Letter from the Chair

Enjoy this issue of the Reed O. Dingman Society News. As you have easily guessed, I have given up on the idea of a spring issue, and the News will continue as a once-a-year, fall publication. As you read the articles, I hope you will agree that Michigan Plastic Surgery had a fantastic year. The News has updates on this year’s graduating residents as the future superstars of our specialty, on Jack Gunter’s stellar performance as this year’s Dingman Visiting Professor, on the Inauguration of the Reed O. Dingman Professorship in Plastic Surgery, and news of general goings-on both here and among our alumni. Again this year, I would point your attention to the item on our many visiting professors. I believe strongly that this form of academic interchange is crucial to the future of our specialty. You all know our bench laboratory research is first-rate; this issue’s research update from Melanie Urbanchek will give you an indication of the strength of our clinical research program.

I am very happy to confirm what most of you already know, our RRC review in August 2005 restored our residency program to full accreditation, allowing us to maintain the elite status we have enjoyed among plastic surgery residencies in the country. Thanks to Steve Kasten, our Associate Program Director, and to all our residents and faculty who came together to make this possible.

We have much to tell you and great plans for the future. Enjoy The News, and I hope to see you all at the Dingman Society dinner in San Francisco on October 8.

Sincerely,
William Kuzon, MD, PhD

Dingman Professorship

One of the outstanding highlights of the year was the inauguration of the Dingman Professorship. Thanks to generous donations from so many Dingman Society members as well as the family and friends of Dr. Reed O. Dingman, Dr. William Kuzon was named the first Dingman Professor of Plastic Surgery. A formal ceremony was held on Thursday, June 8, 2006 on the medical school campus.

The Dingman Professorship is a tribute to Dr. Dingman’s countless contributions to plastic surgery as an art and science, as well as his contributions to building the foundation of plastic surgery at the University of Michigan. Remarks from the Dingman family as well as Dr. Dingman’s former co-workers, trainees, and patients focused on his innovative surgical skills, compassionate patient care, and invaluable friendship. The Dingman Professorship will forever commemorate these special qualities and there is no more appropriate inaugural recipient than Dr. William Kuzon.

– Christi Cavaliere, MD

Milestones in Plastic Surgery

This year, the end-of-year festivities for Michigan Plastic Surgery were marked by many milestones. The first endowed Professorship in Plastic Surgery was inaugurated on June 8 with the installation of Dr. William M. Kuzon, Jr. as the Reed O. Dingman Professor of Surgery. This year’s graduating residents, Christi Cavaliere, Catherine Curtin, and Jonathan Wilensky were honored at the yearly graduation banquet on June 9th.

The attendance of many Dingman alumni, in addition to the graduates’ families, the faculty, residents, and staff of the Section, made this event very special. Dr. Jack Gunter served as this year’s Dingman Visiting Professor. Jack gave a masterful talk on rhinoplasty as the Reed O. Dingman Lecturer. On June 10, the Dingman Society held its biannual scientific meeting with an outstanding program of scientific and clinical presentations as well as several lively panel discussions. The weekend’s events were also marked by outstanding social events where the camaraderie of the U-M Plastic Surgery faculty was palpable. The tradition that is Michigan Plastic Surgery is alive and well.

– William Kuzon, MD, PhD
In June, we graduated one of the strongest classes in the history of our program. Drs. Christi Cavaliere, Jon Wilensky, and Catherine Curtin completed distinguished careers as plastic surgery residents at the University of Michigan. We anticipate that they will become leaders in our field and will continue their impressive records as they move on to their next endeavors. The ROD Newsletter recently caught up with each of them to get the latest news.

**Graduation Report**

- Ed Wilkins, MD, Paul Cederna, MD, David Brown, MD

**Christi Cavaliere, MD**

We are happy to report that Dr. Cavaliere has joined our faculty in the U-M Section of Plastic Surgery and is already busy with clinical responsibilities, including hand trauma and breast reconstruction. Among her recent accomplishments, she has been accepted into the Robert Wood Johnson Scholars Program, following in the footsteps of other U-M Plastic Surgery graduates, Drs. Kevin Chung, Amy Alderman, and Catherine Curtin. During the course of the program, Dr. Cavaliere will receive training in health services research, study design, biostatistics and health care policy. She also plans to conduct studies of hand reconstruction outcomes as part of the two year curriculum.

