

Curriculum Vitae T. Stuart Walker

CURRENT TITLE:

Health Professions Coordinator and Professor of Health Science, Taylor University
Emeritus Professor of Medical Microbiology and Immunology, Indiana University
School of Medicine, IUSM-Muncie
Emeritus Professor of Medical Education, Ball State University
Adjunct Professor of Biology, Indiana Wesleyan University

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EDUCATION:

Cedarville College, Cedarville, OH
B.S. 1971
Major: Biology
Minors: Chemistry, Bible

Indiana University School of Medicine
MS. 1975
Major: Microbiology
Minor: Biochemistry
Thesis: Plasmid DNA in *Neisseria gonorrhoeae*
Advisor: Dr. Warner Wegener

Indiana University School of Medicine
Ph.D. 1977
Major: Microbiology
Minor: Life Sciences
Thesis: Pili of *Neisseria* and *Moraxella*
Advisor: Dr. William D. Sawyer

University of Virginia College of Medicine
Postdoctoral Fellow 1977
Department of Microbiology and Immunology
Research Area: Entry of *Rickettsia prowazekii* into host cells
Advisor: Dr. Herbert Winkler

University of South Alabama School of Medicine
Postdoctoral Fellow 1978-1979
Department of Microbiology and Immunology
Institute for Molecular Biology
Research areas: Entry of typhus rickettsiae into host cells: Rickettsial damage of host phagocytic cells: Pathogenesis of Carrion's disease.
Advisor: Dr. Herbert Winkler

Grace Theological Seminary
Winona Lake, IN
Postgraduate Studies 1985-1986
Areas of interest: Old Testament Theology and Apologetics

PROFESSIONAL EXPERIENCE

2017-present: Health Professions Coordinator and Professor of Health Science, Taylor University

2016-present: Emeritus Professor of Microbiology and Immunology, Indiana University School of Medicine; Emeritus Professor of Medical Education-Microbiology, Ball State University; adjunct Professor, Indiana Wesleyan University

2006-2016: Professor of Microbiology and Immunology, Indiana University School of Medicine; Emeritus Professor of Medical Education-Microbiology, Ball State University; Medical Microbiology Course Director (including teaching all Bacteriology, Immunology, Parasitology and Mycology lectures and labs); Assistant Radiation Safety Officer, Ball State University

2012-2013: Associate Dean and Director, IUSM-Muncie; Emeritus Adjunct Director, Center for Medical Education, Ball State University

2006-2012: Assistant Dean and Director, IUSM-Muncie; Emeritus Adjunct Director, Center for Medical Education, Ball State University

2005-2006: Interim Director and Assistant Dean, IUSM-Muncie; and Center for Medical Education, Ball State University

2004-2005: Acting Director and Assistant Dean, IUSM-Muncie; and Center for Medical Education, Ball State University

2003-2004: Assistant Director, Muncie Center for Medical Education, Ball State University and Indiana University School of Medicine

1991-2006 Professor, Department of Biology and Center for Medical Education, Ball State University; and Professor (adjunct), Department of Microbiology and Immunology, Indiana University School of Medicine. Role: Medical Microbiology Course Director (including teaching all Bacteriology, Parasitology and Mycology lectures and labs); Research Scientist

1984-91 Associate Professor, Department of Biology and Center for Medical Education, Ball State University; and Associate Professor (adjunct), Department of Microbiology and Immunology, Indiana University School of Medicine. Role: Medical Microbiology Course Director (including teaching all Bacteriology, Parasitology and Mycology lectures and labs; during three of these years I also taught Immunology); Research Scientist.

1979-84: Assistant Professor, Department of Biology and Center for Medical Education, Ball State University; and Assistant Professor (adjunct), Department of Microbiology and Immunology, Indiana University School of Medicine. Role: Medical Microbiology Course Director (including teaching all Bacteriology, Parasitology and Mycology lectures and labs); Research Scientist. (For two years, during this time, I also taught Bio 213 at Ball State University; this is an entry level Microbiology course for Biology majors and nursing students)

1978-79: Postdoctoral Fellow, University of South Alabama School of Medicine, Department of Microbiology and Immunology, Institute for Molecular Biology with Dr. Herbert Winkler. Role: Research Fellow: also assisted in teaching Medical Microbiology lectures and laboratory

1977: Postdoctoral Fellow, University of Virginia College of Medicine, Department of Microbiology and Immunology with Dr. Herbert Winkler. Role: Research Fellow

Research

REFEREED ARTICLES IN JOURNALS

1. Walker TS, Mellott GE. Rickettsial stimulation of endothelial platelet-activating factor synthesis. *Infect Immun.* 1993 May;61(5):2024-9.

