Dr. Carl W. Dirk

College of Science
Chemistry
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DEPARTMENT OR PROGRAM MEMBER

Chemistry

SUMMARY STATEMENT FOR EVALUATIONS

My 2014 supervised students are not showing up in DM:

Jaime Valenicia
Diandre Licon
Sophia Hantzpoulos

What would best help me achieve a higher productivity at UTEP? If the University genuinely wants to be helpful to me, then these four things would have the greatest impact:

1)It would be helpful to teach only one semester per year. Having no distractions for one semester and the summer would allow me to produce publications and successful proposals nearly every year. We only have to look at the most productive faculty, who are the most released from teaching, as proof that this works. It merely takes a reorganization of the department to achieve one semester per year teaching for all faculty, and all faculty would benefit from this.

2)As I am heading more and more into a direction of theory and computation, it would also be helpful to have an office with nearby (ADJACENT) offices for my students to work. I really need a location for students proximate to my office to most effectively work with them.

3)It would be helpful to have perhaps two additional workstations for students, costing about $10K, total. While the UTEP Research Cloud is powerful, and of immense help to finalize significant work, one still needs local computing capability to more quickly innovate and implement new ideas.

4)In addition, the general management and infra-structure dysfunction has to end. The organic lab teaching implosion, and the time I have expended fixing it, is a prime example. We can?t continue on this self defeating path, and UTEP middle management needs to be more supportive and proactive at solving problems which impact faculty productivity.

EDUCATION

Ph D, Northwestern University, 1983.
Major: Chemistry

MS, Northwestern University, 1979.

BA, Montclair State College, 1977.
Major: Chemistry & Biology, minor:mathematics

PROFESSIONAL POSITIONS

(1996 - Present). Professor of Chemistry, University of Texas at El Paso

PROFESSIONAL MEMBERSHIPS

(1979 - Present). American Chemcial Society

AWARDS AND HONORS

American Chemical Society Analytical Chemistry Division Award for Outstanding Junior

American Institute of Chemistry Award for Outstanding Graduating Senior

Chemistry Department Award for Outstanding Graduating Senior

Graduated Magna Cum Laude

EXTERNAL CONNECTIONS AND PARTNERSHIPS

Photo-Kinetics, Inc. El Paso TX

Ross Optical, Inc. El Paso, TX

DEVELOPMENT ACTIVITIES ATTENDED

Workshop, "Chemistry Department Faculty Retreat," UTEP. (November 9, 2013 - Present).

Workshop, "Chemistry Department Faculty Retreat," UTEP. (November 9, 2013 - Present).

Workshop, "Chemistry Department Faculty Retreat," UTEP. (November 9, 2013 - Present).

Workshop, "Chemistry Department Faculty Retreat," UTEP. (November 9, 2013 - Present).

Workshop, "Chemistry Department Faculty Retreat," UTEP. (November 9, 2013 - Present).

Workshop, "Faculty Retreat," Department of Chemistry, UTEP. (2010 - Present).

TEACHING GOALS AND PHILOSOPHY

My teaching philosophy revolves around enhancing teacher/student communication by embracing technological innovations in teaching. The greatest failure we can have is to continue to follow the model of a professor standing in front of a room with chalk in hand trying to use 19th century approaches to imparting knowledge to a room full of students. Starting about six years ago, I decided to completely depart from tradition. I now use PowerPoint, and I manufacture my own Molecular orbital calculation based chemical reaction animations to be included in the slides. However, PowerPoint alone is a deceptive approach since one can easily overwhelm students with information for which they can?t possibly compile notes. Thus, I record all presentations, audio and video, and post the full content on BlackBoard, so that students can easily access the full lecture content over and over.

In addition to PowerPoint, I have recognized that learning is actually a triad that involves the classroom, the textbooks and other content widely available on the internet, and problem solving homework practice. Assigning homework can be a troubling challenge because how does one grade such, when dealing with dozens or hundreds of students? Again, technology is the answer. With the textbook that I have chosen for my course, I also utilize the publisher?s on-line homework service. This service is free to the students who purchase the textbook (whether in electronic or hard copy format). Assigned problems are automatically graded by the computer, and this permits me to assign 600-800 practice problems per semester.

