ANNUAL REPORT AND EXECUTIVE SUMMARY, 2012

The University of Toledo College of Pharmacy and Pharmaceutical Sciences

PREAMBLE

The academic year ending June 20, 2012 ranks as one of the best in the 108-year history of the college. This year further revealed the embedded culture of staff and faculty going far above and beyond in their work. This group of committed professionals achieved significant accomplishments in an austere financial environment and demonstrated a focus on quality and exemplary teaching.
ACCREDITATION

The accreditation steering committee was co-chaired by Executive Associate Dean Wayne Hoss and Associate Dean Christine Hinko. A total of approximately 100 individuals, including 40 students, participated in the self-study, mock site visit and actual site visit by the American Council for Pharmacy Education (ACPE). The result was continued accreditation for the maximum eight-year period to 2020.

Six commendations arose from the accreditation process.

- The expansion to the Frederic and Mary Wolfe Center on the Health Science Campus has improved socialization of pharmacy students with other health professional students.

- The dedication and commitment of the faculty, which goes well beyond the call of duty, for their exceptional work ethic and support of the program were recognized.

- The Office of Student Affairs (OSA), led by associate dean Christine Hinko, was commended for its complete reorganization when the College expanded to the Health Sciences Campus, ensuring that students have the same high quality services on both campuses. The OSA developed its own secure electronic student record system that can be accessed from either campus. OSA was also recognized for its efficiency and effectiveness in responding to student needs. The ACPE evaluation team received many positive comments from students concerning the OSA.

- The use of P3 (third-year) and P4 (fourth-year) PharmD students as teaching assistants for P1 and P2 laboratory and lecture courses was noted as a good model that should be communicated to the Academy for others to emulate.

- The Dean was commended for improving communication within the College and making all leadership decisions transparent as well as maintaining an open-door policy that was mentioned positively by both students and faculty. The dean was also commended for accomplishing several major milestone goals for the College despite major financial and personal health issues.

- The College was commended for the accomplishment of several major events over the past two years, most notably the merger of the two universities, the expansion to the Health Sciences Campus, and the implementation of a new PharmD curriculum.
NEW PROGRAM DEVELOPMENT

BSPS, COSMETIC SCIENCE MAJOR
The Department of Pharmacy Practice developed a new BSPS major, Cosmetic Science, which began in fall 2012 with two P1 students. The program is the brainchild of Dr. Ken Alexander, professor of Pharmacy Practice, who largely developed the curriculum and shepherded the proposal through the approval process. The department hired its first faculty member for the program, Dr. Gabriella Baki, an alumnus of the exchange program with the University of Szeged, Hungary Faculty of Pharmacy.

BSPS/MS IN MEDICINAL CHEMISTRY
Dr. Marcia McInerney, chair of the Department of Medicinal Chemistry, developed a program in which students can obtain both a BS and MS in Pharmaceutical Sciences degree in five years and one summer. The program allows BSPS students to choose a faculty mentor as an internship mentor during the undergraduate years and continue the MS thesis research with the same mentor.

EXPERIMENTAL THERAPEUTICS PHD
The Department of Pharmacology, chaired by Dr. William Messer, received formal approval for implementing a Ph.D. program in Experimental Therapeutics. The program will enroll students beginning in Fall 2013.

NEW EQUIPMENT
The new equipment fund generated $92,000, which was combined with $13,000 from other CPPS funds to purchase equipment for teaching labs, including those for chemical synthesis, immunology and microbiology and pharmaceutics. A number of those pieces will also be used for research. A microplate reader was purchased primarily for research. In addition, a $26,000 budget amendment to the college overhead account purchased additional equipment for the cosmetic science program laboratories.
THE GRADUATE PROGRAM

Under the leadership of Dr. Wayne Hoss, college/department support for graduate students held steady at $1.3 million, with an additional $200,000 in stipends from research grants. Total FY 2013 funding for graduate students is expected to increase to $1.6 million. A number of new self-paying and foreign government-supported students, in addition to a Fulbright scholar, matriculated, keeping the total graduate population in the College at 48. Additional recruitment efforts during the year, together with increased funding, will result in a 15% increase to 54 graduate students for FY 2013.

GRADUATE RECRUITMENT

Data shows a trend of decreasing applications, which will be addressed through enhanced marketing efforts. Recruitment efforts will encompass research trainees in the NIH Minority Biomedical Research Support and Minority Access to Research Careers programs. International students will continue to be a focus, given the success of Dr. E. Hassoun of in attracting four 2012 Iraqi government-supported students. The geographical origins of other students include India, China and Saudi Arabia.

LEADERSHIP TRAINING

Five graduate students participated in the College of Business and Innovation’s Advanced Leadership Academy, which was designed to provide leadership training that would be useful in their careers.

GRADUATION, HONORS AND AWARDS

A record six students earned the PhD in Medicinal Chemistry. Twenty students received the MS in Pharmaceutical Sciences: Industrial Pharmacy (9); Pharmacy Administration (7); and Pharmacology (4).