2. Walker TS, Triplett DA. Serologic characterization of Rocky Mountain spotted fever. Appearance of antibodies reactive with endothelial cells and phospholipids, and factors that alter protein C activation and prostacyclin secretion. *Am J Clin Pathol.* 1991 May;95(5):725-32.
3. Walker TS, Dersch MW, White WE. Effects of typhus rickettsiae on peritoneal and alveolar macrophages: rickettsiae stimulate leukotriene and prostaglandin secretion. *J Infect Dis.* 1991 Mar;163(3):568-73.
4. Walker TS, Hoover CS. Rickettsial effects on leukotriene and prostaglandin secretion by mouse polymorphonuclear leukocytes. *Infect Immun.* 1991 Jan;59(1):351-6.
5. Walker, TS. Animal rights and the image of God. Part I: The case for animal rights. *J. Bib. Ethics Med.* 1991 Jan;5(1):1-6.
6. Walker, T.S. Animal rights and the image of God. Part II. The case against animal rights. *J. Bib. Ethics Med.* 1991 Jul; 5(2):21-27.
7. Walker TS, Brown JS, Hoover CS, Morgan DA. Endothelial prostaglandin secretion: effects of typhus rickettsiae. *J Infect Dis.* 1990 Nov;162(5):1136-44.
8. Walker TS, Triplett DA, Javed N, Musgrave K. Evaluation of lupus anticoagulants: antiphospholipid antibodies, endothelium associated immunoglobulin, endothelial prostacyclin secretion, and antigenic protein S levels. *Thromb Res.* 1988 Aug 1;51(3):267-81.
9. Walker TS. Rickettsial interactions with human endothelial cells in vitro: adherence and entry. *Infect Immun.* 1984 May;44(2):205-10.
10. Walker TS, Winkler HH. *Bartonella bacilliformis*: colonial types and erythrocyte adherence. *Infect Immun.* 1981 Jan;31(1):480-6.
11. Walker TS, Winkler HH. Interactions between *Rickettsia prowazekii* and rabbit polymorphonuclear leukocytes: rickettsiacidal and leukotoxic activities. *Infect Immun.* 1981 Jan;31(1):289-96.
12. Walker TS, Winkler HH. Rickettsial hemolysis: rapid method for enumeration of metabolically active typhus rickettsiae. *J Clin Microbiol.* 1979 May;9(5):645-7.
13. Walker TS, Winkler HH. Penetration of cultured mouse fibroblasts (L cells) by *Rickettsia prowazeki*. *Infect Immun.* 1978 Oct;22(1):200-8
14. Walker TS, Haak RA, Wegener WS. Plasmid DNA in virulent and avirulent gonococci. *Can J Microbiol.* 1975 Nov;21(11):1705-10.

BOOK CHAPTERS

1. Walker, TS, Sawyer, WD, and Wegener, WS. Pili of commensal *Neisseria* and *Moraxella*, In Bradley, DE, Raisen, P., Fives-Taylor, P., and Ou, J. (ed), Pili. International Conferences on Pili, Washington, D.C., p.49-63.
2. Walker, TS, Wegener, WS, and Sawyer, WD. Antigenic specificity of adherence of *Neisseria* to buccal epithelial cells. In Bradley, DE, Raisen, P., Fives-Taylor, P., and Ou, J. (ed), Pili. International Conferences on Pili, Washington, D.C., p. 65-71

BOOKS PUBLISHED

1. Walker, TS. Microbiology Review, Philadelphia, WB Saunders Company, 1999. (I wrote this 255 page book as a companion work to my Microbiology textbook. The book includes a review of all things microbiological along with hundreds of board-format questions paired with answers and explanations of the answers.
2. Walker, TS. Microbiology, Philadelphia, WB Saunders Company, 1998. (*This is a 504 page standard medical school textbook which I wrote in its entirety. This text is published in English, Italian, French and Spanish, and is used worldwide.*)

