Welcome to the inaugural issue of the UCBSO Student Chapter of the American Academy of Optometry (SAAO)! First, let us introduce who we are. The SAAO has been established for students who wish to enhance excellence in optometric practice with emphasis on programs that disseminate knowledge in both the basic and applied vision sciences. So, if you are interested in being the best optometrist that you can be, we invite you to join like-minded students who also want to have the same goal of growing as a clinician.

This upcoming year will be an exciting one with many stimulating programs planned here at UCBSO: How to Land a Job in Optometry, Is Research Right for Me?, How to translate for the Spanish speaking/Deaf patient, Optometry Residency Information, and much more. Most importantly, don’t forget the upcoming annual meeting of the American Academy of Optometry meeting in Tampa, Florida December 9-12. This meeting is definitely one of the most enjoyable parts of being a student member. (For more details about this, see the interview with 2004 UCBSO grad Dr. Kowalski on page 2).

Becoming a student member of the AAO is easy. See either one of us (your official Student Liaison & UCBSO Faculty Liaison) or Hannah Son (AOSA National Liaison) and we will give you an application to join or fill out the application that was placed in your mailbox. Annual fees are $30 per year and include many benefits: a one year journal subscription to “Optometry & Vision Science”—this is one of the top cutting-edge optometric publications that will let you know of the latest advances in both clinical care and basic science. Additionally the Eye-Mail electronic newsletter from the Academy will be emailed to you monthly. And finally, this new student newsletter will provide information tailored particularly to Berkeley students and is included in your annual membership.

Come, be a part of your new SAAO chapter and enjoy the upcoming annual meeting along with your local organization. Keep in mind that since this is a student-run affiliation of the American Academy of Optometry, it is up to you (the members) to decide what knowledge and education beyond Berkeley’s curriculum you wish to experience. We’re definitely open to ideas to make this group useful to all optometry students.

Keep an eye out for Berkeley Optometry’s first SAAO meeting of the year. We’re looking forward to working with you to enhance your development as a student and as a future clinician!

- Ryan Zwelling, Student Liaison
Dr. Meredith Whiteside, Faculty Liaison
2) Name the best things that you like about the AAO meeting?
The top things about this meeting are: lectures (with the presentation of the latest knowledge in clinical care and science), social events, both at the meeting and at the city hosting the meeting (e.g. the Australia party and the student receptions), and the presentations of new ophthalmic products (in the exhibit hall).

3) How did you arrange housing?
Did you stay in a hotel with a lot other students or have other arrangements?
Some students get together and get a hotel room independently. Others take advantage of finding roommates by talking to the (AAO student or faculty) liaison who sends out emails several months prior to the meeting to find out who is interested in attending the Academy meeting. This allows you to pair up with one or more fellow students. In my case, I had three other roommates in my hotel room which helped worked out well. As you know, cash doesn’t come around that easy when you are in school.

4) How did you fit your student schedule in (e.g., lectures, finals, etc) in with going to the Academy?
Finals schedule was not really an issue for me. I spoke to my instructors well in advance of the meeting and they were supportive of me attending. You may have to miss a day or two of lecture depending on the dates of the meeting, but by this time you should be ready for the finals anyway.

5) Have you done any poster or lecture presentations? It may be too early to ask, but do you have any plans as a resident to do this?
I have not completed any presentations at this point, however I am currently working on one, if not two, for the end of this academic year. Some optometry students present their OD projects as poster presentations as well.

6) Will you be attending this year’s Academy meeting? Do you envision yourself becoming a Fellow of the Academy in the future? Why?
Yes, I will be attending the meeting in Tampa, Florida and I definitely want to become a fellow of the Academy in the future. One simple reason is that I will be almost half way there after I finish my residency. There are several other reasons such as supporting the Academy and optometry as a profession, (and most importantly) to continue to further my (optometric) knowledge base and be the best optometrist that I can.

Dr. Kowalski is a 2004 graduate of UCBSO and is currently practicing as a Primary Care/Geriatrics resident at West Los Angeles Veterans Administration.

For more information about the upcoming meeting as well as information regarding housing, contact UCBSO student liaison Ryan Zwelling (III): zwelling@uclink.berkeley.edu or faculty liaison Dr. Whiteside mwhitesi@uclink.berkeley.edu
Always asking the tough questions, our fearless managing editor/reporter, Jeremy Shumaker (II) recently caught up with Dr. Corzine. Hoping to make Dr. Corzine feel at ease while going in for the kill...er, scoop. Jeremy interviewed him while hitching a ride home on his motorcycle*. The following are the highlights:

*Editor’s Note: the bike actually was not in motion during the interview, nor were any children or small mammals harmed.