Several students competed successfully for national awards and recognition. Heather Walker (MS Industrial Pharmacy, Dr. Alexander) received the College’s first US Pharmacopeia (USP) Summer Internship, Sharayah Riegsecker (MS Pharmacology, Dr. Ahmed) received an Abbott Health Professions Graduate Student Preceptor Award, Rachael Jetson (PhD Medicinal Chemistry, Dr. Erhardt) received an American Foundation for Pharmaceutical Education (AFPE) pre-doctoral award, and Ashraf Mohielidin (PhD Medicinal Chemistry, Dr. Nauli) received an NIH pre-doctoral award.
The college’s total enrollment as of the 15th day of the Fall 2012 semester was 1,306. The college welcomed a first professional year (P1) class with enthusiasm and the prediction of future success and graduation based on historical facts.

**P1 CLASS FALL 2012**

<table>
<thead>
<tr>
<th>GPA</th>
<th>BSPS</th>
<th>PharmD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative</td>
<td>3.33</td>
<td>3.80</td>
</tr>
<tr>
<td>Science</td>
<td>3.22</td>
<td>3.77</td>
</tr>
<tr>
<td>Number</td>
<td>74</td>
<td>108^a</td>
</tr>
</tbody>
</table>

^a Includes the first student admitted directly to the professional division with a BS degree.

Both the university and college seek students who bring the attribute of ethnic diversity. The percentage of underrepresented direct from high school (DHS) students was 26% in fall 2012. The percentage of U.S. citizen African American, Hispanic, American Indian, Asian American or multi-racial students in the fall 2012 P1 class was 14% for the PharmD class and 17% for the BSPS class.

Similarly, the college seeks and has become a magnet for students who report with the highest credentials found among Ohio high school students. Twenty-two (22) such students enrolled with the distinction of being contingent admit students. Thirty-one (31) students who had an ACT of 29 or above and a high school GPA of 3.75 received a Pharmacy Excellence Scholarship, which covers the full cost of tuition. Of those thirty-one students, twenty-two (22) enrolled with the distinction of being contingent admit students. The support of the office of Ms. Catherine Kwapich, Assistant Vice Provost for Enrollment Management and Academic Affairs is gratefully acknowledged.

On-time progression of students is yet another strength of the college. First-time students entering the College of Pharmacy and Pharmaceutical Sciences in 2011 and returning to UT in fall 2012 were retained at a rate of 73%. The average retention/graduation rate for students entering the P1 year of the PharmD class from 2002-2008 is 95.5%.

The BSPS program has a retention rate of 85%, signaling another strong cohort of students who are destined for great careers and potentially graduate or professional graduate degrees. Some of this population has also transferred to the PharmD program.

**BSPS RETENTION OF P1 CLASS ENTERING IN FALL 2009 DURING THE 2010-2011 AY**

<table>
<thead>
<tr>
<th>Major</th>
<th>Total Number of students</th>
<th>Number Graduated</th>
<th>Number In progress</th>
<th>Retention % Grad+IP</th>
<th>Transfers to UT-PharmD program</th>
<th>Change college within UT</th>
<th>Left UT Toledo</th>
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<tbody>
<tr>
<td>MBC</td>
<td>14</td>
<td>11</td>
<td>0</td>
<td>78.6</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>PHAM</td>
<td>24</td>
<td>21</td>
<td>0</td>
<td>87.5</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>PHAR</td>
<td>16</td>
<td>13</td>
<td>0</td>
<td>81.3</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>PTOX</td>
<td>31</td>
<td>26</td>
<td>4</td>
<td>96.8</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>85</td>
<td>71</td>
<td>4</td>
<td>88.2</td>
<td>4</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>
PLACEMENT OF GRADUATES

PHARMD PROGRAM

The trends of previous years continue in regards to post-graduate placement.

- Approximately 52% entered pharmacy practice immediately following graduation
- 19% entered residency or fellowship training, and
- 28% were considering geography and offers as of May 2012

Graduate pharmacists who immediately entered practice made the following choices.

- 45 (90%) entered community practice
- 2 (4%) institutional practice
- 1 (2%) in ambulatory care and
- 2 (4%) designated ‘other’ which may include industry, long term care, consulting, nuclear or other areas of practice

The choice of residency training continues to be popular. Of the individuals entering residency training the following experiences were chosen.

- 11 (61%) entered an institutional based pharmacy practice residency
- 5 (21%) entered an ambulatory care or community based residency and
- 2 (11%) entered a management based residency

BSPS PROGRAM

The BSPS program is led by Dr. James Slama, Director. He is ably supported by Richard Montgomery, Assistant Director, and Ms. Mary Jo Borden, Coordinator. Data for the 45 members of the 2011-2012 graduating class members who took the survey shows trends similar to previous years. With a class of 52, the response rate was 86.5%.

- 33.3% (15) entered the workforce
- 60% (27) entered graduate programs
- 6% (3) undeclared at the time of interview

BSPS Internship Placement

A key indicator of the quality of the BSPS student population is their ability to compete for national summer undergraduate research program placement. This year, ten students won nationally competitive placement in the Research Experience for Undergraduates (REU) Program. The REU program supports active research participation by undergraduate students in any of the areas of research funded by the National Science Foundation. REU projects involve students in meaningful ways in ongoing research programs or in research projects specifically designed for the REU program. Students were placed at the following sites.

