

July 10, 2012

To: Heidi Macpherson, Provost

From: Bruce Riley, Dean
College of Science and Health

Re: AY2011-2012 Year-End Report

What follows (first five pages) is my summary of activities in the College of Science and Health; more detailed information is presented in the attached departmental summaries for AY2011-12.

College Staffing. Seven tenure-track faculty and five instructional academic staff members joined the college in August 2011, and one tenure-track faculty, four instructional academic staff, and two classified members joined the college in January 2012.

- The new staff increased departmental expertise in targeted areas of study, and provided several departments with opportunities to offer additional sections of high demand courses and laboratories.
- The new staff helped lighten the workload on continuing staff and, with the increased staff, some departments were able to provide faculty with some reassigned time to devote to scholarly activities (more departments need to examine how they might use reassigned time in this way).
- Based on first year reviews, the new faculty did quite well in the areas of teaching and scholarship during their first year at UW-La Crosse.
- Five of the new faculty members participated in the College's early start program for grant proposal writing (during the month of August 2011). The results of the grant writing activity are displayed in an attachment. Several of the external grant proposals were funded, and two proposals are still under consideration. Two external grant proposals were not funded and are being revised for resubmission, and two additional proposals are being prepared for submission this summer.

During the year, sixteen faculty and four instructional academic staff members were hired to begin in AY2012-13. These new hires fill consequential needs in the college including the areas of athletic training, biology education, biophysics, chemistry education, climatology, exercise science, geographic information systems, high performance computing, mathematical biology, microbiology, physical education, recreation management, and the director of the physician assistant program. In addition to meeting departmental needs, including scholarly collaboration within departments, many of the positions were developed to increase the potential for scholarly collaboration across departmental lines.

During AY2012-13, the college plans to search for eight tenure-track faculty positions in biostatistics, chemistry, computational mathematics, exercise science, school health education, and therapeutic recreation. In addition, the college is planning searches for instructional academic staff positions in the areas of nutrition and therapeutic recreation. Thus, faculty recruitment will be a major activity in the college during the next academic year.

College Finances/Supplies and Expenses/Facilities. The college was able to invest one-time salary savings dollars to meet needs in the college, including:

- Provide S&E help to several departments.
- Replace and upgrade equipment used in teaching laboratories (much of this equipment will also be used for faculty and student research projects, and is often referred to as institutional resources available to grant proposal projects).
- Replace faculty computers and computers in departmental computer laboratories.
- Fund small classroom/laboratory modernization projects.
- Supplemental travel support and professional development funding for faculty and staff.
- Matching funds for grant proposals.

Equipment needs were identified by departments in memoranda and classroom/laboratory modernization proposals sent to the college office, and in an inventory of equipment owned by the college conducted by the CSH College Committee.

Renovation work (teaching and research laboratories in Cowley Hall and the Health Science Center, offices in Mitchell Hall and the Health Science Center, and the move of the advising portion of the CSH College Office from Mitchell Hall into Graff Main Hall) are complete or nearing completion, so that the college's instructional, research, and office space needs should be met for AY2012-13. Additional, planning/renovations will be required to accommodate the new faculty that will be hired to begin in AY2013-14.

Starting in spring 2010 through spring 2011, faculty/departments housed in Cowley Hall participated in the development of a predesign program report for the Cowley Hall/New Science Building Project. Faculty members were pleased with the comprehensive program report, and look forward to the next two-year design phase of the project.

Faculty/departments housed in Mitchell Hall completed a study of (instructional, research, and office) space and renovation needs in the building. Based on the results of the study, small-scale renovations are underway. Hopefully, the results of the study will be incorporated in future (large-scale) UW-La Crosse facilities improvement proposals for "all agency funds" managed by UW System Capital Planning.

College Programs. Several programs, chemistry and biochemistry, exercise science, and human performance, completed their academic program reviews. Some of these reviews identified areas of concern that the department/program should address; the college will assist in these efforts as appropriate.

College personnel were involved in investigations of possible new programs, including: the Mathematics Department received entitlement to plan a major in statistics to replace the current

mathematics major with statistics emphasis (requiring no additional funding) and the Health Education and Health Promotion Department received, via a consortium of four UW institutions, entitlement to plan and authorization to implement an online B.S. degree completion program in health and wellness management. In addition, college personnel are currently investigating possibilities for professional science masters programs; of course, future budget consideration will play a role in how these investigations continue.

Departments carried-out several curriculum review/update projects, including: the review and revision of mathematics and science curricula as part of the establishment of the new Secondary Teacher Education Preparation (STEP) program; the introduction of a new general education course on computational thinking by the Computer Science Department; the development of evolution across the curriculum within the Biology Department; the development of mathematics across the curriculum within the Microbiology Department; the review, revision and expansion of online course offerings by the Geography and Earth Science Department; and the change from the traditional lecture-laboratory approach to the workshop/active learning approach in the Physics Department's introductory core sequence PHY 203-204.

The mathematics and science tutoring services offered in the Murphy Learning Center (MLC), which received continuing funding for AY2012-13 from the students' academic initiatives program, continue to expand with significant increases in science tutoring activities (mathematics-tutoring activities have been high for over 20 years). The science departments (biology, chemistry, microbiology, and physics) have all identified departmental staff members to help coordinate tutoring activities in their respective disciplines; the MLC director, Maggie McHugh, supervises/mentors all mathematics and science tutors working in the Center. The MLC director also works with other tutoring services (offered by Student Support Services, Multicultural Student Services, and the Disabilities Resource Center) to better coordinate tutor training and tutoring activities across campus. A survey of student satisfaction was conducted; the preliminary results are positive, final results will be included in the fall 2012 request to the Academic Initiatives Program for continued MLC funding for AY2013-14.

Related to her duties as half-time director of the MLC and half-time remedial mathematics instructor for the Mathematics Department, Ms. McHugh with Jennifer Kosiak, mathematics faculty member, secured funding (from CSH and UW System) for the Fast Track (Firm Footing) program. The program is a summer developmental mathematics enhancement program for incoming freshmen that are placed, through the mathematics placement process, in a remedial/non-credit bearing mathematics course for the fall semester. In late summer, students complete online and face-to-face modules designed to help them learn the necessary developmental mathematics skills for placement into the credit-bearing course, College Algebra, a pre-requisite for introductory courses in biology, chemistry, and physics. Student recruitment for Fast Track occurred during June 2012 freshman orientation.

CSH faculty members administer the (externally funded) WiscAMP Undergraduate Research program and the McNair Scholars program at UW-La Crosse. The Wisconsin Alliance for Minority Participation (WiscAMP) is a state organization, housed at UW-Madison, with a mission to increase the number of underrepresented minorities who receive bachelor's degrees in the STEM disciplines. Each year, through a competitive grant application process, WiscAMP

has funded the UW-La Crosse WiscAMP Undergraduate Research program. This summer, there are six WiscAMP scholars working with faculty mentors on undergraduate research projects in the sciences and mathematics.

AY2011-12 was the third year of the UW-La Crosse McNair Scholars program. There were twenty-six McNair scholars with eleven graduating in AY2011-12; all eleven graduates applied to and were accepted into graduate programs for AY2012-13. Eight current McNair scholars are working with UW-LA Crosse faculty mentors this summer on undergraduate research projects, and seven scholars were selected for highly competitive summer research opportunities across the country. Roger Haro, McNair Program director, recently submitted an application/proposal for funding renewal for the program for the next five-year funding cycle.

Related to the McNair program, Professor Haro and Jessica Thill, McNair Program coordinator, secured funding (from the CSH and WiscAMP) for the First Year Research Exposure (FYRE) program. The intention of the program is to identify and mentor eligible (for the McNair program) first year STEM students, preparing them for possible application to the McNair program. Student recruitment for FYRE began during June 2012 freshman orientation.

The mathematics and physics faculty developed and implemented several externally funded professional development programs for in-service K-12 teachers that also provided valuable experience for some of our education students working in the programs.

Collaborative programs continue with local high schools. In particular, the Biology Department offers its introductory biology course through Logan (La Crosse) High School, the Chemistry Department offers its general chemistry course through West Salem High School, and the Computer Science Department offers its first software design course through West Salem High School.

Scholarly Activities. CSH faculty members were successful in their contract and grant writing efforts: 5 contracts, 15 federal grant proposals, and 22 non-federal grant proposals were funded totaling over \$2.2 million in direct and indirect external funds coming to the university. In addition, 23 grant proposals are still pending with the potential of over \$3.3 million in direct and indirect dollars.

In AY2011-12, CSH faculty members were quite active (and successful) in the area of scholarship with over 120 research publications, 3 books, over 230 talks at professional meetings, and mentoring work with over 200 undergraduate and 120 graduate students on research projects.

Service Activities. Members of the college have a strong record of university and professional service. For example, the chair (and two other members of the executive committee) of the Faculty Senate and the chairs of fifteen Faculty Senate committees were CSH members. Beyond our own institution, college members held leadership positions in professional organizations, refereed and reviewed research papers and book chapters, reviewed grant proposals, and served as consultants to other academic institutions or professional organizations. CSH faculty, staff,

and students were also actively involved in professionally related service with area schools, health care institutions, and civic and other community organizations.

Recognitions. Many CSH members/units were recognized for their professional activities/accomplishments, including:

- The American Institute of Physics selected the UW-La Crosse Physics Department for a site visit to learn, and then disseminate, the effective practices employed by the department resulting in a strong record of granting physics bachelor's degrees compared to other physics departments and national leadership in terms of the percent of their recent graduates who enter the STEM workforce within one year of earning the bachelor's degree;
- Jennifer Kosiak, Mathematics, will receive the UW System Regents Teaching Excellence Award at the August 2012 meeting of the Board of Regents;
- The Wisconsin Physical Therapy Association selected Gwyneth Straker for their Otto Cordero Lifetime Achievement Award;
- UW-La Crosse Residence Life selected Robert Allen, Mathematics, for their Outstanding Professor of the Year award; and
- UW-La Crosse SAPA selected David Reineke, Mathematics, and Daniel Widuch, Recreation Management, for their Most Accessible Faculty Award, and the Exercise and Sport Science Department for their Most Accessible Department Award.

College Plans for AY2012-13. In the prequel, I mentioned several activities for the next academic year:

- Faculty recruitment.
- Addressing near future space needs in Cowley Hall and Mitchell Hall.
- Cowley Hall/Science Building Project design activities.
- Assisting departments to address areas of concern identified during external/academic program reviews.
- Securing continuing funding for the Murphy Learning Center, and addressing space needs of the Center.

In addition, I place high priority on:

- Mentoring the new(er) faculty as needed.
- Finding ways to support faculty/staff scholarship and professional development activities.
- Addressing faculty/staff salary inversion/compression issues.
- Continuing to develop and implement plans for meeting the additional responsibilities created by moving the secondary mathematics and science education programs into CSH.
- Review Summer Session 2012, and identifying the opportunities for and well defining the goals of CSH's summer session programming, and adjusting course offerings accordingly.

