Notes from the Chair-Scott Siechen  As we near the end of our first semester in which I
served as the Chair of our Department, I find my thoughts difficult to characterize succinctly. We have faced some
significant challenges, and are likely to face even tougher ones in the near future. That being said, I cannot help but to
view the future optimistically. Much of this optimism stems from the insight, dedication and professionalism I see displayed on a daily basis by
the folks in our department and throughout the College.

While I am in principle no fan of clichés, I tend to find myself using them
often. For many of them, there is a reason they are clichés. It has almost
become a cliché that the folks in Nat. Sci. are amazing. But being in this
position for the first time has driven home to me, in no uncertain terms,
the reason that this has become cliché. I am daily flabbergasted by the
professionalism, dedication and creativity you all display as business as
usual. I have also heard this from upper administration: Nat. Sci. folks are
concerned with doing what is right for the students and are willing to go to
almost any pains to see that happen. I want to thank all of you for helping
my conversations with them go SO much more smoothly because of this.

In this time of uncertainty and dark forebodings, please continue to focus
on our students. The work to minimize the impact of our current fiscal
situation on them will be complex and difficult. But I am confident that
together we can continue our invaluable service to our students, the
College and our community.

Thanks again for all you do and have a WONDERFUL Holiday! Scott

The sun'll come out
Tomorrow
So ya gotta hang on
'Til tomorrow
Come what may
Tomorrow! Tomorrow!
I love ya Tomorrow!
You're only
A day
A way! -Annie
As with any great theatre production, if it weren't for these amazing

A CHORUS LINE

One singular sensation, every little step she takes
One thrilling combination, every move that she makes
One smile and suddenly nobody else will do
You know you'll never be lonely with you-know-who—A Chorus Line

Karen Rocha

| Current Position at Parkland College: | Administrative Assistant  
Math and Natural Sciences Division of Arts and Sciences |
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>What has been the biggest challenge with working at Parkland College?</td>
<td>Getting here by 8 AM. LOL! Actually, the past few years have been challenging with so many changes coming in “rapid fire succession”.</td>
</tr>
<tr>
<td>What has been the greatest perk about working at Parkland?</td>
<td>Without a doubt, faculty and staff has been my greatest blessing. As is working in a positive environment. Oh yeah, our awesome winter break 😊 I’ve been employed by Parkland College for over 17 years, and can say with all honesty that not once has it ever crossed my mind to work anywhere else in our community.</td>
</tr>
<tr>
<td>What one thing do you hope to accomplish at Parkland College?</td>
<td>To keep abreast of the ever-changing dynamics of our campus as I age. 😊</td>
</tr>
<tr>
<td>What is your favorite play or musical and why?</td>
<td>A Chorus Line (I loved the colors, dancing, and music.)</td>
</tr>
<tr>
<td>If money, time, gravity, and the space-time continuum were no object what one thing would you love to do?</td>
<td>I think I’d like to go back in time and meet my ancestors face-to-face and live a day in each of their lives.</td>
</tr>
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a semester in Nat Sci would be a flop folks behind the scenes.

<table>
<thead>
<tr>
<th>Gail Anderson</th>
<th>Debbie Foran</th>
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</thead>
<tbody>
<tr>
<td>Coordinator, Natural Sciences Testing Center</td>
<td>Testing Center Clerk</td>
</tr>
<tr>
<td><strong>It is great to work with all of you!</strong></td>
<td><strong>For me the greatest perk about working at Parkland College is all of the great people I have met since I came to work here. From faculty to staff to students, I have met and work with wonderful people.</strong></td>
</tr>
<tr>
<td><strong>Guys and Dolls because I worked on the crew for my high school production -so long ago-, and because I like the challenge on trying to sing along with “Adelaide’s Lament”!</strong></td>
<td><strong>I hope to guide students through a testing experience with a minimum amount of stress while maintaining the integrity of the testing process. I hope to have a positive impact on those I encounter each day.</strong></td>
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<tr>
<td><strong>I’d like to travel to Hawaii making sure to see the volcano and watch for whales.</strong></td>
<td><strong>I would go to Egypt and explore the pyramids.</strong></td>
</tr>
<tr>
<td>Our two 19 hour workers were too shy to submit their answers, but we appreciate all their help. Shiwei Sze Tho is our 19 hour-over the lunch hour worker and Ashley Hammock is our 19 hour-evening help. (Alright that was really Sheryl’s biggest challenge.)</td>
<td><strong>The Sound of Music for its storyline and the music. I also like Grease a lot for the music and dancing.</strong></td>
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Behind the scenes in