<table>
<thead>
<tr>
<th>Major</th>
<th>Learner</th>
<th>Summer Undergraduate Research Fellowship Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTOX</td>
<td>Abu Alhana</td>
<td>Eman</td>
</tr>
<tr>
<td>MBC</td>
<td>Dudics</td>
<td>Steven</td>
</tr>
<tr>
<td>PTOX</td>
<td>Gasper</td>
<td>Lindsay</td>
</tr>
<tr>
<td>MBC</td>
<td>Hoefflin</td>
<td>Elise</td>
</tr>
<tr>
<td>PTOX</td>
<td>Lui</td>
<td>William</td>
</tr>
<tr>
<td>PTOX</td>
<td>McIntosh</td>
<td>Kyle</td>
</tr>
<tr>
<td>MBC</td>
<td>Olawoyin</td>
<td>Olatundun</td>
</tr>
<tr>
<td>PTOX</td>
<td>Smith</td>
<td>Marcie</td>
</tr>
<tr>
<td>PTOX</td>
<td>Vail</td>
<td>Meghan</td>
</tr>
<tr>
<td>PTOX</td>
<td>Waldecker</td>
<td>Holly</td>
</tr>
</tbody>
</table>

A total of 95 students were placed in internship sites fall, spring & summer semesters. Sites included an array of sites including academic, hospital and corporate and research institutes, and community organizations. Of note is the placement of interns in governmental sites with the Republic of China State Food and Drug Administration and the County Coroners’ Offices in Franklin, Lucas and Cuyahoga counties in Ohio. Three learners received scholarship support.
FACULTY AND STAFF

The college is staffed by 52 faculty and 22 professional staff.

HONORS AND AWARDS

- Dr. Youssef Sari received the Sigma Xi Young Investigator Award.
- Dr. Christine Hinko received the College of Pharmacy and Pharmaceutical Sciences, Outstanding Professor of the Year Award.
- Dr. Diane Cappelletty received the College of Pharmacy and Pharmaceutical Sciences, Outstanding Teacher of the Year Award.
- Dr. Johnnie Early received the following awards.
  - NAACP Public Institution; National Pharmaceutical Association’s Chauncey I. Cooper Award; Drum Major, Alpha Xi Chapter, the Alpha Phi Alpha Fraternity; Meritorious Service, the Association of Black Health-Systems Pharmacists; Man of the Year, the Third Baptist Church

CREDIT HOURS TAUGHT

<table>
<thead>
<tr>
<th>Department</th>
<th>Total Credit Hours</th>
<th>Course Count</th>
<th>Student Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicinal and Biological Chemistry&lt;sup&gt;a&lt;/sup&gt;</td>
<td>615</td>
<td>146</td>
<td>4,261</td>
</tr>
<tr>
<td>Pharmacology&lt;sup&gt;b&lt;/sup&gt;</td>
<td>140</td>
<td>41</td>
<td>4,883.5</td>
</tr>
<tr>
<td>Pharmacy Practice&lt;sup&gt;c&lt;/sup&gt;</td>
<td>597</td>
<td>169</td>
<td>13,552</td>
</tr>
</tbody>
</table>

<sup>a</sup> Includes 45 undergraduate students in research, honors thesis, independent research projects, problems courses, summer undergraduate research fellowships, and in house internships.

<sup>b</sup>The relatively high numbers for student credit hours relative to the number of courses and credits reflect the large class enrollment.

<sup>c</sup>Thesis courses, experiential courses were counted once even if multiple instructors offered the course.
LEARNING OUTCOMES: ASSESSMENT OF COLLEGE PROGRAMS

Under the leadership of the Assessment Committee, the college has adopted college-wide learning outcomes that are written in terms of measurable student behavior. Each of the ten curricula represented by the PharmD, BSPS and graduate programs are assessed in regards to programmatic learning outcomes.

The programs have implemented a diverse set of measures and signal the tremendous growth in the culture of assessment. Faculty members have grown in their understanding of and appreciation for the value of assessment and its importance in the continual improvement of teaching and learning. Assessment goals and milestones include the following.

**BSPS program**: examinations; retention rates; performance at internship/practicum sites; exit interview information; graduate survey; job and graduate school placement; and internship placement at competitive sites.

**Graduate programs**: progress toward thesis defense; cumulative examination performance; podium presentations; publications; graduate survey; graduate and professional school placement; and job placement.

**Doctor of Pharmacy program**: licensure examination passage rates; national standardized examination scores such as the Pharmacy Curricular Outcomes Assessment; annual student graduate, alumni and preceptor surveys; performance on key high stakes events such as practical examinations and projects; performance in experiential rotations; and job and residency placement.

RANKING OF THE COLLEGE

A 2011 study conducted by faculty members at Southwest Oklahoma State University College of Pharmacy ranked The UT College of Pharmacy and Pharmaceutical Sciences eighth in the U.S. and first in Ohio for teaching and value.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Teaching and Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>South Dakota State</td>
</tr>
<tr>
<td>2</td>
<td>Wisconsin-Madison</td>
</tr>
<tr>
<td>3</td>
<td>Georgia</td>
</tr>
<tr>
<td>4</td>
<td>Arkansas</td>
</tr>
<tr>
<td>5</td>
<td>Mississippi*</td>
</tr>
<tr>
<td>6</td>
<td>North Carolina-Chapel Hill*</td>
</tr>
<tr>
<td>7</td>
<td>Idaho State</td>
</tr>
<tr>
<td>8</td>
<td>Toledo</td>
</tr>
<tr>
<td>9</td>
<td>Ohio State</td>
</tr>
</tbody>
</table>
THE MENTORING COLLABORATIVE

Ms. Sheila Doles, PhD candidate JHCEHSHS leads the Mentoring Collaborative.