Dr. Cavaliere has another important project planned for the coming year; she recently announced that she and her husband Todd are expecting their first baby in February. For a first time mom-to-be, she does seem a little blasé about the whole experience, describing the baby’s appearance on a recent ultrasound as “pretty typical.” (Dr. Cavaliere is nothing if not unflappable.) Although juggling a clinical practice, the RWJ program and a new baby may sound daunting to most of us, we have no doubt she will succeed with her usual style and grace.

**Jon Wilensky, MD**

Following graduation, Jon Wilensky left the cold of Michigan and headed for sunny San Diego, to enter private practice with affiliation to the Scripps System. He had been a “lifer” at the U-M, having performed his undergraduate, medical school and plastic surgery training all in Ann Arbor. During his residency, he married his wife Beth, and they have a beautiful daughter, Sydney.

**Catherine Curtin, MD**

During her plastic surgery residency, Dr. Curtin performed a Robert Wood Johnson Clinical Scholar Fellowship. During this time, Dr. Curtin participated in numerous research projects which lead to many presentations and publications. She has also won awards for her academic work. Most recently, she received the best resident clinical research award by the Michigan Academy of Plastic Surgeons for her work entitled “Does Unilateral Cavernous Nerve Reconstruction During Prostatectomy Improve Postoperative Urinary Continence?” Since leaving the University of Michigan this summer, Catherine has gone on to Stanford University to perform a hand fellowship. Thereafter, she will be seeking an academic plastic surgery faculty position. She and her husband Terry, have one beautiful son, Timmy, who we have all gotten to know well.

**Welcome Incoming Residents!**

Once again, our residency program was successful in recruiting three of the very brightest, most talented applicants to begin their training in our integrated program in 2006. With the addition of a required research year, these young doctors will be expected to graduate in 2013! Please join me in wishing them a warm welcome to our plastic surgery family.

**Erika Davis Sears, MD**, grew up in the small town of Marion, Indiana. She completed undergraduate education at Northwestern University, majoring in biomedical engineering, before attending medical school at the University of Michigan. Erika just recently got married on May 19, 2006. In her “free time,” Erika enjoys spending time with her husband and their new puppy, as well as visiting family and friends in Chicago.

**Anita R. Kulkarni, MD**, grew up traveling all over the world, spending significant time in Seoul, Korea, as well as time stateside in Flemington, New Jersey. Her undergraduate training at Northwestern University was followed by medical school at the University of Chicago Pritzker School of Medicine. In 2005, Anita married Amol Rangnekar; he is currently a second-year medicine resident at Michigan. Anita still loves international travel, but a bigger challenge these days – given their busy resident schedules – is finding time to spend with her husband!

**Adam J. Oppenheimer, MD**, grew up in Buffalo, New York, the second oldest of four brothers. He completed undergraduate education at Yale University before attending medical school at the University of Rochester School of Medicine and Dentistry. Adam has several relatives in the medical field—he will be the third plastic surgeon in the family, which already includes two dentists and a brother applying to medical school. A former All-American lacrosse player, Adam reports he’s “definitely not getting married any time soon.” When he gets a break from the hospital, he enjoys exercise and music.

– Steve Haase, MD

**Upcoming Events**

**Dingman Society Dinner**

October 8th, San Francisco, JW Marriott, 500 Post St, 21st floor, Union Square, 7:00 o’clock

**3rd Annual Stryker Lecture in Hand Surgery**

Richard Berger, MD, PhD

Mayo Clinic

December 8th, Noon
It was a busy year in the Section of Plastic Surgery for international visitors. Our residents and faculty are privileged to have an opportunity to host the international scholars. The exchange between programs enhances mutual understanding of practice and cultural differences amongst academic centers and improves our residents’ education in the ethnic diversity of our country. Dr. Buchman hosted Dr. Elmeligy from Ain Sham University. We have a long-standing relationship with this university from Cairo, and we have the privilege to host many of the faculty and residents from this esteemed university.