These innovations have lead to a transformation in how I teach and prepare, on a daily basis, for teaching. I am much more confident because my material is extremely well refined, and undergoing continual tuning from one year to the next. Prior to using technology, typically as many as 40+% of students would withdraw from the course. Now, I commonly have >95% complete the course with a passing grade.

I have also recently begun using the Livescribe? pen (cost $225.00; purchased personally, not by UTEP) which allows me to record all meetings with students, including audio and pen strokes, and then be able to provide this to the student as a PDF pencast file. Thus, I have a complete record of what I say and show a student, and the student has a complete audio-visual record they can play back using ADOBE? READER? X or higher. The Livescribe pencast allows them to see each pen-stroke and listen to the synchronized dialog during the time I am helping them.

This heavy use of technology has pushed me to recognize that we can move some course presentation fully online. Thus I have begun flipping content in my organic chemistry class, and using the class period for problem discussion, and, most recently, I am co-developing (with Dr. James Salvador) the first UTEP Chemistry course, CHEM 2101, which will be fully online, hopefully by Fall 2014. Currently, Dr. Salvador and I have flipped >95% of the content of the CHEM 2101 course for the Fall 2013 semester, as we prepare for the full online conversion next year. Both Dr. Salvador and I are using audio-visual screen capture software to record the full content of what we are doing in the course in terms of teaching molecular modeling and chemical information. The software I am using is TechSmith Inc.?s Camtasia (cost: $250; personally purchased; SADLY, our administration will not pay for valuable tools like this).

The key to education is in enhancing communication, and strengthening each component of the triad discussed above. Partly, this is aimed at the already successful student who just needs a bit more clarity, but mostly, this is really aimed at the weaker student. By enhancing communication and availability of content on-demand, students cannot become anonymous and blame others, because, the content is always available to them to catch up. There is tremendous value in having 100% of the course content available throughout the course because this ensures that students who become distracted or miss a class or two, always have the content available to catch up. Students need not fail merely because they missed one lecture or one essential concept. Additionally, since organic chemistry is a two semester course sequence, I can make the FULL content of the earlier semester fully available on Blackboard, so

that students can refer back to concepts they may have forgotten, by way of full recorded (audio and visual) content. This also greatly assists transfer students, for instance from EPCC, who may not have been exposed to my teaching style, or whom may have had a weaker preparation elsewhere. I think making 100% recorded content to the students is the way to the future in successful teaching.

RESEARCH GOALS AND PHILOSOPHY

My research philosophy is that we are mandated and required to do significant work. I will not undertake work that has no significance, and also, will not engage in churning, which basically, I define as generating many publications of low significance on work that is easy to complete. Society does not support us to advance our personal careers by padding our resumes with less significant publications and presentations. Society supports us to make significant advances in science to benefit mankind.

I eschew the current academic ?success? model of generating many publications merely for the sake of generating another publication. In the long term, I believe scientific society will look back at this as a huge mistake in the manner in which we funded and practiced science for the past 40 years. It is a non-sustainable approach because we cannot continue to keep on concentrating more and more resources on fewer and fewer people that generates many publications, but slows pace of creative discovery.

The reality is that talent has now evened out across American academia, and there are highly talented and creative people everywhere. This wasn?t true 40-60 years ago when our now overburdened and obsolete research funding system first evolved, but it is now. The current funding approach for science discards this vast reservoir of talent and creative discovery, throughout the U.S., and we pay the price for this in a much slower creative advancement. Clearly, this is a matter of too little support for scientific research, but, more broadly, it currently reflects allocating too many resources to too few people. With too much resource in a small number of hands, It is impossible to make effective true creative use of the resources.. Future scientific societies will shame us for this approach because it is has been manipulated to advance careers.

I typically look for niche opportunities that involve non-traditional funding. For instance, we developed a new lighting approach for museum lighting to reduce the photochemical degradation of works of art. Since early in the 20th century Georgia O?Keeffe?s water colors have not been on public display due to their highly sensitivity to light. Due to our work, you can now go to the Georgia O?Keeffe museum in Santa Fe, and enjoy this collection. YOU are the first generation to see this collection since the early 20th century, all due to our work at UTEP. This accomplishment earned a nomination for the UT System Chancellor?s award in Innovation. I recently discovered that while we didn?t win the final award, we came in a close second during deliberations. The winner was a new approach to cancer treatment that has saved the lives of many people. Our work did not generate many publications, but it didn?t need to. What mattered was the significance of the findings and developments.