The Mentoring Collaborative (TMC) was established in 2007 as a resource for students to increase retention and graduation rates through improved access to university programs and services. TMC began as a campus-wide ally to all colleges and university programs and welcomes all students to become members.

Since 2008, The College of Pharmacy and Pharmaceutical Science (CPPS) has been the primary university partner to TMC, providing support through the Walgreens Diversity gift. With that support, TMC has streamlined its focus to concentrate on mentor training and assessment efforts among pharmacy students.

The diversity of TMC student members is shown in the charts below, which indicate the number of student members in the program by colleges and the ethnic diversity of the 52 CPPS student members active in the program in 2011. TMC began operations in 2007 with a total of thirty students and included three CPPS students. Two of those three students were retained for the following year, while one student did not return for the 2008 academic year. TMC experience an overall first to second year retention rate of sixty three percent.

In 2010, two students were not accepted into the professional division and are now at the University Of Findlay College Of Pharmacy.

Upon completion of the first four-year cycle serving university students, a total of two hundred and forty nine students had registered with TMC since 2007. A survey conducted in spring 2012 determined there are one hundred eighty nine students who remain involved in TMC.

Of that one hundred eighty nine, ninety one are CPPS students. Several students who began with TMC in 2007 graduated in May of 2012.

Four CPPS TMC students have graduated, forty five are no longer in CPPS and forty two CPPS remain involved with TMC in 2012.

Pharmacy learners served as mentors for the Martin Luther King Jr. Academy for Boys and the Knight Academy for Girls.

Through TMC, the college also participated in the Tom Joyner “Take a Loved One to the Doctor” Day by providing community directed pharmacy services, and pharmacy program literature.
PHARMACY SUMMER CAMP

Ms. Laural Seewer served as Camp Director.

Applications were received from 113 students, eighty students were accepted to camp, and 79 attended.

- 20 students reported an ethnic background other than Caucasian/White
  - 10 African American
  - five Asian American
  - two Hispanic/Latino, and
  - three Other

- There were inquiries from students in 19 states: California, Connecticut, Georgia, Illinois, Indiana, Kentucky, Massachusetts, Maryland, Michigan, Minnesota, Missouri, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Texas, Virginia and West Virginia.
  - Sixty-five campers from Ohio
  - Twelve from Michigan and
  - One each from Georgia, New York and Minnesota

Eighteen students attended camp free of charge after receiving waivers of the $400 to those who demonstrated proof of economic need in the form of a free or reduced lunch form, ACT/SAT test fee waiver, or note from a school guidance counselor. The 18 recipients represent almost a quarter of the students attending Pharmacy Summer Camp, and the most waivers ever awarded. The increase was made possible by raising the camp fee to cover the total cost of the program for a camper ($400 in 2012). A generous grant of $8,500 from Walgreens funded fee waiver scholarships. Walgreens has funded the camp since its inception in 2001.

http://www.utoledo.edu/pharmacy/prospective/summercamp/index.html

Survey data revealed the following.

- A high degree of satisfaction with camp presentations and activities led by CPPS faculty volunteers
- The opportunity to shadow for half a day at a community pharmacy also remained popular.

WALGREENS DIVERSITY GIFT

The Walgreens Diversity gift supported the hosting of two Toledo Public School classes in May 2012. Field trips to the Frederic and Mary Wolfe Center introduced students to careers in pharmacy and the pharmaceutical sciences. A fifth-grade class from Martin Luther King Jr. Academy for Boys and an eighth-grade class from Robinson Elementary were guests of the college. The students participated in a compounding lab, student panel and career presentation.
OUTREACH AND ENGAGEMENT: INTERNATIONAL

University of Szeged, Faculty of Pharmacy
Since the signing of the agreement in 2006, the exchange of students has been robust. In the first year, 2008, three learners came to The University of Toledo. In 2011, two students, Beáta Deák and Balázs Dankó were placed in the laboratories of the Department of Medicinal and Biological Chemistry and the Center for Drug Design and Development.

North Sichuan Medical College
The memorandum of understanding with the North Sichuan Medical College was the first established by the college in August 2002. During the visit of 2012, a revised document was developed and is awaiting a signing ceremony in Chengdu Province.

Medical Mission: Honduras and Guatemala
In 2008, Dr. Diane Cappelletty began conducting medical missions to Honduras. While the first mission trip only involved one pharmacy student, the annual program has grown to include 11 students in total. In 2011, the medical mission program expanded to Guatemala with one student, Jessica Mullin, who also took another student in summer 2012. Jessica, who was one of the students who completed a previous medical mission in Honduras, is now a preceptor for missions for the college.
The Pharmacy Practice Department is adeptly led by Steven J. Martin, PharmD, BCPS, FCCP, FCCM, and vice chair Vincent F. Mauro, PharmD, FCCP.

The revised PharmD curriculum completed its third year, and P4 students began the senior year in June, as the revised program dictates. There remained several students from the former curriculum who were out-of-sync and required teaching of several courses which are no longer offered, which affected faculty workloads. Assessment data from the first two years of implementation was used to make curricular adjustments. This described the robust and healthy culture of assessment that the PHPR department has adopted.