Virginia Lehmann    Kena Chapman

<table>
<thead>
<tr>
<th>Current Position at PC:</th>
<th>19-hour hourly (Chemistry)</th>
<th>Chemistry Lab Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>What has been the biggest challenge with working at PC?</td>
<td>Um...</td>
<td>My biggest challenge is keeping up with the changes in staff, safety regulations, lab activities, and new chemicals/supplies needed each semester.</td>
</tr>
<tr>
<td>What has been the greatest perk about working at Parkland?</td>
<td>The great people, of course.</td>
<td>I have become friends with some great people, and job stability has been a welcome change from part-time instruction.</td>
</tr>
<tr>
<td>What one thing do you hope to accomplish at Parkland College?</td>
<td>Make some of the labs work better.</td>
<td>I wish I could teach, but apparently it is not in my future. So, I want to create a laboratory space that is totally organized, clean and safe!</td>
</tr>
<tr>
<td>What is your favorite play or musical and why?</td>
<td>I'm indecisive. I can't pick a favorite. I like too many of them.</td>
<td>The Sound of Music – I love the music, especially the movie version with Julie Andrews. The mountain pictures are beautiful.</td>
</tr>
<tr>
<td>If money, time, gravity, and the space-time continuum were no object what one thing would you love to do?</td>
<td>Travel in that big blue box.</td>
<td>Travel to Vermont, Maine, Nova Scotia and Prince Edward Island and someday live in one of the areas.</td>
</tr>
</tbody>
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If Maria had been a chemist instead of a nun then the lyrics would have been:
Wash every mountain of glassware,
Search high and low for your sample,
Follow every procedure,
Every step you know.
Chemistry Laboratory Assistant

My greatest challenge with working at Parkland College would be becoming familiar with all of the wonderfully creative and complex labs that I prepare for the students. I enjoy setting up the chemistry, health science, and forensics labs and I look forward to a new challenge each day at work!

Working with the chemistry department has been a wonderful perk regarding my job at Parkland College. The people are genuinely nice and were so welcoming when I started working here this past summer. I also enjoy seeing the professors create a lab space that fully engages their students. It is inspiring to see the students smiling, discussing science in groups, and saying what they love about their lab on a particular day. I’d love to be a professor one day, and the chemistry professors at Parkland do a wonderful job serving as role models!

One thing that I hope to accomplish at Parkland College would be to understand the laboratories that the students perform. Although my job is to set up the laboratories, I enjoy understanding why the students are using a particular reagent, or why a certain apparatus was constructed for a particular task.

My favorite play/musical would have to be the Beauty and the Beast. This play is my favorite because it was the first one that I saw on Broadway at 8 years old. My mom, sister, friends, and I saw the play on a snowy day in New York City, and I thoroughly enjoyed the experience of going into the city with friends and family during the holidays.

I would love to travel around South America and volunteer at local medical clinics. Last summer I volunteered at the Huanchaco Medical Clinic (Huanchaco, Peru) and the experience was incredibly rewarding. It’s fun to interact with the natives in a different language while learning about their healthcare system and forms of public health education. Secondly, I’d love to hike the Appalachian Trail!
<table>
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<tr>
<th><strong>Current Position at Parkland College:</strong></th>
<th>Operations Assistant at William M. Staerkel Planetarium</th>
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<tbody>
<tr>
<td><strong>What has been the biggest challenge with working at Parkland College?</strong></td>
<td>Remembering people's names, not to mention their positions at the college! I am usually pretty good about remembering someone's face, but names, not so much. If you haven't already learned this, I am sure you will!</td>
</tr>
<tr>
<td><strong>What has been the greatest perk about working at Parkland?</strong></td>
<td>The people! Of course, I can't remember their names after I meet them. Seriously, I came to Parkland College as a non-traditional student in 2010, which could have been quite daunting if I had not met such friendly and welcoming people. These encounters led to my decision to pursue employment at the college, which I have not regretted in any way.</td>
</tr>
<tr>
<td><strong>What one thing do you hope to accomplish at Parkland College?</strong></td>
<td>Having grown up in Champaign-Urbana, I tend to lean towards community involvement. That is one reason I enjoy working in the planetarium so much, it allows me to deal more with those in the surrounding communities versus when I worked in the Admissions Department.</td>
</tr>
<tr>
<td><strong>If money, time, gravity, and the space-time continuum were no object what one thing would you love to do?</strong></td>
<td>Travel! I would love to see this world we live on, and not just in the current time. To be a witness to the painting of the Sistine Chapel, assist those arriving on The RMS Carpathia at Ellis Island, participate in an informal jam with Louis Armstrong – WOW – that would be an awesome bucket list. But to meet my ancestors, that would be the best of all things imaginable.</td>
</tr>
<tr>
<td><strong>What is your favorite play or musical and why?</strong></td>
<td>Favorite movie musicals are anything with Barbara Streisand: “hello Dolly”, “Funny Girl”, Yentl, “A Star is Born” - what a voice!!! (A Star is Born? How appropriate for the planetarium operations assistant.)</td>
</tr>
</tbody>
</table>
You wax your car and then it wanes. (Moon phases, waxing before waning.)-Waylena McCully

Check out our schedule at http://www.parkland.edu/planetarium.
# Folks behind the scenes of the IMC.

