Sub themes

1. Return on investment
2. Inaugural programs
3. Charter class
4. First of its type in Ohio or American pharmacy education
OBJECTIVES

Show major accomplishments of the people and programs

Suggest that the college is influential beyond Wolfe Hall and the Frederic and Mary Wolfe Center

Illustrate student pharmacist and pharmaceutical scientist learner leadership and career advancement

Set forth the good works of a talent-laden staff and faculty population

Show the high regard for the college as one that delivers a return on investment
TURTLE ON THE FENCE POST

ACKNOWLEDGEMENTS

Content writers

College Communicator and Scientific Editor

Photograph resource persons

Staff of the Office of the Dean

Director of Development

Scholarship committee

Rituals and ceremonies committee
RETURN ON INVESTMENT

Licensure and Placement
PHARMD CLASS OF 2016

Plans at the Time of Graduation

- Practicing Pharmacist: 48%
- Residency: 34%
- Other: 2%
- Undecided: 16%

N=89 graduates

Other=return to country of origin
PHARMD CLASS OF 2016

Practice positions

Community Practice by Company

<table>
<thead>
<tr>
<th>Company</th>
<th>Number</th>
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</thead>
<tbody>
<tr>
<td>CVS</td>
<td>7</td>
</tr>
<tr>
<td>Rite-Aid</td>
<td>10</td>
</tr>
<tr>
<td>Kroger</td>
<td>6</td>
</tr>
<tr>
<td>Wal-Mart</td>
<td>4</td>
</tr>
<tr>
<td>Walgreens</td>
<td>7</td>
</tr>
<tr>
<td>Meijer</td>
<td>2</td>
</tr>
<tr>
<td>Independent</td>
<td>2</td>
</tr>
<tr>
<td>Discount Drug Mart</td>
<td>1</td>
</tr>
</tbody>
</table>
- NEOMED attracted a pair to the PharmD program
- Duquesne attracted a medicinal chemistry major to the PhD program
- Wright State attracted another student to its graduate program
- College graduate program
  - Medicinal Chemistry
  - Experimental Therapeutics
- The UT College of Business and Innovation enrolled a pair of pharmacy administration graduates in the MBA program.
BSPS ALUMNI JOB TITLES IN OHIO

Healthcare Quality Analyst at Frontpath Health Coalition

In Vivo Biocompatibility Technologist at NAMSA

Production Chemist 1 at Anatrace

Clinical Research Assistant at The Ohio State University Wexner Medical Center

Associate QA Auditor at NAMSA

Compliance Coordinator at HCR ManorCare

Dr. Isaac Schiefer, Assistant Professor, Medicinal Chemistry, CPPS

Daniel Fackelman, Enrollment Management Specialist, CPPS
HILLARY PHILLIS, BSPS ‘14

- Cosmetic science and formulation design
- September 2015, joined Active Concepts, LLC as a Technical Marketing Associate
- Promoted in 11 months to a Marketing Manager
THE GRADUATE PROGRAM

Asset to America and the World
FULBRIGHT STUDENTS

Bangladesh, Swaziland and Indonesia

Muhammad Shahdaat Bin Sayeed  Samkeliso Diamini
FULBRIGHT STUDENTS

Akrima
### GRADUATE DEGREE CONFERRED BY MAJOR

<table>
<thead>
<tr>
<th>Major</th>
<th>Headcount</th>
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<tbody>
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<td>Medicinal Chemistry, PhD</td>
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<tr>
<td>Medicinal Chemistry, MS</td>
<td>4</td>
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<tr>
<td>Pharmacology &amp; toxicology, MS</td>
<td>8</td>
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<tr>
<td>Health Outcomes and Socioeconomic Science, MS</td>
<td>3</td>
</tr>
<tr>
<td>Industrial Pharmacy</td>
<td>5</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>22</strong></td>
</tr>
</tbody>
</table>
GRADUATE STUDENT PLACEMENT
Ohio and the world benefit from Toledo graduates – University of Toledo

Fahad Alshehri, MS, pharmacology
Alexander Wisner, MS pharmacology
Alqassem Hakami, MS pharmacology
Salam Al-Maliki
Hossain Saad, MS, pharmacology

PhD student, Experimental therapeutics
PhD student, Experimental therapeutics
PhD student, Experimental therapeutics
PhD student, Biomedical Sciences, UT COM&LS
Research assistant, UT, Biological Sciences
GRADUATE STUDENT PLACEMENT
Ohio and the world benefit from Toledo graduates – Ohio

