

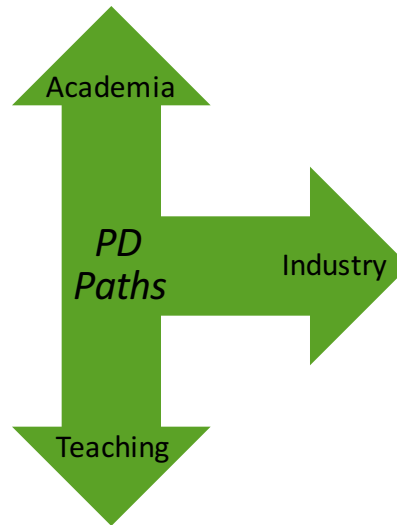
*Academia, Industry and
a Combination of the Two!*

Julie E. Tetzlaff, PhD
LUMC
May 18, 2016

1. My Career



2. Postdoc Pathways



3. Entrepreneurism



Education

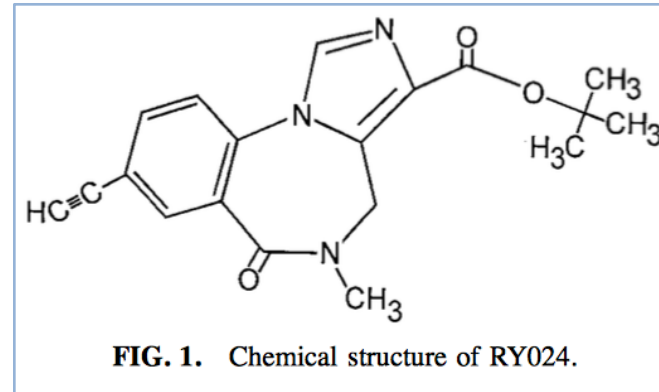
1. UW-Milwaukee (Psychology)

- Drug discovery

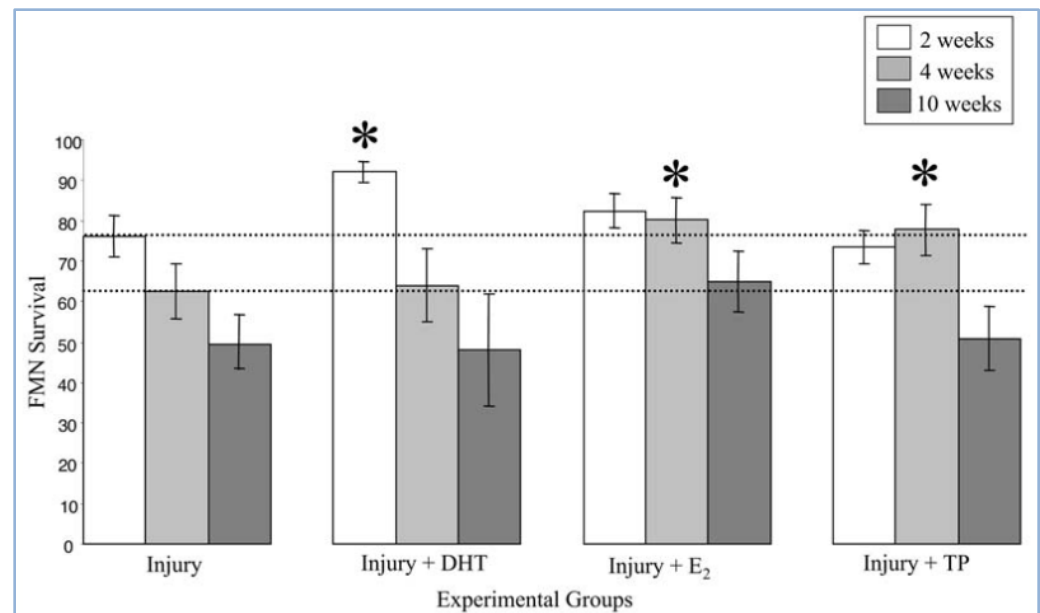
2. Two year research 'trial'

3. LUMC (Neuroscience)

- Drug treatments
- GSC-President
- Admissions Committee



Tetzlaff, et. al., 2002



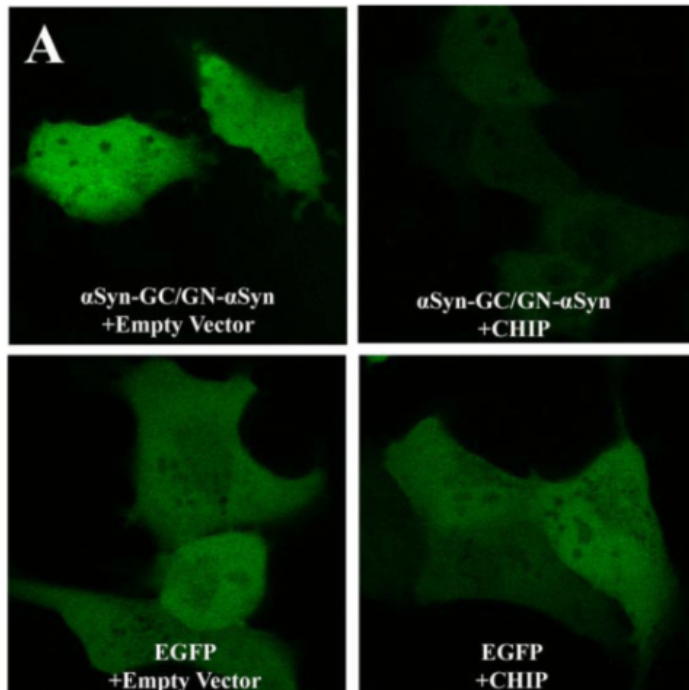
Tetzlaff, et. al., 2006



Postdoc (Research)

Harvard Medical School &
Mass General Hospital

- Drug *treatments* in PD



Tetzlaff, et. al., 2008

Postdoc (Admin)

MGPA (Mass General PD Assoc)