Early (August 2011) Starts for New Faculty for Grant Proposal Writing

Faculty Member	August Salary	Grant Amount		Match	Source	Grant Agency
		Requested	Funded			
Chemistry						
Daniel Grilley	\$6,000	\$14,760	\$14,760			UW-L Fac. Res.
		\$35,000	\$0	\$10,000	CSH	Research Corp.*
Geography and Earth Science						
Ian Muehlenhaus	\$5,944	\$6,832	\$6,832			UW-L Fac. Res.
		\$3,300	\$3,300			Amer. Geo. Society
		\$150,000				NSF**
Health Education and Health Promotion						
Emily Whitney	\$5,667	\$5,000	\$5,000			UW-L Fac. Res.
		?				NIH**
Physics						
Jennifer Docktor	\$5,889	\$7,650	\$7,650			UW-L Fac. Res.
		\$143,876	\$143,876			Wisconsin DPI
		\$73,333	\$73,333			Phy. Tchr. Ed. Coalition
		\$156,436	Pending			Wisconsin DPI
Recreation Management and Therapeutic Recreation						
Jin Young Chung	\$5,667	\$9,510	\$0			UW-L Fac. Res.
		\$32,213	Pending			UNLV
		\$38,500	\$0			Russell Sage Foundation*
Totals						

* Grant proposals being revised for resubmission.

** Grant proposals being prepared for August 2012 submission.

**SUMMARY OF ANNUAL ACTIVITY
BIOLOGY DEPARTMENT
(June 1, 2011 - May 31, 2012)**

Department Activities

Summary of Departmental Activities from the Past Year

The 2011-12 academic year was highly productive for the Department of Biology. The University nominated the Department for the Regents Teaching Excellence Award. Biology welcomed Elizabeth Paluch as Lab Manager I and Lisa Kobs as Lecturer in Nutrition and Biology. Biology conducted three successful faculty searches resulting in the hiring of: Dr. Megan Litster, Biology Education; Dr. Jennifer Klein, Biophysics; and Dr. Barrett Klein, Animal Behavior. Biology was once again one of the largest majors on campus with 931 declared majors, 97 Biology minors, 366 Nutrition minors, and 70 graduate students in Spring 2012. Enrollments in 100, 200, and 300 level core courses were at an 11 year high. However, the average number of students per lecture section in these courses was markedly lower than five years ago due to strategic hiring via GQA. Targeted revision of core curricula continued via the Evolution Across the Curriculum program. Faculty-student collaboration in scholarship continues to be a strength of Biology. Grants and contracts to support scholarship were significantly up from the previous year. Biology faculty and staff were PIs (28) or Co-PIs (6) on 34 externally funded grants or contracts totaling over \$5,722,000. Nineteen of these awards were new awards in 2011-12. In addition, Biology also earned 19 grants internally. Biology faculty published 25 peer-reviewed journal articles and 7 book chapters or technical reports. Biology faculty were authors on over 77 presentations at regional and national meetings, of which 30 included graduate student co-authors and 23 included undergraduate coauthors. In total, approximately 100 different undergraduate students formally participated in Biology research. Biology faculty led several efforts to increase the participation of underrepresented students in science via directorship of the McNair Program and two separate WiscAMP supported programs. Biology faculty and staff once again excelled in service to the University, profession, and community. Notable service contributions include chairing the Provost and Dean of SAH Search and Screen committees, Vice-Chair of Faculty Senate, Chair of Joint Planning and Budget, and University Undergraduate Research Director.

Summary of Departmental Activities from the Past Year Specific to Graduate Programs

Eight students finished their Master's in Biology, and another 30 were working on their Master's research. These numbers do not reflect graduate students in Microbiology or the Nurse Anesthetist program.

Biology graduate students were co-authors on 30 different presentations at regional, national, and international scientific meetings. In addition, grad students were co-authors on eight peer-reviewed publications.

Biology graduate student Robert Mooney (co-advised by Eric Strauss and Roger Haro) was awarded a medal for “Superior Graduate Poster in Ecology” at the 2011 Sigma Xi Annual Meeting and International Research Conference and was honored as the “Best Student Platform Presentation” at the 2012 Annual Meeting of the Mississippi River Research Consortium

Significant Program Changes

Several classes were offered for the first time under our umbrella course designation (BIO 460): Comparative Animal Physiology, Marine Biology, and Ecosystems Ecology. To reduce lecture size and to offer more seats for students, extra lecture sections were offered for three courses: General Biology (BIO 105 – 2 sections), Organismal Biology (BIO 203), and Endocrinology, (BIO 424).

Numerous faculty members participated in continued revisions of the new version of Senior Capstone Seminar in Biology (BIO 491/492). While formal assessment of these revisions is still in process, there is general agreement in the Department that the revised version of Capstone is doing a better job of serving as a capstone course.

As part of the Evolution Across the Curriculum effort, seven Biology faculty members earned a Curricular Redesign grant to create evolution-learning modules for all Biology core courses. These modules will be developed during summer 2012, and implemented in the 2012-13 academic year.

Estimated Number of IFTE Used for Graduate Education: 4

SUMMARY OF ANNUAL ACTIVITY
DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY
(June 1, 2011 - May 31, 2012)

The Department of Chemistry & Biochemistry welcomed one new tenure track faculty member, Dan Grilley, and one new full-time IAS member, Melissa Anderson, to its ranks this year. We also ran two successful searches that led to the hiring of Anna George, our new Chemistry Education/STEP faculty member, and Eugenia Turov and Derek Salter, two new IAS members. One successful promotion portfolio was advanced for Curt Czerwinski (Professor). As part of the Department's 5-year external review and certification process by the American Chemical Society–Committee on Professional Training (ACS-CPT), we made a set of major curriculum revisions that were all approved by the UCC by year's end. Several courses were created as new degree requirements and electives, and a number of existing courses were revised. With these changes, all future chemistry graduates will receive the prestigious "ACS-Certified" B.S. degree. We also completed our internal UWL academic program review; the Faculty Senate accepted the final APR report in April. Also, a Department name change was approved by UW-System this year ("biochemistry" was added).

In addition to normal teaching loads, several faculty members assisted in special outreach teaching programs for primary schoolchildren, including the Young Scholars and Gifted and Talented Network programs, and the "Chemistry Wizard" demonstrations. Chemists also offered special laboratory safety training for all Cowley Hall departments three times throughout the year. We continued to offer a year long CHM 103–*General Chemistry I* course for advanced West Salem HS students (the sixth time). Our General Chemistry instructors revised their new laboratory manuals (for CHM 103 and 104), which are prepared and produced in house.

Outside the classroom, chemists collectively mentored or co-mentored **46** undergraduate research students and sat on the M.S. thesis committees for **9** graduate students in programs outside of chemistry (primarily BIO and MIC). Department members collectively wrote several grant proposals for external and internal funding and were fortunate to receive some good awards this year. Department members and their students made numerous scholarly presentations at professional conferences and collectively published **8** peer-reviewed manuscripts and **1** provisional patent application. Numerous reviews of grant proposals and manuscripts were completed.

Chemistry faculty members were widely engaged in service and university governance at all levels, including administrative search and screens. Likewise, most department members were active in professional and community service. The Department awarded approximately \$25k in scholarships to its majors, executed two different lab modernization efforts, and continued replacing and upgrading several pieces of failing capital equipment and instrumentation using GQA funding. Several faculty members and students received training on our new pieces of modern instrumentation. A number of faculty members participated in Inclusive Excellence workshops. In hopes of better ensuring student success, we made MTH 150 a firm pre-requisite for CHM 103 because institutional research data showed that few students co-enrolled in these two courses pass chemistry.

In the coming year, we hope to modify our biochemistry curriculum slightly, begin detailed planning for the design and move to a new science building, and continue our instrumentation upgrade efforts as funding permits. We will be developing a new sophomore level “cornerstone” course for all of our majors. We hope to be searching for one additional tenure track faculty member with expertise in organic chemistry/chemical biology. Several staff will work on creating videos demonstrating basic lab techniques in general and analytical chemistry as pre-lab enhancements for our students. It is hoped that the interdepartmental Core Imaging Facility in Cowley will be completed and brought online soon.

**SUMMARY OF ANNUAL ACTIVITY
COMPUTER SCIENCE DEPARTMENT
(June 1, 2011 - May 31, 2012)**

The 2011-12 academic year has again been a productive one for the UWL Computer Science department in all areas of instruction, scholarship and service. It has also been a year of significant staffing challenges. This summary focuses on activities of the whole department as opposed to individual scholarship and service activities.

At the end of the 2011 spring semester two members of the department (one professor, one lecturer) unexpectedly retired. Both had fully enrolled course schedules in place for the fall semester. It was not possible to replace either position before the fall semester. One of them returned in a post-retirement appointment to teach the scheduled courses but it was necessary to cancel most of the course sections assigned to the other. The department conducted a tenure track search during the fall and was successful in hiring Dr. Mayank Singh who started in the spring semester. The department continued with the search for the lecturer position and also started a search for a GQA position allocated to the department. During the spring semester the department found that it again had an excellent pool in the tenure track position but was not finding qualified candidates in the lecturer search. The decision was made to convert the lecturer position to a tenure track position and the department hired Dr. Samantha Foley and Dr. Joshua Hursey to start in fall 2012. While this was an exhausting search process for the department it has resulted in three excellent new faculty members. There were no retirements in the department but due to the untimely death of Mr. Steve Inglett (lecturer since 2001) this spring semester the department will again be searching to fill a position next year.

Following the dot-com bubble in 2000, the nation saw a significant decline in the number of students entering computer science / software engineering programs. This trend was in opposition to the trend of continuing strong demand for software engineers and continues to represent a significant competitive disadvantage for the nation. The U.S. Department of Labor, in their rolling 10-year horizon report, projects that computer software engineers will continue to be among the fastest growing occupations with an overall growth of 38%. Locally, UW-L CS graduates are finding ample job opportunities with many well paying internship opportunities with local companies going unfilled. Recently, consistent with national trends, the department has seen this trend begin to turn around. Last year enrollment in the first three courses of the major sequence (CS 120, 220, 340) reached a level that the department has not seen since 2002 and it appears that enrollments for this coming fall will continue at this level.

This year approximately 140 students declared CS as their major with another 20 students declared as CS minors. In addition, through its general education courses the department provided instruction to approximately 300 non-majors this year. The general education offerings were substantially below the level of recent years due to the unexpected retirements. The MSE currently has approximately 40 active students many of who come from the 5-year BS/MSE track. Ten students (not counting contract programs) graduated from the MSE program this last year.