Dr. Wilkins hosted Dr. Al-Janabi from Shaikh Khalifi Medical Center in Abu Dhabi. Dr. Kuzon hosted Dr. Wang from Shenyang, China. Dr. Wang has an interest in aesthetic surgery which is a growing field in China. Dr. Marcelo hosted Dr. Fujimori from Osaka Medical College.

The Hand Surgery Program has hosted several international scholars including Dr. Seong Eon Kim from Pohang Christianity Hospital in Korea and Dr. Kenji Kawamura from Nara Medical University in Japan. The Hand Program also has the distinctive pleasure of hosting the first American Society for Surgery of the Hand International Scholar, Dr. Maria Skvortsova, from Russian Medical Postgraduate Academy in Moscow. We will have the opportunity to host the second international scholar from the ASSH. Dr. Thu from Ho Chi Minh City will train at the University of Michigan for 6 months.

Overall, the interest from the international scholars to train or visit our program is a testament of our international reputation. It is a wonderful opportunity for us to expand our international relationships with many of our colleagues around the world.

—Kevin Chung, MD

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<th>Name</th>
<th>Home Institution</th>
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<td>Ayman Ahmed Elmeligy, MD</td>
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<td>Steven Buchman, MD</td>
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<td>Mazen Silman Al-Janabi, MD</td>
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<td>Edwin Wilkins, MD</td>
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<td>Kenji Kawamura, MD</td>
<td>Nara Medical University, Nara, Japan</td>
<td>Kevin Chung, MD</td>
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<td>Seong Eon Kim, MD</td>
<td>Pohang SM Christianity Hospital, Pohang, Korea</td>
<td>Kevin Chung, MD</td>
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<td>Maria Skvortsova, MD</td>
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<td>Kevin Chung, MD</td>
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<td>Xiaolei Wang, MD</td>
<td>Baoyan Aesthetic Hospital, Shenyang, China</td>
<td>William Kuzon, MD, PhD</td>
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The Section of Plastic Surgery at the University of Michigan maintains a very active Visiting Professor Program. For the faculty, this represents an opportunity for deep intellectual interchange of all aspects of plastic surgery with colleagues from all corners of the globe. For the residents, this not only represents an occasion for networking, but an invaluable educational experience. Over this past academic year, we have been fortunate to host a varied and exceptional group. The following is a recap of this year’s activities:

In September 2005, Dr. Raja Sapapathy from Ganga Hospital in India visited the Section. He recounted his vast experience in microsurgical reconstruction of massive extremity injuries. Dr. WP Andrew Lee visited the Section in December 2005. Dr. Lee is Chief of the Division of Plastic and Reconstructive Surgery at the University of Pittsburgh School of Medicine. Dr. Lee, one of the world’s foremost experts in tissue allograft and hand transplantation, discussed with the Section his hand experiences over a two day stay. Dr. Valdas Macionis from Vilnius University in Lithuania visited in late March 2006. Dr. Macionis presented talks on shadow goniometry and adhesive hand splints. Dr. Warren Garner, Associate Professor of Surgery at the Division of Plastic and Reconstructive Surgery at the University of Southern California School of Medicine visited the Section in July 2006. He recounted his experience with the latest advances in burns and wound healing. We were fortunate in September to host Dr. Amr Mourouk from Egypt who relayed his experience in plastic surgery from Cairo, as well as an architectural talk on the history of Cairo.

Each professor was given the opportunity to formally present several lectures on the topic of his choosing. In addition, residents were given the chance to present a series of challenging cases with an informal discussion of results, complications and potential plans. Finally, everyone was fortunate to interchange with each professor informally over lunch or dinner. The Visiting Professor Program is an invaluable experience. We look forward to the upcoming Visiting Professors: Dr. Andrea Pusic from NYU (November 2006), Dr. Gayle Gordillo from Ohio State (December 2006), Dr. Richard Berger from the Mayo Clinic (December 2006) and Dr. Joseph Serletti from the University of Pennsylvania (June 2007).