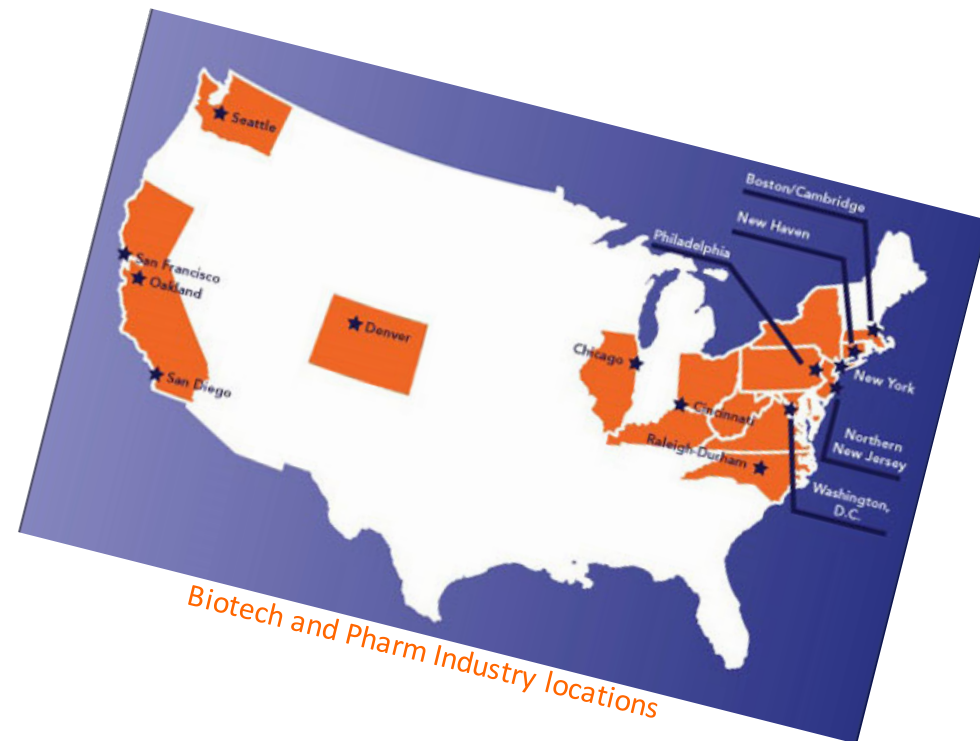
- Founding Member
- Elected Co-chair
- Career Development
 - Seminar series
- Communication
 - Alumni database
 - Social events
 - Networking
- PD quality of life & advocacy
 - Pay equity
- Developed a personal desire to work with PDs





2nd year of PD-next step?

- Academia/industry?
- Demonstrated desire to study drug treatments
- Get drugs to patients *fast*
- Ideal location for industry
- Time for ***Industry plunge!***
- Started applying to industry jobs!





The Job Search-Tips

- Read LOTS of job ads (every Friday AM)
- Search on-line for interesting company, check career pages weekly
- Soul search
- Make a list of likes and dislikes
- Post CV on-line (no LinkedIn 8 yrs ago!)
- E-mail alerts: Monster w/keywords ('scientist', 'Boston')
- Request informational interviews
- Saw the **Seaside Therapeutics** ad=*PERFECT* fit → applied





Interviewing

- Tailor Resume and Cover Letter to each ad
- Interview Prep
 - Read everything possible about the company
 - Websites, publications, press releases, personnel history
 - Prepare data sheet/question list for each individual interview
 - Tip: Be nice to *everyone* (CSO-elevator story)
 - Tip: Send *personalized* Thank You notes to everyone



Life at a small startup

- **Amazing, confidence building**
- Grew from 4-45 in 3 yrs!
- Wore many great hats
 - Plumbing, cabinet building
 - Built lab, tissue culture room
 - Helped establish departments
 - Interviewed many people
 - Helped hire
 - Researched biomarkers



View of the Charles River from the lab and Conference Room

Seaside Therapeutics

HOME ABOUT US PIPELINE FAMILIES OUR SCIENCE NEWS & EVENTS

Improving lives of patients and their families





WI PROS

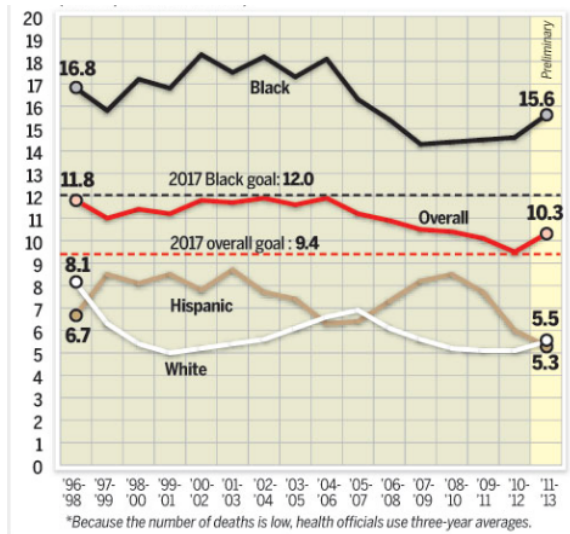
- Family/friends
- Parents
- Great place to raise kids
- Better quality of life
- Lower cost of living
- Academia more stable than industry startup
- (Green Bay Packers!)

WI CONS

- I ***finally*** got to industry
- Very few startups in WI
- Career change for me



Asst. Prof. (Research)



Asst. Prof. (Administration)

- Director of MCW Infant Mortality Center
- Director of departmental philanthropic initiatives
- Coordinator of CRI Cores

Good Metabolizer	Poor Metabolizer
<p>Normal Gene Function</p>	<p>Decreased Gene Function</p>
<p>Normal Nicotine Metabolism and Clearance</p>	<ul style="list-style-type: none"> ▼ Nicotine Metabolism ▲ Nicotine Concentrations Altered CNS Response ▼ Respiration & Arousal ▲ Risk of SIDS



Asst. Dean of PD Education

- Voice/Advocate for PDs
- Career Guidance
- Career & Professional Development
- Industry-related
 - Consult for drug companies
 - TEC committee member
 - Expanding Industry pipeline in SE WI (BIOForward/PICO)
 - Mentor to Business Startup Challenges (Neuro, Nano)



Paris Eason

**Administrative Assistant
III**

paeason@mcw.edu

(414) 955-854



**John Lombardo,
PhD**

Career Services

jplombar@mcw.edu

(414) 955-4977

Office of Postdoc Education

Social Activities

- Postdoc Appreciation Week
- Annual Picnic, Holiday Parties, Zoo

Career Development

- SOS
- Annual Retreat
- IDP Training
- RCR
- R&T

Awards (Annual)

- Travel
 - 20 x \$750
- Excellence in Science
 - 1 x \$1K
- Outstanding Female Postdoc
 - 1 x \$1K

Communications

- Weekly Newsletter

Advocacy

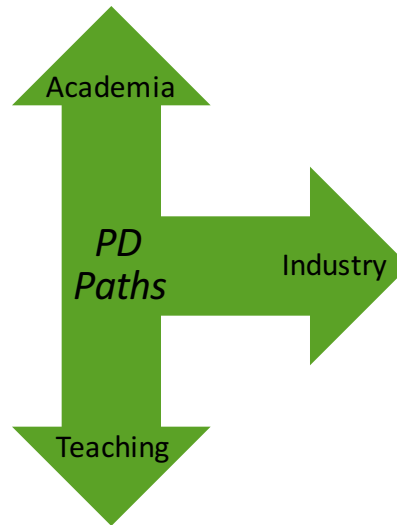
- More vacation days
- Better leave policy

Pathways...

