

2025 TUSP Graduate Seminar Series (November 14, 2025)

"Many Are Called, but Few Are Chosen"

Academic Drug Discovery Centers and the Moulder Center for Drug Discovery Research (MCDDR)

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Department of Pharmaceutical Sciences

Laura H. Carnell Professor

Founding Director of the Moulder Center

School of Pharmacy, Temple University

Philadelphia, PA



Academic Drug Discovery Centers

4 General Types

Research Coordination

- Identifying Collaborations
- “Building Bridges”
- Program Management

Advantage: Low Budget

Disadvantage: No Internal Resources
(Rutgers University)

Function Specific

- Focus On One Function
 - HTS/Screening
 - Chemistry
 - Molecular Modeling

Advantage: Low Budget, Cores?

Disadvantage: Requires Partners
(UCSF, UNC “**PADSP**”)

Founder Focused

- Interest of Founder
- Specific Techniques
- Specific Disease/Target

Advantage: High Level of Expertise

Disadvantage: Limited Funding Ops
(Vanderbilt University)

Small Company-Like

- Target/Disease Agnostic
- Multidisciplinary
- Independent Units

Advantage: Self Sufficient, Funding Ops

Disadvantage: High Budget
(Scripps Caliber)

“**PADSP**” : **P**sychoactive **D**rug **S**creening **P**rogram (Dr. Bryan Roth at UNC)

The Moulder Center for Drug Discovery Research

A Unique Academic Drug Discovery Center

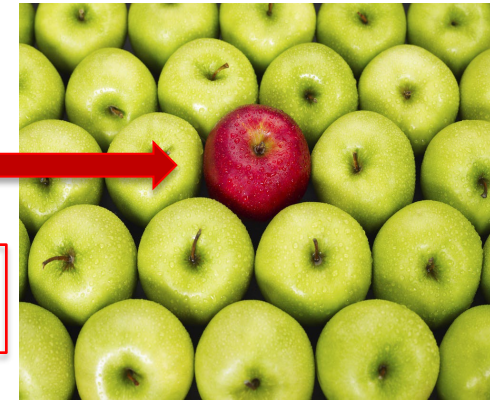
- ❑ **> 150** Academic Drug Discovery Centers Worldwide and more centers being established



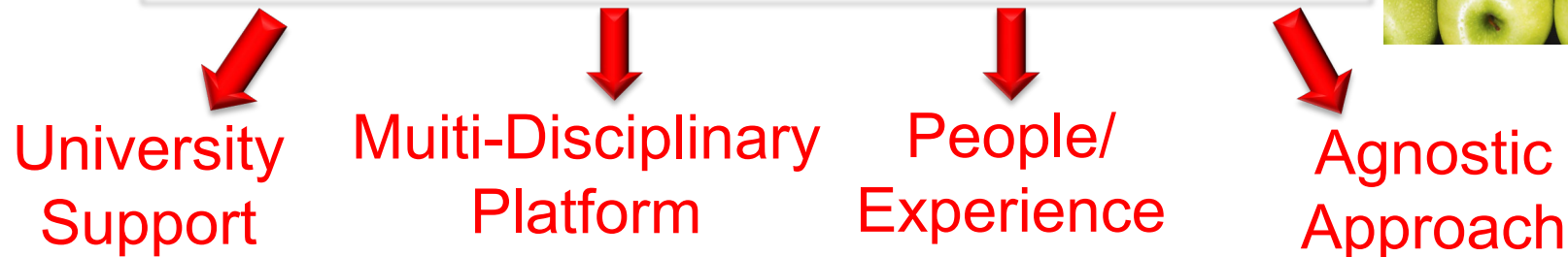
- ❑ **In 2008** Magid Abou-Gharbia changing his Pharma Career and joining Temple University and establishing a Center for Drug Discovery Research **“The Moulder Center”**

“Many Are Called but Few Are Chosen”

Moulder Center is a unique Academic Center



What Makes the Moulder Center Unique?



TU Support of the Drug Discovery Initiative

From its inception - "The Story of the Moulder Center"



Provost L. Coaico



President A.W. Hart



Reception at President Hart House

Interaction with TU President Hart and Provost Lisa Coicco ~5 month Prior joining TU, they expressed full support of my Plans to establishing Drug Discovery Center.