This year the department began offering its new general education course in Computational Thinking (CT 100). This course was approved last year and is intended for a broad audience focusing on the core ideas of computer science that have become ubiquitous in all areas of our society. We plan to continue offering sections of CS 101 as long as demand continues but the intention is to over time move our instructional efforts to CT 100. This course is at the forefront of national trends and is consistent with a national movement to replace the existing high school AP computer science course with a course focused on the ideas of computational thinking. The department has plans to incorporate the CT 100 course into the teacher education major.

This year the department also offered two other significant new courses. CS 402/502 is a course in web application development and CS 456/556 is a course in secure software development. Web application development is an increasingly important area of software development and this course pulls together fundamental ideas in scripting, data and security, layered architectures and graphical user interfaces as they relate to web development. Secure software development is the second course in our security sequence (following CS 455 Fundamentals of Information Security) and examines the range of security vulnerabilities that can occur in software systems and their detection and mitigation.

Over the last few years the department has been evaluating the introductory course sequence (CS 120, 220 & 340) and has made several changes in organization and distribution of topics. This year the department proposed and received curricular approval to increase CS 220 from 3 to 4 credits. CS 120 is already a 4-credit course and this change will allow additional time on critical topics providing a stronger foundation for the major. The department is still in discussions with the math department about changes to MTH 225 (Discrete Mathematics) that would increase its utility to the computer science curriculum.

The Computer Science department continues to engage in a variety of outreach activities intended to help promote the study of computer science and to support a better public understanding of employment opportunities in computer science and software engineering. The department again participated in the La Crosse Chamber of Commerce Jobs Expo, which reaches both high school students and employers. The department also continues to work with West Salem High School on a program that allows West Salem students to get credit in the department's CS 120 course. Teachers at West Salem High School teach the course with assistance and oversight from CS department faculty. This program involves small numbers of students but is a useful mechanism for promoting the study of computer science. The department also continues to talk with employers about national trends. We have found that employers are increasingly aware that it is in their long-term interest to contribute to the promotion of computer science in high schools and universities.

The Midwest Instructional Computing Symposium is a regional conference in computer science drawing attendees from the upper Midwest. This year the conference was hosted at the University of Northern Iowa with twelve students from UWL attending along with several faculty members. Of the twelve, four presented posters or talks and the remainder participated in the programming and robotics competitions. UW-La Crosse will host the conference next year. The department operates two NSF funded S-STEM scholarships programs. The first program is targeted at MSE students and upper level CS majors. The program awarded scholarships to the

fifth cohort this year. Thirty-three students have received support under this program. This was to be the last year of the program but we have applied for a no-cost extension and will be making awards again next year. The second program is joint program with Western Technical College. This program is focused on students transferring from WTC to UWL.

The department continues to develop master of software engineering (MSE) contract programs for international students. We currently have a 1+1 program with the South Central University for Nationalities (SCUN) in Wuhan China. Students in this program take two classes from UW-L faculty at SCUN during the summer, complete elective coursework at SCUN during the subsequent year, and then complete the required MSE coursework and capstone project at UW-L in the following year. This last year saw the sixth cohort, consisting of 9 students complete the program at UW-L. A 3+2 program is replacing this version of the program with SCUN. Students at SCUN will complete a bachelor degree in computer science at SCUN in three years. They will then come to UW-L for two years to complete the MSE coursework and capstone project requirements. The first cohort of this program is expected at UW-L starting with the fall of 2013 and should consist of between 10 and 15 students.

The department also has a 3+2 contract program with Wuhan University. Under this program, students transfer to UW-L to complete the 4th and 5th years of the 5-year BS/MSE degree track. This year had two students from Wuhan attending UW-L.

The department is currently operating two significant computing resources to support coursework and research in the department. These are a Rocks Visualization Cluster and a Eucalyptus Cloud. The visualization cluster is a 16-node cluster computer running the Rocks software distribution. This cluster provides both distributed computing resources and a high-resolution display wall consisting of a 4x4 grid of HD resolution displays. The Eucalyptus Cloud is an open source software system that provides the same API as used by Amazon in their commercial cloud. This is an extremely advanced capability for a department such as ours. It allows students to launch virtual servers, over which they have complete administrative control, to use in course projects.

In the next year the department will continue to focus its curricular energy on further developing the Computational Thinking course, the core CS major sequence and array of upper level electives. The department will continue to monitor the Computer Science accreditation program offered by ABET to ensure that our program continues to meet these standards should the department choose to pursue accreditation.

Assessment - Additional Commentary

This was the fourth year in which the department completed the General Education assessment process for CS 101 and CS 120. This year the department reviewed the results of last year's assessment and was generally satisfied with the results. Given that General Education assessment will now occur on a three year cycle we expect that this is the last time that we will complete the assessment process for CS 101 and will instead focus our efforts on assessing CT 100 and CS 120.

This is the sixth year that the department has used the Major Field Exam as an assessment tool

for the undergraduate major. We do not yet know final results for this spring's testing since ETS changed the exam this year and has not yet calibrated the new exam scores to the old. Final scores will be available sometime this summer but from all the information we currently have our students again performed very well and we are pleased with the results. The exam is not a perfect fit for our curriculum but it serves as a national benchmark. We will continue to monitor the performance of our students on this exam.

Lecture, Conference and/or Arts Events

Title of Event: Scope: Event Sponsors: Number of Performances: Size of Total Audience:

Audience Composition: Description: This year's lecturer was Dr. Leslie Valiant winner of the 2011 ACM Turing Award.

Distinguished Lecturer in Computer Science - Valiant Regional UW-L College of SAH and UW-L Alumni Foundation

1 100 Mixed Audience

SUMMARY OF ANNUAL ACTIVITY
EXERCISE AND SPORT SCIENCE DEPARTMENT
(June 1, 2011 - May 31, 2012)

Since 1913, the Department of Exercise and Sport Science has offered professional education programs related to physical education and exercise science. Following the mission of the UW-L to educate teachers, the department was originally formulated to offer a certificate and then a degree in physical education. The tradition of graduating top-notch physical educators allowed the Department to grow. The number of students in the Department approached 1500 undergraduates at its peak in the 1970's.

Program development in the 1970's and 1980's included the addition of areas of study in Cardiac Rehabilitation, Athletic Training, Sports Management and Exercise Science. Each of these programs has reached a level of national, if not international, recognition. The department currently employs 15 ranked faculty members, 12 instructional academic staff and 1 non-instructional academic staff members. We offer four undergraduate academic programs (athletic training, exercise science, physical education and sports management) and three graduate programs (clinical exercise physiology, human performance and physical education).

Faculty are continually updating coursework and developing pedagogical innovations. New teaching materials are developed annually for general education and professional courses.

Directed student learning is a vital component of the Department with the completion of both undergraduate and graduate research projects. There were approximately 35 graduate thesis/projects and nearly 20 undergraduate research projects completed in 2011-2012. These led to approximately 20 scholarly products with an additional 15 products currently under review. Faculty members in the department currently serve on the editorial boards of 4 journals. Internal and external grants were proposed and funded. Continuation grants were also awarded for approximately \$150k.

Departmental faculty members are active in state, regional, and national organizations. Committees, task forces, and work groups of various national associations benefit from the expertise of faculty and staff in the department. We look forward to celebrating the Department's centennial in 2013-14.

**SUMMARY OF ANNUAL ACTIVITY
GEOGRAPHY AND EARTH SCIENCE DEPARTMENT
(June 1, 2011 - May 31, 2012)**

The Department of Geography and Earth Science continues with its transformation into a dynamic and innovative department. In recent years, there has been a significant turnover in faculty, with a number of retirements and new faculty joining the Department. This year brought continued change. Dr. Ian Muehlenhaus joined the Department as a new tenure-track faculty member. Three successful searches were conducted: one Instructional Academic Staff and two tenure-track faculty positions.

Faculty members in the Department have developed an active scholarship program. They collaborate with colleagues in other UW-L departments and with researchers at government agencies, universities and professional organizations. The faculty received nine internal UW-L grants and four external research grants. Three faculty members received International Development Fund grants to conduct research and present at international conferences. The faculty produced six peer-reviewed papers, one book chapter, four book reviews, and an edited book. They presented 20 papers at professional meetings.

The Department continues to maintain high-quality instruction. The faculty developed new courses and extensively revised several others. The faculty is actively involved in undergraduate research, advising approximately 18 students. Six students presented at the UW-L Annual Celebration of Undergraduate Research and Creativity. Students also presented at state, regional and national conferences.

Department members have an active service program to UW-L, professional organizations and the community. Service to UW-L includes serving on Senate and College committees, presenting at the Celebration of Faculty Research, coordinating the CSAH Dean's Distinguished Fellowship Seminar, and coordinating the UW-L vermicomposting project. Several faculty members gave public presentations and collaborated with city and local organizations.

For the upcoming academic year, the Department has three goals: to (1) review the human/cultural/regional geography program; (2) consider re-instating the GIS certificate; and (3) recruit more majors into the Department.

SUMMARY OF ANNUAL ACTIVITY
HEALTH EDUCATION AND HEALTH PROMOTION DEPARTMENT
(June 1, 2011 - May 31, 2012)

The Department of Health Education and Health Promotion (HEHP) has a major focus on primary prevention versus secondary or tertiary prevention. Primary prevention involves activities designed to reduce morbidity, mortality and improve the quality of life. When one examines the major causes of morbidity and mortality in the United States, it becomes evident that the primary contributors are those lifestyle and environmental factors, and policy positions which can best be addressed through activities associated with primary prevention to include community health education, school health education and other community-based interventions. Health education “is any combination of planned learning experiences based on sound theories that provide individuals, groups, and communities the opportunity to acquire information and the skills needed to make quality health decisions” (Joint Committee, 2001, p. 99).

The Department of HEHP consists of 7 programs; BS CHE, BS SHE, MS CHE, MS SHE, MPH CHE, 910 add-on license, BS HWM on-line; 8 faculty, 2 IAS and 2 part time IAS; we have 275 + students. The HEHP Faculty and staff are excellent teachers (composite fractional median spring 2012 = 4.7 out of 5.0), engaged scholars, and very active in service; our programs have national and international reach.

- UWL offers the only major in Community Health Education and School Health Education in the UW System.
- Both the B.S. CHE and MPH CHE are accredited by the Council on Education for Public Health the only such department in the country.
- Community health education students consistently score above the national average on the certification exam; School health education students consistently score above the national average on the Praxis exam.
- Our community health graduate program is ranked 6th in the country according to US News and World Report.