The museum lighting work generated a number of patents of a novel approach to control lighting parameters in certain spectral ranges while maintaining good color rendering. Because of their significance, two years ago we were approached for a licensing deal. These patents are now licensed by PhotoKinetics, Inc. (PKI). UTEP holds a equity stake in the company, and will receive royalties on all products. The equity stake means that UTEP could potentially profit greatly sometime in the future. PKI wanted to use our methods to optimize color and luminous transmission to optimize a physiological response pertaining to a biomedical mechanism. However, the threshold for the physiological response was not defined in a useful way by any of the previous research in the field, making rational product development impossible. I found that transforming the published literature data in the field of study permitted one to predict product performance in a practical way, and created the necessary computational science technology to do so. This has resulted in a new joint patent application involving UTEP (myself) and PKI. We are working on yet more patents.

{NOTE; all discussion of PKI and associated activities are covered under nondisclosure agreements between UTEP and PKI, and therefore, all content of information related here for the purposes of merit or post tenure review CANNOT necessarily be disclosed without first consulting with Gary Williams, Director, Center for Research Entrepreneurship & Innovative Enterprise. You must consult with Dr. Williams before any disclosure}

Our work with PKI is producing new opportunities for UTEP. PKI is investing in the College of Nursing, and helping to develop a state of the art lighting system, for which the lighting will be used to test wellness effects as well as therapies associated with alertness, stress, circadian rhythm, PTSD, etc.. I will be working closely with those in Nursing to help develop this facility, and have met several times in planning sessions with Dean Provencio-Vasquez. Our current developing technical interactions are with Ronnie Stout (Director ? Center for Simulation, College of Nursing), Hector Morales (MSN, RN, CS-BC, College of Nursing), Dr. Ellen Dengler (College of Health Sciences), and Dr. Jo?o Batista Ferreira-Pinto (Associate Research Professor and Director for Research and Special Projects, College of Health Sciences). We are currently evaluating rooms within the Nursing Simulation Facility in which to deploy the lighting system, scheduled early 2014.

Our PKI interactions have now extended to Dr. Kristin Gosselink in the Department of Biology, due to her closely associated research in neuroscience. PKI is now in discussions with Dr. Gosselink about developing some joint research activities, for which I will supply any necessary technical expertise associated the lighting aspects of the research.

As evidenced above, I am extremely open minded about pursuing opportunities of significance in whatever field it may be. I am now also pursuing some new research ideas in nonlinear optics. In recent years, I tried to convince Dr. Roberto Osegueda to purchase a computer workstation for me. Unfortunately, he was not supportive of this, and referred me to the then nascent UTEP Research Cloud. This didn?t help me, and even after the Cloud was created, it didn?t meet all of my computing needs. I have finally decided to personally invest $5000 into the workstation I need to pursue the project I have in mind. Sadly, UTEP doesn?t always adequately support its senior faculty to undertaken new innovative directions, and we must make the personal sacrifices ourselves to advance science and UTEP.

The new personally purchased workstation will permit me to undertake an investigation into a novel materials direction. Up till now, chemists, throughout history, have isolated themselves to standard closed shell systems as their main working palette for developing new materials. I suspect there are opportunities in open shell systems for new materials development, and that these open shell materials will have significantly better properties. This sort of research probably can?t be funded from traditionally sources like NSF, as NSF is relatively closed minded about risk taking on highly novel ideas. I am beginning the work in early 2014. If it pans out, funding will likely follow. It is a risk, and I have made a significant personal investment that I couldn?t really afford at this time, but it allows me to pursue science opportunities of significance.

Research in Progress

1)We have an ongoing research project underway with PhotoKinetics, Inc. (PKI) dealing with the development of products related to the effect of light on the intrinsically photosensitive retinal ganglion cells (ipRGC) of the eye. This work is involving the College of Nursing at UTEP, and discussions have begun with Dr. Kristin Gosselink of the Department of Biology at UTEP. This work also involves entities outside of UTEP, which, for reasons of nondisclosure protection cannot be disclosed at this time.