<table>
<thead>
<tr>
<th>Current Position at PC:</th>
<th>Biology Lab Manager and PT Faculty</th>
<th>Instructional Materials Center Assistant</th>
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<tbody>
<tr>
<td><strong>What has been the biggest challenge with working at Parkland College?</strong></td>
<td>Since I have a few, minor OCD tendencies, the biggest challenge as a PT faculty member has been planning ahead from semester to semester. I like having a set schedule and not knowing what and when I would be teaching made me nervous. This was more of an issue when my kids were little and I was not teaching online.</td>
<td>Getting my teenagers to pitch in more around the house. There are just not enough hours in the day.</td>
</tr>
<tr>
<td><strong>What has been the greatest perk about working at Parkland?</strong></td>
<td>The biggest best perk about working at Parkland is not really a perk but the people working here. I have been fortunate to work with awesome co-workers. There have been some issues, but I have never felt like leaving here due to bad working conditions.</td>
<td>Free toothbrushes?!? 😛 Actually, it is working with a whole department full of friendly, positive and supportive people. You guys are awesome! I have never felt so welcome in a new position.</td>
</tr>
<tr>
<td><strong>What one thing do you hope to accomplish at Parkland College?</strong></td>
<td>More waste minimization in the biology labs either from decreasing spending on items that don’t get used or reduce the amount of waste generated by students.</td>
<td>Make someone else’s day a little bit easier and bring a smile to someone’s face every day that I am at work. And, to learn some new science tricks.</td>
</tr>
<tr>
<td><strong>What is your favorite musical and why?</strong></td>
<td>Phantom of the Opera; the music is amazing and powerful.</td>
<td>The Lion King; the costumes and the best. music. ever.</td>
</tr>
<tr>
<td><strong>If money, time, gravity, and the space-time continuum were no object what one thing would you love to do?</strong></td>
<td>Last year when my husband and I were in Guatemala, we had the opportunity to visit a foster care facility. I would love to spend more time there along with spending more time doing volunteer work through the organization through which we volunteer. (I will be flying to Guatemala the third week of February. Anyone want to join me?)</td>
<td>I would love to travel around the world with my husband and my teenagers. Not just to the easy places, but to the hard ones too.</td>
</tr>
</tbody>
</table>
In addition to all the brave folks quoted and pictured we also have: Mike Conron helping out in physics, Tim Hutchcraft from health professions in the IMC, and last, but not least our student workers-1 chemistry, 3 in the planetratium, & 2 from health professions in the IMC. Thanks for all your help!

From the day we arrive on the planet (campus)
And blinking, step into the sun (the classroom)
There's more to see than can ever be seen
More to do than can ever be done (Thanks for all your help!) -Lion King

http://www.lionking.org/lyrics/

A physicist, biologist and a chemist went to the ocean for the first time. The physicist saw the ocean and was fascinated. He said he wanted to research the fluid dynamics of the waves and walked into the ocean. He drowned and never returned. The biologist said he wanted to do research on the flora and fauna inside the ocean and walked inside the ocean. He too, never returned. The chemist waited for a long time and wrote the observation, “Physicists and biologists are soluble in ocean water”. –Lauren Carnevale

What did the biologist wear on her first date with a hot guy? Designer jeans (genes) -Michelle Dallmier
The Parkland Astronomy Club has had some turnover each year, which is to be expected. Our new president has eagerly used the club’s Facebook account to post astronomy articles since she took the position. She was one of about ten students who went with me and Sheryl to Williams Bay, WI last April to see Yerkes Observatory and the largest refracting telescope in the world. It was hard to fit the whole telescope into my cell phone camera.

This fall, we've had a couple of events to drum up interest in the club. I showed the current members how to operate the solar telescopes I keep in the classroom. The students can then do solar observing on any sunny day in the student union. The tall windows are really helpful, allowing us to observe from inside so nobody has to worry about wind or cold when looking at the Sun.

On November 12, we had a tour of the planetarium. Students learned how to display features on the dome and play videos used in the public shows. They also got to see what the planetarium looks like behind the dome. Thank you for the great tour, Dave! On November 15, the group traveled to Middle Fork Forest Preserve to see the night sky with the darkest skies in the county. I can’t tell you how the skies and weather were that night because I’m writing this before the trip.

Okay, this is one a student told me back when I was teaching CHE 204. What kind of a car does a chemist drive? A Lumina. We were doing the Thin Layer Chromatography lab in which they were using alumina (Al₂O₃) as the stationary phase when he made this one up. It was pretty funny to me as I actually owned a Chevy Lumina at that time. –Virginia Lehmann
Never trust an atom, they make up everything. –submitted by Teresa Boerma

Toni Burkhalter– Named 2015 Parkland College Teaching Excellence Award Winner! Congratulations from all of Nat Sci!

And when we say Yeeow!
Ayipioeeay! Yeeow!
We're only saying "You're doin' fine Oklahoma" (Toni)
This past summer, I participated in a nano@illinois RET (research experiences for teachers) program (See that article too.).

During one of the professional development activities included in this program, I met Joe Muskin, the Education Coordinator for the Department of Mechanical Science and Engineering at UIUC. In this session, Joe was discussing different strategies of incorporating cutting-edge research into the classroom, and as an example, showed us the 3D printing lab he developed a few years earlier. Right away, I thought “This would be great for CHE 101!” This lab combines several key chemistry concepts, is student-friendly, shows how basic science leads to new technologies, and even more, it’s really really fun.