JS: Where were you born, where did you grow up?
JC: I was born in Madison, WI, and lived there for 3 years. Also lived in Sacramento for 2 years, and then K-7th were in Nashville, TN, with the exception of 6th grade where I lived in Geneva, Switzerland. For 8th-12th grade I moved to Southern California, LA area, Hacienda Heights. Undergrad, I went two years to UC Santa Barbara, and then transferred to UC Berkeley and got a degree in psych at Berkeley in 1978. I lived in Anchorage, AK for seven years after undergrad and then started optometry school in 1988. Between Alaska and optometry school, I actually lived in Albuquerque, New Mexico.

JS: Did you work in Anchorage, AK as a psychologist?
JC: No, no. A bachelor’s in psychology doesn’t open any job doors...I did a lot of things. I had actually gone to Alaska a couple summers before I graduated. So I had been a bike mechanic up there, a delivery driver for a chain of bookstores, and then I worked in the bookstore for a while as a clerk. Then I worked for the post office, did the graveyard shift sorting mail. And then I worked as an electrician for about 2 and 1/2 years in Anchorage.

JS: What is your family background?
JC: Well, I’m the oldest of four boys, with a seven year spread total. I just got together with them a couple weeks ago, we were camping outside of LA. All my brothers were there, and my mom, but my dad was sick so he couldn’t make it. I’ve been married 16 years, and we have one son who is going to be 8 in November, just started 3rd grade at Ocean View Elementary in Albany. We live in El Cerrito, and my wife works in Albany as a physical therapist.

JS: Did your siblings decide to stick with healthcare too?
JC: No, they didn’t all go into healthcare, but many of us got into teaching one way or another. One of them, my oldest brother, lives in upstate NY, and teaches high school science. And then my 3rd brother teaches Tai Chi, has done it for 20-25 years, and he also has a degree in acupuncture and Chinese Medicine. My mom used to be an elementary teacher. I actually thought about elementary school teaching for a while, when I was thinking about a career. I also have a brother who is an electrical engineer.

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JS: This question is asked of every budding optometry student, it’s a little trite, but why did you decide to become an optometrist?
JC: Well, I had an interest in healthcare, but I wasn’t attracted to medicine and being a doctor for a number of reasons. Part of it is the very drug and pharmaceutical orientation of Western medicine, and part of it is just the responsibility, the pager, and how busy you are. But I have a good friend, who happened to be my best man, who is a dentist. I thought, maybe if I just focused on one part of the body that would be a little more reasonable. I’ve also worn glasses since I was eight, so I’d seen optometrists all my life practically. So I was familiar with optometry from the patient standpoint. It is a nice blend of the sciences, physics, optics, as well as providing healthcare for people. I liked that combination. And so I just opened up a directory of optometry schools, saw there was one at Berkeley where I got my undergrad, and I said, ‘Oh, I’ll apply there.’ And I went.

JS: Why did you specialize in contact lenses?
JC: I think it was the nature of contact lens practice. I got to know my patients better than I did in primary care or basically any other setting, because I would see them multiple times. And it’s a nice combination again of optical principles with the health of the eye. You have to balance...
those things. Plus, it’s something people like getting and wearing, it’s rewarding. Especially when it’s a challenging fit. It can be frustrating as well, but when you succeed with a challenging fit it’s rewarding for both you and the patient.

**JS:** What are you doing when you are not teaching?

**JC:** Mostly hanging out with my son and my wife. My parents live about an hour and a half away, so we go to see them. The electrical engineer brother has two girls that are just older and just younger than my son Sean so we’ll go visit them down in Sunnyvale. I used to claim bicycling as a hobby, and I used to bicycle a lot, but it’s been a while now. I enjoy backpacking and photography.

**JS:** What’s your favorite memory during optometry school? Is there anything that sticks out?

**JC:** Something that sticks out was when we had the big Loma Prieta earthquake. I was in what used to be the pre-clinic, in the downstairs of Minor Hall. We had just finished a pre-clinic lab, and everything was shaking bad. The instructor was there, and she just kind of huddled us in the doorway, and then it stopped, and I went up to the 4th floor and I remember looking out from the study rooms, which is now the computer area, and I could see smoke rising in downtown Berkeley. There was a paint factory that had caught fire there.

**JS:** What are you supposed to do if you’re in lab? Are you just supposed to crawl under the lane or something?

**JC:** Get under the slit-lamp.

**JS:** Any secrets about faculty members?

**JC:** People probably already know that Dr. Greer was an optician for 10 years. That is not a big secret though.

**JS:** I guess stuff they wouldn’t mind getting out...

**JC:** These are hard questions, Jeremy. Dr. Harris loves desserts. It’s not a secret, but if you want to get on his good side…same with Dr. Burger, bring him cookies.