A strong trend of student pharmacist interest in post-graduate residency training continues. More than twenty percent of our graduating PharmD class was placed in residency programs.

The UTMC residency program will grow next year to 8 PGY1 institutional positions, in addition to one each of the PGY1 community and PGY2 critical care positions. Operated in collaboration with the Department of Pharmacy, all slots were filled through the American Society of Health Systems Pharmacists match.

A Teaching Certificate Program, directed by Dr. Mariann Churchwell, was offered to seven residents including ProMedica- and UT-employed pharmacists. This is a team-taught course with discussion topics ranging from developing a teaching philosophy and course syllabus to writing test questions and using technology in the classroom. Residents also participate in several different teaching experiences from individual teaching to small group discussions through large group/didactic lectures for example precepting students, skills labs, journal clubs and didactic lectures.

Lastly, the residents submit a teaching portfolio that is reviewed by the coordinator, and the coordinator meets with each resident to discuss the portfolio.

The Department of Pharmacy Practice

PATIENT CARE

Eight board-certified Pharmacotherapy Specialists and one who is board-certified in Advanced Diabetes Management are among those who provide care at the several locations cited below. Another holds HIV Expert designation (AAHIVE) credentials through the American Academy of HIV Medicine.
### CLINICAL PHARMACY SPECIALISTS

Clinical pharmacy specialists from UTMC and faculty from the College of Pharmacy and Pharmaceutical Sciences work seamlessly to provide pharmaceutical care in both the in-patient and ambulatory care settings. The patient populations served are as follows.

- Todd Gundrum, PharmD, BCPS – Internal Medicine
- Jessica Mullin, PharmD – Antimicrobial Stewardship / Infectious Disease
- Chad Tuckerman, PharmD, BCPS – Internal Medicine (and UTMC Clinical Pharmacy Manager)

A two-year longitudinal leadership and team-building program led by Dr. Robert Smith, Department Chair (Retired), Auburn University. The goal is to change the culture into that of a high-reliability organization that provides the best working and learning environment in academic pharmacy.
The Medicinal and Biological Chemistry Department is skillfully led by Dr. Marcia McInerney, Distinguished University Professor and vice chair Dr. Katherine Wall, Director, Pharmacy Honors Program.

**COLLABORATIVE TIES**

The historical trend of collaboration, established on the Main Campus, has continued with expansion to the Health Science Campus.

<table>
<thead>
<tr>
<th>COLLABORATORS</th>
<th>RESEARCH TOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amanda Bryant-Friedrich</td>
<td>Matrix-assisted laser desorption/ionization –time of flight (MALDI-tof) Soft ionization used in Mass spectrometry to analyze biomolecules (proteins, peptides, sugars) and macromolecules NSF grant-Equipment housed in chemical instrumentation center</td>
</tr>
<tr>
<td>James Slama and Katherine Wall</td>
<td>NAADP receptor and calcium signaling NIH grant</td>
</tr>
<tr>
<td>Katherine Wall</td>
<td>cancer vaccines NIH grant</td>
</tr>
<tr>
<td>Marcia McInerney</td>
<td>Role of cytokines in MS patents with dental infections</td>
</tr>
<tr>
<td>MLS</td>
<td>Islet transplantation, prevention or reversal of diabetes in the NOD mouse model of T1D</td>
</tr>
<tr>
<td>MLS</td>
<td>Role of inflammation and cytokines in Type 2 diabetes USDA/NIFA</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>Adaptive immunity in the NOD mouse, vaccines</td>
</tr>
<tr>
<td>Paul Erhardt</td>
<td>Prostate Cancer</td>
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<td>Biological sciences</td>
<td>Cancer, compound library</td>
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<td>Cancer, Biol testing</td>
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<td>Chemistry</td>
<td>Novel antibiotics -NIH</td>
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<tr>
<td>MLS</td>
<td>Non-apoptotic cell death -NIH Lung function</td>
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<tr>
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<td>CNS delivery</td>
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<td>MLS</td>
<td>Ovarian Cancer Therapy</td>
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<tr>
<td>Viranga Tillekeratne</td>
<td>Cardiovascular properties of largazole compounds</td>
</tr>
<tr>
<td>Physics</td>
<td>Molecular probes for chemical nanosensors</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>Structure activity relationships (SAR) with epothilone analogues</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Molecular probes for chemical nanosensors</td>
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<tr>
<td>Zahoor Shah</td>
<td>Lanthionines as neuroprotective agents in ischemia</td>
</tr>
<tr>
<td>Hermann von Grafenstein</td>
<td>L-4F, peptide and anti-inflammatory agent</td>
</tr>
</tbody>
</table>
SABBATICAL
The Medicinal Chemistry depart has a long history of utilizing the sabbatical experience as a tool for strengthening the research of its faculty. Dr. von Grafenstein’s experience was at the University of Michigan with Dr. Eric Zuiderweg. Dr. Zuiderweg, Department of Biochemistry. He is a leading expert in protein NMR.

SCHOLARLY OUTPUT AND TECHNOLOGY TRANSFER

<table>
<thead>
<tr>
<th>Book chapters</th>
<th>Papers</th>
<th>Patents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Peer Reviewed</td>
<td>In Press</td>
</tr>
<tr>
<td>01</td>
<td>21</td>
<td>03</td>
</tr>
</tbody>
</table>

GRADUATION OF PHD STUDENTS AND PLACEMENT
On graduation, students at all levels continue to be placed in excellent positions. There was a record six PhD in Medicinal Chemistry graduates.