GRANTS RECEIVED (Cumulative total direct costs: \$570,926)

2009-2012: grant funded by Indiana University
“Regional Campus Expansion of the Indiana University School of Medicine”
\$137,500

1995-2000 National Institutes of Health
National Institute of Allergy and Infectious Diseases
Tropical Medicine and Parasitology Section
Title: Pathogenesis of bacillary angiomatosis
Amount: \$96,237 (total direct costs)

1990-1992 National Institutes of Health
National Institute of Allergy and Infectious Diseases
Tropical Medicine and Parasitology Section
Title: Rickettsial effects on endothelial functions
Amount: \$91,145 (direct costs)

1986-1989 American Heart Association, Indiana Affiliate
Title: Effects of lupus anticoagulants on endothelial function
Amount: \$27,800 (direct costs)

1985-1987 National Institutes of Health
National Institute of Allergy and Infectious Diseases
Tropical Medicine and Parasitology Section

Title: Arachidonate derivatives and the typhus toxic reaction
Amount: \$49,978 (direct costs)

1981-1984 National Institutes of Health
National Institute of Allergy and Infectious Diseases
Tropical Medicine and Parasitology Section
Title: Rickettsial interactions with endothelial cells (and platelets)
Amount: \$165,566 (direct costs)

1980-1981 Ball State University Faculty Research Grant
Title: Biology of meningococcal pili
Amount: \$800

1980 Ball State University CORE Grant
Title: In vitro culture of vascular endothelium
Amount: \$1500
1979-1980 Ball State University New Faculty Grant
Title: In vitro culture of vascular endothelium
Amount: \$400

1979-1980 National Science Foundation "National Needs" Postdoctoral Fellow (Competitive grant)

1976 Indiana University Predoctoral Fellow (Competitive grant)

Other grant and research-related activities

GRANT REVIEW COMMITTEES: I have served on a number of external grant review panels through the years. I am currently a member of the Military Infectious Diseases Research Grants panel, specializing in Rickettsial diseases. This last round of proposals (during the early spring) I served as the panel Chair.

PUBLICATIONS REVIEW: I serve as an ad hoc reviewer for several journals, including ASM journals, a veterinary journal, and the Infectious Disease Society. I generally receive and review one article per year.

Education

COURSES TAUGHT

1979-2015: Muncie Center for Medical Education, Ball State University and Indiana University School of Medicine. **Course Director of Medical Microbiology and Immunology.** This course

is taught to first-year medical students and may also include some graduate students. I directed the course, and taught all the lectures and labs pertaining to **Bacteriology, Mycology, Parasitology, and Virology** – as well as the basic biochemistry and molecular biology behind them, and the mechanisms and usages of antibiotics. The course is media-intensive, and I used Powerpoint and computer-assisted learning modules extensively. I also wrote the book that was used for the class for several years, and have written a review book that many in the class use. I also taught **Immunology** for five (5) of these years. The course has a strong molecular component and is geared to couple a molecular understanding of infection and specific diseases with clinical presentations.

Fall 2015-present: I have taught several courses at Indiana Wesleyan University as an adjunct Professor, including **PMD 310** (an interdisciplinary course to prepare upperclassmen for professional and graduate school); **BIO 213** (microbiology for nursing students); **BIO 125** (a biology review course for Bio majors); **BIO 102** (human anatomy/physiology for non-majors); and **AP 111** (Human Anatomy and Physiology for nursing and pre-professional students).

During two recent years I taught 12 lectures per year in the **Medical Microbiology** course taught to first-year medical students in Indianapolis, and taught a series of 6 lectures to medical students at the IUSM-Northwest.

I have intermittently served as a guest lecturer in a course at Anderson University (taught by Dr. Lee Griffith) entitled “**Christian Issues in Science**”. I generally have taught a section on philosophy of science.

1979-1982: Ball State University, Department of Biology. I taught 2 classes per quarter of **BIO 213**; this is the entry level Microbiology course for Biology majors and nursing students.

1975-1976: Indiana University School of Medicine. Assisted in Medical Microbiology lab; was responsible for one section of 8 medical students. I also taught some lectures and a series of microbiology labs to nursing students.