—Sal Pacella MD & Ed Chang MD

Reed O. Dingman Society
Plastic Surgery at Michigan is in transition. Three of our senior faculty are retiring from the clinical practice. M. Haskell Newman, our stalwart clinical professor and leader in our craniofacial anomalies program, is retiring after 38 years in practice. Newman started at the University of Michigan in 1971 in the ENT department and transferred to Plastic Surgery where he trained under Bill Grabb. After completing training, he stayed at Michigan and ran the craniofacial anomalies program until 1983. Thereafter, he practiced in Ann Arbor at St. Joseph Mercy Hospital (SJMH) from 1983 until re-joining the faculty of Plastic Surgery in 1988. He became full-time at Michigan in 1990 where he pursued his interests of cosmetic surgery, specializing in rhinoplasty and pediatric plastic surgery.

Querying Dr. Newman about his experience in plastic surgery he says, “My greatest achievement in clinical practice was survival, survival, survival.” Dr. Newman claims his greatest passion in clinical surgery is training residents. One of his former trainees, Ramin Behmand, said “Dr. Newman has a rare special gift; he makes a resident feel like a colleague while bringing them so very close to a true taste of what our specialty has in store for us beyond training, not only surgically, but also socially and intellectually.” Dr. Newman has many interests including wine, travel, and especially fly fishing. He will become Professor Emeritus in January of 2007. He plans to continue to help out as clinically needed.

Dr. Robert Oneal has recently retired from clinical practice after thirty years as a plastic surgeon in Ann Arbor. Oneal, who is one of the senior statesmen in Michigan Plastic Surgery, has been instrumental in welding the SJMH and U-M programs together. He began his surgical career in general surgery at the University of Nebraska after graduating from Harvard Medical School in 1957. After completing five years of surgical training and one research in transplantation, he joined the general surgical faculty at the University of Nebraska. Along with Don Davis, MD, Oneal became the first resident in the combined SJMH / U-M plastic surgery residency in 1964. He completed the program in 1966 and held a joint appointment at the University and SJMH for three years. During that time, he worked closely with Reed Dingman seeing patients and performing operations. From 1966 until this year, Dr. Oneal has practiced at St. Joseph Mercy Hospital where he has had a broad practice with an interest in craniofacial anomalies.

When asked what his greatest professional achievement was, Oneal replied, “I have had my own private practice and was still able to teach and work at the University of Michigan.” He claims that if he had to do anything over, he would have remained in academic surgery. One of our recent trainees, Jon Wilensky remarked, “Oneal had a huge impact on me during my residency training. In addition to being an exceptional surgeon and educator, he made my professional development a top priority. I owe him a huge debt of gratitude.”

Dr. Oneal enjoys piano, tennis, and golf and travels. He retires as a full clinical professor of surgery. He plans to stay in Ann Arbor and promote value based political projects.

Dr. John Markley, Jr. retires after 33 years of practice in Ann Arbor and at the University of Michigan where he has been involved in resident education since he returned from a stint in the Navy. Markley graduated from the University of Michigan Medical School in 1966, did a surgical internship at the U-M and then trained in plastic surgery at Stanford University in one of the early combined programs for the next five years. Thereafter, he did a hand fellowship with Dr. William Littler at Roosevelt Hospital in New York City.

He joined Bob Oneal in clinical practice in 1974 and became the “guru” of hand surgery in Ann Arbor. Dr. Markley reminisced, “I personally did the first digital replants, toe to thumb and toe to finger transfers, microvascular free muscle/cross face nerve facial paralysis reconstructions, and free tissue transfers to extremities and face. I started the ongoing collaboration with John Faulkner in muscle physiology research.”