Dr. Buthina Abdulla
- Professor of Medicinal Chemistry at Jordan University of Science and Technology

Dr. Shakila Abdul-Majeed
- Postdoctoral fellow with Dr. Bina Joe (CMLS) in hypertension research

Dr. Shantanu Rao
- Postdoctoral fellow with Dr. Youssef Sari in Pharmacology and Toxicology

Dr. Christopher Trabbic
- Postdoctoral fellow with Dr. Paul Erhardt in the CD3

Dr. Sarah Fedorka
- Postdoctoral Fellow at Sensor Path Inc. which is associated with Montana State University, Montana

Dr. Jacqueline Cearfoss
- Intends on a postdoctoral fellowship in the Cleveland area
DEPARTMENT OF PHARMACOLOGY

The Department of Pharmacology is adeptly led by William S. Messer, Jr., Ph.D. The department has a history of more than twenty years of being committed to teaching. Each degree offering of the college is taught by departmental personnel in pharmacology, toxicology, pharmacokinetics and statistics courses.

Among the strengths of the department is the BS in Pharmacology degree program, which has grown in both capacity and demand by students. In excess of 60 learners are in the professional division. In response, new sequences of pharmacology courses were developed to address the career aspirations of majors.

Faculty provided undergraduate research opportunities for students in the BSPS and PharmD programs. Over 30 students were involved in undergraduate research projects. Faculty provided internships for 21 BSPS students, including seven offered by Dr. Youssef Sari. Four honors students conducted research in faculty laboratories and eight students took advantage of research opportunities through Problems in Pharmacology courses.

SCHOLARLY OUTPUT AND TECHNOLOGY TRANSFER

<table>
<thead>
<tr>
<th>Book chapters</th>
<th>Papers</th>
<th>Patents</th>
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<tr>
<td></td>
<td>Peer Reviewed</td>
<td>In Press</td>
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<td>02</td>
<td>29</td>
<td>5</td>
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HONORS PROGRAM

Dr. Katherine Wall is the capable leader of the Pharmacy Honors program.

Twenty-five (25) 2011 freshmen Honors students joined the college. Applications to the Honors Program in Spring 2012 decreased from the previous year. CPPS accepted 56 2012 applicants, who excelled with an average high school GPA of 4.1, an average ACT composite score of 30, and average placement in the top 6% of their high school classes. These metrics were similar to those for the 2011 entering class.

Five students graduated with both college and departmental Honors, and five additional students graduated with departmental Honors. Honors thesis projects are currently being pursued by undergraduate students in both the BSPS and PharmD programs. Students are assigned meaningful research projects that develop both laboratory and scientific writing ability. A large proportion of these students have been helped by scholarship support through Sullivan Grants and the Undergraduate Summer Research and Creative Activity Program.

Honors students published abstracts, and Garrett Davidson was one of the co-authors on a Journal of Biochemistry paper with Dr. Ming-Yiu Liu.

- Megan Friedli received the 2012-2013 Richard L. Bostleman Memorial Scholarship from the UT College of Graduate Studies. Honors graduates were admitted to graduate school and other degree programs and residencies. Timothy Laderach will enter the Naval Pharmacy Officer training program upon completion of his PharmD degree; Luis Mullins, BSPS medicinal chemistry, entered the University of Iowa College of Pharmacy Ph.D. program; Alex Salyer, BSPS medicinal chemistry, entered the University of Kansas doctoral program in medicinal chemistry; and Stephen Tapaszi, BSPS pharmacology, entered the Purdue University doctoral program in Pharmaceutical Sciences.

It was in this year that the college placed its first Fulbright scholar and enrolled one in the graduate program.
EXPERIENTIAL TRAINING
The PharmD Experiential program is delivered by the following individuals:

- Megan Kaun PharmD, BCPS
  - Director of PharmD Experiential Education
- Diane Cappelletty PharmD
  - Associate Director of PharmD Experiential Education
- Michelle Serres PharmD, BC-ADM
  - Assistant Director of PharmD Experiential Education
- Kristin Kamcza
  - Program Accreditation Specialist
- Karen Mockensturm
  - Program Accreditation Specialist
- Katherine Zember
  - Program Accreditation Specialist
- Anita Stonehill–Ridner PharmD
  - UTMC Student Coordinator

P4 students are supervised by preceptors as they complete their Advanced Pharmacy Practice Experiences (APPEs) at practice sites across the U.S., including UTMC and its clinics. Learners provided clinical services on advanced inpatient, ambulatory patient care, general hospital (inpatient pharmacy), and community/retail (outpatient pharmacy) rotations at UTMC.

P1, P2, and P3 students complete their Introductory Pharmacy Practice Experiences (IPPEs) at UTMC as well, though their role is more observational than participatory as compared to the APPE students.