- *They Purchase of TUSP NMR (Giving School \$325,000) in Rm521*
- *Reduced Indirect Cost for MCDDR(13% for 5 Yrs)*
- ***Drug Discovery Initiative Grant (~\$8.2M): This is Not a Gift!***
 - *Hiring 4 Ten. Track Faculty & Research Staff*
 - *Labs/Offices Renovations: At 5th & 1st Floors*
 - *Support Junior Faculty Research (E. Krynetskiy; H. Wong)*
 - *Allocation of \$1M Research Funding (\$1M/ 4Yrs)*
to Stimulate Collaboration with Other TU Schools
(10 Researchers, including S. Merali, T. Skorski, J. Duncan)

Expanding Moulder Center Research Capacity

Hiring Faculty & Staff and Lab Expansion

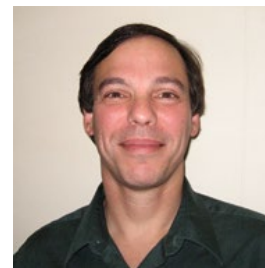
- *Hiring New Faculty joining Department of Pharmaceutical Sciences Department.*



Wayne Childers
Associate Professor
Medicinal Chemistry



Ken Korzekwa
Associate Professor
PK/ADME



Benjamin Blass
Assistant Professor
Medicinal Chemistry



Marlene Jacobson
Associate Professor
In Vitro Pharmacology
(No longer at TUSP)



Jon Conra
Associate Professor
Biotherapeutics
(No longer at TUSP)

- *Expanding 5th Floor Footprint by Transferring 7 of Medical School Labs in Pharmacy's 5th floor to the School of Pharmacy*
We are very grateful to Provost Lisa Coico & Dean John Daly

Expanding Moulder Center Research Capacity

Transfer of Medical School Faculty to TUSP

Transfer Request of the Proteomics Research Team from Department of Biochemistry, Medical School To TUSP



School of Pharmacy
TEMPLE UNIVERSITY

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September 6, 2013

Peter Doukas, Dean
Temple University School of Pharmacy
3307 N. Broad Street
Philadelphia, PA 19140

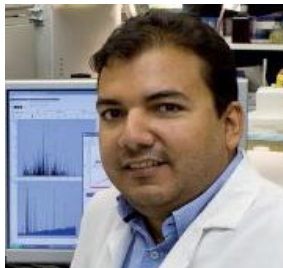
Subject: Consideration of the Transfer of Dr. Salim Merali to Tenured Associate Professor in the Department of Pharmaceutical Sciences, School of Pharmacy

Transfer Request was **Approved** by Provost & Board of Trustees
(October 19, 2013).