For several years between 2000 and 2011 I taught an **Advanced Topics in Microbiology** class at Indiana Wesleyan University. This class was centered on how bacteria and other pathogens cause disease at the molecular level.

During each of AY 2008-2009 and 2009-2010 I taught about 30h of the **Pathology** course to second year medical students. The topics covered included Environmental and Nutritional Pathology; Diseases of Infancy and Childhood; the Lung; Head and Neck; Tumors of Bone, Joint and Soft Tissue; The Skin; The GI Tract; Forensic Pathology; and The Eye.

CURRICULAR DEVELOPMENT

- **IUSM Competency-based curriculum**
During the early 2000s, leaders at the IU School of Medicine became convinced that the curriculum needed to be restructured to emphasize a process that would address behavioral issues as well as science content and clinical skills. As one member of the

Competency Development Committee put it, our goal was to produce “virtuous physicians” who were also clinically and scientifically excellent.

I was a member of a large committee that developed a new educational system based on nine (9) Competencies, including Professionalism, Community Health, Clinical Skills, Communication, and others. An extensive manual was developed which included specific behavioral objectives for each Competency, processes for developing means of teaching and assessing Competencies, and Likert scales for assessing and reporting Competency achievement. At the time, only one other US medical school (Brown University) had a curriculum that was built around competencies, and our system was far more detailed in its conception and application.

Once the Competency system was set up, I oversaw the restructuring and redesign of our regional campus curriculum to teach, assess and remediate students in each of the Competencies and in each course. I supervised and evaluated student gains in the Competencies each year, and developed a Competency Handbook for our campus. My role included development of Competency activities for each course, development of problem-based assessment, evaluation of each student’s development, plans for remediation of each Competency, and supervision of student remediation.

I was a member of the system-wide Ethics Competency Committee that developed the ethics curriculum, and was a member of the central IUSM committee (the Competency Council) that oversaw the continuing development, application and assessment of the Competencies over about a 15 year period. The Competency Council meets monthly, and continuously researches best practices in Competency education, making adjustments as needed.

During the last years of my activity in this Committee, we restructured the Competencies, combining some to reduce the system to six rather than nine Competencies; this was intended to simplify the system, allow the Competencies to better serve as a framework for a complete reworking of the way medicine was taught, and allow our system to match up with the Competencies used by the ACGME (the governing agency for medical residencies). This laid the groundwork for our subsequent curricular reform and allowed residency programs to better evaluate our students’ performances.

- **IUSM new curriculum: curricular reform**

During AY 2012-2013, the Dean of the IUSM challenged us to begin the task of creating a new way to educate medical students. We had utilized the same basic approach to educating physicians as far back as anyone could recall. With the Competencies in place and then on the way to being simplified, it was felt that we could use them now as the curriculum itself rather than as an add-on to the curriculum. This restructuring would allow us to create a system that taught and measured Competency developmentally over all four years, and in a context where the basic and clinical sciences were commingled and instruction centered heavily upon active learning experiences. It was hoped this would move education out of discipline-centered silos, and would develop physicians

with a better sense of application, a more thorough understanding of the basic principles undergirding the medicine they practiced, and a stronger commitment to patient welfare.

We began the process by creating working groups that would examine what we believe the students need to know and apply. The topics were then grouped into courses that involved both basic science and clinical learning experiences. The next step was creating a committee for each course that defined the course content and appropriate clinical skills; outlining the course topics; and establishing a daily schedule that fulfilled all of the time commitment and learning objectives needed for the course to be achieved. Each topic was given six weeks of instructional time, a requirement of at least 50% active learning experiences, and no more than 24 h per week direct student involvement.

Once the courses were set up, we met to establish the entire four year integrated curriculum. Target dates were set, and instruction using the new curriculum began with AY 2016-2017.

I was involved in every step of the development of this curriculum from day one. I was a member of the committees that initiated the project and constructed the course groupings; was a member of the Executive Committee and the Center Director's group that did the initial planning; was a member of the Infection and Immunity course committee that developed the curriculum for infectious disease topics; was a member of the Clinical Component that oversaw the planning for all clinical training; and was part of the group that fine-tuned the overall educational plan. Unfortunately, the first year of instruction under the new system coincided with my retirement from the IUSM, so I was not able to instruct under the new system.