2)We have a recent incipient research project involving the calculation of the photochemical and radical reaction stability of some small fluorocarbon molecules which may be contaminants in the atmosphere. This project is really the main interest of a student, Jaime Valencia, whom I am assisting by training him how to undertake and interpret the molecular orbital calculations.

3)Ongoing theoretical chemical project in singlet oxygen reactivity with organic molecules. This project involves our discovery of an apparently novel singlet oxygen C-H insertion reaction. We have tried to get funding to complete the project. It will probably be published within another year or two if we cannot get funding.

4)Ongoing theoretical chemistry project on the photochemistry of the laser dye Disperse Orange 11. This work has generate one publication in 2012 in the Journal of Physical Organic Chemistry. We have an ongoing follow-up theoretical investigation.

5)Ongoing work with Dr. Katja Michael dealing with the photochemistry of N-acylated nitroindoles. This work generated one publication in 2013.

6)Starting a new project area in 2013 on modulated conjugation to achieve higher nonlinear optical susceptibilities. I have personally bought a $5000 workstation to launch this project. Hopefully, it will generate some successful research proposals in 2014.

7)Our Museum Lighting activity, for which we were nominated for a Chancellor?s award, is awaiting successful funding. Despite being wholly novel, and the only lighting project submitted to the NSF program on Cultural Heritage Science (CHS), it was not chosen for funding in any of the three years we submitted the proposal to NSF. The CHS program has now been suspended by NSF. We may still try to submit the project in the future, but are trying to gain some more preliminary results to undertake the project. The recently purchases workstation (vide supra) may assist in this project.

PRESENTATIONS

Dirk, C. W.,

Dirk, C. W., Hantzopoulos, S.*, Skouta, R., Summer 2014 COURI symposium, "Computer based evaluation of compounds with antioxidant/UV properties for biological applications," COURI. (July 2014).

Dirk, C. W., Licon, D.*, Hantzopolus, S.*, Skouta, R., Summer 2014 COURI Symposium, "Understanding the inhibition of radical species in diseases: mechanistic investigation of high potential antioxidants as radical inhibitors via computational chemistry," COURI. (July 2014).

Dirk, C. W., Licon, D.*, Skouta, R., 4th Annual COURI Symposium April 25-26, 2014, "'Mechanistic investigation of small molecules with antioxidant properties as radical inhibitors," COURI. (April 2014).

CONTRACTS, GRANTS, and SPONSORED PROJECTS

ACTIVE GRANTS

Dirk, Carl W (Supporting), Gosselink, Kristin (Principal), Olvera, Hector A (Supporting), Steel, Douglas (Supporting), "Round V Interdisciplinary Research Enhancement Program: "Modulation of Light Exposure as an Innovative Approach to Reduce Stress and Improve Health"," Sponsored by Other, The University of Texas at El Paso. (November 2014 - December 31, 2015).

GRANTS NOT FUNDED

Dirk, Carl W (Co-Principal), Gosselink, Kristin (Principal), Olvera, Hector A (Co-Principal), Stout, Ronnie (Co-Principal), Steel, Douglas (Supporting), Jaeger, Fred (Supporting), "Specific wavelengths of light modulate physiological processes and responses to stress," Sponsored by Other, The University of Texas at El Paso. (2014 - Present).

CONSULTING

July 2012	CDSPECTRUM, LLC
July 2012	PhotoKinetics, Inc., El paso, TX
July 2012	Ross Optical, Inc., El Paso, TX

LICENSURES AND CERTIFICATIONS

License of patents to Photokinetics, Inc.

RESEARCH IN PROGRESS

Computational Chemistry collaboration with Luis Echegoyen, starting 2011

We are assistting Dr. Echegoyen on some of his research by way of computaional chemistry methods. The main joint student involved in Riane Stene.

Dirk, Carl W, Echegoyen, Luis A

Consultaiton on Nasher Museum lighting problem

I was contacted reagrding a indirect lighting problem reagrding the Nasher Museum in Dallas. We propsed some solutions. Apparently the problem is still unresolved. Not sure where this stands and whther we might participate further.