During Fall 2015, we incorporated the 3D printing lab into CHE 101 for the first time. It was a hit! To briefly describe the lab itself, students use a PowerPoint presentation and a projector to expose a chemical solution to light displayed in different shapes. The solution polymerizes and forms a solid only in the places exposed to the light. This works because a chemical in the solution contains a bond that is broken by certain wavelengths of light. Breaking this bond creates a free radical, which leads to a series of reactions, changing the structures of other chemical components of the solution. Each layer of the solution is exposed to a different shape of light and layer by layer, a 3D shape is created out of these stacks of thin layers. At the end of the experiment, the 3D shape is cured under UV light and the material is now safe to handle and students can take home their projects. The students love that! What I love is that students are pushed to think about energy and bonds, energy and light, and how understanding these chemistry concepts can lead to the creation of a new technology. We also discuss the real-world applications of 3D printing, the different types of 3D printing, and other applications and issues involving free radical chemistry. This lab also showcases the ever-growing importance of computer science in doing research in all scientific fields and it pushes students to hone their 3D visualization skills, which are important in many different fields. Overall, this has been a great experience.
This summer, I participated in UIUC’s nano@illinois RET, a 6-wk professional development and research experience for teachers. The 12 participant teachers were very diverse, including middle school to community college math and science teachers, teachers from different states, and experienced and novice teachers. These differences in our experiences and backgrounds made for a really interesting group of participants, and we ended up learning a great deal from each other. We spent Mondays and Tuesdays in professional development sessions, learning about cutting edge nanotechnology research, touring laboratories and facilities at UIUC, and discussing ways to translate nanotechnology research into the classroom environment. The rest of our week was spent on our individual research projects. The teacher participants were assigned to a laboratory, a faculty mentor, and a research mentor, typically a graduate student or postdoctoral fellow. Research projects included studying transmembrane proteins using nanodisc lipoprotein complexes, creating thin films with specific properties, manipulating graphene, and other topics. My project involved using light to etch a specific pattern into the surface of a silicon chip. The normal procedure for etching silicon involves many steps is very time- and material-intensive, so if this project were successful, it could provide scientists with a faster and more straightforward process. In the end, we were very pleased to be able to get the process to work. All in all, it was a successful summer.

Personally, I gained a lot by participating in this program. Before this summer, I had only a very limited experience with nanotechnology and even less experience with electrical engineering. I really gained a lot of knowledge about the interface between chemistry and these other fields. This is something that I have brought into my classes already. I also made some great connections beyond Parkland. I learned a lot more about UIUC and made many personal contacts. I also met and learned a great deal from some terrific STEM teachers from the local area and beyond. (Photo above taken from the Center for Nanoscale Science & Technology Facebook page.)

It’s gonna be a really tough project. You're gonna have to use your head, your brain, and your mind, too. –School of Rock The Musical
Lori Garrett Named a Phi Theta Kappa 2016/2017 Faculty Scholar

Lori Garrett is one of thirty community college instructors who have been selected from among nearly 3,000 chapter advisors to serve as Phi Theta Kappa’s 2016/2017 Faculty Scholars. The scholars were selected through a rigorous application process through which they demonstrated excellence in teaching or administration. The selection committee also considered where the applicant lives, the Phi Theta Kappa division in which they advise, the teaching or professional discipline and the variety in terms of the number of years the applicant has served as a chapter advisor. The result is a strong, diverse group of Faculty Scholars.

“We congratulate them for being selected to serve and for their willingness and desire to surpass the traditional duties of an advisor by contributing in this manner,” said Susan Edwards, Phi Theta Kappa’s Dean of Academic Affairs and Honors Programs.

The group will attend the annual Faculty Scholar Conference at Phi Theta Kappa’s Center for Excellence in Jackson, Mississippi, January 27-30, where they will study the 2016/2017 Honors Study Topic, “How the World Works: Global Perspectives,” and prepare to serve as discussion facilitators (seminar leaders) for the 2016 Honors Institute at Wake Forest University in Winston-Salem, North Carolina, next June. The group will also serve as Faculty Scholars for the 2017 Honors Institute.

“The Faculty Scholar Conference is recognized internationally as one of the finest professional development programs available for community college faculty members,” Edwards said. “We are proud to once again offer this intense training experience to a new crop of Faculty Scholars as they prepare to serve as facilitators for Honors Institute. Approximately 450 Phi Theta Kappa members and chapter advisors from around the world will join us at Wake Forest University for Honors Institute next year, and our Faculty Scholars will be ready to guide them through this pinnacle of honors programming experiences.”

During Honors Institute, the Faculty Scholars will lead groups of 15 to 18 honor students in seminar discussions of the issues presented by experts on the Honors Study Topic throughout the week.

Lori has been a Phi Theta Kappa advisor since January of 2001. She has been selected as a Faculty Scholar seven times previously, and was also invited by the Society’s former Executive Director, Rod Risley, to serve on the Honors Program Council as the Service Learning Representative for a two-year term, which was extended for a
year by the Honors Program Director. She served in this capacity from 2008 through 2010. Members of the Honors Program Council not only serve as Faculty Scholars for each year of their terms, but also help assess Phi Theta Kappa’s honors programming and develop the biennial Honors Study Topic and accompanying program guide.

In addition, Lori is not only the advisor for Parkland’s Alpha Psi Eta chapter of Phi Theta Kappa, but she also serves as co-advisor for the Illinois Regional Alumni Association, and is a member of the Illinois Advisory Council by appointment of the Regional Coordinator. She received Phi Theta Kappa Continued Excellence Advisor Awards at both the state and international levels earlier this year, and received Parkland’s Outstanding Advisor Award each of the past two years.

Lori is thrilled to have been selected as a Faculty Scholar once more, and looks forward to meeting and listening to top scholars from many different disciplines both at the Faculty Scholars Conferences and at the International Honors Institutes in 2016 and 2017. She is also equally pleased to be flying to Jackson, MS in January—on her birthday—where it will be substantially warmer than in Illinois, and the pansies and spring bulbs will already be blooming!