1. My Career



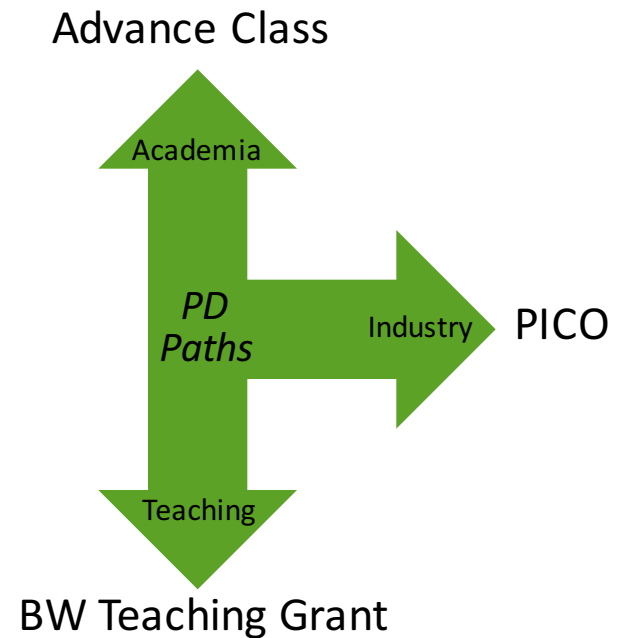
2. Postdoc Pathways



3. Entrepreneurism

Postdoc Paths at MCW

- BWWGR
 - Only ~15% of postdocs will go into academia
 - Industry, Government, teaching (most common)
 - Do PDs have the skills to apply?
 - If you do a PD, notice if these resources are present!

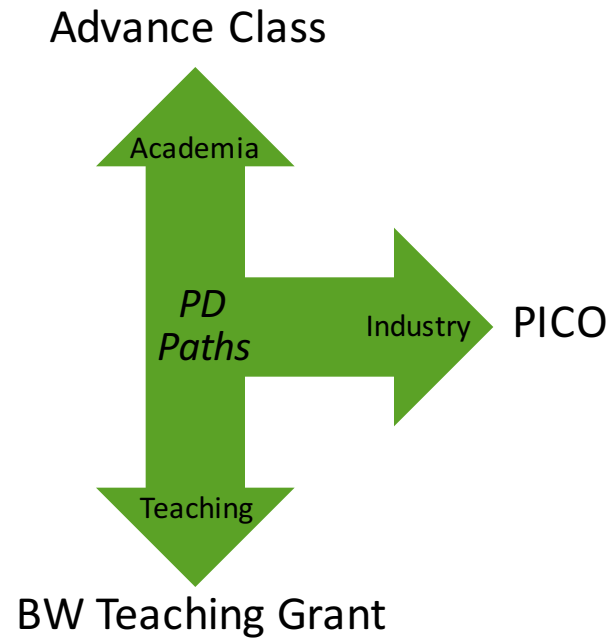


Teaching Path: BW Grant

- Burroughs Wellcome Fund, Career Guidance for Trainees
- Goal: Teach PDs how to teach and make them more marketable for careers involving teaching
- Part 1: 10-week course on teaching basics
 - Course and syllabus design
 - Blended models of course design
 - Active learning techniques
 - Effective lecture presentations
 - Incorporating tech
 - Rubrics and grading
 - Teaching millennials
- Part II: one semester of mentored teaching at a partnering institution



Postdoc Paths at MCW



Advance: From Postdoc to Faculty



Title	Graduate Students	Postdocs	Assistant Professors	Associate Professors	Full Professors
% Female	50	42	30	32	22

Nature, 2013

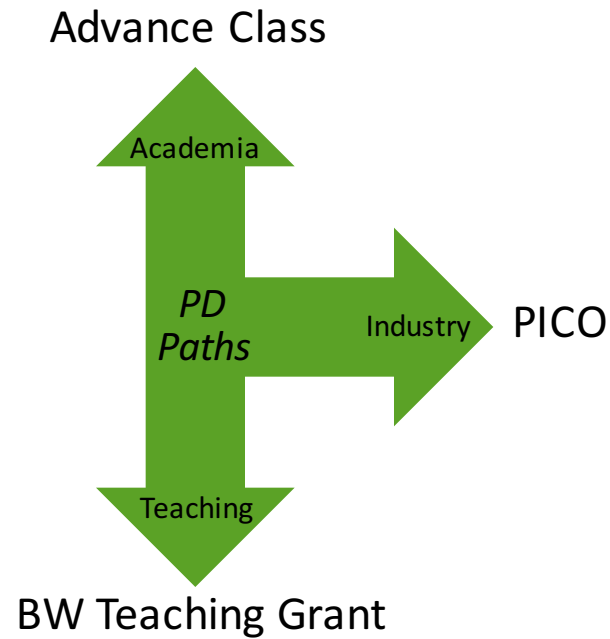
- 1) Lack of role models
- 2) Gender bias
- 3) Discrimination
- 4) Lack of confidence
- 5) Children or plans to have children

Advance: From Postdoc to Faculty



- 9-month course
- 1 learning session & 1 discussion session/month
- Course Topics:
 - Gender bias, including differences in use of verbal and body language between males and females
 - Confidence, including negotiating and networking
 - Applying for jobs, including the interview process
 - Running a lab (a panel of new and established investigators)
 - Budgets (start-up and for grants)
 - Hiring and managing people
 - Grant writing
 - Life-work balance strategies (creating your own path)
 - Maintaining female uniqueness and strengths while moving up in academic rank
- Request from the Dean to expand
- <http://www.mcw.edu/Advance.htm>

Postdoc Paths at MCW



Postdoc Industry Consultants (PICO)

- A *pro bono* consulting group from MCW serving biotech and pharmaceutical firms in SE WI.
- Postdoc founded (Drs. Phil Clifford & Lèna Watanabe) and postdoc run.
- A unique group of postdocs (& graduate students) with a variety of career aspirations (industry AND academic).
- Postdoc *consults* on a business project, *not* science!
- Mentorship received from companies



Clients



1. Consulting (5-10h/wk)

- Market Analysis
- Price Sensitivity Analysis
- Cost Benefit Analysis
- Company Acquisition Targets
- Grant Writing (SBIR, STTR)
- Business Plans
- Product and Market Opportunity Assessment
- Patent Search
- Regulatory Affair Strategies
- Technology Transfer
- Marketing Strategy