He is well recognized as the leader in anatomic dissection of the upper extremity at Michigan and has held seminars every summer for residents. Dr. Oneal remarked, “Markley is a spectacular technician.” All of the residents recognize him as a great teacher. Greg Borschel pointed out, “I will always cherish Dr. Markley’s trademark Friday morning one-on-one teaching sessions in the St. Joe’s cafeteria. ‘Let’s get something to munch on, then we can sit down,’ he would say. For me it was an hour well spent. No matter how well I would try to prepare for these sessions, Dr. Markley always came up with concepts and pearls that I wrote down and still have with me and use in my practice today.” Markley retires as adjunct clinical assistant professor from U-M and he will continue to pursue his passion as a cyclist. His only regret is that he did not start cycling and kayaking sooner.

— Riley Rees, MD
First person view:

“Por-sheh,” he told me. “Pooor-sheh!” It was 1977 and my friend Syamak had just returned to Iran from a trip with his family to Germany. He was proudly showing me his photographs, the result of his efforts to capture moving sports cars with the not-so-sophisticated camera he owned. I mostly saw the tail end or a blurred impression of the cars he had photographed on the autobahn. In one picture he had even captured the writing in capital letters on the side of the car: “PORSCHE”. Again he pronounced it for me, “Por-sheh,” looking at me in bewilderment, as I did not seem to recognize the name.

Regardless of what Syamak thought of my knowledge deficiency that day, I was on my way to developing a passion for fast cars, specifically Porsches. My family would soon move back to Germany where we had lived when I was younger, and I had all the opportunities imaginable to see the latest and greatest racing and street versions of Porsche. Even a year is an eternity to a young kid, so it was just as well that I had no idea it would be another twenty years before I actually rode in a Porsche. Somehow the idea of that ride was just as exciting as the ride itself would be many years later.

The thrill of that first drive stayed with me over the years and was only topped this past summer by the one at the “Porsche Driving Experience” in Birmingham, Alabama. By then I had finally acquired a dream car of my own, and I had taken my Porsche to a speed of 191 mph on a straight track. However, as I would soon learn, top speeds on a straight track “provide thrill, but need little skill.”

My instructor in Alabama was Hurley Haywood, the racing legend who has won the 24 hours of Le Mans three times and is the winningest driver at the 24 hours of Daytona. Together with three friends, all surgeons, I spent two full days at the Barber Motor Sports Park in Birmingham. The intense autocross and track racing sessions were combined with informative classroom time and one-on-one practical instruction from Haywood and crew.

Racing is an amazing thrill, being only feet and sometimes inches from the next car while pushing the tachometer towards redline in every gear, balancing the throttle and brakes at every turn, and listening to the screech of the tires fully engaging the road, and looking to find the perfect balance between understeering and oversteering of the car. The skid pad, a shiny smooth asphalt course which is wetted by sprinklers, provided us with the humbling experience of driving a sports car we could hardly control above 25 miles per hour through an obstacle course, that is unless we actually had the driving skills we were there to learn. Every vehicle Porsche has to offer was there for pushing to the limit, and seeing molten tire on the fender of the car after a few hard laps was amazing.

The highlight of the trip was my very last ride on the track, and for this one, I was not even the driver. It had been a hot and humid Alabama day, filled with intense precision driving, fun competition, and the sharing of extreme highs with good friends. Thinking that we were done at the end of the second day, Haywood said “want to see what it is like when you do this for a living?” A few seconds later, my helmet was back on, and I wondered what was to come next as I sat in the passenger seat of his Porsche 911 Carrera S. I did not have to wonder for long: on this ride, the gas pedal was for pressing unless you had to urgently slam hard on the composite ceramic brakes with the speedometer still sporting 130 mph on the cusp of a sharp turn, massively engaging the antilock brakes, heel-to-toe downshifting of the gears, and accelerating into the next of the 15 turns at the Barber Motor Sports Park. The harder we drove the car, the more amazing the performance got. Now I was seeing the light; there was a whole lot more driving to be done and much more to learn.

I am happily up to the task at hand.

~ Ramin Behmand, MD

A View from the Trenches

Residents at the University of Michigan have always been privileged to have the best training in plastic surgery available. From a resident’s perspective, training at the University of Michigan affords a unique opportunity to learn plastic surgery within an integrated training program and to learn with some of the best mentors in the field.