Transfer of 3 Faculty in November 1, 2013



Salim Merali, PhD
Associate Professor
Proteomics

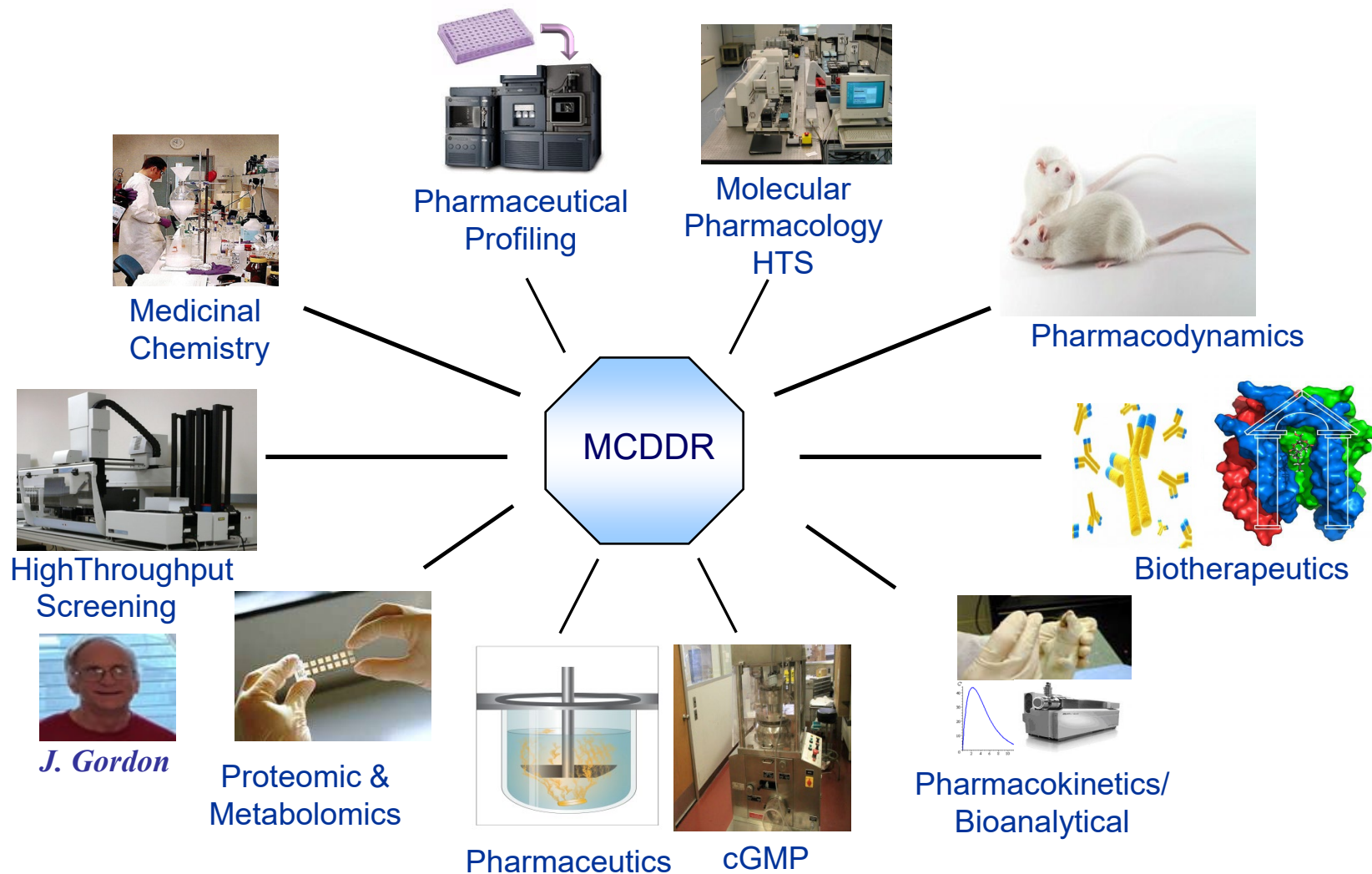


Carlos Barrero, MD
Postdoctoral Fellow
Proteomics/Metabolomics



Oscar Perez-Leal, MD
Postdoctoral Fellow
Models of Cancer

Moulder Center Expanded TUSP Research Platforms and Research Capabilities



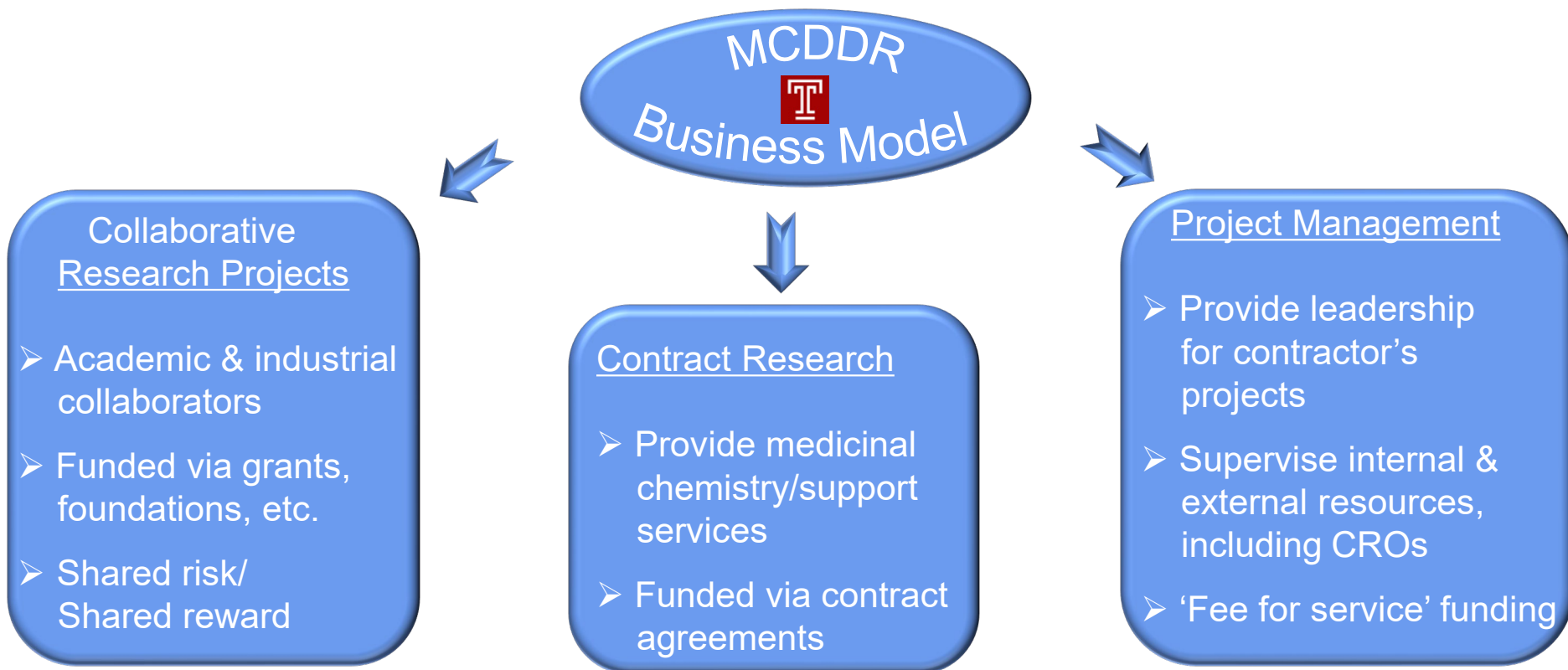
***Fully Integrated Drug Discovery Center
To Pursue Research & Entrepreneurial Objectives***