Emily Crissman, MS, medicinal chemistry
Robert Farrell, MS, medicinal chemistry
Alexandra Born, MS, health outcomes and socioeconomic science
Duy Le, MS, health outcomes and socioeconomic science

Production Chemist I, Anatrace, OH
Chemist, LexaMed, OH
Coordinator, Health Quality Analytics, Frontpath, OH
Pharmacist, Select Specialty Hospital, Cincinnati, OH
WALGREENS PHARMACY PRACTICE CAMP

• Started in 2001 with continuous support by Walgreens

• Source of 18 PharmD (10% of the class) and 1 BSPS P1 learner

• Eighteen (18) Walgreens scholarships (23.7%)

• One BSPS pharmacy administration major – Samanta Lopez

2016 DEMOGRAPHICS

- Caucasian: 56%
- African-American: 11%
- Asian American: 4%
- Hispanic/Latino: 4%
- Other: 25%

Males to Females 2016

- Males: 18%
- Females: 82%
PHARMACY PRACTICE CAMP: RETURN ON INVESTMENT — FACULTY ALUMNI

- Dr. Anthony Pattin
- Dr. Michelle Schroeder
- Dr. Michelle Serres, faculty members in the Department of Pharmacy Practice
- Campers in the early 2000s as rising high school juniors, eager to learn about pharmacy
PHARMACY PRACTICE CAMP: RETURN ON INVESTMENT — ANTHONY PATTIN

• Camper in 2002
• Doctor of Pharmacy in 2009, UT
• PGY-1 Community Pharmacy Residency
• Kroger/Toledo Community Pharmacy, 2010
• Clinical assistant professor, Wayne State University Eugene Applebaum College of Pharmacy and Health Sciences
• 2015, accepted a tenure-track assistant professor position in the college
• The first African-American PharmD faculty member in the history of the college
PHARMACY PRACTICE CAMP: RETURN ON INVESTMENT — MICHELLE SERRES

• 2003 pharmacy camper
• Doctor of Pharmacy in 2010, UT
• Director of Introductory Pharmacy Practice Experiences
• Completed a post-graduate year-one (PGY1) pharmacy residency in primary care with the W. W. Knight Family Medicine Program at The Toledo Hospital
• Joined the college in 2011
• Board Certification of Advanced Diabetes Management, 2011
• Board Certification in Ambulatory Care Pharmacy, 2012
PHARMACY PRACTICE CAMP: RETURN ON INVESTMENT — MICHELLE SCHROEDER

- Camper in 2004
- Doctor of Pharmacy, Ohio Northern University (2011)
- Kroger/UT Community Pharmacy Residency (2012), immediately joined the college
- A certified diabetes educator
- University of Toledo Center for Diabetes Self-Management, Education, and Training
INAUGURAL SHIMADZU PHARMACEUTICAL SCIENCES CAMP

• Amway funds - a focus on cosmetic science and formulation design major
  • A major internship placement site and employer of graduates
• Cosmetic science starting salary range
• Another component of the Shimadzu investment in the college
INAUGURAL SHIMADZU
PHARMACEUTICAL SCIENCES CAMP

• Laboratory science-focused
• Campers explored the science behind pharmacy
• Drug discovery
• Chemistry
• Cosmetic science, which focuses on the development of personal care products
• Nearly all campers agreed that the camp activities were worthwhile and influenced their decisions to pursue careers in pharmaceutical sciences.
INAUGURAL SHIMADZU
PHARMACEUTICAL SCIENCES CAMP

Supported by Amway

2016 Pharmaceutical Science Camp
Demographics (Males: Females)

- Males: 16%
- Females: 84%

Demographics

- Caucasian: 44%
- African-American: 4%
- Hispanic/Latino: 16%
- Asian American: 16%
- Other: 20%

Supported by Amway
CHARTER CLASS: SHIMADZU
PHARMACEUTICAL SCIENCE CAMP

Alyssa McIntosh
Alyssa Rodriguez
Anton Molnar
Audrey Simon
Blaine Buttorworth
Cecilia Kisslan
Courtney Brinkman
Erica Gardner
Faith Metlock
Hailee Sens
Jenna Hamden
Kevin Thompson
Mary Miller
Stephanie Lugo
Valentine Cabezas
Toledo Early College High School (TECHS) to BSPS program started in 2013

- High achieving students who are interested in the pharmaceutical sciences

- Seven TECHS sophomore learners joined the fourth cohort
TOLEDO EARLY COLLEGE HIGH SCHOOL: SECOND COHORT

- Two students out of the six members of the second cohort and now pre-pharmacy learners.