**SUMMARY OF ANNUAL ACTIVITY
HEALTH PROFESSIONS DEPARTMENT
(June 1, 2011 - May 31, 2012)**

Background:

- The department consists of a total of 31 core faculty/ IAS (27 FTE) plus additional part time adjunct faculty. Five of the core faculty/IAS are UW-L alumni.
- The department has a total of 367 majors in six different programs. The Radiation Therapy and Nuclear Medicine Technology programs offer Bachelor of Science degrees. Three programs offer masters degrees: Occupational Therapy (MS in OT), Physician Assistant Program (MS in PAS), and Medical Dosimetry (MS in DOS). The Physical Therapy Program offers a Doctor of Physical Therapy (DPT) degree. The Medical Dosimetry program also offers a certificate in DOS.
- Student demand for all six Health Professions programs continues to grow and applications for admission are exceptionally strong. For the cohorts beginning in summer/fall of 2012:
 - Medical Dosimetry (MS degree 20 admitted/48 applications, Certificate 15 admitted).
 - Occupational Therapy (26 admitted/100 applications).
 - Physical Therapy (45 admitted/283 applications).
 - Physician Assistant (19 admitted/336 applications).
 - Nuclear Medicine Technology (23 admitted/27 applications).
 - Radiation Therapy (20 admitted/48 applications).
- A total of 860 non-departmental undergraduates were served by three department courses: SAH 105 (Analysis of Health, Wellness and Disease for the Healthcare Consumer which is a general education course), HP 106 (Introduction to Health Careers) and HP 250 (Medical Terminology).
- Health Professions faculty taught courses to students from Physics, Exercise and Sport Science, Athletic Training, Biology, Nurse Anesthetist and UW Madison Nursing programs as well as teaching students outside of their programs within the department. Inter-departmental teaching as well as cross-departmental teaching has been a strength of the department.

Students:

The outcome measures for the department continue to remain excellent:

- Graduates of all programs were exceptionally strong on their national professional terminal certification examination scores:
 - Occupational Therapy – 100% pass rate (national average is 85% pass rate)
 - Physical Therapy – 100% pass rate (scored about the national average).
 - Physician Assistant – 100% pass rate (95th percentile nationwide, 4 received highest possible score).
 - Radiation Therapy – 100% pass rate (92nd percentile nationwide).
 - Medical Dosimetry – 100% pass rate.

- Employment rates are strong with most students finding employment within 3-6 months upon graduation in all programs.
- Employers and alumni provide very positive feedback regarding program quality.

Students are actively involved in professionally related community service in their free time as well as course related despite very high credit loads and high expectations for performance.

- Patient related service activities were delivered by the Occupational and Physical Therapy Programs to the following community organizations: Tomah Middle School, Providence Academy, Bethany Lutheran Homes (Senior & Assisted Living Facilities), La Crosse Public Schools (Lincoln Middle School, Longfellow Middle School, Emerson Elementary School, Harry Spence Elementary School), Western Technical College, UWL, Viterbo University, Dynamic Recycling, La Crosse School, YMCA), Willows Assisted Living facility, Salvation Army, Holmen School District, Salzer Square, Ona Terrace, La Crosse Housing Authority, Springbrook, Hillview Terrace, Carroll Heights, Woodmans, Shopko, Shelby Terrace, Salem Terrace, Prairie Home, UW-L Childcare Center, and Moser Home .
- Occupational Therapy, Physical Therapy, and Radiation Therapy student clubs were actively involved in fundraising and made large financial donations to various community organizations (i.e. Gundersen Lutheran Cancer Center, Sarah's Purse, Relay for Life, Children's Miracle Network, Kaitlin's Table, Easter Seals Camp, Stepping Out in Pink).
- Students in all programs in the department have applied for UW-L, state, and national scholarships to help support their education. Radiation Therapy, Nuclear Medicine Technology and Physical therapy students received the most scholarships from their state/national professional associations than other state programs. .
- Students are actively engaging in scholarly activities. Outcomes include co-authorship on over 12 peer-reviewed publications and numerous presentations at state and national level in Physical Therapy and Occupational Therapy Program, and a poster presentation by student/faculty team at the national Occupational Therapy Conference. Many students presented posters at the UW-L Research and Creativity Day. Three Radiation Therapy students won the first 3 places in paper competition at the annual Chicago Area Radiation Therapists Student Seminar and Review Bowl. They also took 3rd place in the poster competition.

Faculty:

- Faculty teaching is excellent. As professional education programs, the curricula in each program requires students to master general scientific knowledge, discipline specific knowledge, and professional behaviors, as well as demonstrate competence at clinical skills. In addition, the graduate programs require production of a scholarly project. Despite turnover in faculty, the quality of the programs has not been impacted due to the dedication and commitment of the faculty to the programs.
- All programs except the Nuclear Medicine Program are accredited by their individual professional specialty accreditation agencies and all have been successfully reaccredited within the past five years. Medical Dosimetry was the most recently reaccredited and received the maximum 8 year accreditation cycle.

- Faculty regularly participates in CATL workshops on UWL campus to enhance teaching effectiveness.
- Each program's has a rigorous annual assessment process in accordance with their accreditation requirements. Student learning in each curriculum is rigorously assessed, outcomes for the program are measured and faculty, peers, program directors, and the students assess faculty performance. Student evaluations of instruction through university SEI measures in the Health Professions Department are solid (above 4.0 for fall/spring).
- Faculty members of the graduate programs are intensely involved in mentoring student research.
 - Forty-five doctoral students in Physical Therapy participated in a research practicum resulting in some product (paper, presentation, or poster).
 - Twenty-six Occupational Therapy students completed an inter-rater reliability study with a poster as the product. They also completed a systematic review with a product of a public presentation of other students and local clinicians as well as an in-service to their internship site.
 - Nineteen Physician Assistant students complete a scholarly project and presentation.
 - All Medical Dosimetry students completed a scholarly project.
- Faculty members are also active in personal scholarship.
 - The La Crosse Institute for Movement Science (Movement Analysis Laboratory, Physical Therapy Program) scientists (T. Kernozek, Director, J. Willson, T. Greiner, S. Meardon, and J. Greany) have published or have in press over 28 peer reviewed papers in the medical/physical therapy/exercise related scientific literature since 2009. This met and exceeded a three-year strategic planning goal to further engage faculty in scholarship in the Physical Therapy Program. These manuscripts (either accepted or published) were full papers (no abstracts were included in this tally of faculty scholarly productivity) and published largely in Index Medicus sources (premiere journals searchable through www.pubmed.gov).
 - Two National Institutes of Health Grants were submitted (R21 & R15 mechanisms) in the Physical Therapy program. One was unfunded (T. Kernozek and B. Enzenwa – Multifrequency vibration effects on muscle activation and blood flow) and one is pending (J. Willson, S. Meardon, T. Kernozek - Step Length Training to Reduce Patellofemoral Stress in Female Runners with Patellofemoral Pain).
 - One grant was submitted to ARG and WiSys and was denied state funding (T. Kernozek and B. Enzenwa – Effects of multifrequency vibration on aging skeletal muscle and fatigability).
 - Occupational Therapy faculty presented posters and a scholarly paper at the Occupational Therapy Annual Meeting.
- Many faculty members are nationally and internationally recognized for scholarship, contributions to professional education in their field, and leadership.
 - J. Willson (Physical Therapy) received the Rose Award from American Physical Therapy Orthopedics Section. The paper "Gluteal muscle activation during running in females with and without patellofemoral pain" was published in Clinical Biomechanics by Willson, J, Kernozek, T. Arndt, B., Reznichak, D., Straker, J (2011) 26:735-740.

- G. Straker (professor emeritus Physical Therapy) received the "Otto Cordero Lifetime Achievement Award" from the Wisconsin Physical Therapy Association (WPTA) and is the chair of the WPTA Ethics Committee.
- Michele Thorman was elected chair of the Physical Therapist Examining Board.
- J. Temple (Occupational Therapy) was elected as vice-chair of the Wisconsin Occupational Therapy Association
- T. Kernozek (Physical Therapy) was inducted into the Schalmont High School "Wall of Distinction" in Schenectady, NY.
- J. Willson, S. Meardon, T. Kernozek, T. Greiner, J. Greany and P. Denton served as reviewers for scholarly journals.
- P. Denton (Chair, Occupational Therapy) was given Award of Appreciation for six years of service on the National Board for Certification of Occupational Therapy.

Service:

Service has been one of the strengths of the Health Professions department.

- In the past academic year, over 30 community organizations and 1,450 citizens in the region have involved in service learning activities associated with the Health Profession Department programs (this number does not reflect clinical internship affiliations).
- The majority of Health Professions students have volunteered for a community service project outside of service required in coursework.
- Health Professions faculty and staff routinely provide service to local civic and religious organizations.
- Physical Therapy Program provided pro bono service to various organizations such as St Clare's Health Mission, Onalaska Fire Dept. and La Crosse Falls Prevention Coalition.
- Occupational Therapy provides pro bono service to area residents who have no insurance coverage for therapy through course related adult and pediatric clinics on campus.
- Health Professions faculty members have maintained leadership roles in their local, state and national professional organizations and service to their professions.
- Department programs provide continuing education to local clinicians, providing access to speakers and information to directly impact practice:
 - Occupational Therapy brought their 5th Distinguished Lecturer to the UWL Campus. The lecture was well attended by local clinicians; many clinicians have made changes in their services based on this presentation.
 - The Physical Therapy program continues to offer continuing education opportunities through the UW-L continuing education office to serve clinicians within the region.
- Feedback that all programs receive from their clinical internship sites is that UW-L Health Professions students have excellent professional behaviors. Mentoring students through intensive faculty advising to develop these behaviors is a primary goal for each program in the department.

- Faculty members serve as advisors for very active professional student clubs (M. Thorman – Physical Therapy, M. Weege – Radiation Therapy, J. Temple – Occupational Therapy, J. Willson – Physical Therapy Club E. Malone – Physician Assistant, and A. Stafferoni – Nuclear Medicine Technology).
- Occupational Therapy and Physical therapy programs sponsored their annual career fair with over 40 health care institutions from around the state attending. Second year students in both programs have the opportunity to learn about these institutions, participate in interviews, and receive resume advice.
- Program faculty participate in department and institution recruitment activities (i.e. Health Careers night, campus close-ups, Freshman Orientation, high school advisors orientation, etc.)
- Faculty and instructional academic staff served on UW-System, university, college, department, and Health Science Consortium committees.

In addition, the department was involved in the following activities in the past year.

- All programs in the department underwent an extensive curricular analysis to align actual course delivery with workload reporting in WINGS. This resulted in a total of 120 LX forms submitted and accepted by the undergraduate and graduate curriculum committee that revised courses in WINGS to better reflect the workload actually involved for both students and faculty.
- Physical Therapy program has been involved in an extensive workload analysis to clarify how workload is recognized and counted. This analysis has resulted in some curricular changes designed to improve student learning outcomes.
- Faculty continue to work on obtaining higher degrees in addition to full workloads:
 - Occupational Therapy Program: two faculty working on doctoral degrees, one PhD faculty working on professional degree (masters in occupational therapy)
 - Physician Assistant Program: two faculty working on doctoral degrees
 - Medical Dosimetry: one faculty working on doctoral degree; one faculty working on masters degree.
- Began efforts as a department to promote inter-professional events in the department.
 - Sponsored a department picnic for all students/faculty in the fall
 - Program directors becoming informed about inter-professional competencies students are expected to display upon graduation.
 - Continued to teach some basic science courses to students from different programs together (anatomy, physiology, pathophysiology)
 - Continued joint class sessions learning about other professions (OT-PT, OT-OTA at Western, PT-PTA at Western).