President Nalalcio has been made aware of the activity

Dirk, Carl W

Consultation on Sistine Chapel Lighting

I was consulted by a ember of the international lighting team dealing with the the new lighting being palnned for the Sistine Chapel. This activity is currently in the long term planning stage.

President Nalalcio has been made aware of the activity

Dirk, Carl W

Interaction with Dr. Roy S. Berns, R. S. Hunter Professor in Color Science, Appearance, and Technology

Director, Munsell Color Science Laboratory Center for Imaging Science - Color Science Building 18 Rochester Institute of Technology

Shared data with Dr. Berns pursuant to a possible collaboraiton

Dirk, Carl W

Luis M. Carcoba; El Paso Sleep Center

This activity involved making some lighting measurments at the El Paso Sleep Center pursuant to Photokinetics related research. These measurements were done with the assistance of Dr. Carcoba.

Dirk, Carl W

Photokinetics enabling activities

Throughout 2012, as well as much of 2011, I was involved in MANY activities and expended a great deal of time to enable patents licensed by PhotoKinetics, Inc. This involved inventing new IP, as well as helping in writing the patent. In addition, many meetinsg, phone calls, and email communciaiotns were involved in the activity.

Enclsoed is a letter sent (8/21/2012) to the President describing the Digital Measures conindrum with reagrd to this activity:

Dear Drs. Natalicio, Gonzalez, Osegueda, Aley and Gardea,

I would like to raise some complex issues dealing with intellectual property, licensing, contractual obligation, and merit review.

UTEP has licensed some of my patents to Photo-Kinetics, Inc. (PKI). UTEP has an equity stake in the company in addition to the license remuneration which may occur. As an employee of the institution which contracted the license, and the responsible technical inventor for the licensed patents, I have an obligation to enable the technology for the licensee (PKI). This obligation would be no different than if I were in industry.

There are potentially two characteristics for the “enabling” aspect. One is a service to the licensor (UTEP), and one is a service to licensee (PKI).

The first of these came about when I realized that our licensed technology alone couldn’t make PKI’s wishes happen. PKI wanted to use our methods to optimize color and luminous transmission to optimize a physiological response pertaining to a biomedical mechanism. However, the threshold for the physiological response was not defined in a useful way by any of the previous research in the field, making rational product development impossible. I found that transforming the published literature data in the field of study permitted one to predict product performance in a practical way, and created the necessary computational science technology to do so. Apparently no one in that biomedical field has yet clued in that one can easily predict the patient environmental conditions for the response, and we have applied for a new patent, jointly with PKI. Arguably, since this now represents a model to directly guide product development, this patent application is much more valuable than the ones we first licensed to PKI. Some time was required to develop the approach and to help write the patent application.

The second enabling activity which is on-going is that I am consulting for PKI and the local company Ross Optical Inc. (ROI; manufacturing for PKI) to help design initial trial products.

It is crucial to note that the consulting enabling activity might fall under my permitted 8 hours per week consulting allowance. However, creating a useful approach (the new patent application) for product design was not consulting. I was not paid for it. It was essentially UTEP time used in creating new IP to enable the earlier licensed IP. Thus, enabling the licensed patents can go far beyond the consultation window of 8 hours per week. Some enabling might be consultation, and some might not be.

It concerns me that neither of these activities will show up in any appreciated form in merit review. They are both enabling activities which benefit UTEP through license fees and equity value improvement, yet they will not be appreciated in the merit review process. One could argue that I have now alerted you to this and therefore I am protected in the merit process, but that neglects that the merit review process begins at the level of the faculty merit committee. The problem is that much of the content of these enabling activities cannot be significantly disclosed, and Digital Measures has no present means to prominently highlight these IF they could be substantively disclosed. In addition, there is no value established for the metric. The time spent creating the new patent technology and fashioning into a form for a patent application is time not spent on writing traditional academic proposals, publications, etc., but it unambiguously benefits the institution, and hopefully our region.

What I am recommending and requesting is that there be some way to fold these activities into the merit review process in a way that can be appreciated by the faculty merit committee, while preserving the necessary discretion to protect the IP. If you really want faculty to engage in the creation of IP, and much more importantly, to SINCERELY facilitate its use, then there has to be some mechanism to recognize it as a performance metric. Faculty won’t seriously try to help

enable their own IP if they think they suffer from the activity, regardless of whether it rewards the institution. A tremendous amount of IP never achieves fruition, and this has to be a contributing factor.

