORA</td>
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<tr>
<td>CRO</td>
<td>COI</td>
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<td>GLP</td>
<td>OSP</td>
</tr>
<tr>
<td>ROI</td>
<td>MSUT</td>
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<td>Phase 1,2,3,4</td>
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<td>NPV</td>
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Our Perceptions of Each Other

**Pharma perceptions of Academia**
- Experts
- Resource for mechanistic understanding
- Cutting edge science

**Academic perceptions of Pharma**
- State of the art equipment
- Resource for technology and molecules
Our Perceptions of Each Other, cont.
(The Dead Moose on the Table)

**Pharma perceptions of Academia**
- Difficult to work with
- Slow
- Silos
- Out of touch
- Lack focus and follow through
- Those who can, do, those who can’t teach
- Luddites

**Academic perceptions of Pharma**
- Mercenary and only driver is profit
- Deep pockets and not worried about costs
- Biased science
- Superficial
- Scientists not good enough to make it in Academia
- Difficult to work with
Changing Environments Fostering Interactions

• Pharma is under greater pressure to deliver new drugs
• Pharma is changing how they support drug discovery and development and outsourcing/collaboration are common place
• Quality, Speed and Cost are all important considerations for Pharma
• Traditional Academic sources of funding (NIH, USDA, NSF) are becoming EXTREMELY competitive
• Applied research is becoming a driver from NIH
• “Entrepreneurship” is a new and important driver in Academia
• Collaborations are becoming more the norm and are recognized as beneficial in Academia
• *Reward structure in Academia is changing (albeit SLOWLY)*
Critical Elements for an Effective Collaboration

• Choose partners for collaboration CAREFULLY not just based on expertise
• Both Parties need to be TRULY invested in the project
• Well defined project plan, communication plan and milestones
• Frequent/regular and focused communications and interactions
• Interdependence of activities across sites and investigators
• Issue resolution plan
• Collaboration needs to be a priority for all involved
• NOT just about money. Don’t confuse collaboration with fee for service work
Critical Elements for an Effective Collaboration, cont.

- Recognition of issues between the environments and patience to deal with them
- Up front understanding of expectations, contributions and outcomes from the collaboration
- A priori publication strategy
- Clear delineation of IP and/or ownership (for some institutions this is a very difficult issue).
- Ideal collaboration is one that will up front avoid IP as an outcome
How to Identify/select collaborators

• ID intent of collaboration (Do you need a high profile name or just high quality data)
• Effective collaborations are not always with the highest profile “expert”
• If using publications/presentations as a source consider several investigators that have worked in the field
• Young and hungry and proficient may be better
• Don’t underestimate proximity nor give it too much weight
How to Identify/select collaborators, cont.

• Assess academic collaborators for: Follow through, flexibility, comfort in a team environment, understands Pharma sense of urgency, expertise/ability/proficiency

• Ability to effectively communicate and accessibility are CRITICAL.

“If You Can’t Explain it Simply, You Don’t Understand it Well Enough”–Albert Einstein
Example of Changing an Academic Environment

- MSU has institutionalized the concept of building academic-private sector interactions
- President actively supports “entrepreneurship” within the University and is developing the infrastructure to support this
- **Streamlining of engagement processes**
Streamlining of Engagement Processes

– Formation of **Business-CONNECT**
  - Office headed by Ex-Pharma person focused on developing private sector relationships
  - Reviews and approves all private sector contracts and testing agreements **in place of CGA** office that focuses on public grants.
  - Established process and timelines
  - Actively seeks out opportunities
Streamlining of Engagement Processes, cont.

– Re-engineered MSU-Technologies
  • Office supports CDA’s and MTA’s
  • Clearing house for University IP
  • Headed by Ex-Pharma person and has other ex-pharma colleagues and staff with significant private sector experience.

– New processes to support “Testing”
– Recharge Centers: services at a price using PO and no formal contracts
– Master Collaboration Agreements (MCA) to simplify relationships
Example of Changing an Academic Environment, cont.

• **In Vivo Pharmacology Facility**

  – Unit set up to help provide access to expertise and *in vivo* pharmacology models within the University

  – Run by three Ex-Pharma colleagues

  – Facilitates development of both collaborations and “testing” agreements (fee for service work)
– Provides infrastructure for Academics to operate “as expected” by Pharma
  • ID expertise
  • Act as primary interface
  • Facilitate interactions
  • Protocol development
  • Delivery timelines
  • Reporting expectations

“Henry! Our party’s total chaos! No one knows when to eat, where to stand, what to …
Oh, thank God! Here comes a border collie!”
Example of a Successful Collaboration

- Between large pharma and MSU Veterinary Cardiologist
- Point people had common interest and pre-existing relationship
- Project was to develop a new animal model (AV-Block, HIS-Paced Dog) to facilitate resolution of a pressing Drug Development problem (QT issue)
- IP was a “non-issue”
- Collaboration was company funded for several years.
Example of a Successful Collaboration, cont.

• The Company got:
  – New tool for understanding drug effects on cardiac conduction
  – Significant insight into non-hERG related factors influencing cardiac conduction
  – Authorship on publications that have influenced the field
  – A tool to facilitate drug development was the anticipated outcome but broad application of the model was not implemented
  – Model could be applied in specific applications for compounds that impact HR and conduction
Example of a Successful Collaboration, cont.

- Academia got:
  - Relationship with a drug company and exposure to the drug development process
  - Publications
  - A new model to explore cardiac conduction
  - Funding
Example of a Successful Collaboration, cont.

• Outcomes and details of the collaboration were identified up front:
  – Publications pertaining to the development of the model and model characterization/validation were co-authored
  – Publications from application of the model to address internal company issues were at the discretion of the company
  – Animals generated using company funds were only used for that company’s projects.
  – Animals generated using alternative funds were unencumbered.
Going Forward

• Both Academia and Pharma need invest in and *FOSTER* practices and a culture conducive to and rewarding collaborations
• Both Academia and Pharma have the goal of bettering human health and must partner to magnify the impact/contributions of each
• General questions regarding collaborations with Universities, or regarding developing specific collaborations at MSU:
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  – Charley Haseman: haseman1@msu.edu