  Arianna Aranda

  Marwa Hassan

- A third TECHS learner was influenced by the program.

  Maryam Abou-Dahech

  Dr. Slama stated …” All three are excellent students …”
Research Funding

Restoration of a necessary resource
FIVE YEAR RESEARCH FUNDING ($ MILLION): A DECLINE

<table>
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<td>.816</td>
<td>.936</td>
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# New Extramural Funding: $497,534

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<tr>
<th>Name</th>
<th>Dept/Center</th>
<th>PI/co-PI</th>
<th>Funding source</th>
<th>Award credit</th>
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<tr>
<td>Paul Erhardt</td>
<td>CD3</td>
<td>PI</td>
<td>NOW Stem Cure, LLC</td>
<td>$15,000</td>
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<tr>
<td>Marcia McInerney</td>
<td>MBC</td>
<td>PI</td>
<td>NIH/NIDDK</td>
<td>$151,663</td>
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<td>Amanda Bryant-Friedrich</td>
<td>MBC</td>
<td>PI</td>
<td>FDA</td>
<td>$5,000</td>
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<tr>
<td>Isaac Schiefer</td>
<td>MBC</td>
<td>PI</td>
<td>Alzheimer’s Association (National)</td>
<td>$100,000</td>
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<tr>
<td>Kevin Nash</td>
<td>PHCL-Grad Student</td>
<td>PI</td>
<td>Am Foundation For Pharmaceutical Ed AFPE</td>
<td>$10,000</td>
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<td>Ming Liu</td>
<td>PHCL</td>
<td>PI</td>
<td>American Heart Association</td>
<td>$38,500</td>
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<tr>
<td>Wissam Abouaïwi</td>
<td>PHCL</td>
<td>PI</td>
<td>AACP</td>
<td>$10,000</td>
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<tr>
<td>Aaron Lengel (Mary Powers)</td>
<td>PHPR</td>
<td>PI</td>
<td>UT/Kroger Community Pharmacy Residency Program</td>
<td>$30,735</td>
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<td>Monica Holiday-Goodman</td>
<td>PHPR</td>
<td>Co-PI</td>
<td>Ohio Dept of Jobs and Family Services MEDTAPP</td>
<td>$111,655</td>
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<tr>
<td>Aaron Lengel</td>
<td>PHPR</td>
<td>PI</td>
<td>Nat Assoc Chain Drug Stores NACDS</td>
<td>$2,500</td>
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<td>Sai Boddu</td>
<td>PHPR</td>
<td>Co-PI</td>
<td>L’Oreal Paris</td>
<td>$1,872.60</td>
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<td>Sai Boddu</td>
<td>PHPR</td>
<td>Co-PI</td>
<td>L’Oreal Paris</td>
<td>$249.68</td>
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<td>Sai Boddu</td>
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<td>Co-PI</td>
<td>L’Oreal Paris</td>
<td>$249.68</td>
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<td>$7,497.75</td>
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<td><strong>$497,534.20</strong></td>
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DISTRIBUTION OF NEW EXTERNAL GRANT AWARDS

Total external grants FY16 $497,534
# Internal Grant Awards

<table>
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<tr>
<th>Name</th>
<th>Dept</th>
<th>PI/co-PI</th>
<th>Internal funding source</th>
<th>Award credit</th>
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</thead>
<tbody>
<tr>
<td>Wissam AbouAlaiwi</td>
<td>PHCL</td>
<td>PI</td>
<td>DeArce -Koch</td>
<td>$25,000</td>
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<tr>
<td>Susanne Nonekowsk</td>
<td>MBC</td>
<td>PI</td>
<td>Innovations in Teaching Award</td>
<td>$3,500</td>
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<tr>
<td><strong>Total</strong></td>
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<td></td>
<td><strong>$28,500</strong></td>
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MEDIA IMPRESSION: RESEARCH, WISSAM ABOUALAIWI, FRONT PAGE
The year 2014 was painful

A major decline due to the loss of two research-active faculty members. Two more were retained.