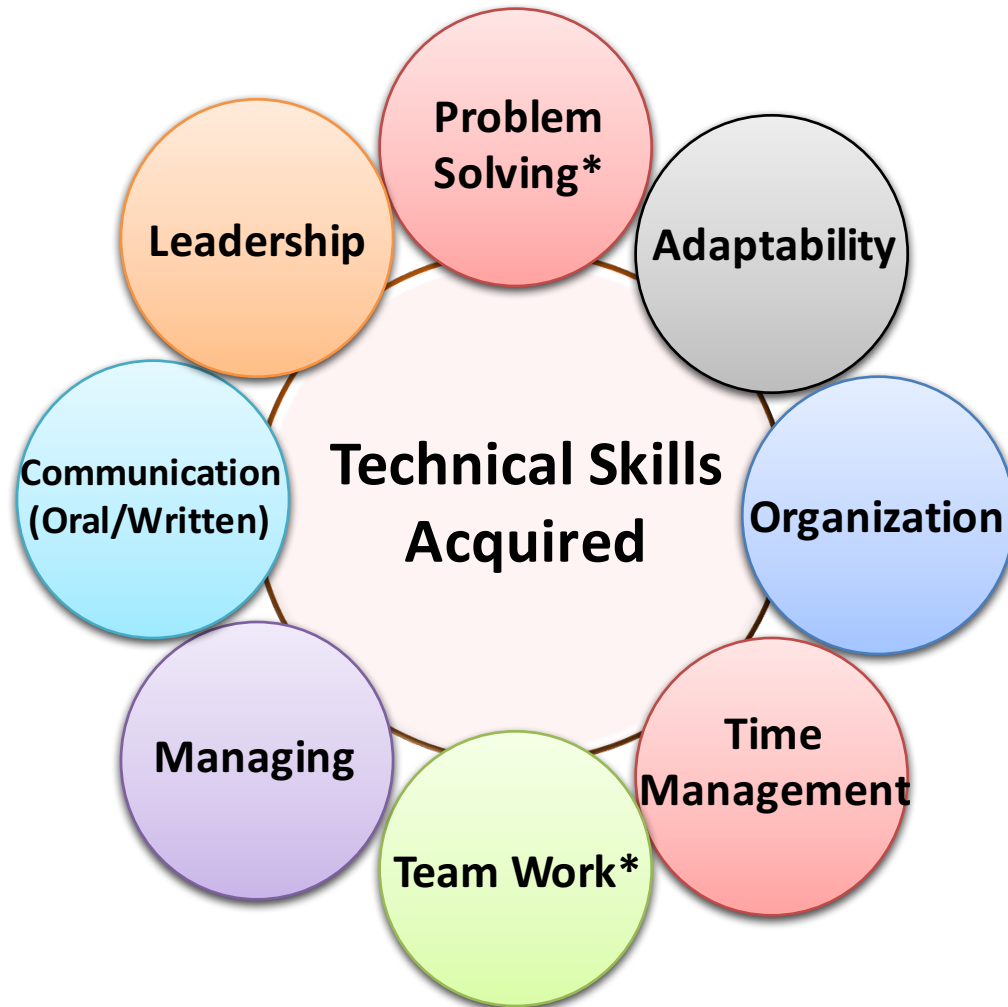
2. Educational workshops (5h/mo)

- Marketing
- IP (Intellectual Property)
- Regulatory Affairs
- VC (Venture Capital)
- Licensing
- Professional Relationship Development

3. Networking (3h/quarter)

- Biotech Conferences
- SE Wisconsin Bionet Networking Event (PICO-run event)

Why? Soft Skill Acquisition



*Employers top skills according to Forbes

Lèna Borbouse



**Aortic Product Specialist
W.L. Gore and Associates**

Michael Zickus



**Analytical Chemist
GreatPoint Energy**

Ion Moraru



**Patent Scientist
Quarles & Brady LLP**

Minde Willardsen



**Competitive Intelligence
Sedulo Group**

Madelyn Hanson



**Research Analyst
Kantar Health**

Jason Bader



**Applications Scientist
Li-Core Biosciences**

PICO Alumni

Brian Hoffmann



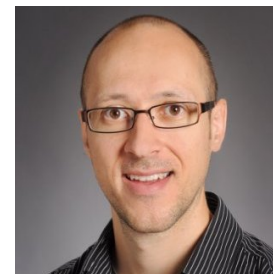
**Assistant Professor
Medical College of WI**

Jered McGivern



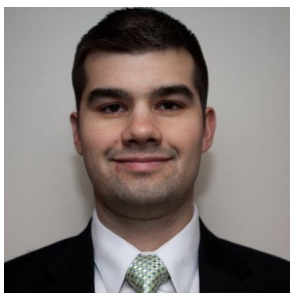
**Tenure-track Faculty
Lakeland College**