Department Challenges:

- Hiring faculty with appropriate academic and professional credentials continues to be a significant challenge. There are two searches currently in process and two resignations effective fall, 2012 that we need to refill in the Physical Therapy Program. One faculty will be on maternity leave in the fall and the department chair will be on sabbatical in the spring. Maintaining the quality of our program's outcomes and research productivity

with these staffing changes will be difficult. We have lost our rising star researcher/teacher in the department and that is a significant loss to our institution, department and the Physical Therapy program. The market for faculty with clinical degrees and PhDs is very competitive. With just one exception, all faculty/IAS that have been hired in our department in the past 9 years have required extensive research and teaching mentoring to foster their success in our respective programs. We expect that to be the situation with any new faculty or staff hires that we have. This will increase an already overworked, understaffed faculty.

- Our national benchmarking data and our experiences with the Physical Therapy program workload analysis this past year continue to confirm our belief that professional education programs need a different metric for accounting for workload that recognizes the unique aspects of professional education. We are committed to continuing to work towards this end.
- Inter-professional education competencies are a new accreditation standard for two of the programs and are likely to be required by all programs in the department in the near future. Meeting these standards will require curricular changes in the programs as well as massive scheduling changes. These will be difficult given that the staffing for the department is not stable.
- The programs teach most of the classes in the Health Sciences Center. The classrooms, laboratories, and some equipment are shared with Western Technical College programs. Western is starting a tri-semester schedule with different time periods than UW-L. We expect to be able to adjust to these changes, however this adds additional challenges to our faculty.
- The Nuclear Medicine Technology program is the only program that is not accredited and relies on the clinical sites that take students for the fourth year of the degree to hold the accreditation. While this has worked successfully in the past, some hospitals, especially those that only take UW-L students, are no longer willing to devote the financial and personnel resources required to maintain their accreditation. Each hospital that gives up their NMT accreditation reduces the class size of students that can be admitted into our NMT program. We think that the Nuclear Medicine Technology program at UW-L needs to obtain accreditation for the program to continue to be viable in the future. Discussions with the college office have begun about seeking accreditation, and the needed resources, to seek accreditation for the Nuclear Medicine Technology program.

Department Goals (2012-13)

1. Maintain excellent program outcomes despite the staffing and workload challenges.
2. Continue faculty research with the expectation that productivity will be considerably lower this year.
3. Successfully recruit faculty/IAS for all positions.
4. Maintain accreditation status for accredited programs in the department; receive approval to seek accreditation for the Nuclear Medicine Technology program.
5. Promote understanding of professional education within the university
 - a. Provide orientation to new provost about department and the professional education we provide

- b. Serve in any capacity requested to help the university develop a new metric that accurately and adequately captures the workload in professional undergraduate and graduate education programs in our department.
 - c. Welcome discussions with other self-sustaining health professions programs on campus that wish to join our department if they are compatible with our department culture, goals, and emphasis on delivering excellent professional education.
6. Develop long-term strategy for all programs to implement teaching inter-professional competencies to the students.

Respectfully Submitted:

Peggy Denton, PhD, OTR, FAOTA; Department Chair

Thomas Kernozek, PhD, FACSM; Assistant Department Chair

Contributions from program directors: Michele Thorman (Physical Therapy), Sandra Sieck (Physician Assistant), Melissa Weege (Radiation Therapy), Aileen Stafferoni (Nuclear Medical Technology), Nishele Lenards (Medical Dosimetry).

SUMMARY OF ANNUAL ACTIVITY
MATHEMATICS DEPARTMENT
(June 1, 2011 - May 31, 2012)

Teaching/Curricular and Related Activities: As a traditional academic discipline, mathematics is involved in the academic programs of virtually all UW-L students and the curriculum offered by the Mathematics Department serves many different needs for the UW-L student population. There are non-college courses to improve the mathematics backgrounds of students so they can then successfully pursue college level courses. The general education and service courses provide the mathematics and statistics foundations necessary for many academic programs. Finally the mathematics major/minor courses serve students pursuing academic programs in computer science and the physical sciences as well as students pursuing the various tracks within the mathematics major. Enrollment records indicate more than 150 declared mathematics majors (approximately one third of these are secondary education mathematics majors) and more than 140 students with mathematics minor programs. Student demand for mathematics courses continues to increase and the department responded by scheduling additional sections of entry-level courses to meet this demand. In Fall 2011 the courses offered by the department consisted of 10 sections of non-college, 48 sections of general education/service, and 32 sections of major/minor with a total student enrollment of 3037 students. For Spring 2012, the courses consisted of 7 sections of non-college, 45 sections of general education/service, and 31 sections of major/minor with a total enrollment of 2731 students.

Beyond these regularly scheduled teaching activities, department faculty are frequently involved in other forms of instruction. For example, department members offered several independent study/special topics courses, supervised eighteen students in undergraduate research projects, developed mathematical enrichment offerings for area youth, and provided numerous in service programs for Wisconsin teachers. UW-L continues to be well represented by its student population in state, national, and international mathematical modeling competitions. For example, in 2011, UW-L sponsored eight teams in the international COMAP contest and four UW-L students participated in the Putnam competition.

In conjunction with the establishment of the UW-L STEP Program, several curricular changes in the Mathematics Education Major were developed and approved for implementation in Fall 2012. With regard to our proposal to transition the Mathematics Major with Statistics Emphasis into a Statistics Major, we are at the "Authorization to Implement" stage and will submit the required report early in the Fall 2012 semester. The Department is continuing its assessment activities for the general education courses MTH 126, 145, 150, 151, 175, 207, 208, 265 by measuring student performance relative to certain selected student learning outcomes. Results will be reported to GEAC and used to develop any appropriate course modifications. The Friday afternoon departmental mathematics seminar series continued to provide faculty opportunities to share their interests and recent work with colleagues and the department responded to the Inclusive Excellence Initiative by scheduling one seminar session devoted to "Women in Mathematics". The session was organized by a department faculty member whose scholarly accomplishments include a recent publication in the *AMS Notices* related to this topic.

Departmental Staffing: Last summer we successfully completed the search/screen process for the IAS position of Associate Lecturer/Director of the Murphy Learning Center. Last fall we requested and received two new GQA faculty positions (Mathematical Biology and Statistics). We were successful in filling the Mathematical Biology position for Fall 2012 and the search/screen process is currently underway to fill the Statistics position for Fall 2013. Also this spring the department received resignation letters from three members (Mathematics Education, Graph Theory, IAS Lecturer). Through a quick/convenient “spousal hire” we were able to address some of the resulting staffing problems and we anticipate receiving administrative approval to conduct search/screen activities next fall for replacements. In addition, the department has just recently requested two new GQA faculty positions for 2012-2013, so we could be faced with as many as five or six faculty searches in the coming academic year. We are also aware of the very real possibility (within the next year or two) of retirements by some of the more senior members of the department. Finally, in 2011-2012, several department faculty had no or reduced teaching assignments: one is serving as Dean of CSH, another serves as interim Associate Vice Chancellor and is also the director of IIURL, a third served as director of the Statistical Consulting Center, a fourth has a joint appointment with and is chair of the Computer Science Department as well as serving as Faculty Senate Chair, a fifth serves as STEP director, a sixth had a grant funded “course buy out”, and the department chair has a reduced teaching assignment.

Scholarship: Department faculty compiled an impressive record of scholarly achievement during the past year. This list of accomplishments includes 12 research papers published or accepted for publication and one piece of mathematical artwork included in a juried exhibition. In addition, faculty were involved in more than 40 presentations at local, regional, national, and international professional conferences as well as participating in a number of grant proposal submissions. These latter efforts have resulted in awards of more than \$135,000 while several large proposals (exceeding \$1 million) are still under review.

Service: Members of the department also have a strong record of university and professional service. The Chair of the Faculty Senate and the chairs of several Faculty Senate Committees and other University Committees are members of the Mathematics Department. Beyond our own institution, department members held leadership positions in professional organizations, refereed and reviewed research papers and book chapters, reviewed grant proposals, and served as consultants to other academic institutions or professional organizations.

Awards: UW-L SAPA selected David Reineke for their Most Accessible Faculty award (two other department members were nominated for this award as well) and UW-L Residence Life selected Robert Allen for their Outstanding Professor of the Year award. Finally, Jennifer Kosiak will receive the UW System Regents Teaching Excellence Award at the August 2012 meeting of the Board of Regents (only two recipients from the entire UW System are selected each year).

D. W. Koster, Chair, Department of Mathematics
June 7, 2012

SUMMARY OF ANNUAL ACTIVITY
MICROBIOLOGY DEPARTMENT
(June 1, 2011 - May 31, 2012)

The Microbiology Department had a successful 2011-2012 school year. During the year, the department experienced increased enrollment in General Education and some core courses. Collectively, the department members were very active in all three key areas of teaching, scholarship and service. The major accomplishments of the department for the year 2011-2012 are highlighted below.

Teaching: The department continued the tradition of offering a wide range of General Education, Core and Elective courses to meet the needs of not only Microbiology and Clinical Laboratory Science majors but also the students majoring in other science and non-science disciplines. Our *Global Impact of Infectious Disease* (MIC 130) course was a very popular course. This past year, we were able to field five sections of this course. Community Health program is encouraging their students to enroll in this course. We are preparing to meet expected additional demand for this course. Marisa, Sue, and Bonnie received a grant to develop learning objectives in anticipation of implementing Math Across the Curriculum (MAC). During the year substantial progress has been made on this front. We plan to implement MAC during upcoming school year. Overall we had good enrollment in all of our courses.

Scholarship: Microbiology faculty and instructional academic staff remained very active in their pursuit of scholarship and professional development endeavors. Highlights of scholarship activities include:

- Six publications in peer reviewed journals.
 - The graduate/undergraduate students coauthor two of these publications.
- Ten presentations at local, regional and national meetings.
 - Eight of these presentations have undergraduate/graduate students as coauthors/presenters.
- Theses advisors to seventeen graduate students.
- Independent Research advisors to seventeen undergraduate students.
- Supervised four internship students.
- Received three extramural grants totaling \$105,888.
 - One grant from UW System (sponsored by the WiSys).
 - One grant from NIH.
 - One grant from Kwik Trip, Inc., La Crosse, in support of graduate student research.
- Received one UW-L Grant for \$7,557.
- Submitted one Intellectual Property Application.
- Research work on continuing grants worth \$1,120,923 is progressing well. A number of these are collaborative grants with the Departments of Biology, and Chemistry and Biochemistry as well as Marshfield Clinic and Mycophyte.
- Two grant applications totaling \$392,306 are under review.

Many faculty members have worked closely with undergraduate and graduate students helping them secure Dean's Summer Research grants, research funds, travel grants, supplies grants, and McNair fellowships.