Pharmacology and experimental therapeutics department hired a pair of faculty in 2015

New hires have not yet landed federal funding
EXTERNAL COGNATE PRE-SUBMISSION REVIEW OF GRANT PROPOSALS

• In 2016 61 total grant proposals submitted

• Thirty-two met the threshold for external cognate review

• Proposals exceeding $100,000 requires such a review

• Why?
RESULTS OF EXTERNAL COGNATE REVIEW: 2016

32 Grants over 100K submitted

- 28 Grants Reviewed
  - Pending: 10
  - Funded: 2
  - Not Funded: 16
    - Scored: 3
    - Not Scored: 13

- 4 Grants Not Reviewed
  - Funded: 0
  - Not Funded: 4
    - Scored: 1
    - Not Scored: 3
A productive college

A total of 119 papers, books and book chapters gives an average of 2.47 publications per teaching faculty member (48 as of September 2016)
PUBLICATIONS: GRADUATE STUDENTS

- Thirty (30) of 119 publications included graduate student authors

- Sets the foundation
  - Post doctoral training

- Obtaining a position

- Competitive extramural funding
FOUR PATENTS: MEDICINAL AND BIOLOGICAL CHEMISTRY

• The creation of new knowledge
• One of the contributors is a current PhD student, Brian Kress


Isaac Schiefer (granted 08/02/ 2016). The technology involved was sub-licensed to American Life Science Pharmaceuticals (ALSP Inc.) for continued development as novel agents for Alzheimer’s disease therapy. “Novel cysteine protease inhibitors and uses”. Arancio, Ottavio; Fa, Mauro; Schiefer, Isaac T.; Thatcher, Gregory. US 9403843 B2.
RHO CHI HONOR SOCIETY: BETA ETA CHAPTER

• Top 20% of their class with a 3.65 to 3.93 GPA, PharmD, P3

• Cindy Puffer, RPh, speaker

• Fifteen initiates
RHO CHI: BETA ETA CHAPTER INITIATES

Brianna Archambeau
Casey Backs (secretary)
Akeem Bale (president)
Rania Bazzi
Nicholas Betka
Danielle Carroll
Edward Cosma
Joseph Gall

Dongjin Kang
Jill Nofziger
Lucas O’Neil (vice-president)
Jignasha Patel
Emily Rutzky
Kyle Sarahman
Chad Smith (historian)
SIGMA PHI SIGMA PHARMACEUTICAL HONOR SOCIETY: ALPHA CHAPTER

• Enrolled in a professional BSPS degree program
• Completed no less than one-half of the required professional didactic coursework
• Rank in the top 20 percent of the class
• Minimum professional GPA of 3.0 on a 4.0 scale
• Eighteen learners inducted
SIGMA PHI SIGMA PHARMACEUTICAL HONOR SOCIETY: ALPHA CHAPTER

- Ahmed Fahad (MSIP)
- Alexandra Born (MS HOSS)
- Ayad Al-Hamashi (MedChem PhD)
- Daijonae Knuckles (PCOS)
- Daniel Koehler (Exp. Ther. PhD)
- Denisha Patel (PCOS)
- Duy Vu Le (MS HOSS)
- Emily Esakov (MedChem PhD)
- Federico Resendiz Guierrez (PTOX)
- Minah Lee (PCOS)

- Neha Dhananjay Nandedkar (MedChem PhD)
- Rami Mohammed Eid Alzhrani (MSIP)
- Rinda Devi Bachu (MSIP)
- Samantha Parrott (Pharmaceutics, PCOS)
- Saugat Adhikari (MSIP)
- Sienna Gerdeman (PCOS)
- Sojung Park (PCOS)
- Taliyah Jones (PCOS)
HONORS UNDERGRADUATE RESEARCH: Independent research, problems, and internship courses

• Erin Tishenkel, Isaac Schiefer, “Evaluation of In Vivo Neuromodulatory Activity by a Novel Class of Attenuated Nitric Oxide Mimetics with Potential as Treatments of Neurodegenerative Disorders”

• Corey J. Widman, James Slama, “Fisher Esterification and Alkylation of 3-Hydroxynicotinic Acid”