MCDDR Business Model

To Be Successful in Today's Environment, an Academic Drug Discovery Group Must Secure Funding



FLEXIBILITY



Ready for Commercialization of Science & Innovation

How To Commercialize Science?

Research Environment and Needs

4 Pillars



Head OTT (Office of Technology Transfer) “**Steve Nappi**” stated:
” Moulder Center Generates
Almost 50% of Our TU Work”

- Funding
- Basic/Applied → Patents → OTT → Partnership
- Market Needs

Office of Technology Transfer is a Key to having Successful Partners To Achieving Entrepreneurial Objectives..



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Alumni & Donors Support of Our Research Efforts

- **Colleagues:** *My Ph.D. Advisor Dr. Madeleine Joullie (\$50,000), Chemists on my team at Wyeth and now at Pfizer (\$42,000), CST (\$20,000)*
- **Companies and Organizations:** *While Serving as their Advisor/Consultant: Century Global (>\$150,000), Laxi (\$50,000), Fort Dodge (1Year Salary Postdoc), **Tesaro**, an Oncology Focused Company, Chronolgy of events:*
 - *Dinner with Sharon & Lonnie 11/2008 Discussing Status of their Business plans (Esai Aquired Lonnie Moulder Company's "MGI Pharma" in 5/2008)*
 - *Lonnie Moulder & Mary Lynne Hedley Founding "Tesaro" in 2010*
 - *Tesaro Seeks Licensing Opportunities (Amgen "**ALK**" & Merck "**PPAR**" in 2011)*
 - *Lonnie Asked **Magid** to Consult for Tesaro to Review Their Portfolio in 2011*

On Wed, Feb 2, 2011 at 2:08 PM, Lonnie Moulder <L.Moulder@tesarobio.com> wrote:

Magid,

Do you have time or interest in providing some consulting under a fee-based Consulting Agreement?

Lonnie

From: MAGID ABOU-GHARBIA [mailto:aboumag@temple.edu]

Sent: Wednesday, February 02, 2011 1:47 PM

To: Lonnie Moulder

Subject: Re:

Lonnie,

Thank you for providing the physicochemical and some of the biological profile on compounds 2&3. I classify both compounds as having good properties but suffer from the liability of MW being too high. I suspect that solubility is not very good as well but no data are provided. From my experience in oncology research, typically kinase inhibitors have high MW and show poor solubility. The oral bioavailability may be limited with dose escalation. There is missing data on CYP liability and permeability I suspect some issues there. Also these compounds are likely not brain penetrant.

Hope this helps.