And when we say Yeeow! Ayipioeey! Yeeow! We're only saying "You're doin' fine Oklahoma" (Lori)
At the beginning of June, I carpooled with a professor from Lake Forest College to the Allegheny Mountains in West Virginia to the National Radio Astronomy Observatory. This is one of the few populated locations in the country where there are no cell towers, since the National Radio Quiet Zone was established in the area in 1958. This also means wifi is severely restricted in the area, so I had to use Ethernet when I was at the observatory.

The NRAO is the home of several large radio telescopes. I saw the first one a few miles from the site since it was poking over the hills. The Green Bank telescope is the largest movable telescope in the world. Its dish is as long as a football field and it’s taller than the Statue of Liberty! It’s also extremely sensitive; data shows that the telescope can easily get RF (radio frequency) signals from spark plugs and digital cameras (not just camera phones), so the observatory is one of the last places to sell disposable film cameras.

After we arrived at the site and checked into the dormitory, I looked at the instruments on display at the entrance. One was a replica of the antenna built at Bell Labs by Karl Jansky which discovered the tremendous radio source at the center of the Milky Way. This was the first radio telescope. The other instrument was the second radio telescope ever built, originally constructed by Grote Reber in his backyard in Wheaton, IL.

There was also a plaque in the lounge commemorating that the room was where Frank Drake first presented his equation estimating the number of alien civilizations in the galaxy we could detect. The Drake equation became the vanguard of SETI, the Search for Extra-Terrestrial Intelligence.

I also visited the NRAO to attend two Chautauqua Short Courses: one on introducing radio astronomy and one on "stealthily" teaching physics using concepts in astronomy. During the first course, I learned about the research currently being conducted at the NRAO. The second course allowed me to get perspectives on teaching astronomy from different backgrounds and at different institutions. The guide allowed us to operate the Forty-Foot Telescope, which gave my first direct experience with operating a radio telescope. Since the telescope hasn’t been upgraded, it also gave me my first experience with using a strip chart recorder. There was a definite "vintage" mentality at the NRAO.
An Introduction to Forensic Microscopy-Christina Beatty

This past July, I attended a Forensics Polarized Light Microscopy (PLM) course at McCrone Research Institute in Chicago. Since I received my Forensics masters online and I was first a chemistry educator, I was in dire need of more microscope training!

Walter McCrone started his microscopy career in the 1940s and until his death in 2002, was considered a leading expert in microscopy. He worked on the Shroud of Turin, rejected the notion the Napoleon was poisoned by Arsenic but concluded that Beethoven was in fact poisoned by lead, and worked on the famous Wayne Williams case in Atlanta. He published the journal The Microscope and helped launched the use of microscopy in forensic science.

A PLM has roughly the same magnifying power as a standard compound light microscope but the magic lies in the 2 plates that polarize light (a polarizer and an analyzer). With one polarizer in, refractive indices of crystals and fibers can be explored. But the real beauty (literally, there were so many colors!) comes when the two “crossed-polars” are in place. With a rotating stage as well, it aids forensic microscopists in the identification of crystals and classification of fibers.

Microcrystalline tests are used to identify drugs and explosives among other crystals. (They are borderline confirmatory tests – not as good as a GC-Mass Spectrometry but better than a simple color test done by adding a reagent.) These test are done by reacting the suspected drug or explosive with specific reagents or by a simple heating and recrystallizing or by dissolving it in a solvent and evaporating the solvent to recrystallize.

There are many other applications of PLM including mineral, asbestos, and pollen identification. Pardon my cell-phone-quality pictures, but here are some photos I took.

Other References: [http://www.mcri.org/v/8/Dr-Walter-C-Mccrone](http://www.mcri.org/v/8/Dr-Walter-C-Mccrone)
Ballistic Wound Trauma Basics – John Moore

On Nov. 7 I attended a half-day workshop on Ballistic Wound Trauma Basics, some of which will be incorporated into SCI 208, and some into BIO 122. The workshop was presented by Tim Murray, who was the CPD “SWAT Medic” for 10 years.

So what did I learn?

If the last time that you took First Aid was in the last century, as it was for me, then you would also have been taken aback by the fact that the “A,B,Cs” of basic first aid for severe trauma (e.g., a GSW) have switched to C,A,B in terms of the actual sequence of care!!! This has been modified due to feedback from the battlefield injuries of US troops over the last 25+ years we have been in the various “sandboxes” around the world. Extremity trauma and the associated hemorrhage & exsanguination is the number one cause of battlefield deaths, with penetrating chest trauma number two. As these are both highly associated with ballistic trauma in general, the field of gunshot wound trauma has advanced stateside as well.

We were taught about the application of chest seals, the pros & cons of vented vs. non-vented seals, combat tourniquet application and selection, and the various types of hemostatic agents currently available. I know that as a result of this workshop, and in addition to material that I will be incorporating into my classes, I will be tweaking the contents of my PFAKs (Personal First Aid Kits) that travel in my truck and in my bag I take to the shooting range. (As an obvious antithesis to the above workshop, on December 5th I will be attending an Active Shooter Workshop, i.e., this time – learning how to put GSWs into bad people, if necessary.) Stay safe!