**JS:** That’s good to know.

**JC:** This isn’t a big secret that I’ve been keeping or anything, but not a lot of people know. I went to a six-month course in natural therapeutics, so I’m a massage therapist. I never did it professionally. My wife actually worked in physical therapy offices doing massage, and that’s how she got interested and eventually went into PT. So I never did it professionally, but I’ve worked on friends and family and stuff.

**JS:** If you had to give one piece of advice right now to current students, what would it be?

**JC:** I think it would be to keep the goal in mind. Remember that all of this is for a real good reason. And you’re going to be using it when you graduate. And so really the more effort you put into it now, the better an optometrist you’ll be.

**JS:** Are you optimistic about current students’ futures as optometrists?

**JC:** Yeah, I think optometry is still strong. The Bay Area is pretty full because of the school here and it’s such a desirable place to live. A lot of people come to school, and end up staying, because they grow some roots while they’re here. But even people who do that, even though they start out working two or three jobs part-time, eventually they get stable more full-time positions. But it takes longer. I think if you go away from the Bay Area, there are definitely opportunities.

**JS:** So how did you meet your wife, Kristin?

**JC:** In Alaska. We were actually set up by a mutual friend. Our friend invited us both to her birthday party and made sure we sat next to her and stuff.

**JS:** My girlfriend picked me up at a bar, so is there a funny story tied to you getting together with her at all?

**JC:** The birthday party was in this banquet room of a restaurant we used to go to all the time, called “Mexico in Alaska.” The best Mexican restaurant I’ve ever been to. When we got there the tables weren’t really arranged well for the number of people that were going to be there. I tried to rearrange them, but I wasn’t doing a very good job of it. And my wife, well now she’s my wife, she had been a waitress before and she was just kind of laughing at my arrangement style. To this day she doesn’t let me forget about it.

**JS:** Did you know your friend was setting you guys up?

**JC:** I didn’t but my wife did. She told her, “Oh, there’s this guy John that I want you to meet.” Before I got there, there was this other guy named John at the party that was quite a bit older, shorter, and hairier, and Kristin thought that this was the guy that her friend was trying to set her up with.

**JS:** Pleasantly surprised when she met you, huh?

**JC:** Well, hopefully. I don’t know for sure.

**JS:** Now, did she have an opening line that she used on you?

**JC:** No, no. We just met and…but it was pretty quick. We started spending a lot of time together.

**Vital Statistics:**

**Spectacle Rx:** Roughly –6.00, unfortunately (according to Dr. Corzine) a 1.75 add

**Contact Lenses**

**Post-optometry Residency in Contact Lenses**

**Specialty:** Contact lenses

**Mac or PC:** Mac. A heavily upgraded beige desktop G3

**Famous Classmates:** Dr.’s Greer and Jacobsen
I worked in Dr. Gong’s lab approximately 9 hours a day, 5 days a week, for 10 weeks. When reflecting back that seems like a lot of hours, but time passed quickly because I learned a lot and had a lot of fun that I didn’t mind at all. My project involved working with mice to determine events that lead to cataracts and the mechanism behind it. This summer, I attempted to solve a little piece of this puzzle by studying the roles of proteins α8 and α3, more specifically how their interactions and different expression levels may lead to cataracts. The theory is that these connexin proteins create gap junctions between adjacent cells, allowing intercellular communication for properly differentiated fibers. Disruption of any sort causes cataracts. Exactly how this happens is under investigation.

Currently, it is known through antibody staining that α8 is heavily expressed in epithelial cells while α3 is mostly located in the lens fibers. Also through previous work, point mutations were introduced in the α8 protein. Double knock out mice, mice that lacked both α8 and α3, and α3 knocked into the α8 position mice (Ki) were generated as well. My work this summer primarily was to characterize these different mutations phenotypes to their genotypes and perhaps hypothesize on a mechanism by which these phenotypes arise based on histology.

Methods and procedures used in this study were embedding lenses in plastic resin, cutting these samples with the microtome and analyzing the 1000 nanometer cross sections for any abnormal morphology. We also examined these lenses by using the Richmond Field Station’s confocal microscope that collected Z stack (2-D) images, which can be rendered into a 3D image. The processing of the lens tissue itself was quite challenging, especially when cutting the lenses, it needs to be sliced in the correct location and orientation, but the data analysis was much more difficult. The analysis required looking closely at endless slides and pictures trying to discern small abnormalities. At the end of the summer, I presented my data at an informal meeting in front of the NEI students and their labs. That was the only requirement besides attending weekly two-hour meetings where we learned more about conducting research. I chose to make this project my OD thesis but I have not yet completed everything. Therefore, I will continue to keep up with the new developments throughout the school year, and perhaps reapply for the NEI research program next summer as well. It is not mandatory to continue this program next summer nor will I feel obligated to continue just because the project is not completed.