Patents and patent applications alone are not good metrics in the merit review process; faculty place little value on these accomplishments. Another IP enabling activity such as assisting product development is completely hidden. Possibly, publications could come out, the institution could be made fabulously wealthy, and many jobs could be created, but that could be delayed by years. Timeliness is an issue. I experienced this with the Museum Lighting project when Getty's wishes, pending patent applications, and the sheer tremendous complexity of the project dictated that we not disclose for years. Almost five years passed before the first Society presentation, six+ years passed before the first PhD graduate's dissertation, and almost eight years passed before publication. Sure, I was nominated for a Chancellor's award, but there was a bittersweet aspect to this, because prior to that, I was not treated well in merit review and I and the student experienced other sniping and criticisms for years. The negative effects only ceased after being nominated. Unlike some colleagues, I don't have permanent assistants to keep other traditional activities in motion. "Multi-tasking" is mostly hyperbole. Creativity is not multi-tasked.

Activities such as getting UTEP IP off the ground to make jobs happen in our region has to be made recognizable to the merit committee in some substantive way, and it has to be established that the institution places value on this.

Warm regards, Carl

Dr. Carl W. Dirk, Professor

Department of Chemistry

The University of Texas at El Paso
Dirk, Carl W

Round V Interdisciplinary Research Enhancement Program: "Modulation of Light Exposure as an Innovative Approach to Reduce Stress and Improve Health"
Dirk, Carl W, Gosselink, Kristin, Olvera, Hector A, Douglas Steel

Shutdown of Educaiton lab and move to PSCI
Sometime shortly before Dr. Echogoyen arrived to UTEP we had to shut down research activities to enable construciton on his temporary educaiton lab. Since then, we have been preparing for the move from Educaiton to Physical Science. I antcipate this move to be compelted in early 2013, and sometime in 2014, it may be possible to to start some sort of experimental research activity again. Note that we are giving up a great deal of space and much equipment in the move.
Dirk, Carl W

SERVICE GOALS AND PHILOSOPHY

Apart from my philosophy of service, described below, I have served on numerous committees throughout my time at UTEP, including many Faculty Senate (FS) committees, which included the FS Executive Committee, and I have been Chair of a number of FS committees. In addition, I have served on a Faculty Tribunal, appointed by the President, and a Faculty Senate Special Committee to investigate the planned dissolution of the Communications Department, also appointed by the President. My most recent committee activity is partially summarized in Digital Measures.

My philosophy on service is simple. Always be helpful to junior faculty, and when one becomes a senior member of the department, the faculty member must display leadership by creating policies and volunteering to lighten the load of junior faculty. Sadly, some of our most successful senior faculty do not seem to follow this approach. They need to recognize that they no longer need significant career advancement, but their junior colleagues do need to be able to advance. This philosophy should also be followed by our administrators. Their job should not be to advance themselves, but to help those they serve to better advance.

It is best to illustrate with an example. In the Fall of 2012, the upper administration abandoned the organic teaching faculty in time of need. We had just moved from one building to another. The new organic teaching labs were poorly designed by the administration (the faculty were not included in the process), and there were insufficient supplies and equipment to teach the many new sections. Beginning in the Summer of 2012, The organic faculty pleaded for support. The response from the Provost, relayed to us by our Chair at a faculty meeting, was that we should find the money on our own. Obviously, to support hundreds of students, we couldn?t do this, and obviously, the administration was shirking its responsibility to the faculty and the students.

What did I do? As senior faculty member in organic teaching, with two colleagues struggling to earn tenure who were seriously affected by the issue, I decided to take the risk to come forward to argue the sad state of affairs to the President. I argued that the money was less important than the organization. However, I didn?t stop there. I personally took it upon myself to sideline my own research activities, and concentrate on completely reorganizing the organic teaching labs, so that they could function effectively and efficiently. This has consumed an enormous amount of time, and is still ongoing. However, through my actions, my junior colleagues in organic were shielded from the chaos, and hopefully were better able to advance their careers. This is the kind of service we need from our senior faculty and administration.