29th Annual HAPS Conference – Rose Dalton

This year the Human Anatomy and Physiology Society held their annual conference in San Antonio, TX. I had never attended a HAPS conference, but I had always heard that it is a wonderful conference. It did not disappoint me. Each day I found it difficult to decide which workshops to attend. There were so many of them that captivated my attention. Ultimately, I found myself gravitating toward workshops that include some element of active learning. Currently, all the rage continues to support the idea of engaging students in flipped classrooms, where the students are responsible for viewing lectures and/or doing homework outside of the classroom and coming to class prepared to perform activities. Flipped classrooms include a tremendous amount of student cooperation, collaboration, preparation and active participation, during the class. The role of the instructor changes too. There is more work prior to class. Coming up with engaging activities that stimulate the students and illustrate the concepts can be challenging. There will be times when the activity you planned flops. The job of the instructor is not only to plan all of the activities and student prep work, but to get the student’s “on board” with the idea that, if they do their prep work and engage in the classroom activities, they will achieve a higher level of learning. The workshops I attended addressed non-lecture approaches such as student case study presentations, activities to demonstrate various physiological and structural concepts, strategies for fostering collaboration and ideas designed to keep non-majors interested in science.

I also attended a presentation by Nanette J. Tomicek on “Estrogen and Estrogen Receptors in the Aging Female Heart: What Happened to Hormone Replacement Therapy”. She was so young, I could have been her mother, but she was extremely knowledgeable. She reviewed the Women’s Health Initiative from the 1990s that failed to find a link between hormone replacement and protection from heart disease and updated us on current strategies for prevention and treatment of heart disease and other menopause induced conditions.

Although all of the workshops I attended were wonderful and the presenters were all top notch, the crowning glory in the conference, for me, was the presentation by Kevin Petti from San Diego Miramar College called “Connecting Art and Science: The Cultural History of Art and Anatomy in Italy”. He was an engaging and interesting speaker who made me laugh and inspired me to work on including art in my anatomy and physiology classes. I left his presentation driven to return to Italy to study Michelangelo’s genius. However, with the budget cuts coming, I may be waiting a long time. If any of you are interested in more information concerning the workshops I attended, I have handouts, email addresses and websites that I would be happy to share with you.
GLPAns Head for Grand Rapids, Michigan-Dave Leake

So . . . what’s a GLPAn? GLPAns are not one of the alien races in Star Trek, but one of the many planetarians in the Great Lakes Planetarium Association, the largest of seven regional organizations. This year’s annual conference was held on the banks of the Grand River, at the Roger B. Chaffee Planetarium. The three day event was a chance to network with colleagues, see the latest and greatest from the vendors, and learn a few new things about the biz. This was GLPA’s 50th anniversary and our founder, Von Del Chamberlain, even flew in from Utah to address the group.

I had several goals in attending this year’s gathering. First, those that use our planetarium will see how our seats are falling apart. Though they were reupholstered long ago, mechanically they are the original seats from 1987 and some have actually pulled up out of the floor. Our physical plant has informed me they are tired of repairing them. There is money to replace them, but I needed to discuss this with a couple of theater designers. Our current seating arrangement isn’t conducive to our digital projection system. Concentric seats around our Zeiss projector isn’t good. If we’re going to replace them, we might as well put the new ones in the right spots. I’m expecting a new design for seating right after Thanksgiving.

Second, a desire has been expressed to us to increase revenue for Parkland. One way to do that is to rent a laser system. Our planetarium is well-known for our rock-n-roll light shows which had to stop in 2010 with the transition to digital. Even though it has been five years, I am asked at least twice a week, “So when are you doing Floyd again?” True, laser rental costs money but one show at ¾ house would pay for it and the rest is pure profit. I was able to discuss this with several laser system vendors, who, of course, were very happy to talk to me. Stay tuned on this front.

Of course, there are always new things to learn from conferences such as these. For the biologists, check out https://www.zygotebody.com. It may be possible to project something like this on the planetarium dome. There is now a way to use “google street view” to actually make full-dome stills using your smartphone! The conversion of an old show called “The Stargazer” to the full-dome format is progressing and may be available in the spring. The show features UIUC astronomer Jim Kaler and part of the original show was filmed in the Staerkel Planetarium. We can’t wait to get this one back up on our dome! One of our members created a document that will be highly useful as it correlates many of the things we all do beneath the dome to the Next Generation Science Standards. The “Dark Matter panel discussion” and a session on the online “Worldwide Telescope” were also interesting. You may also hear about Comet Catalina, which will swing around the Sun on November 15 and into our morning sky. It is estimated that you should easily be able to see it in binoculars, provided you set the alarm clock. It will pass near the bright star Arcturus on New Year’s!

Though I’ll officially step down as past-president of this group in March, I was asked to stay on the executive committee as the head of the development committee. I’ll work to ensure the vendors at our conferences are happy. Easier said than done! Next year’s meeting is in Flint, Michigan and, in 2017, GLPA will join the other six regional associations in the country’s first ever “national planetarium meeting” in St. Louis, Missouri. The St. Louis Science Center will host.

There are 525,600 minutes in a year.-Rent (but 0 minutes in a light year since it is a measure of distance, not time.)
Bommarito Performance Systems - Chris Warren

For my travel I visited two of my students who were completing internships at Bommarito Performance Systems (BPS) in Davie, Florida. Pete Bommarito is one of the most famous strength and conditioning professionals in the world. He is widely recognized for his work in linear and multidirectional speed. In the summer his facility is packed with NFL veterans - but he also works with MLB, the NHL, the NBA, college athletes, and children.