- **IUSM-Muncie block curriculum**

During AY 2004-2005, I worked with our faculty to convert our curriculum from traditional semester-long courses to a series of 4-6 week-long instructional blocks. This process is described in some detail below in the section on administration so I will not belabor it at this point. It was challenging to reduce semester-long courses to 4-6 week blocks because one cannot simply squeeze a semester's worth of material into a 6 week period. Instead, we had to think outside the box to reduce content appropriately and consider using more of the newer active learning teaching methods. The faculty worked together to meet the challenge, and the block schedule was a success by every measurement.

- **Medical Microbiology and Immunology**

Beginning in AY 1979-80, I was Course Director for the Medical Microbiology course taught at the IUSM-Muncie. I developed all of the course materials for this course, and taught the lectures and labs from 1979 on. Some years the Virology or Immunology sections were taught by someone else under my supervision, but the last few years I taught all sections of the course. Medical Microbiology is the largest course the medical students take during their first two years of training. It is a condensation of basic bacteriology, microbial physiology and molecular biology, antibiotics, pathogenic bacteriology, basic and clinical virology, parasitology, mycology, and immunology. I

revised the course extensively on an annual basis, wrote two textbooks used around the world, converted the course to a block system, and developed the course for the new curriculum. I also was one of the writers annually of the statewide exam all students in the system had to pass, and was involved with the other statewide course directors in annually revising and analyzing the Core Curriculum – a document of about 60 pages that outlined the core principles covered in the course.

Administration

Key accomplishments as Associate Dean and Director of the IUSM-Muncie

The Director's position for the IUSM regional campuses is essentially the same as being the Dean of a small medical school. The Director is the chief academic officer and chief executive of the regional medical campus. As such, the Director is responsible for developing and maintaining all academic programs; oversees the faculty; is responsible for faculty recruitment, development and productivity; works with legislators to ensure adequate funding; raises funds to support initiatives; develops and oversees the budget of the Center; works with cooperating institutions (in this case, Ball State University, IU Health-Ball Memorial Hospital, and other affiliate hospitals); negotiates contracts; writes grant proposals; deals with student issues; oversees the physical plant; fosters student-lead community service learning opportunities; and much more. In my position I was responsible for the research and teaching activities of about 10 scientists, 70-100 physicians, and 7-10 staff members. The Director serves on the IUSM Executive Committee, and reports to the Dean of the Medical School plus the Executive Associate Dean for Academic Affairs. The Director also meets regularly with the BSU Provost in his roles as liaison with BSU.

When I became Director of the IUSM-Muncie, I set up our first Strategic Assessment of where we stood as a unit, and worked with the faculty of the Center to establish our unit's first Strategic Plan. Through our strategic planning process, we determined that steps needed to be taken to improve our financial standing, research productivity, and educational achievement, and we set up benchmarks for improvement in each of these areas. What follows here are some of the major accomplishments have been as we have followed our Strategic Plan.

1. Established financial stability

When I assumed the Directorship of the IUSM-Muncie (also known as the Center for Medical Education), the Center was barely breaking even financially; no funds were set aside for emergencies or changes in operating expenses. Through a combination of personnel moves, financial incentives, improvements in outside income, and adjustments in how we cover services, we were able to set aside over \$3 million against an annual budget of about \$2 million. These savings gave us tremendous freedom in being able to meet critical needs as well as in hiring new personnel who helped us address strategic needs.

2. Established the unit as a site of excellence in research

When I came into the Directorship of the Center, there were no ongoing research grants or publications from within the unit. Three major steps were taken to stimulate research productivity.

First, I worked with the IUSM, BSU and our faculty members to move our faculty to 9 month contracts (instead of 12 month) while paying them the same amount as before. The deal that we worked out was that the faculty members agreed that they would pursue grant funding that would pay their summer salary (which now allowed them to be paid at a level that was competitive for medical school faculty members). Additionally, if they raised funds to pay their summer salaries, they also agreed to seek to have their salaries reimbursed to the Center by the granting agency for the same number of months during the year that they were funded during the summer. This means that if the faculty member wanted to be paid for 2 summer months, he would raise funds to pay him for 4 months, and 2 of the months would come to us as salary reimbursement.