Adam Gastonguay



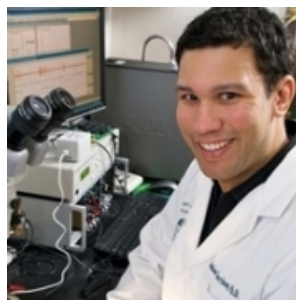
**Patent Agent
Nelson Mullins, LLP**

Benjamin Stengel



**Project Manager
Epic Systems**

Sheldon Garrison



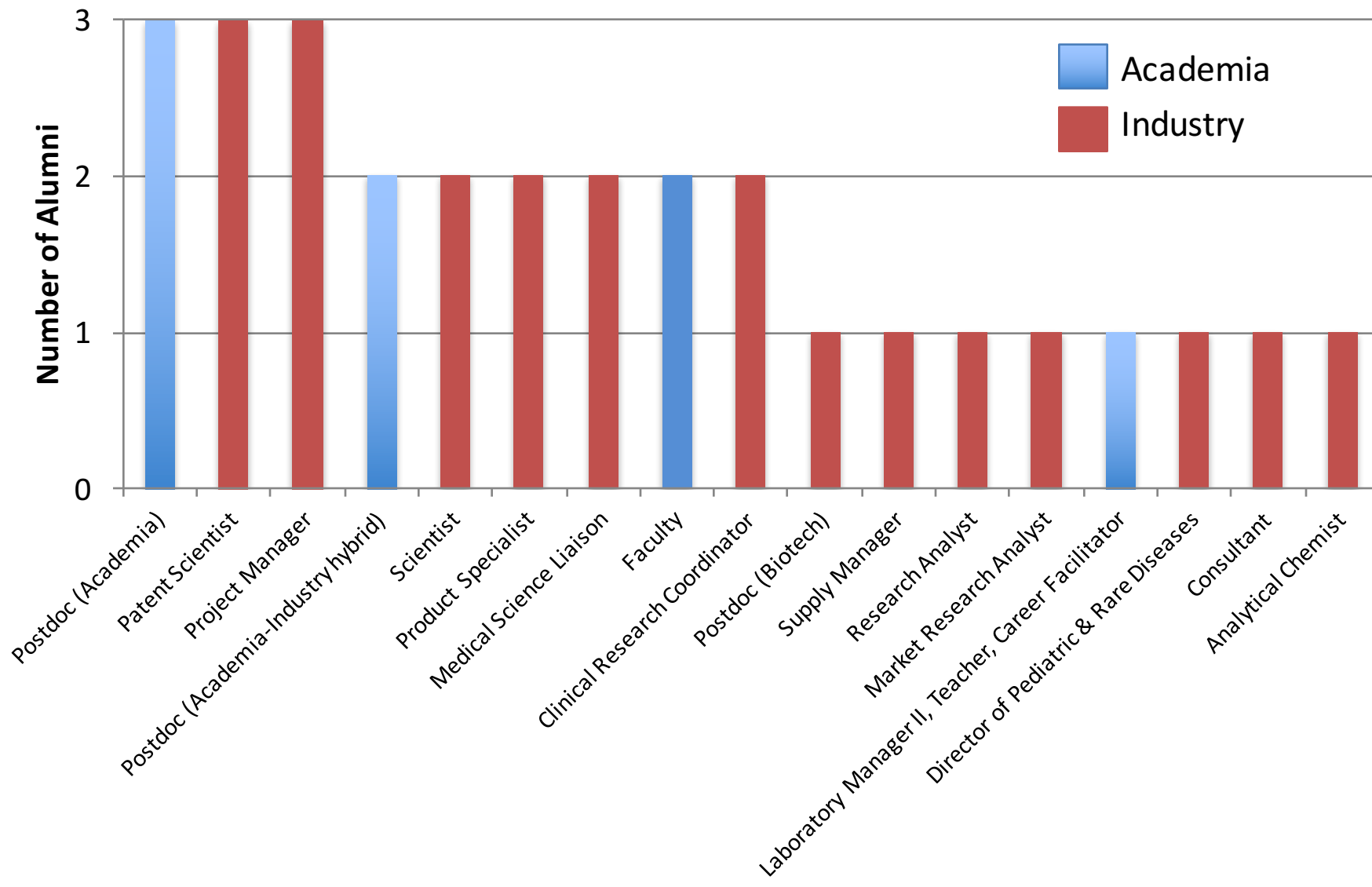
**Director of Rare Diseases
Promentis Pharmaceuticals**

Aaron Kittell

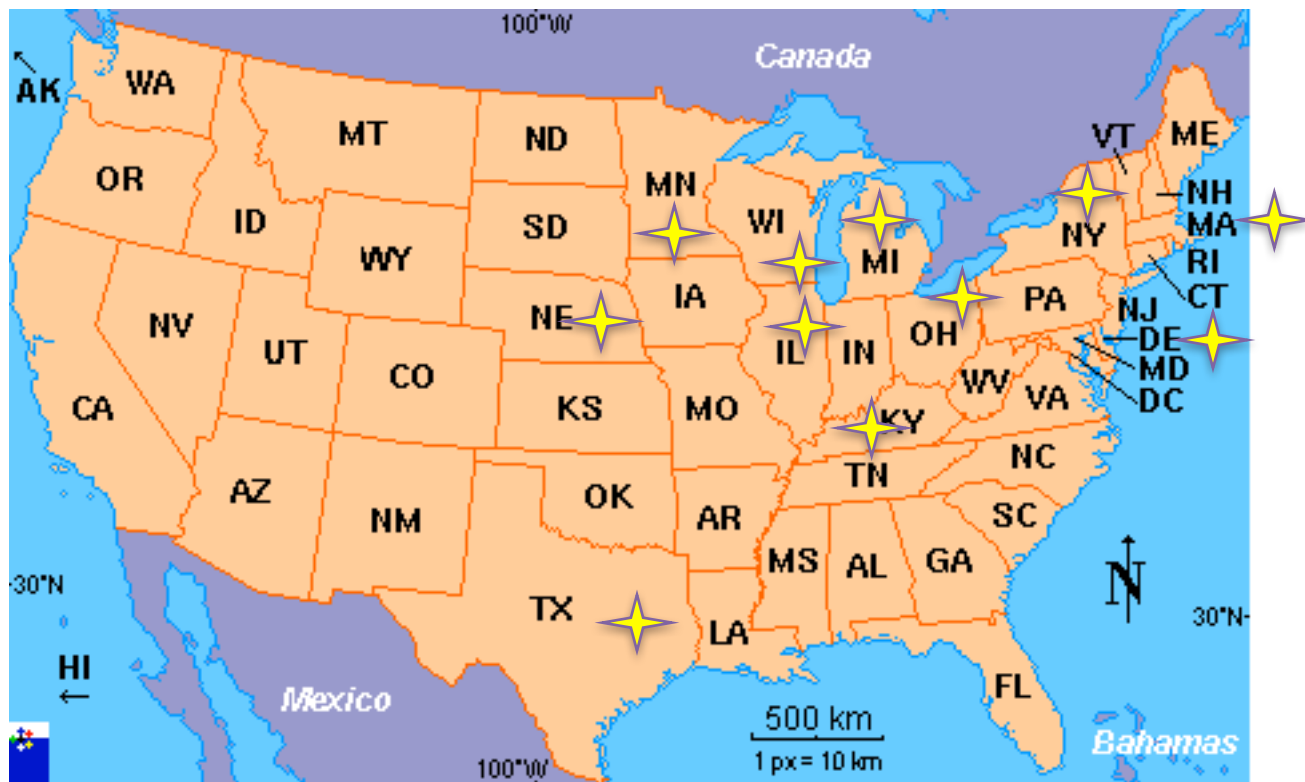


**Project Manager
Cambridge Major Laboratories**

PICO Alumni



PICO Alumni-Location



Other 'PICOs'



Biotechnology & Life Science Advising
Washington University (St. Louis)
Graduate Students