Service: Microbiology faculty and staff have established a strong track record of service to the college, university, community, and the profession. This past year the department members actively served, in various capacities, on the College, and University Committees. The department members were also active in professional organizations serving in leadership roles, on editorial boards of journals, reviewing journal articles and grant proposals. The department members remained engaged in the community through the outreach activities and by serving on community organizations. Below are a few examples of types of service activities our faculty and staff members were engaged in during this past year. Members had leadership roles on many of these committees.

- STEP Committee
- SOE Portfolio Committee
- Teacher Education Governing Council
- IAS Career Progression
- Academic Program Review Committee
- SUFAC
- Undergraduate Research Committee
- Institutional Biosafety Committee
- Graduate Council
- Provost's Select Committee on Internationalization
- Editorial Board – Journal of Industrial Microbiology and Biotechnology
- Gundersen-Lutheran Medical Foundation Research Committee
- Faculty Senate
- College Committee
- Editorial Board – World Journal of Critical Infectious Diseases
- Editorial Board – Journal of Biomedicine and Biotechnology
- Editorial Board – Journal of Industrial Microbiology and Biotechnology
- Councilor – North Central Branch of the American Society for Microbiology
- School Foundation Board

Other key highlights include:

- Successful search for the position of Assistant Professor.
- Successful search for the position of Instructional Specialist.
- Hosted a presentation by Dr. Mary Power, Department of Integrative Biology, University of California-Berkley. Cosponsored by Biology and Chemistry Departments, and others) – Distinguished Speaker in Life Sciences Series.
- Hosted a presentation by Dr. Colleen McDermott, Associate Dean, UW-Oshkosh.
- Hosted a presentation by Dr. Doug White, Gundersen Lutheran Medical Foundation.
- Hosted a presentation by Mr. Zac Triemert, Lucky Bucket Brewing Co., La Vista, NE.
- Hosted 16th Annual Symposium on Industrial and Fermentation Microbiology. This was one-day long scientific meeting and featured six speakers. About 95 people attended this

event. More than four thousand dollars were raised in private contributions to support this event.

- Currently hosting two visiting Chinese Research Scholars.

Recruitment and Retention: During one of our annual retreats, couple of summers ago, we had a session on recruitment and retention of microbiology majors, minors and graduate students. As a result of these brainstorming sessions, an ad-hoc committee was charged with devising strategies for recruitment and retention of undergraduate and graduate students. The Committee has worked diligently and has proposed a number of strategies such as, setting up of department's Facebook page, updating and modernizing brochures, streamlining the sample four-year curricula, etc. This past year we were able to implement many of the suggestions. We are hoping that these will start showing the results in a due course. This past summer, the group designed a promotional e-flyer and it was sent to all Science and Health undeclared incoming freshmen and to those who had declared microbiology as major. We feel that this helped familiarize the program to incoming freshmen. We are planning to repeat this activity again during this summer. To engage freshmen and to develop rapport between the faculty and upperclassmen, we held freshmen social during September. This was well attended and we will continue this event again this year.

Outreach: The department is deeply committed to reach out to various Middle and High Schools in Wisconsin and Minnesota. This past year, the department members were involved in the following activities:

- One-day workshop for AP Biology students from Central High School. Students performed bacterial transformation experiment.
- Young Scholars Week.
- Assisted St. Patrick's School in Sparta to incorporate microscopic techniques into 7th and 8th grade science classes.
- Helped Lego League group from Minnesota Middle School to perform experiments on Food Safety and Hygiene.
- Helped two La Crescent Middle School students with their science projects.
- Development of microbiology and molecular biology labs for a laboratory techniques course at Blair-Taylor High School.
- Molecular biology workshop for the Biotechnology class at Onalaska High School.
- PCR workshop for Biotechnology students at Logan High School.
- AP Biology lecture/discussion session for students at Aquinas High School.

Inclusive Excellence: The department is fully committed to the University's Inclusive Excellence initiative. Our faculty and staff have participated in various on campus presentations and workshops related to this initiative. Through our involvement in McNair Program, Women in Science course, tutoring sessions, Young Scholars program and outreach activities with high schools, we remain fully engaged in the University's Inclusive Excellence initiative. A couple of our faculty members are also involved with the UW System Women and Science Program and have participated in various workshops. The department will continue to draw on their experience to stay focused on the Inclusive Excellence program.

Search and Screen Activities: During 2011-2012, the department initiated two searches to fill a faculty position and a laboratory support position. The faculty position was at the rank of Assistant Professor. There were fifty applications from all over the United States and abroad. We invited three finalists for on-campus interviews. One individual, Dr. Peter Wilker, emerged as successful candidate. He will join us in August. The second position was one-half time academic year laboratory support position at the rank of Instructional Specialist. There were four applicants for this position. The successful candidate, Ms. Rebecca Polanowski, joined us in February.

New Initiatives: The department is reexamining the curriculum and taking steps to streamline the course offerings to reflect the developments in the field. In this regard, the department had a retreat this past semester (May 2012). At this retreat, several undergraduate and graduate curriculum related issues were discussed. We will work on implementing these changes during the 2012-2013 school year, upon obtaining appropriate approvals. The suggested changes are:

- Uncouple lecture and laboratory components from the current Immunology (MIC 406/506) course.
- Develop a 3 credit 300 level Immunology lecture course.
- Develop a 2 credit 400/500 level Immunology laboratory course.
- Seek approval and implement Clinical Laboratory Science – Master’s in Biology: Clinical Microbiology Concentration dual degree program.
- Seek approval and implement Master’s in Biology: Clinical Microbiology Concentration – International Track.
- Increase the number of MIC 130 (Global Impact of Infectious Disease) sections.
- Encourage Dr. Peter Wilker (new faculty member joining in August) to develop a graduate (700 level) course.
- Continue to work on planning and implementation of Professional Science Master’s (PSM) Program in Industrial Microbiology/Biotechnology.

Challenges: Like many other programs we have similar concerns in terms of resources, especially, regarding long term sustainability of supplies and expense budgets. With the help of supplemental funding, so far we have been able to manage our resources prudently. However, reliance on supplemental infusion of funds is not going to provide the long-term solution to the problems associated with the laboratory supplies budget. The department would like to work closely with the College Office to find necessary funds to strengthen our laboratory curriculum. Other immediate and long-term challenges include:

- Covering the courses taught by Dr. Hoffman and his duties as Director, Clinical Microbiology Master’s Program while he is on sabbatical leave.
- Seeking additional Clinical Preceptorship sites for CLS majors.
- Exploring the options for recruiting additional partners to the Clinical Microbiology Master’s Program.
- Helping Dr. Peter Wilker establish his research lab and recruit graduate and undergraduate students.
- Establishing and strengthening relationships with alumni.
- Identifying internship sites.
- Recruiting majors.

- Addressing work-life issues.
- Expanding outreach activities.

S.N. Rajagopal, Ph.D.

Chair

June 7, 2012

SUMMARY OF ANNUAL ACTIVITY
PHYSICS DEPARTMENT
(June 1, 2011 - May 31, 2012)

Accomplishments:

UW-L Physics Department Ranked 3rd in the Nation

Each year the American Institute of Physics (AIP) Statistical Research Center publishes a list of BS-granting departments producing the most physics bachelor's in the nation in its Physics Undergraduate Enrollments and Degrees. The UW-L Physics Department was ranked 3rd in the nation, averaging 23 graduates per year for classes 2008 through 2010 (www.aip.org/statistics).

During 2011-2012, the Physics Department graduated 27 physics, physics/engineering majors.

AIP Career Pathways Project Team visits UW-L Physics Department

The American Institute of Physics (AIP) Career Pathways Project site visit team visited the UW-L Physics Department on March 5 and 6, 2012. The Team met with physics faculty members, administrators, and students to explore some of the factors that contributed to the success of the department in placing students with bachelor's degrees into STEM careers. The UW-L Physics program was selected because of its strong record of preparing students with bachelor's degrees in physics and placing them into careers in STEM fields (uwlax.edu/physics/Career_Pathways_Final_report_La_Crosse.pdf)

Distinguished Lecture Series in Physics (DLS)

The Physics Department celebrated the twelfth anniversary of the successful Distinguished Lecture Series (DLS) in November 2011. Dr. Theodor Hansch, a 2005 Nobel Laureate and Director at the Max-Planck-Institute of Quantum Optics in Germany, served as the UW-L Physics Department DLS speaker on November 3-4, 2011. Dr. Hansch gave a public lecture entitled "Passion for Precision" and a physics seminar entitled "What can we do with laser frequency combs?"

Public Lecture Series in Physics (PLS)

The Physics Department introduced a new lecture series called the Public Lecture Series (PLS) during spring of 2010. This series is based on the successful Distinguished Lecture Series and brings to La Crosse a Physicist who can enlighten the public, students and faculty with topics of current interests. Dr. Noemie Koller, professor of physics at Rutgers University visited the campus on April 12 and 13, 2012 and presented a public lecture entitled "How I came to love nuclear physics: Through war and peace from "l'ecole communale" to Columbia University" and a physics seminar entitled "A glimpse at the internal structure of nuclei through a magnetic looking glass".

UW-L Society of Physics Students Receives the 2011 SPS Outstanding Chapter Award

The UW-L Society of Physics Students (SPS) received the American Physical Society (APS) 2011 Outstanding SPS Chapter Award for its involvement in local, national SPS meetings, outreach efforts to grades K-12 or the general public, participation in community service, and interactions with department alumni.

UW-L Physics Major Sean Harrington Receives 2012 Murphy Award for Academic Excellence

Sean Harrington (Class of 2012) was selected as the recipient of the 2012 UW-L Murphy Award for Academic Excellence. **Sean Harrington** also received the prestigious National Science Foundation (NSF) Graduate Fellowship (\$40,000 per year) for three years. He received admission to several top ranked graduate programs in the nation including Stanford University.

Faculty Accomplishments

Dr. **Shelly Leshner (PI)** received a National Science Foundation (NSF) grant totaling \$156,152, over the next three years (2012-2015) for her proposal entitled “RUI – Vibrational Structure of the Gd Isotopes”).

Dr. **Jennifer Docktor** (PI) and Dr. **G. R. Sudhakaran** (Co-PI) received the Physics Teacher Education Coalition (PhysTEC) grant (via National Science Foundation and American Physical Society) for \$152,203 for their proposal entitled “Revitalizing Physics Teacher Education at the University of Wisconsin –La Crosse” for three years (2012-2015).

Dr. **G. R. Sudhakaran** (PI) and Dr. **Jennifer Docktor** (Co-PI) received the Wisconsin Department of Public Instruction, Mathematics and Science Program Partnerships Program grant for their proposal entitled “A LOT of Science” for \$287,752 for two years (2011-2013).