• Kevin Wissman, Summer 2016 with V. Tillekeratne

• Kyle Bergen, Summer 2016 with V. Tillekeratne

• Ellen Jochum, Summer 2016 with Katherine Wall

• Corey Hosier, Paul Erhardt, “Synthesis of Chalcone Derivatives for Inducing Methuosis,” received USRCAP scholarship
<table>
<thead>
<tr>
<th>Learner</th>
<th>Educational Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corey Hosier</td>
<td>Undergraduate research honors</td>
</tr>
<tr>
<td>Olivia Khazan</td>
<td>Undergraduate research</td>
</tr>
<tr>
<td>Maggie Bohmer</td>
<td>Sylvania South View high school</td>
</tr>
</tbody>
</table>
RETURN ON INVESTMENT Residency and Fellowship training, Research Instrumentation
KROGER/TOLEDO PGY1 COMMUNITY RESIDENCY

• Expanded to a two-year residency program with a MS degree

• Mitchel Howard, PharmD

• Dr. Aaron Lengel, Residency Program Director
TOLEDO FAMILY PHARMACY FELLOWSHIP

• A Health Outcomes and Socioeconomic Sciences Community –based Health Outcomes Fellowship

• First of its kind in academic pharmacy

• Dr. Sharrel Pinto, Fellowship Director

• Dr. Rebekah L. Panak (University of Oklahoma)
THE SHIMADZU LABORATORY FOR PHARMACEUTICAL RESEARCH EXCELLENCE

• Dedicated on January 28, 2016 – Dean Amanda Bryant-Friedrich

• The first College of Pharmacy in Ohio to develop this relationship with Shimadzu
Leadership Retreat

Leaders of student organizations
STUDENT LIFE: WOLFE HALL

Kappa Psi and Danish with the Dean
GLOBAL LEARNING

Mahmood Meqdad interned at the Department of Pharmacology & Toxicology, Pharmacy College in King Saud University, Riyadh, Saudi Arabia

Gabriella Dabain (3rd from left) interned at the Faculty of Pharmacy--Pharmaceutics, University of Szeged, Hungary
SNPHA REGIONAL MEETING
CLEVELAND, OH
MARCH 2016: PLANNERS

Akeem Bale
Akshith Dass
Kulvinder Nagra
Taofeek Oyewole
Immaculate Sappy
Brandi McKnight
Christian Darmahkasih
Ethan Blashford
Nicole Fabiilli
Keya Shah
Ami Mehta
Yasmine Ayoub
Feyikemi Osundina
Anik Patel
Derek Drumsta
Abraham Abdulsalam
SNPHA REGIONAL MEETING: HIGHLIGHTS

Record attendance – About 367 attendees

Regional meeting firsts

- First of its kind community projects - donated $337 to the sites visited ($1 donation/registration based on preregistration numbers)
- Bridging the Gap: A celebration of SNPhA’s diversity themed Rock Your Land
- High school event

Most events at any regional meetings in one day (14 events)

Most workshops at any regional meeting
GREATER CLEVELAND FOOD BANK
Sorted 400 boxes of non-perishable food items to be donated
PROVIDENCE HOUSE

Painting Project
LAKESIDE MEN’S SHELTER: SERVED LUNCH TO CLEVELAND UNDERSERVED POPULATION
DANISH WITH THE DEANS
SNPHA REGIONAL MEETING: TESTIMONIALS

• From planning/communications to execution—the meeting was very professional and thorough. Congratulations on a very successful meeting. Dr. Chinelo Okany, Global Product Dev. Fellow, Bayer Healthcare

• Thank you so very much for extending such great SNPhA hospitality. It was a pleasure to partner with you for this event. The University of Toledo has certainly set the bar for any future schools that organize this event. Dr. Deanne Smith, Regional Talent Specialist, Walmart | Sam’s Club

• Thank you for hosting a fantastic regional meeting. You guys did a magnificent job. Grant Perschke, Delegate from Purdue University
SNPHA REGIONAL MEETING: TESTIMONIALS

• Congratulations on a fabulous conference. I had a good time in Cleveland and thoroughly enjoyed everything. You have any amazing crew in Toledo. Hlee Lor, President University of Colorado SNPhA

• Thanks Akeem, It was a great meeting and we had an unforgettable weekend. I hope our paths will cross again in future. Dr. Nick Saltsman, Kroger Pharmacy

• Special Thanks to the University of Toledo Chapter for "Rocking Our World" this weekend!! SNPhA National Office
STATE OF THE COLLEGE

Mortar and Pestle over the UT Front Door
STATE OF THE COLLEGE: SUMMARY

Major accomplishments

The college is influential beyond Wolfe Hall and the Frederic and Mary Wolfe Center

Student pharmacist and pharmaceutical scientist learner leadership and career advancement

The good works of a talent-laden staff and faculty population

The college delivers a return on investment