*mi*LEAD Consulting

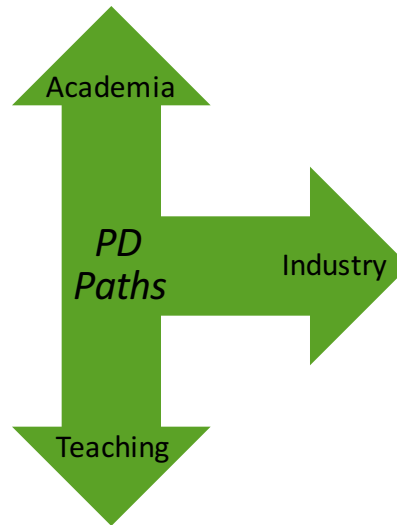
Life Sciences Engineering Advising & Development
Univ Mich
Postdocs

Coming Soon!
PICO at UW-Madison

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MCW: Office of Technology Development (OTD)

- Mission: Facilitate the transfer of technology generated from research & clinical practices into ***commercial products***
- Support & educate: MCW faculty, postdoctoral fellow, clinical fellows, interns, students & staff
- Engage inventors and internal/external stakeholders to bring *Patents to Patients*®



Joe Hill, PhD
Managing Director



Kalpa Vithalani, PhD
Licensing Manager



James Antczak, PhD
Licensing Manager

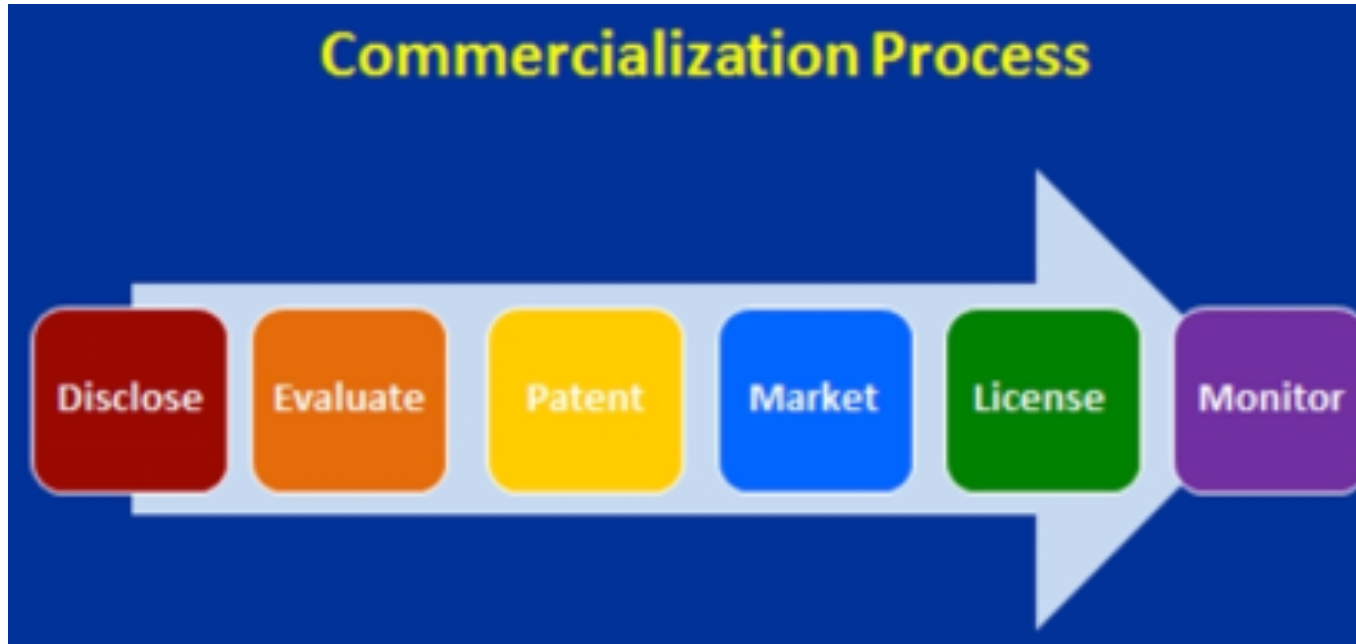


William Clark, MD
Dir of Research
Communication



Edward Diehl, PhD
Marketing Manager

MCW's OTD

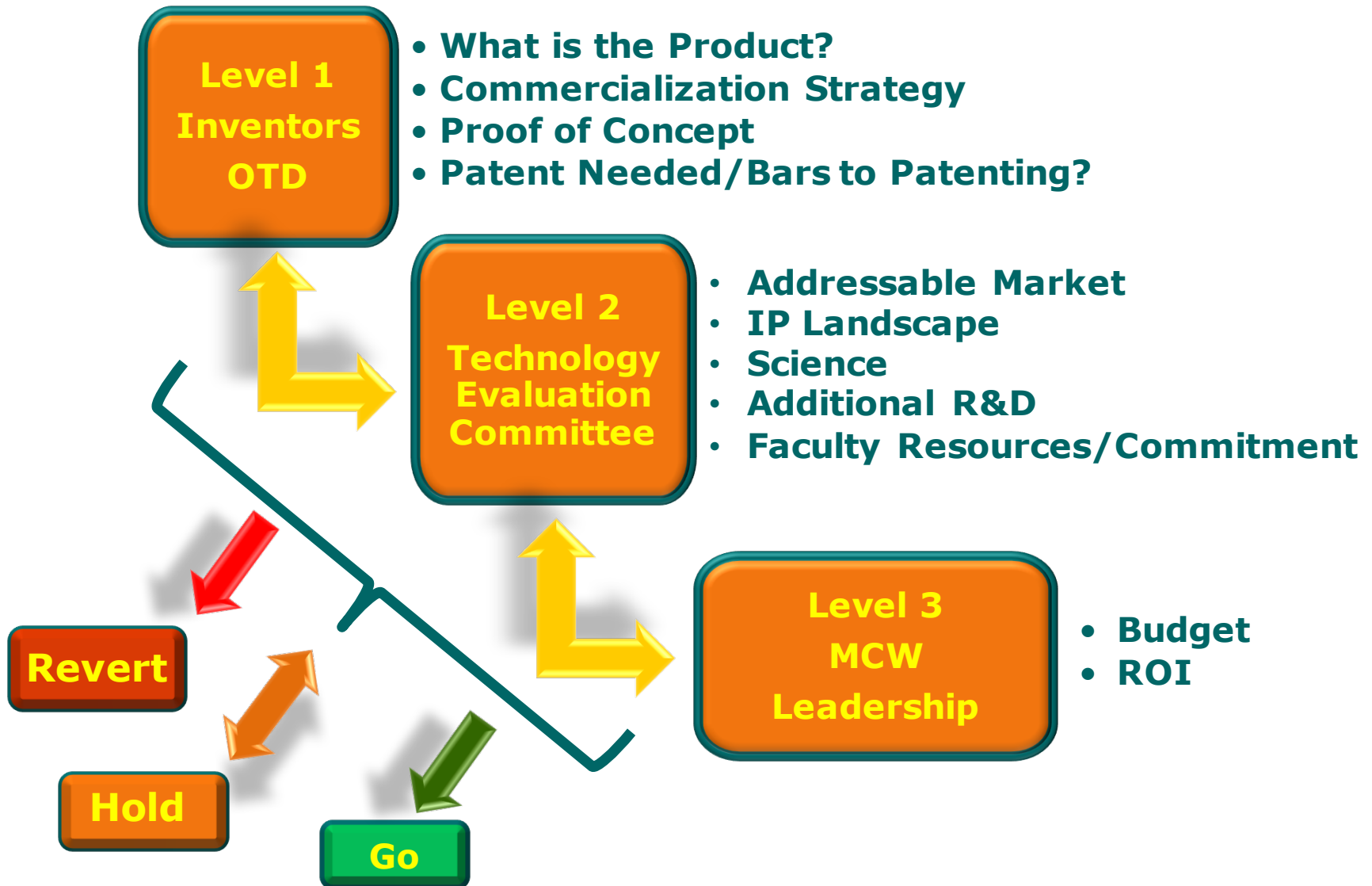


MCW

237 Pending or Issued Patents

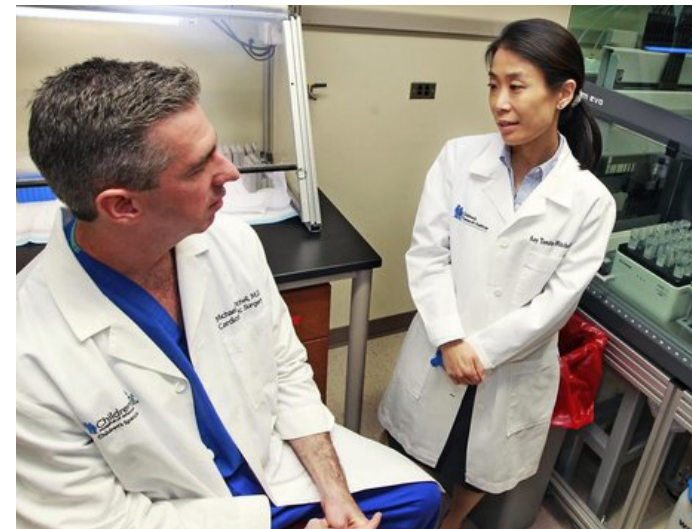
62 Technologies licensed to companies

MCW's OTD TEC Evaluation Process