Best,

Magid

Alumni and Donors Support The Moulder Center



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Associate Dean for Research

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Temple Now

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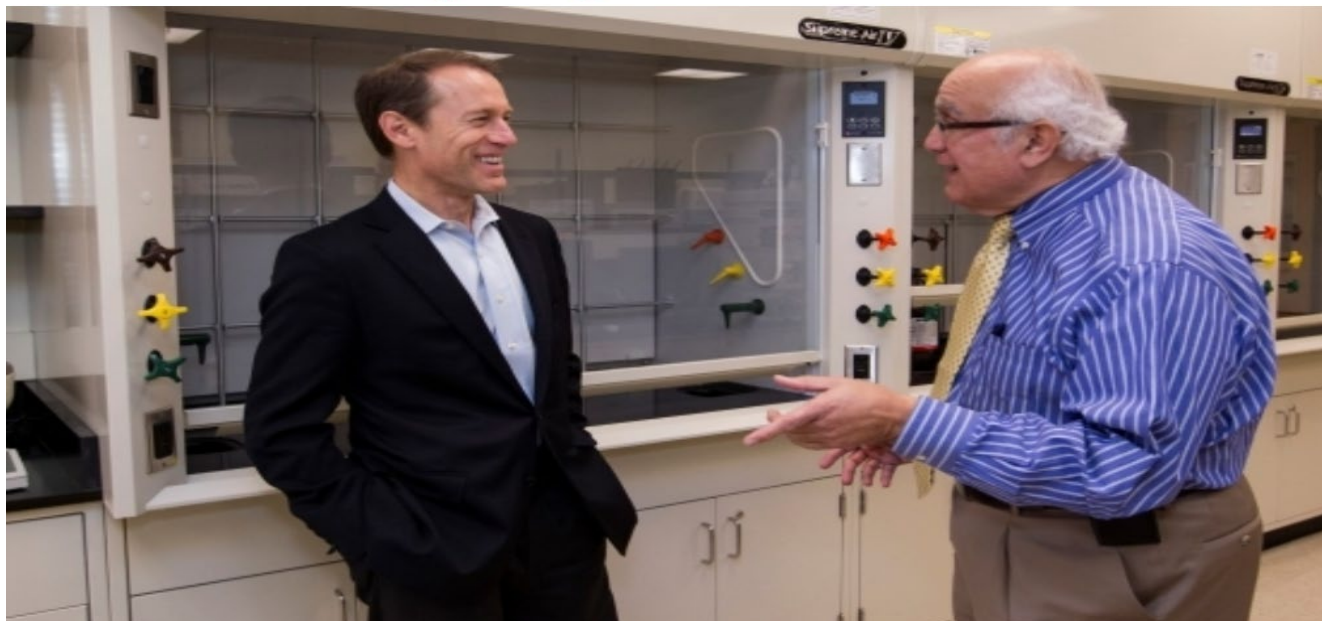
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POSTED JANUARY 13, 2015

MOULDER CENTER FOR DRUG DISCOVERY RESEARCH, CAMPUS NEWS, SCHOOL OF PHARMACY

School of Pharmacy's Moulder Center endowed with \$5 million pledge



Moulder Center Achievements (2008-2014)

Moulder Center Academic & Industrial Collaborators

Industrial Collaborators



Praeventix
Improving Patient Health



STRONGBRIDGE
BIOPHARMA



CUREVEDATM
CAREFULLY CRAFTED REMEDIES

Academic Collaborators



College of
Science and Technology
TEMPLE UNIVERSITY



TEMPLE
UNIVERSITY

College of Engineering



Shriners Hospitals
for ChildrenTM



FOX CHASE
CANCER CENTER

TEMPLE HEALTH



THE WISTAR INSTITUTE
TODAY'S DISCOVERIES - TOMORROW'S CURES



Arizona State
University



Penn
UNIVERSITY of PENNSYLVANIA



SOUTH DAKOTA
STATE UNIVERSITY

THE UNIVERSITY OF TEXAS

MD Anderson
Cancer Center

Montclair
State

UND

NORTH DAKOTA

UNT

HEALTH
SCIENCE CENTER



UNIVERSITY of
ROCHESTER



UNIVERSITY of
FLORIDA



CORIELL INSTITUTE
FOR MEDICAL RESEARCH

JOHNS HOPKINS
UNIVERSITY

RUTGERS

New Jersey Medical School