Second, we instituted a system of mentorship for young faculty members to train them in grantsmanship. There were two of us who had a long record of successful grant writing. The second faculty member and I worked with young faculty members on grant writing skills. I sponsored certain faculty members to attend seminars on grant writing, and vetted all grants personally to ensure that the grants would be competitive. Once it appeared that a young faculty member “got it”, the oversight was released. Finally, I provided financial incentives to reward individuals who were persistent in pursuing grant money in a realistic fashion, with greater reward for those who were extremely successful.

Third, we moved our educational schedule to a block system. This meant that faculty members could cordon off one block during the year to do all their teaching, freeing up the rest of the year to do research. This was important to us because research productivity gives us credibility, and the indirect costs reimbursed to us by the funding agencies help offset our budget.

How well has this worked? Since our nadir, we have gained about \$2.5 million in grant funds (direct costs), averaging over \$400,000 in new money each year plus about 20% of that as indirect costs that pay for overhead. Some of the funds were major equipment grants, and some grants contained substantial salary reimbursement moneys. Obtaining these funds helped our financial position, and the credibility we gained gave our investigators greater cachet and skill in obtaining more funds.

3. **Established the unit as a site of excellence in education.**

When I assumed the Directorship, we had a mixture of classes that performed well and some that significantly lagged. Each medical school class is obligated to end with a national summative exam so we can compare our achievement against a national cohort. These scores also allowed us to measure achievement against the 8 other campuses of the IUSM. Moving to the block schedule (cited above) was the keystone in improving both our research funding and our educational performance. Under the block system, our

students would be able to concentrate on only one course at a time. The IUSM was reluctant at first to allow the change, but, to their credit they relented, and we were able to develop a new type of curriculum for our students that met all national standards. After the curricular change, we usually scored among the top 3 among all 9 IUSM sites in every course but two, and our overall performance on the summative exams and medical boards rose to be in the top 3 of all sites almost every year (and we have been first in the state several recent years); before the change, we were usually in the bottom 3 overall. The change has been a tremendous success story. Not only have scores improved, but our student satisfaction is greatly improved (as reflected in student evaluations and senior exit surveys), and instructors have been freed to become more integrative and innovative in their courses.

4. **Expanded our student base.**

We believed that it would improve our diversity and our financial base if we could attract more students to our site. We approached the IUSM as asked to be assigned greater numbers of students. We were granted permission to increase our incoming medical student population by 50%. Furthermore, we were able to gain a favorable reformulation of how our students were funded to allow us to increase the amount of each student's tuition that would come to us. Finally, I lobbied strongly with Admissions and the Registrar's offices to assign us a more diverse student body. After several years of lobbying, the school relented, and today we have an extremely diverse group of students.

5. **Expansion of medical school admissions**

The Director of the IUSM-Northwest campus and I worked with the Admissions office at the IUSM to create a new system of interviewing medical students at sites away from Indianapolis. Dr. Bankston (Director of the Northwest campus) and I were permitted to establish pilot systems at our campuses. I trained several physicians and scientists in the art of interviewing prospective medical students, and then we initiated the processes on our campuses. Students applying to the IUSM were assigned to be interviewed at our sites. Our people would conduct the entire process, from interview, to financial counseling, tours, write-ups of the encounters and presentations to the assembled committee. We believed that conducting interviews outside Indianapolis would help us in recruiting students (including minority students) to our sites, and would help dispel the notion that education at the regional campuses was somehow inferior to that offered within Indianapolis. The process has become a resounding success, and now interviews are conducted at all of the regional campuses.

Ongoing initiatives at the time I stepped down from the Director's position

During AY 2013 I decided to step down from the Director/Associate Dean position to allow Dr. Derron Bishop, whom I had been mentoring, to succeed me in the position. I had been giving him increasing levels of administrative responsibility, and I believed he was now uniquely

prepared and positioned to take the Center to the next level. I have listed below the initiatives that I had been developing and Dr. Bishop continued.