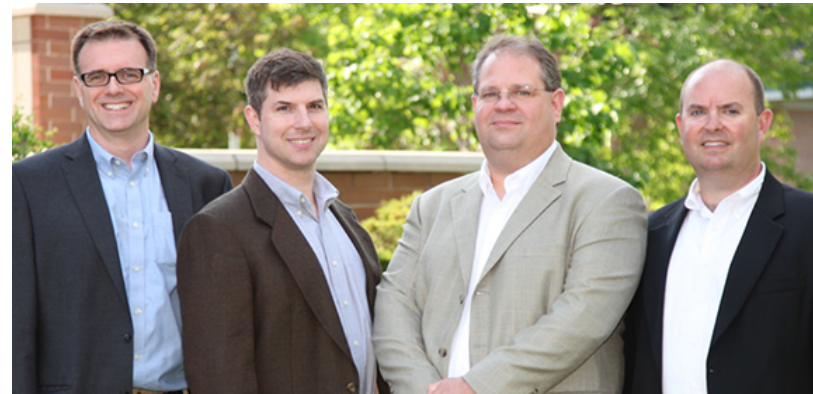
MCW startup companies: Tai Diagnostics

- Ariosa (bought by Roche, \$625M)-fetal genetic test
- New: Developing a blood test to determine whether a heart transplant recipient is in danger of rejecting a transplant
- Would replace invasive biopsies
- They have raised \$8.2M
- Dr. Aoy Mitchell, PhD (BBC)
- Dr. Michael Mitchell, MD (Surgery)



MCW startup companies: Protein Foundry

- Supply the biomedical research community with chemokines and recombinant proteins
- Founded in 2013 by MCW faculty and staff:
 - Dr. Michael Dwinell, PhD, Genetics
 - Chad Koplinski
 - Dr. Francis Peterson, PhD, Biochem
 - Dr. Brian Volkman, PhD, Biochem
- Microbrew too!



MCW startup companies: Somna Therapeutics

- Medical device company focused on improving the quality of life for those suffering with acid reflux disease
- Non-invasive, safe and simple Reza-Band
- Received FDA clearance in March 2015
- Raised \$3.4 million from angel investors
- CTSI: Dr. Reza Shaker



Do you have an idea?