Dr. **Eric Barnes** received the NASA/Wisconsin Space Grant Consortium 2012 Research Infrastructure Award for \$11,893 for his proposal entitled "The Role of Entropy in Dark Matter Simulation”

Physics Faculty members (Drs. **Barnes, Docktor, King, Leshner, and Ragan**) published 6 papers in refereed national/international journals.

Physics faculty members (Drs. **Barnes, Docktor, Gansen, King, Leshner, Ragan, and Sallmen**) mentored **33** undergraduate students for research during 2011-2012.

Drs. **Docktor, King, Leshner, and Sudhakaran** presented papers at state and national conferences.

Drs. **Gansen, Ragan, and Sudhakaran** served on M.S. and Ph.D. thesis committees as external examiners.

Student Accomplishments

Tyler Nickel (Mentor: **Dr. Gansen**) and **Joe Krueger** (Mentor: **Dr. King**) received the 2012 Wisconsin Space Grant Consortium (WSGC) Undergraduate Research Fellowships

Andrew Prudhom (Mentor: **Dr. Gansen**) received the UW-L Summer 2012 Dean's Distinguished Fellowship.

John Nehls received admission with a fellowship to attend the University of Arizona, Optical Sciences graduate program. **Pat Copp** received a research assistantship to attend the University of Massachusetts, Lowell Radiation Laboratory graduate program

Elizabeth Camenga, Ran Ikeyama, Ian Marsh and Scott Mueller (Physics) were selected for the 2012 National Science Foundation (NSF) Summer REU Program in Maryland, Florida, Kentucky, and Tennessee.

Assessment Summary

The Physics Department is committed to assessing its courses and making sure that it is meeting its program goals. Our instructors employ several assessment tools and regularly modify their courses in response to both direct and indirect measures of student achievement. The Physics Department has a dedicated committee that oversees assessment activities and strives to assess all of its program goals by monitoring both the knowledge and skills of its current students and the achievements of its alumni. In addition to assessing individual courses, the Department has developed a "Capstone in Physics" course (PHY491) for seniors that directly tests student proficiency in several program goal areas. It also launched an alumni survey to assess how well the program prepares its students for jobs and graduate studies and to determine the impact the physics program has played in the lives of its alumni. In addition, the Department tracks the grade-point averages of its many dual-degree students at their engineering schools to measure the success of these students in their engineering coursework.

The assessment efforts of the Physics Department have led to numerous course modifications as well as to a wide range of broader programmatic improvements. Based on assessment findings, this year the Department has completely overhauled its introductory calculus-based physics courses (PHY 203 and PHY 204) to improve understanding and retention of fundamental physics concepts. These modifications follow earlier program changes that were aimed at advanced coursework. For instance, in response to feedback from former students as well as the dual-degree coordinators at partnering engineering schools, Statics (PHY 320) and Circuits (PHY 334) courses were added to the physics curriculum to better prepare dual-degree students for engineering coursework. Student feedback also motivated the addition of Advanced Quantum Mechanics (PHY 470) and Advanced Classical Mechanics (PHY 421) courses, which were developed with students destined for graduate school in mind.

Overall, the Physics Department has developed a well-structured assessment program to ensure that the quality of physics education continues to improve at UW-L.

Outreach Activities Summary

One of the hallmarks of the Physics Department is its dedication to community outreach and recruitment activities. Faculty, staff and students organize a number of activities to promote interest in science and technology in people of all ages and to attract attention to UW-L's Physics Program.

Dr. Eric Gansen and Dr. Robert Ragan conducted Physics and Laser Light Shows for approximately 800 local elementary and middle school students. UW-L physics student helpers included; Joe Krueger, Allison Kubicek, John Nehls, and Lauren Sedbrook, The group presented 8 shows between May 15 -18, 2012.

Mr. Robert Allen presented planetarium shows for local schools and organizations throughout the year.

Dr. Jennifer Docktor incorporated service learning into PHY 106 (Physics for Educators). Students in the course performed interactive demonstrations and activities at the La Crosse Children's Science Museum.

Inclusive Excellence Summary

To encourage recruitment and retention of historically underrepresented groups in physics, the department recently revised our recruitment letter to be more welcoming. In addition, various faculty members have completed professional development activities relating to student retention issues in STEM. The department's Inclusive Excellence committee has identified potentially useful research on how various pedagogical choices affect underrepresented groups in STEM courses, and will be disseminating this information to the department, as well as investigating further. In Spring 2012, the woman speaker for our new Public Lecture Series met with Women in Physics and Women in Science students – a trend we hope can continue. Finally, the department faculty is becoming increasingly diverse: including recent hires, sixty percent of our faculty will be diverse in Fall 2012 (4 women, 3 minorities).

New Initiatives

PHY 203-204 (General Physics I and II):

In fall 2011, we introduced a new, integrated version of our introductory, calculus-based physics sequence. Rather than having separate lecture and laboratory sections, students participate in active-learning sessions punctuated with hands-on activities. Each class period is prefaced with an on-line pre-class quiz based on readings related to the upcoming material. During class, students work in groups of three (making sure that women are majorities in their groups) to a) make predictions and form conclusions for interactive lecture demonstrations, b) perform experiments, make measurements, and calculate quantities, and c) practice problem-solving techniques. Experimental activities take advantage of the latest technologies - for example, free-fall is investigated by making a movie of a dropping ball with a digital video camera and a laptop with image processing capabilities. The movie can be analyzed frame-by-frame to provide raw data, which can then be modeled, by a number of mathematical descriptions. Students must decide which model best describes the data and then interpret the parameters of the model in terms of physical quantities. The instructor models problem-solving techniques. Students are regularly required to present solutions to problems, during which time their peers as well as the instructors question them. Another important component of this new approach is that each

student completes a weekly journal to provide informal feedback on successful aspects as well as areas of confusion.

However, there remain a few challenges facing the department to offer these two courses in the new format.

The biggest challenge is a space problem. Currently, we are using Cowley Hall Room 221 as PHY 106 course classroom on Monday and Wednesday. We plan to use the same room for teaching three sections (each 2.5 hours long) of PHY 203 on Tuesday and Thursday. The last section of PHY 203 (Section 03) ends at 4:45 p.m. In addition, these two courses cover very different topics and have wildly different equipment requirements. The physics lab technician has to dismantle the PHY 106 activity and demo equipment after 2:30 p.m. on Monday and Wednesday and immediately set-up the activities and demo equipment for PHY 203. The same process has to be repeated on Tuesday and Thursday **after 4:45 p.m.** to dismantle the PHY 203 equipment and set-up the activities and demo equipment for PHY 106 course. Tearing down and setting up equipment for two different inquiry-based and hands-on activities courses in the same room is a logistic nightmare. Much of the difficulty would be removed if the department could get an additional classroom similar to Room 221 in Cowley Hall.

Another challenge facing the department is the enrollment problem. Last fall we were forced to open a third section of the course due to student demand. Recently the Chemistry Department introduced new changes to its curriculum, which requires all chemistry majors (ACS Certified Degree Program) to enroll in PHY 203 and 204. This may impact the enrollment in PHY 203 and 204 in the future.

Secondary Physics Education (Physics Education Major):

The UW-L Physics Department introduced a new undergraduate program “Secondary Physics Education” in fall 2011. Under this program a student can earn a B.S. degree in Physics Education with Wisconsin teacher certification in four and a half years. This integrated program provides an excellent background in physics and certification to teach at the high school and/or middle school level. The rationale for introducing this new program is to ensure that more qualified physics teachers will be part of the educational infrastructure in Wisconsin resulting in increased student learning and performance in STEM (Science, Technology, Engineering, and Mathematics) areas.

The department hired Dr. Jennifer Docktor with expertise in Physics Education Research (PER) to spearhead this new program. She is also responsible for Secondary Teacher Education Program (STEP) admissions, advising, and student teacher supervision. She has already received funding from PhysTEC for three years to recruit students to the program.

However, there remain a few challenges facing the department to fully develop this new program.

The first challenge is to attract students into this major. The department will publicize this new program statewide and aggressively try to recruit high school seniors into this program.

The second challenge is to develop new content courses for this new program. Most of the physics courses currently offered by the department are geared towards the traditional physics and physics-engineering majors. Developing new content courses is a long-term goal due to i) limited personnel and equipment resources and ii) currently low enrollment in the program.

**SUMMARY OF ANNUAL ACTIVITY
DEPARTMENT OF RECREATION MANAGEMENT
AND THERAPEUTIC MANAGEMENT
(June 1, 2011 - May 31, 2012)**

Dr. George Arimond, long-time chair of the Department of Recreation Management and Therapeutic Recreation (RM&TR) retired the summer of 2011. With a new chair and two new program directors, 2011-2012 was a year of transition. The following describes the major accomplishments of the past academic year, as well as some of the goals for 2012-2013.

New Faculty

Perhaps the most significant accomplishment during the 2011-2012 academic year was the development of new faculty. Dr. Jin Young Chung joined the faculty, and Dr. Laurie Harmon was hired to begin Fall 2012. Dr. Stephen Lewis, while hired fall of 2010, completed his Ph.D. and was promoted from academic staff to assistant professor. Gretchen Berns received tenure, and Dan Widuch was promoted to senior lecturer. Mr. Widuch also received this year's SAPA Most Accessible Faculty Award.

Curricular Changes

Each of the programs in the Department made changes to improve its curriculum. The undergraduate therapeutic recreation program, with recent enrollment increases, has 1) developed greater use of on-line offerings and 2) taken advantage of continuing education to offer an array of workshop courses to benefit both students and practitioners. The undergraduate recreation management program offered its own budgeting course (Rec 404) for the first time. The graduate programs in both Recreation Management and Therapeutic Recreation finally were able to implement two long needed curricular changes – offer their own research methods course (Rec 720) and teach electives in Recreation Management (e.g., Rec 740). The graduate therapeutic recreation program changed its curriculum to reduce the number of slash courses taken by graduate students, although the results of these changes will not be felt until Fall 2012.

Scholarship

Faculty members in RM&TR published five refereed articles (Ardivino, Chung, Murray) and a number of book chapters (Lewis, Navar). They had one book published (Simpson), a second book accepted for publication (Holland), and a third book significantly updated for reissue as a revised edition (Simpson). As already mentioned, Dr. Lewis successfully defended his dissertation. Over the past year, faculty in the Department made fifteen scholarly presentations and seven service presentations.

Service

Faculty members were active in a wide range of university, community, and professional service. They served on seven college or university committees (e.g., Graduate Council, International Education, Undergraduate Research, Multicultural Faculty & Staff Organization, and College of Science and Health Dean Search and Screen). They also served on the boards many professional organizations and community associations, including the National Playground Safety Institute, the American Therapeutic Recreation Association, the Wisconsin Therapeutic Recreation Society, the Wisconsin Conservation Corps, and the Onalaska Park and Recreation Board.