DEPARTMENTAL SERVICE

2014 Committee Chair for AMPAC distrubution and license manager

2014 Committee Member for Graduate Committee

November 2013 Committee Member for Quang Luu Dissertaiton Committee

October 2013 Committee Chair for Department Budgeting and Accounting Committee

October 2013 Committee Chair for Department restreat preparation report: Online teaching and the future of traditional lecturing in chemsitry

October 2013 Committee Chair for Department Retreat Committee: Estimate Staff and Laboratory coorinator needs

October 2013 Committee Member for Intllectual property in faculty development and productivity

May 28, 2013 Attendee, Meeting for Straighterline Course Review Meeting

May 2013 Committee Chair for Chemistry Research Day, Session Chair

March 2013 Committee Chair for Online/Distance learning department standing committee

2013 Committee Member for Luis Barrera Dissertation Committe

2013 Committee Member for Tonni Carrick thesis committee

December 15, 2012 Committee Chair for Organic lab reorganization

December 15, 2012 Committee Chair for Organic lab reorganization

2011 Committee Member for Nate Schocker Dissertation Committee

September 2009 for AMPAC Department Administrator

2008 Committee Chair for Chair - Chemistry Merit Review Committee

2007 Committee Member for CCSB building infra-structure planning committee

2007 Committee Chair for Organic Search Committee

2007 Committee Member for Student Welfare and Grievance Committee

2006 Committee Member for Graduate Committee

2006 Committee Chair for Organic Search Committee

2005 Committee Chair for Organic Search Committee

2004 Committee Chair for Organic Search Committee

2014 2015 Committee Member for Biomedical Chemist Search Committee

2013 2014 Committee Chair for Budgeteting, Inventory, and Accounting Committee

2013 2014 Committee Chair for Lab Coordinator and Staff positions committee

2013 2014 Committee Chair for Lab Coordinator and Staff positions committee

2013 2014 Committee Chair for Lab Coordinator and Staff positions committee

2013 2014 Committee Chair for Lab Coordinator and Staff positions committee

2013 2014 Committee Chair for Lab Coordinator and Staff positions committee

2013 2014 Committee Chair for Lab Coordinator and Staff positions committee

2013 2014 Committee Chair for Online Teaching / Distance Learning Committee

2013 2014 Committee Chair for Organizational Infra-Structure Committee

COLLEGE SERVICE

2013 Committee Member for A-PRIME TIME

December 15, 2012 Committee Chair for Organic teaching lab reorganization

UNIVERSITY SERVICE

January 8, 2013 Special Institutional Assignment for Assisted Jeff Bourke in College of Nursing to assess lighting intensity in one of their teaching labs

2013 Committee Member for A-PRIME TIME

December 2012 Chairperson for Organic chemistry teaching lab organization

2012 Attendee, Meeting for Large Class Seminar Workshop

November 10, 2010 Committee Member for Rommel Alvarado Chemistry PhD Comprehensive exam, part 1

PROFESSIONAL SERVICE

Reviewer, Journal Article for Applied Phyiscs A: Materials Science and Processing

Reviewer, Journal Article for Chemistry of Materials

Reviewer, Journal Article for Color: research & Applicaiton

Reviewer, Journal Article for Journal of Physical Chemistry

2013 Reviewer, Research Proposal for Reviewer for AFOSR

2013 Reviewer, Journal Article for Reviewer: Optical Society of America

2013 Reviewer, Journal Article for Reviewer: Polymer Chemistry journal

2008 Reviewer, Journal Article for Reviewer - Journal of Selected Topics in Quantum Electronics

2007 Reviewer, Journal Article for Reviewer - Chemistry of Materials

2007 Reviewer, Journal Article for Reviewer - Journal of Nanoscience and Nanotechnology

2007 Reviewer, Journal Article for Reviewer - Journal of Physical Chemistry

2007 Reviewer, Journal Article for Reviewer - Journal of the Optical Society of America

PARTNERSHIPS

Photo-Kinetics, Inc.

Ross Optical, Inc.

ADMINISTRATIVE ROLE(S)

2012 Organic Teaching Lab reorganization

2009 member, Chemistry Graduate Committee