I enjoyed my experience because it allowed me to work at my own pace, have autonomy yet there was always help and guidance available, and I got to meet many great people in lab. It was a fun experience, and I have no regrets. This does sound like a lot of work but I truly believe that you get as much out of it as you put into it. Moreover, I did not spend all of my summer in lab. I actually had three to four weeks to travel at the end of the program right before school began. Every student had a different experience, so I encourage those who are interested to speak to other participants and visit the NEI summer research website at: http://optometry.berkeley.edu/programs/nei/neisummer.html
Ode to Pseudomonas
(Or Why the boards can’t get enough of Pseudomonas)

Just when the third years thought they’d heard the last of Pseudomonas aeruginosa, I’d like to bring it up again and explain why the ever-maddening National Boards insist on hammering us with trivial Pseudomonas questions. I can’t really justify questions like “Which of the following grows at 42°C, is oxidase positive and produces a ‘sweet grape-like’ odor?” but I do know why the boards emphasize Pseudomonas. Besides being the cause of 90% of all cystic fibrosis patient fatalities via lung infection, Pseudomonas can also do some serious damage to corneas.

So what is Pseudomonas? It’s an aerobic gram negative bacteria that is commonly found in our environment. Most of the time it’s harmless because it is an opportunistic pathogen, meaning it can only infect when it has reached an immuno-compromised surface such as burned skin, a lung weakened by Cystic Fibrosis, or a contact lens-wearing cornea. Contact lenses, especially extended wear ones, deteriorate the cornea’s defense system by trapping bacteria under them, slowing epithelial cell sloughing and decreasing the cleansing windshield wiper action of the lids during blinking.

So the real questions are: how common is a Pseudomonas infection, would you be able to recognize one if it walked into your office, and more importantly, would you know what to do once you made the ID?

To optometric clinicians, the stakes are high: the typical Pseudomonas infection found in a corneal ulcer has the potential to be one of the fastest ways to permanently scar the cornea, rendering the patient blind. Although corneal ulcers may be caused by a variety of conditions, the most common include contact lens wear, trauma, or any condition that causes epithelial damage, such as recurrent corneal erosion or even severe dry eye! In regard to infectious corneal ulcers (such as Pseudomonas), the type of bacteria isolated from these can be influenced by the presence of predisposing conditions. In studies that looked at the types of bacteria found in non-contact lens related corneal ulcers, Pseudomonas was found in 8-32% of the isolates. Interestingly, in contact lens-related ulcers, this rate jumped to 62-64% of cases! This means that with contact lens related corneal ulcers, it is a good idea to assume an infectious etiology (especially with Pseudomonas) until proven otherwise.

Although it is difficult to make a blanket statement about the signs and symptoms of corneal ulcers (let alone those infected with Pseudomonas) there are some basic guidelines. Patients with corneal ulcers (regardless of the infecting agent) often present with similar symptoms: photophobia, variable visual acuity, redness, swelling of the eyelids, discharge, noting a “white spot on the eye,” and variable degrees of pain. Taking a good detailed ocular history is definitely important. Is there a history of contact lens wear, trauma or other contributory conditions? Although pain can many times be a good indicator of the severity of an ocular condition, for corneal ulcers, the amount of pain may not be accurate.

Even though infectious corneal ulcers may present with moderate to severe pain, realize that contact lens wear many times causes a relative de-sensitivity of the cornea, either through corneal hypoxia or other means. Ask about the history of treatment. Have any eye drops been used? Which ones and at what dosage? Look at the cornea: is there an epithelial defect? If so, realize that there is now a higher potential for an infection, if it hasn’t occurred already! Carefully examine the epithelial lesion (with and without sodium fluorescein) as well as any underlying stromal defect. If the defect extends into the stroma, know that there will likely be scarring of the cornea. Look at the conjunctiva. How much injection is there? Look at the anterior chamber: are there any cells? Although we’ve just touched on the tip of the iceberg (in order to really get a good understand this condition, you need to seek information from your anterior disease textbooks), remember that improper treatment of a Pseudomonas or any other bacterial ulcer may result in a permanently scarred cornea. When scarring is severe or along the visual axis, the only way to recover vision is through a corneal transplant.