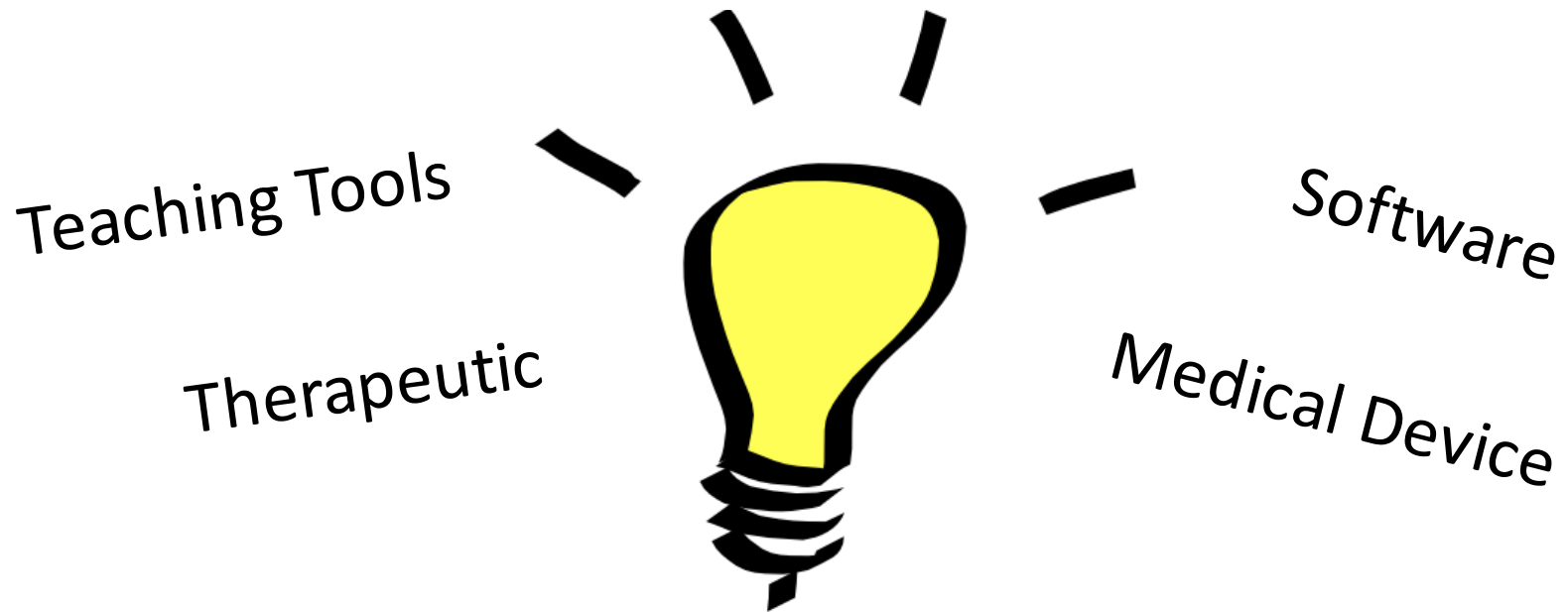
Advice

- Call the OTD with any questions
- The OTD will never discourage publication of data or interfere with career development but will work with you to **protect potential IP**.
- **Even a small change** to a buffer that decreases an incubation time by a few seconds could be **very valuable to industry**.
- You **do not have to start your own company** to reap the rewards of your IP.
- The **OTD licenses** a significant amount of IP to existing companies.

Common Mistakes

- Poor recordkeeping
 - Keep notebook well organized **with dates**
- Giving away IP rights
 - Consult OTD before public disclosure or collaborative work
- NOT reporting to the OTD
 - Invention disclosure form ASAP
- Public disclosure
 - Abstracts, papers (print/on-line), public presentations compromise the invention
 - If publically disclosed, you have 1 year to file for US rights (only)
 - Foreign rights are **lost**

Have an Idea? **Contact ORS.**



Loyola

Office of Research Services

http://www.luc.edu/ors/tech_transfer.shtml

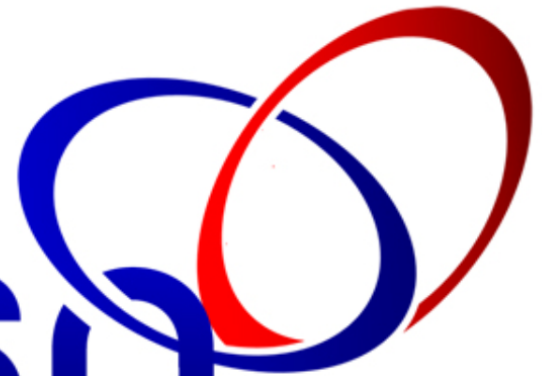
National Entrepreneurial Challenges: Neuro-and Nano Startup Challenges

- Develop startup based on NIH owned IP
- 8-10 inventions based on “Neuroscience” (2015) or “Nanotechnology” (2016)
- (1) Develop Pitch, (2) Executive Summary, (3) Launch
- Learning workshops, guidance, mentorship, business plan templates
- Prize:
 - \$2500
 - Continued mentorship
 - Access to angel/venture capital funding

WINNER!!

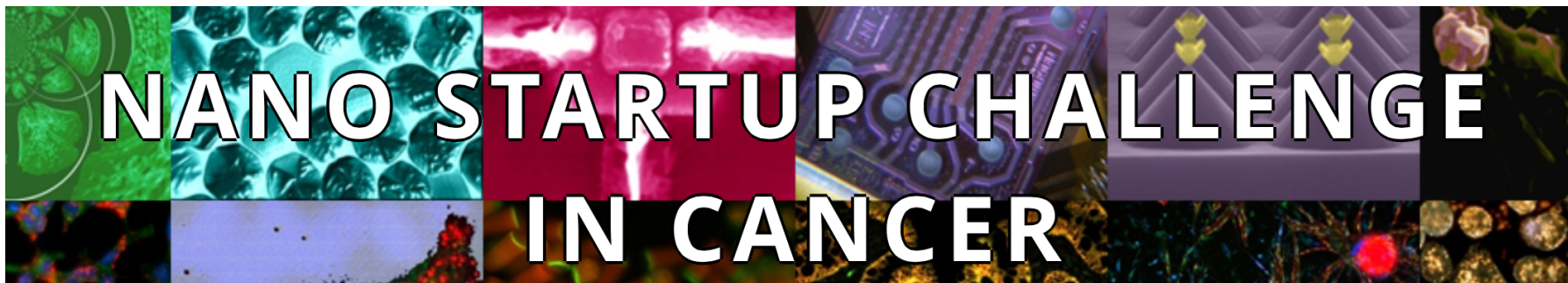
ANGIO360

Diagnostics LLC



Invention: Tumor diagnostic marker for new blood vessels formation which can be used for early detection of brain tumors.

Name	Position	MCW Postdoc	PICO
Stephanie Cossette	President/CEO	Yes	Yes
Adam Gastonguay	Dir of Legal Affairs	Former	Yes
Aaron Kittell	VP/CSO	Former	Yes
Michael Harrison	Dir of Marketing & Medical Liaison	Former	Yes
Alicia Castonguay	Dir Clinical Affairs	Former	No



INVENTION #1

1/10

A novel lipid-based nanoparticle that carries drugs to be released on-demand for cancer treatment

INVENTION #2

0/10

RNA nanoparticles and RNA/DNA chimeric nanoparticles comprising one or more functionalities for multiple disorders including cancer

INVENTION #3

0/10

Nanocubes comprising DNA or RNA core with RNA or DNA hybrid duplex for RNA interference and gene silencing

INVENTION #7

0/10

An Ultra-Sensitive Diagnostic Kit for Prostate Cancer

INVENTION #4

0/10

An apparatus containing microarray binding sensors for gene expression and nucleic acid binding assays

INVENTION #5

1/10

A carbohydrate-encapsulated gold nanoparticle used to inhibit metastasis of cancer cells

INVENTION #6

0/10

A highly Sensitive Diagnostic Immunoassay Featuring DNA-tethered Beads

INVENTION #8

0/10

A Smaller Nanoparticle Assembly that Kills Tumor by Heat

General career advice

- Soul Search-now!
- Conduct informational interviews
- Network
- Take time to tailor your application materials
- Prepare for the interview
- Leverage your unique skills to get the job you want!

Thank you!

LUMC & Lauren



LEARN. DISCOVER. INNOVATE. LEAD.

FUELED BY CURIOSITY, FOCUSED ON HEALTH