We spend a large portion of the first four years of our seven year program learning general and subspecialty surgery by rotating on nearly every general and subspecialty surgery service, including orthopedic surgery, neurosurgery, ENT, oral surgery, and anesthesia. This culminates in that rite of passage known as “Trauma Chief” during our fourth year where we run the trauma and burn service. During this time, we are striving to master the ever growing and ever changing field of plastic surgery (or at least learn enough to look somewhat knowledgeable during conference).

Finally, as we enter our fifth and sixth clinical years we dedicate ourselves solely to plastic surgery and begin to fill in what we don’t know about plastic surgery.

The desire to obtain and create knowledge drives all of us. Because of it, the Plastic Surgery program here at the University of Michigan is strongly focused on research and advancing the field of plastic surgery. The faculty all have strong research interests ranging from nerve and muscle physiology to bone growth and remodeling. All residents, regardless of their level of training, actively participate in clinical or basic science research and a dedicated research year is required during our residency. We have received some of the highest awards for clinical and research excellence that can be obtained both inside and outside the University.

With the significant clinical and research time demand, the residents have commitments outside of Plastic Surgery to balance with their academic careers. Many of us are married and have or are expecting children. As an example of our diversity, the residents maintain hobbies ranging from rock climbing to gardening and everything in between. Plastic Surgery residents are represented on the executive board of the resident’s association and actively participate at the administrative level as resident members of many boards and committees. Stress is relieved by waterskiing, getting together at the local brew pub and generally being there to just hang out.

What makes all of this possible is the ability of the plastic surgery program to recruit the best residents and faculty available. We place a high priority on developing and maintaining a feeling of community. The residents support each other and are supported by the faculty. Given our seemingly perpetually gloomy Michigan winter – where it seems the sun doesn’t show from November to March – the light provided by the people here helps to sustain and grow the program.

~ Brent Egeland, MD & Michael Bernstein, MD

Reed O. Dingman Society
The Plastic Surgery Section, with support from colleagues from across the University of Michigan, was awarded a second 5-year funding period beginning in July, 2004. The NIH Training grant in Burn, Trauma and Wound Healing Research has as PI and Program Director Cynthia Marcelo, PhD and William Kuzon, Jr, MD, PhD as co-PI and co-Director. This grant supports the training of potential academic medical surgeon/scientist in basic research related to trauma in muscle and bone, burn injuries, and wound healing and tissue engineering. Residents can train in health related areas of investigation and can choose more fundamental research fields (biophysics, tissue engineering, lipid biochemistry and molecular and cell biology). The grant supports two postdoctoral fellows per year, plus supplies, course work and travel allowances. The current trainees are Ian Lytle, MD and Keith Wolter, MD.

Ian Lytle, MD, from Cincinnati Ohio (University of Cincinnati, Department of Surgery) is studying tissue engineering, under the mentorship of David Brown, MD. Keith Wolter, MD was appointed to the training grant, July, 2006. With Maria Soengas, PhD in the Department of Dermatology, his translational research is aimed at the development of new therapeutic strategies to improve the poor prognosis of patients with metastatic melanoma. Keith recently presented his work to the Perspectives in Melanoma X Congress, held in Holland. Dr. Wolter is also pursuing a PhD in Cell and Molecular Biology. Applications for the July 1, 2007 positions are being accepted.

Dr. David Brown’s Lab continues work in tissue engineering. The lab focuses on four areas of research; cardiac, tendon, a glomerulus-like hemofilter, and skeletal muscle. Work is wrapping up on two in vivo cardiac tissue engineering projects with two papers submitted. The first involves the development of an in vivo pump by engineering a cylinder of cardiac cells that, via autorhythmic contractions, generate an intraluminal pressure. The second cardiac project is an optimization experiment. Past experiments were successful in creating functional, vascularized, 3-dimensional cardiac muscle tissue and this line of research aims to determine how cell seeding density can optimize the functional characteristics of engineered cardiac muscle.