To obtain the internships Dalton and Tyler had to complete both paper and video applications and provide multiple letters of reference. After making the final applicant pool, the final step in the process was a video interview with Pete Bommarito and his staff. What a nerve racking experience! However, I can’t think of better way to prepare them for a future real world interview.

Dalton went to BPS with the intent to learn as much as possible about the strength and conditioning aspect of the business. Tyler went with the intent to learn as much about the medical side of the business (physical therapist, muscle activation specialist, athletic trainer, corrective exercise). They worked 5 days per week and this is what the typical day looked like:

5:15 am preparation of the breakfast and recovery shakes from scratch with multiple ingredients / store them in the refrigerator for use later that day
5:45 am set-up equipment on the turf field (cones, sleds, ladders, hydration recovery stations etc.)
6:15 am 1st morning linear, lateral, or multidirectional speed session with clients
8:00 am 1st morning strength training session with 6:15 am clients
9:30 am 2nd morning speed session with different clients
11:00 am 2nd morning strength training session with 9:30 am clients
1:00 pm turf field breakdown (put equipment away for the day)
2:00 pm in-service with Bommarito staff to expand knowledge base
3:30 pm end of workday (option to assist/observe youth training sessions from 4-7 pm)

If it sounds refreshing to you to go jump into the ocean in Miami after a day’s work, then you can imagine how it felt after 6 hours on the turf (where it is typically 10-20 degrees hotter than the Miami temperature)! The first day I joined Tyler and Dalton at BPS I wasn’t on the turf longer than 10 minutes before I felt like I would melt like a piece of chocolate on the sidewalk on a hot summer day. It certainly took some acclimatization to get used to the sun and the heat that they were exposed to on a daily basis. They weren’t laying on a lounge chair sunbathing during those hours either - they were moving equipment, directing athletes, and going from one session directly into the next until the day ended. However, it certainly helps knowing that the beach pictured to the right is a short drive from work at the end of everyday!

I’m very proud of Tyler and Dalton for establishing a great relationship between the Parkland kinesiology program and BPS.
The staff spoke highly of them and said they came with an excellent knowledge base and demonstrated great work ethic. It was clear to me that they had established great relationships with everyone they worked with. I can’t overemphasize how these two students have given Parkland’s future students a wonderful opportunity and a leg up to obtain future internships at the facility.

While I was at BPS I had several opportunities to speak to Pete and his knowledgeable staff. There are a vast number of kinesiology professions that work under one roof at his facility. The client has access to a nutritionist, chef, massage therapist, muscle activation specialist, athletic trainer, physical therapist, and strength and conditioning specialist. It was interesting to see each profession interact with the client. Many of the clients would come in early in the morning before the heat set in. They would grab a breakfast shake and go see the therapist for treatment. After treatment they would perform their speed and strength workout. They might get some soft tissue work after that. On the way out the door they would grab the lunch and dinner the dietician had planned and the chef had individually prepared for them. It was nice to see the holistic care of the client from multiple specialties. It was a one stop shop for the clients needs. I think that this business model is the future of rehabilitation, sports performance, and fitness.

In addition to having the opportunity to speak with each of the multiple professions and staff members – I also had the opportunity to participate in the afternoon in-services. Just before I made the trip to Miami, the Parkland kines program purchased the Polar Team Pro system. The Team Pro system is the most advanced telemetry system in the world. The heart rate sensor has a built in GPS, accelerometer, and gyroscope. It provides the athlete with important data to analyze the intensity of the workout, and predict with accuracy how long it will take the athlete to recover from that session. I wore the system during this in-service at BPS. You can see in the picture that the satellites mapped my every move on the turf and the heat map displays where I spent most of my time while performing change of direction and sprint drills.

It shows my maximum speed and knows how many sprints I ran. It accurately tells the athlete how many calories were burnt during the workout. This is valuable data that the strength and conditioning specialist can use to design the volume and intensity of future workouts. It can help the nutritionist and chef determine how many calories the client should eat. It can help the therapist monitor my volume as I return from injury. This is an amazing system that our students have the ability to use and learn during their time at Parkland.

The time that Dalton, Tyler, and I spent at BPS was extremely valuable. The information that we learned will be shared with current and future kinesiology students. It expanded our knowledge base, helped shape our training paradigm, and improved my ability to teach the students about these specialized occupations.

Pictured at right: Dalton (in the blue shorts) taking 3 NFL players and 1 NBA player through a turf session.
"I think that parents have a right to expect that their kids will be served fresh, healthy food that meets high nutritional standards." - Michelle Obama

The topic of school lunches hits close to home for me as I am mother of two children who participate in the school lunch program. It has always been something that I have been passionate. In 2008 was when both my kids started eating school lunch. I saw what they kids were eating in school cafeterias and was inspired to redesign the BIO 120 (Fundamentals of Nutrition) class at Parkland College to take on the challenge of making a healthy lunch for under $3 that elementary school students would gladly eat. Parkland nutrition students were provided the national guidelines, learned healthy food handling, demonstrated calculations needed to determine if their meal met all standards and then a forum was created for an Iron Chef type competition with the elementary school kids as the judges.