1. **Curriculum reform.**

The School of Medicine recently developed a radically new system of medical education that is far more integrative and clinically oriented than is the previous system. I was a member of the team that developed much of the new curriculum, and was a participant in a successful grant to the AMA for funds to develop a virtual medical education system that will be based on actual clinical cases and will train students in the usage of electronic medical resources in diagnosis and management.

2. **Expansion of medical education in Muncie to include all four years.**

Since the early 1980s we have educated medical students for the first two years of their education. This education is based around the basic sciences during year one, and the clinical sciences are introduced during year two. Traditionally, students then return to Indianapolis to do their clinical clerkships and electives. We established several electives in Muncie during my tenure as Director, and these electives have been very popular and successful. Through my efforts and those of my successor, we have now established all of the eight required medical clerkships in Muncie, allowing our students the option of conducting all four years of their medical education within Muncie. I set up agreements with several of the groups involved and helped establish the curriculum, and my successor finalized the agreements. Before I left the Director's chair, I hired and trained additional key technical and administrative individuals to work on this project.

3. **Partnership with IUH-Ball Memorial Hospital in providing simulation experiences**

Medical students and medical residents need the opportunity to practice their skills in a setting where there is no risk to patients. Over the past two years we worked with IUH-BMH as partners to establish a simulation center that includes simulation robots, rooms that mimic actual patient rooms, exam rooms, and emergency facilities, and rooms where learners can be filmed and critiqued when meeting with simulated patients. We obtained a grant to fund some of the equipment. I was involved in the decision to build the facility, helped design and raise funds for the facility, made the agreement with IUH-BMH that allowed us to be part of the project, and hired a technician to oversee and operate the facility's technology. The facility was completed in the first couple of months after I stepped down from the Director's position, and now is functioning well as a training site for medical students, residents, nursing students and other clinical staff. My successor has been able to build on this initiative, and the facility has become an integral part of their training.

4. **Partnership with Ball State University**

We recently worked with BSU to establish a doctoral program in the physiologic sciences that will be used to support students within both the BSU Human performance Laboratory and within our unit. We already host Masters' level students, so this will expand our educational reach. As Director, I met monthly with the Provost of BSU and attended Dean's Council meetings.

Other Administration:

Representative Committee Work IUSM: Admissions Committee for the Medical School (2003-2015); Clinical Component of Curriculum Council (2002-2015); Teacher-Learner Advocacy Committee; CQI-SCAT Working Group; Competency Learners' Community; Ethics Working Group for Competencies; Host Defense team for IUSM curricular reform;

BSU: Radiation Safety Committee (Chair for about 15 years); BSU Animal Care and Use Committee (prior to 2000: was Chair two years).

Other recent or current administrative service: Center Directors' Council (2004-13, and convener during 07-08); IUSM Executive Council (2004-13); Assistant Radiation Safety Officer (BSU: 2010-2015); Deans Council (BSU: 2004-13)

Community Activity

Member of the Chamber of Commerce, Muncie, IN (approx. 2006- 2013)

Mentoring students: Each year we host college age international students in our home and serve as mentors as they acclimate themselves to American culture and language. I was a "third culture kid" myself, and my wife and I feel this is an important way to make a difference in the lives of young people. We have hosted young people from Russia, China, South Korea and Kenya. We have also hosted some American young people who have faced great difficulties. We work with their language and social skills, act as life mentor, take them with us on vacations, serve as a place for them to study or relax, help with understanding class assignments, help them build personal and professional relationships, and much more. When possible, we travel to their homes outside the US and get to know their families. This process has allowed us to build lifelong relationships with them and their families. We are currently working with young people from China, Kenya and the US.

Active in local church (Trinity Baptist Church): was pastor 1 year; have taught Sunday School for adults, teens and children; am currently director of Children's Church, am Worship leader for the Sunday services, and serve as a Deacon.

HONORS RECEIVED

Who's Who in Emerging Leaders in America (1987)

Who's Who in the Midwest (1984, 1985, 1986, 1987, 1989)

Outstanding Young Men in America (1983, 1984, 1985)

NSF “National Needs” Postdoctoral Fellow (1977)

Indiana University Predoctoral Fellow (1976)

Who’s Who in American Colleges and Universities (1970-1971)

Emeritus Professor, Ball State University (Conferred 2006)

Emeritus Professor, Indiana University School of Medicine (Conferred 2016)