CONTINUING EDUCATION
Drs. Mary Borovicka and Eric Sahloff lead the Continuing Education program. The college sponsored three continuing education events, with a total attendance of 117 pharmacists. Program topics were: Enhancing Adherence by “READ”ing with your Patients, and Ohio Law Review; and MTM- Yes You Can! In addition, a program entitled The Art of Creating the Culture of Professionalism during Experiential Education was conducted for preceptors.
THE WORK OF COMMITTEES

ASSESSMENT COMMITTEE

Dr. Laurie Mauro, Chairperson.
The committee addressed orientation needs of faculty and student members. North American Pharmacist Licensure Examination (NAPLEX) data was reviewed and forwarded to the Dean’s cabinet for discussion.

A review of the end of year (EOY) 2011 data and 3-year trend data resulted in a plan for action on student research opportunity perceptions and “medication use management” term confusion. Interested faculty members were to meet with the goal of developing the consistent use of the term throughout the curriculum so that it is more readily recognized by students on surveys.

EOY data also pointed to the need for broader use of the Student Observer Program to help improve instruction. April Dix, Higher Education Graduate Assistant, developed a student observer program, which was initiated in Spring 2012.

Recommendations were made on the following topics.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Action</th>
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<tbody>
<tr>
<td>BSPS MBC and Pharmacology/Toxicology student learning outcomes</td>
<td>Drafted outcomes be forwarded to the Curriculum Committee</td>
</tr>
<tr>
<td>Student survey on student research opportunity perceptions</td>
<td>Research opportunities to be discussed in IPPE, to be included as an “advising talking point” with advisors. Research and Graduate Committee address development of a webpage containing undergraduate student research opportunities.</td>
</tr>
<tr>
<td>Courses which were rated at &gt; 2.0 for items “rate this course” and “material presented was new” will be monitored.</td>
<td>Department chairs will be notified of these courses as potential areas in need of improvement.</td>
</tr>
<tr>
<td>First annual Assessment Award</td>
<td>Bestowed upon Kimberly Schmude and Ezdihar Hassoun</td>
</tr>
<tr>
<td>Graduate Surveys</td>
<td>Developed and delivered for BSPS and Graduate programs Spring 2012</td>
</tr>
</tbody>
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Please note that some of the Assessment Committee report narrative is shown elsewhere.
HUMAN DIVERSITY COMMITTEE
The committee agreed to sponsor at least one educational effort and one social activity per academic year. As the first social activity, the committee sponsored the “International Games” as a component of Pharmacy Pfield Day. Games included Cricket, Chinese Checkers, and Mancala.

Plans for academic year 2012-2013 include the facilitation of diversity training for College faculty, staff, and students, and social activities celebrating diversity. The P1 Diversity Workshop is an example of an educational effort sponsored by the committee. The committee also plans to work with the College to develop appropriate language regarding diversity in the CPPS Strategic Plan.

INFORMATION TECHNOLOGY
Dr. Mary Powers and Ms. Patricia Pulcini are co-chairs of the committee.

The work of the committee is guided by the principle of placing contemporary technology materials into the hands of learners. The current nature of the fiscal environment and the necessary expenditures may warrant an increase in the student technology fee.

A remaining challenge is the status of computers for staff and faculty. There are 125 primary units (i.e. the first computer associated with a member of the faculty or staff). Twenty-six units are three or four years old. This does not include computers used by post-doctoral researchers. Committee co-chairs recommend an additional budgeted amount of $22,000 per year to allow for a four-year replacement schedule of aged units.

PROFESSIONAL CONDUCT COMMITTEE
Dr. Mary Powers served as chairperson.
The committee met six times during academic year. Two hearings resulted in the issue of sanctions for two students. One student appealed to the Dean.

The Code of Conduct was revised and approved so the code is now the University of Toledo Student Code of Professional Conduct, College of Pharmacy and Pharmaceutical Sciences: Policy Number: 3364-83-02.

SCHOLARSHIP COMMITTEE/SCHOLARSHIP AWARDS
Dr. Mariann Churchwell, Chair

From the last reporting period, the number of applications rose from 273 to 305. Scholarship awards increased from 116 to 125 (increase of 9 awards) and the total paid amount increased from $85,000 to $94,530 (increase of $9,530 scholarship dollars awarded).

Applicants include students in the pre-professional division, the Bachelor of Science in Pharmaceutical Sciences program and the Doctor of Pharmacy program (P1-P4). The identity of applicants was not revealed to those who reviewed applications. Awards were granted using the criteria established by the scholarship donor.

The scholarship committee awarded 125 scholarships for a total $94,530.
The emphasis for the year was on improved research funding. Sustaining initial success in grant funding and improving the funding rate on submitted proposals continue as important issues and will be the focus for FY 2013.

The committee has adopted the primary goal of creating a stronger culture of research and scholarship in graduate and professional education involving all students and faculty. Specific objectives are to increase the long-standing research funding of $2 +/- 1 million to $3+/-1 million over 5 years and maintain that level and increase the ranking among pharmacy colleges in NIH funding from 54/73 at $626,123 to $750,000 (50/73 for 2010) in 3 years.

The chief effort in support of this goal is to facilitate proposal development. Faculty members have open access to Dr. Alan Goodridge, biochemist, an experienced NIH reviewer, as a non-expert scientific reviewer. Selected faculty members, a post-doctoral fellow and an advanced PhD student participated in Dr. Bina Joe’s grant writing course. Effective October 1, 2012 the college will require external scientific review of grant proposals submitted to external agencies. The PI will arrange for an external, cognate qualified individual to review the proposal and provide a written critique.