Regardless of the causative pathogen (many other types of bacteria can cause corneal ulcers,

Lesley was kind enough to show us her Pseudomonas.
besides Pseudomonas), treatment of an infectious corneal ulcer needs to be started immediately. Treatment options include either a topical fluoroquinolone, a fortified antibiotic combination (such as cefazolin and tobramycin) or a combination of the first two options. Successful treatment requires drops be given every 15–30 minutes the first several hours or days of treatment. It is important to remember that time and time again, the ophthalmic literature cites the need for the proper antibiotic to be given at a high enough frequency. Because of the seriousness of this condition, follow-up evaluation must be done within 24 hours to re-assess the eye for any signs of worsening or antibiotic resistance. Assuming the ulcer appears stable, which is usually the case if it is responding to treatment by the 24-hour follow-up, additional evaluation is done either every day or every other day until marked improvement is noted.

After learning about the significance of it’s effects, I understand how routine procedures, such as taking a careful history, performing a careful slit lamp exam, or just being familiar with risk factors can largely affect my ability to treat patients properly. These factors combined with patient education regarding proper antibiotic frequency and timely follow-up visits, will ultimately clear the infection and minimize corneal damage. Although the boards may quiz us about the many vague intricacies of Pseudomonas infection, (I really don’t know if I’ll remember that Pseudomonas has a ‘sweet grape-like’ odor…and I’m definitely not going to ask if I can smell my patient’s eye) it is important to realize the seriousness of the condition and to manage the treatment appropriately.

Lesley Kwan (III) is involved in research regarding corneal defense mechanisms against Pseudomonas aeruginosa. She currently is working in Dr. Suzi Fleiszig’s laboratory.

Berkeley Optometry has a long distinguished history in the American Academy of Optometry (AAO). Former Dean Meredith W. Morgan was President of the Academy 1953-1954 and received the Charles F. Prentice Medal—the highest award of the AAO. Former Dean Anthony Adams was President of the Academy 1999-2000 and also received the Prentice Medal. Today, Dr. Adams continues his work with the organization by serving as Editor–in-Chief of the Academy’s journal Optometry and Vision Science.

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Upcoming Deadlines

1) October 4, 2004 - AAO Student Travel Fellowship applications due. (see http://www.aaopt.org/about/awards/student/index.asp#student for details)
2) Early registration deadline (for discounted registration) must be received by Oct 29, 2004.
   For more information, about the Academy, see http://www.aaopt.org
4) Want to earn extra $$ while at the December Academy meeting in Tampa, FL? Student workers needed. Applications due by October 29th.
   For more information, contact Dr. Whiteside (mwhitesi@uclink.berkeley.edu) or Ryan Zwelling (zwelling@uclink.berkeley.edu)

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TIM’S CROSS-EYED (ESOTROPIC) CROSSWORD

Across:
1. Part of eye most likely damaged by UVA and UVB Rays
2. Type of retinoscopy used to determine accommodative response.
3. Formed by the junctional complexes between photoreceptor cells and the glial cells of the retina.
4. Clinical norms.
5. Emotion felt by optometry students right before boards.
6. Founder of SAAO chapter at UCBSO.
7. Class involving clinical case situations.
8. Ocular Reflex
9. A small abscess of the glands in the eyelids which can occur externally and internally.
10. Traditional Thursday night outings at UCBSO.
11. Optics professor who resembles Mathew Broderick.
12. Usually associated with high IOP.
13. Lipitor, zocor, aspirin are types of
14. Color of Aging lens due to UV exposure.
15. Used for night vision.
16. Clinical instructor with JD and OD degree.
17. Needed to get into bars.
18. Contains axonal endings of bipolar cells.
19. “Fechner’s Day” *(Hint: Professor)

Down:
1. Microvascular infarcts from ischemia with accumulation of
2. Exoplastric material.
3. Benign lesion composed of dense, choroidal melanocytes.
4. Taken at every exam.
5. Fissure that looks like a playboy bunny.
6. Dean of UCBSO.
7. The pigmented layer under the retina which resynthesizes photosensitive photopigments.
8. Student organization of the American Academy of Optometry.
10. Can lead to neovascularization of the cornea.
11. Contact lens company.
12. Intracellular deposits of photometabolism by-products.
13. The best profession.
14. Donor to library at UCBSO.
15. _____ - Lovi Chart.
16. Autoimmune Disorder.
17. 200D Clinical Professor with a cowboy persona.
18. Written on exam form if no vision problems.

Note: The Key will be posted on the SAAO Bulletin Board on the fourth floor near the student lounge.