Goals for 2012-2013

A few of the RM&TR goals for the coming academic year include:

- Completion of draft NRPA (National Park and Recreation Association) Accreditation report (also to be used for upcoming university program review). Part of the report will be identifying curricular changes that must be made to satisfy revised professional standards
- Review and possible reorganization of advising and administrative assignments within department
- Continued revision of graduate programs
- Initial discussions about revision of TR undergraduate program to better coincide with new accreditation standards (including possibility of changes significant enough to request curriculum design grant)
- Clarification of barriers to enhanced service-learning (i.e., risk management, off-campus travel issues, criminal background checks)
- Efforts to develop cooperative agreements with other schools (e.g., UW-Baraboo/Sauk County, Madison Area Technical College (MATC), Winona State University, Zhijiang University in Hangzhou, China)
- Exploration of incentives to increase faculty scholarship, including adjustments to teaching loads
- Discussion of recent failure to obtain internal UW-L grants (e.g., faculty research grants, faculty development grants). For 2011-2012, faculty submitted six grants that were not funded.

Murphy Learning Center 2011-2012 Year End Report

*Submitted by Maggie McHugh
Murphy Learning Center Director*

The Murphy Learning Center (MLC) provides tutoring services in Mathematics, Sciences, and Writing, housing more than 70 student employees or volunteer tutors. The following items summarize MLC activities for the 2011-2012 Academic Year. The MLC daily usage counts exceeded 8,000 students (or approximately 100 students per day) with an increase in usage from 2010-2011 of over 43%. MLC students routinely express their satisfaction with the tutoring services, ranking our tutors as “Above Average” or “Average” in their content knowledge, professionalism, personable attitude, and flexibility over 85% of the time.

This increased usage brought forward several challenges of adequately serving each student and having the physical space to serve those students. An MLC advisory committee was formed to discuss current MLC practices, enhance assessment practices, implement training processes, and envision the future of the MLC. The MLC implemented formalized tutor training sessions with the long-term goal of obtaining national accreditation.

From an assessment survey taken during the Spring 2012 semester, this student feedback summarizes the essence of the MLC. “Overall I have had wonderful experiences at the Learning Center. The tutors are very knowledgeable, helpful, and friendly. I think this is one of the very best resources for learning on campus.”

- 1) Background
- 2) Student Usage
- 3) Tutors
- 4) Assessment
- 5) Advisory Committee
- 6) Faculty and Staff
- 7) Future Plans
- 8) Challenges

Background

The Murphy Learning Center (MLC) was established in the fall semester of 2009. Prior to that point, departments on campus offered tutoring services in classrooms, office spaces, and even the basement of the Whitney Dining Center. Student led initiatives spurred on the development of one primary location for the tutoring services. UW-L Differential Tuition mainly funds the MLC with departments providing some additional funds for tutoring expenses; a proposal is submitted each fall to the Academic Initiatives Oversight Committee, which allocates funding out of Differential Tuition. The MLC has been funded through AIOC since 2010.

The primary intent of developing the MLC was to house a variety of tutoring services in one area, specifically the library where students go to study and learn. In 2009, the MLC offered tutoring in the areas of Mathematics, Physics, and Writing. Throughout the ensuing semesters, the disciplines of Biology, Chemistry, Microbiology, and Earth Science also added tutoring to the MLC.

The mission of the Murphy Learning Center is to foster an inclusive environment where academic learning flourishes. This goal is accomplished in two main ways: 1) to enhance the academic learning and content understanding of students and 2) to enhance the skills of tutors to become content experts and peer mentors.

Student Usage

Students continue to utilize all of the resources at the Murphy Learning Center. Our student contacts continue to show a great increase in the overall number of times students frequent the MLC. Continued growth is always desired, yet challenges with that growth include limited space and high tutor-student ratio (See Challenges).

Below is a table comparing the student usage counts for the academic years of 2010-2011 and 2011-2012. Science counts include the disciplines of Biology, Chemistry, Physics, Microbiology, and Earth Science.

	AY 2011-2012	AY 2010-2011	Percent Increase
Math	4400	2500	76%
Science	2400	1850	29.7%
Writing	1600	1500	6.7%
Total	8400	5850	43.5%

The increase in students utilizing the MLC can be attributed to a variety of factors, including but not limited to, an increase in faculty knowledge of the MLC services, a push for faculty to put a standardized line about MLC services on course syllabi, an online presence (website created August 2011), and a greater attention by tutors and front desk workers to the sign-in process.

Tutors

The Murphy Learning Center has over 70 students who are employed or volunteer as tutors. All tutors must apply for a position; MLC advisors conduct interview with each potential tutor before hiring. The MLC also employs two work-study students to assist in front desk coverage and daily operations, but would like to increase this number to three in order to have more front desk coverage throughout the day. This increase coverage would ensure that the MLC attends to its mission of creating a welcoming space for all students.

In Spring 2012, 17 tutors participated in eight, one-hour long tutor training sessions. Through active learning, tutors engaged in furthering their knowledge of concepts such as

learning styles, role modeling, referral skills, critical thinking skills, active listening and paraphrasing, and modeling problem solving. This tutor training program will continue into the fall semester as the MLC submits an application for National Accreditation through the International Tutor Training Program Certification endorsed by the College Reading and Learning Association. (<http://www.crla.net/ittpc/index.htm>)

Assessment

During the Fall 2011 and Spring 2012 semesters, a Qualtrics survey was sent out to all students enrolled in a course where tutoring is offered in the MLC. In total, 690 students participated in the survey. Students were asked whether or not they used the MLC. Some of the survey results and student comments (transcribed as written in the survey) are summarized below.

For students who responded that they did use the MLC...

- Approximately 70% of students reported going to the MLC “daily” or “weekly” as compared to “monthly” or “before tests or quizzes.”
- Over 85% of the time, tutors were ranked as “Above Average” or “Average” in their content knowledge, professionalism, personable attitude, and flexibility.
- “The tutors are very helpful. It sometimes makes me feel more comfortable to ask questions to a student than my professor. I don’t feel rushed because they go at my pace.”
- “I rely on the learning center to clarify questions that I have about math. I don’t always have the time to ask all of my questions in class and can’t always see my prof. so I take advantage of the learning center.”
- “All the tutors were great. I wish I used the Learning Center sooner in my college career.”

For students who responded that they did *not* use the MLC...

- 95 students reported they did not know about the Murphy Learning Center or did not know there was tutoring assistance for their specific class.
- 136 students reported they mainly receive help from friends and classmates.
- “I don’t care enough to go see a tutor. If I was taking a course for my major instead of gen eds and needed help, then I would go see the tutors.”
- “I know about them but I don’t know what I would ask at the sessions so I don’t go. (I probably should though)”

MLC Advisory Committee

Within each discipline, a faculty or staff member has committed to assisting with various processes of the MLC. The MLC Director is hired as a 50% position. Of the remaining MLC Advisors, Dr. Virginia Crank has the only paid position as she receives a quarter-time buyout to run the Writing Center. All other MLC advisors have agreed to this duty as part of their service to the department. The table below lists these advisors:

Name	Department
Maggie McHugh	MLC Director, Mathematics
Dr. Virginia Crank	Writing Center Director, English
Dr. Lee Baines	Biology
Dr. Seth King	Physics
Melissa Anderson	Chemistry
Dr. Colin Belby	Earth Science
Suzanne Anglehart	Microbiology

In the Fall of 2011, this group decided it would be beneficial to meet approximately 3 times per semester. During these meetings, we discuss issues related to best practices in tutoring, assessment strategies, promotional ideas, and future ideas for the MLC. We have had guests attend our meetings such as Dean of the College of Science and Health Dr. Bruce Riley, Vice Chancellor for Administration and Finance Dr. Bob Hetzel, former MLC director Dr. James Sobota, and MLC tutors.

In addition, in February 2012, Dr. Virginia Crank and I jointly presented on the Learning Center to Murphy Library Staff at the request of Anita Evans (outgoing Director). After a presentation regarding the MLC, library staff members were invited to take a brief tour of the facilities in order to learn more about the daily usage by students.

Faculty and Staff

Faculty and staff from the University can often be seen at the MLC throughout the course of a regular day. The MLC Advisors often assist in the tutoring center, providing a model of best practices for their tutors in addition to general supervision and evaluation of tutors.

Furthermore, faculty and staff from Mathematics utilized the MLC as a place to house office hours. In general, the faculty and staff reported an increase in the number of students who would visit them at the MLC versus their personal office. Some have attributed this to a more casual, flexible learning environment. The presence of faculty in the MLC aids the tutors in viewing more models of teaching practices.

Future Plans

The MLC has many plans in place to continue growing. First of all, a brochure is being created to help provide faculty, staff, advisors, and students information about the services available at the MLC. Tutor training will continue in Fall 2012 with three, two and a half hour trainings held on Friday afternoons. Discussions about expanding the MLC have been underway with Bob Hetzel. This much needed space has been asked for by the students and tutors (see Challenges). With increased space and usage, more tutors will be needed to assist students. Discussions regarding a volunteer tutor program have started (see Challenges).

Challenges

Increased student usage is one of the blessings and challenges we have at the MLC. With such high demand, our tutors are constantly being asked to assist more and more students. Various students in the Qualtrics assessment survey for Fall 2011 and Spring 2012 noted a response similar to this student's comment, "I think there should be more Chemistry tutors since there are always a lot of Chem students in there for help and there are never enough tutors to personally answer your questions." This same concern is echoed in both Mathematics and Biology.

Due to the increase usage in all subject area, the MLC tutors have routinely expressed the need to assist more students by providing more individualized attention to students. There are several times throughout the day when the tutor to student ratio is 1:8 in Mathematics, Biology, Chemistry, or Physics, if not greater. This is an extremely high rate for students seeking individualized assistance and has been a reason some students do not return to the MLC.

I found a lack of data supporting an optimum college tutor to student ratio; however, a quick online search revealed that a 1:3 ratio is considered acceptable (Sylvan Learning Center boasts a 1:3 ratio, Advantage Sideout Tutoring "strives to have" a 1:3 ratio) by most for-profit tutoring centers. A 1:4 ratio also was prevalent. In order to reach this more optimum level of individualized service, more tutors need to be on hand. Future discussions need to occur about whether this is accomplished through gaining a higher budget or seeking volunteer tutors.

As the Writing Center takes individualized appointments, the tutor to student ratio one-to-one.

Both tutors and students note the need for more space, as evidenced by this student's Qualtrics survey response regarding ways to improve the MLC, "more physical space for doing group projects is needed, when, with a group of 4 or more, it takes about 10-15 minutes just to find a spot for everyone, it's very frustrating!!!!" When given a list of ways to improve the MLC, over 75% of students ranked "more physical space" as their first or second choice.

Even with a greater space for the MLC, more tutors will be needed to assist the increasing number of students using the tutoring center. Discussions regarding opportunities for students to volunteer as tutors, especially students pursuing degrees in the Secondary Teacher Education Program are underway. Currently, Chemistry solicits volunteer tutors. Other disciplines hope to follow suit soon.