RITUALS AND CEREMONIES

Dr. Martin Ohlinger, Chairperson

The committee effectively organized several events that are central to the culture of the college and serve as platforms for acknowledging excellence among learners and staff. This includes on-campus programs such as the professional advancement ceremony, fall convocation and the Ohio Licensure Ceremony.

Degrees conferred during the year included the following.

Fall Commencement

Graduate
- 4 Master’s degrees in the Pharmaceutical Sciences

BS in Pharmaceutical Sciences
- 8 Pharmacology/Toxicology
- 4 Medicinal and Biological Chemistry
- 4 Pharmacy Administration

Five students graduated Cum Laude, and 7 graduated Magna Cum Laude. One BSPS student graduated with Honors (from the Honors program).

Spring Commencement

Graduate
- 2 Ph.D. degrees in Medicinal Chemistry
- 19 Master’s degrees in the Pharmaceutical Sciences
- 96 PharmD. Degrees
- 106 BSPS degrees, PharmD major

BSPS
- 25 Pharmacology / Toxicology
- 16 Medicinal and Biological Chemistry
- 15 Pharmacy Administration
- 18 Pharmaceutics

Graduation with Honors

Among the BSPS graduates, 56 graduated Cum Laude, 43 graduated Magna Cum Laude, and 12 graduated Summa Cum Laude (a total of 111 of the 180 graduates). Ten (10) BSPS candidates graduated with Honors: 5 with College Honors, and 5 with Departmental Honors. There were 4 PharmD valedictorians (all with a GPA of 4.0); and 1 BSPS valedictorian.
NEW AND PROJECTED EXTRAMURAL FUNDING

The total level of extramural funding is about $1,450,000. Although uncertain as of this writing, increases are projected for FY 2012 and 2013. The short-term goal is to grow the program to reach a sustainable $3 million a year.

INTERPROFESSIONAL RESEARCH AWARD

The HSC associate dean for research has been working for a number of years to stimulate interprofessional research with an emphasis on students. Dr. Holiday-Goodman was successful in competing for funds from the Jacobson Center to support her project entitled “Improving Patient Adherence to Hypertension and Diabetes Regimens: An Interdisciplinary Approach”, involving students from the CPPS and the College of Medicine and Life Sciences.

LONGITUDINAL ANNUAL GIVING AND MAJOR GIFTS

Mr. Jeffrey Barton, Director of Development.

Longitudinal Phonathon Metrics

Ms. Allison Berns is Assistant Director, Annual Campaign. College specific calls result in a myriad of gifts from alumni. The trends are positive in most domains, as shown below.

- Gifts & pledges
  - FY10 - $14,006
  - FY11 - $12,774
  - FY12 – $13,495
- Matching Gifts
  - FY10 - $931
  - FY11 - $485
  - FY12 - $650
- Total fulfilled
  - FY10 $13,347 95%
  - FY11 - $11,401 89%
  - FY12 - $11,150 87%
- Total number of gifts & pledges booked
  - FY10 – 217
  - FY11- 203
  - FY12 - 170
- Total solicitable alumni
  - FY10 – 3,054
  - FY11 – 3,013
  - FY12 – 3,157
- Alumni Phonathon participation rate
  - FY10 – 16%
  - FY11 – 16%
  - FY12 – 14%
- Average gift
  - FY10 - $72
  - FY11 - $73
  - FY12 - $89
- White Coat 2012 (includes an e-solicitation)
  - Gifts & Pledges
    - FY10 – 40
    - FY11 – 30
    - FY12 - 34
  - Number of Gifts & Pledges
    - FY10 - $6,255
    - FY11 - $4,950
    - FY12 - $7,000
MAJOR GIFTS

Major gifts will always play a critical role in the success of the College of Pharmacy and Pharmaceutical Sciences. Major gifts are driven by our alumni and the positive experience they had as a student and the impact the college has on their career. In the past year proposal have been written to alumni, and friends of the college asking them to consider making a major gift ($25k and above) to the college. In 2012 the University kicked off its "A University Rising" campaign in which the UTCPSS will play a key role. Along with our campaign chairperson Dr. Robert Schlembach, the college will seek and inspire our alumni and friends to consider supporting this campaign by making a gift or pledge. In addition to major gifts our alumni continue to be supportive by making annual gifts and pledges. Our membership in the Mortar & Pestle society continues to grow, and annual giving contributions remain strong. The response by the college leadership and our current students, to reach out to donors and thank them for their gift has had a tremendous impact and will ultimately lead to other major gifts. Going forward the college will continue to express gratitude for the support we receive and will effectively use philanthropy to help us achieve our goals.

LONGITUDINAL MAJOR GIFTS

- $637,283.29 in FY2012
- $469,391.92 in FY 2011
- $553,806.02 in FY 2010

UNIVERSITY FUNDING

Mr. Kwabena Kankam, MSA, CPA, Senior Business Manager. In an era of austerity and serial budget cuts, the college has been blessed with financial stability as reflected in budgeted expenses.

College of Pharmacy and Pharmaceutical Sciences Budgeted Expenses

The College’s expenses sharply increased from about $9.9 million in FY 2008 to $11.3 million in 2009 and have been relatively stable ever since. For the next three years through FY 2012, the College’s expenses averaged $11.5 million per year. As of now, the approved budget for FY 2013 stands at about $10.4 million and is comparable to prior years’ approved budgets.