From the News Gazette article highlighting the nutrition competition, "Finding something kids like is important", said Washington art teacher Shauna Carey. "I can't believe how much food these kids throw away," Carey said. "They look at the plate and they may eat one thing and throw the rest away. Then they spend the rest of the day hungry. The whole idea of making stuff that's visually attractive to them and that they like is huge."

We all learned that it is more complex than just making a healthy lunch! Individuals involved in the school lunch programs need to think about many things. A short list of things to consider when introducing a new meal or snack at a school:

- student acceptance of the food (if they don't like it, they won't eat it)
- cost (even if it is healthy, if it costs too much, it can't be served)
- preparation time (some schools have very short lunches...less than 30 minutes)
- nutrition guidelines

With respect to nutrition guidelines, Michelle Obama is one of many influential individuals pressing for positive change in the school lunch options available for children. As posted on the USDA website, "Through the Healthy, Hunger-Free Kids Act championed by the First Lady and signed by President Obama, USDA made the first major changes in school meals in 15 years, which will help us raise a healthier generation of children. The new standards align school meals with the latest nutrition science and the real world circumstances of America's schools. These responsible reforms do what's right for children's health in a way that is achievable in schools across the Nation." I am impressed at how quickly change has happened and I was excited to go to the conference to learn more!
I had the unique pleasure of attending the School Nutrition Association conference with a friend who works for a food manufacturing company. It was thought provoking to see the conference from start to finish from both sides: as an attendee learning alongside school decision makers and helping on the showroom floor with the food production companies. It was such an amazing experience! I was able to talk to the lunch ladies about nutrition and food acceptance. Dinners were spent with manufacturers and sales representatives sharing their thoughts on the topic. Presentations from government officials and policy makers provided a historical perspective intertwined with future directives. The conference was a wonderful forum to gather and learn together. I learned about the specific cost nutrition and other guidelines in place with schools for both meals and snacks. For example, last academic year was huge as the USDA began requiring schools who were selling snacks a la carte to meet all Smart Snack guidelines. Although media hype sensationalizes how awful the school lunch options are, honestly things have come a long way from when I was in school eating the rectangle pizza, French fries and warm chocolate milk for lunch. In the past, students could easily purchase donuts, fruit flavored candies and regular colas to "fuel" their growing bodies. Now that the new standards are in place, better choices such as roasted nuts, granola bars and fruit cups are readily available for students.

But, the question still remains for some...will the grade school students like or even prefer the healthier food options? I have the guts to say, YES THEY WILL! That is if we get them involved and bring them to the table. There is a presentation I share entitled: Fun With Food. The target audience is children between 6 and 13 years old. The presentation is in actuality a game show that gets kids involved on several levels. I begin by sharing strange facts, poems, songs and more about the food they eat. We move on to questions like, "what fruit juice contains fat?" where the kids have multiple choice options presented to them and they get to use iClickers to record in their answer. Once we discuss the question and what their responses were, I explain that coconut juice is the correct answer and the kids get brought a small tasting cup with coconut juice. When they get involved in the question, discuss the answer, curiosity peaks about a new food, they see me get excited about consuming the foodstuff (and sharing how delicious I think it is), they try it, and repeatedly I have observed over 90% acceptance of foods like soy nuts, mangoes, coconut milk. Kids even enjoy prunes if they are presented properly. Kids who tried prunes for the first time shared that they tasted like cinnamon apple butter in an easy to eat package and many ask to have second helpings (I stop them at third helpings as I don't want a prune filled kid sent home and me getting a letter about their bowels the next day). Few subjects in school affect a person daily and have lifelong implications like nutrition....It was amazing to get away to learn a little more so I can come back to Parkland to share.
Thanks to all contributors and Karen Rocha for all your help!

Inspiration:
https://www.pinterest.com/sacmusicals/great-quotes-from-musicals/
Extra special thanks to Britt Carlson for introducing me to TinyURL.com so I could at least give some credit to the musical logos and quotes. http://tinyurl.com/create.php
Guys & Dolls link: http://tinyurl.com/hcmbnle
Sound of Music link: http://tinyurl.com/o7lxymq
Beauty & the Beast link: http://tinyurl.com/n9cco4h
Hello Dolly! Link: http://tinyurl.com/oebvogy
Lion King link: http://tinyurl.com/nceahyo
Oklahoma link: http://tinyurl.com/z06f5cl
Rent links: http://tinyurl.com/jrpsyhg http://tinyurl.com/ach66y
Oliver! Link: http://oshponline.org/oliver/external.html
Wicked link: https://en.wikipedia.org/wiki/Wicked_(musical)
As You Like it link: http://www.enotes.com/shakespeare-quotes/all-world-stage

Clip Art provided by Microsoft Office.

Any and all mistakes are the fault of Sheryl Drake (assistant to the chair), just let me know and I’ll print a correction in the spring newsletter.

The Nat Sci “theater” is in NO way affiliated with the real theatres (Harold & Jean Miner Theatre and the Second Stage Theatre) on the Parkland College campus., but the real theatres have some great shows coming up including The Curate Shakespeare As You Like It. Check them out at http://theatre.parkland.edu/

All the world's a stage,
And all the men and women merely players;
They have their exits and their entrances,
And one man in his time plays many parts,
His acts being seven ages. –As You Like It