The lab’s work in tendon tissue engineering is aimed at in vivo implantation experiments. In these studies, in vitro generated tendons are implanted into an in vivo environment resulting in tendons that display a three order of magnitude increase in tensile strength, an increase of collagen content and mature collagen fibers as seen by electron micrographs. For this work, Ian Lytle, MD was awarded the Basic Science Research Award at the annual Dingman Symposium. This work is also in its final drafts for manuscript submission. Research continues in tendon engineering, as the lab recently received a PSEF grant. Future directions are aimed at developing an in vivo model that will place transitory strain across the developing tendon construct.

The third area of research in Dr. Brown’s lab involves the development of an implantable bioartificial kidney. Focus is centered on the development of a glomerulus-like hemofilter. The device is based on a model of neoangiogenesis that produces a glomerular-like network of capillaries. The goal is to develop a hemofilter that allows for small waste particles such as BUN and creatinine to pass freely into an ultrafiltrate, yet retard larger protein molecules. The lab is currently optimizing the device and determining which factors allow for greatest ultrafiltrate production.

The last area of research involves the tissue engineering of skeletal muscle. Previous work successfully generated vascularized skeletal muscle and in this work, the lab aims at producing a skeletal muscle construct with improved functional potential. The lab has successfully neuritized developing skeletal muscle constructs, resulting in improved contractile strength, the development of neuromuscular junctions and the ability to stimulate the muscle indirectly via the nerve. The research will be presented at the American College of Surgeons where it received the Resident/Fellow Excellence in Research Award at the ACS. This work was submitted to a peer-reviewed journal.

The Craniofacial Research Laboratory headed by Steven Buchman, MD, recently focused efforts on extending the regenerative properties of distraction osteogenesis (DO) as a potential option for tissue replacement after extirpative oncologic surgery or as a reconstructive option for deformations secondary to irradiated bone. The laboratory’s long-term goals are to investigate techniques that can enhance mandibular DO healing, following irradiation therapy. In order to accomplish the lab’s goals it is crucial to accurately quantify the damage therapeutic irradiation inflicts on bone regeneration and healing during the distraction process.

Two weeks prior to the DO surgical procedure, utilizing the published protocol of mandibular distraction, laboratory rats receive 36 Gy of radiation (fractioned over 10 days). The lab evaluates bone healing using imaging methods (DEXA, micro-CT), histomorphometry and mechanically testing the tensile strength of the newly formed bone. Irradiated DO mandibles are then compared to non-irradiated mandibles to discern the degree by which the process is impaired. The findings will help to direct therapeutic interventions aimed at mitigating the specific detrimental effects of XRT on DO thereby facilitating the use of the technique as a predictable and durable means of post-oncologic head and neck reconstruction. The efforts of the lab have led to an R01 grant submission to the NIH.

Steven Buchman, MD, principal investigator of the Craniofacial Research Laboratory, recently bid farewell to Daniel Schwarz, MD, who completed his two-year fellowship in plastic surgery at the University of Michigan, and started a plastic surgery residency at Loyola University Chicago this September. Visiting plastic and reconstructive surgeon laboratory fellow, Ayman Elmeligy, MD (University of Cairo) is completing his doctoral thesis, and is returning to Egypt this October.

With the departure of Drs. Schwarz and Elmeligy, the lab continues this valuable work under the co-management of Mehreen Kakwan (BS Economics) and undergraduate students Ameen Jamali, and Jordan Stewart. The dedicated laboratory crew includes undergraduate students Mohammad Dar, Michael Jurewicz and Dionne Okafor.

Kevin Chung, MD (PI) and Sandra Kotxis continue their research on hand
surgery. Recent grants are titled: A cost-utility analysis of screw fixation versus casting for treating complete, non-displaced, waist fracture of the scaphoid and A prospective study of surgical outcomes of colar, fixed-angle plate fixation of unstable distal radius fractures.

Emily Hu, MD, PGY5, is focusing this year on clinical outcomes research. Along with her mentor, Amy Alderman, MD, she is looking at long-term, 10-15 year, quality of life, psychosocial health, and satisfaction in reconstructed and unreconstructed women after mastectomy. Previous research on patient satisfaction and the psychosocial outcomes of breast reconstruction at postoperative year one through the Michigan Breast Reconstruction Outcomes Study (MBROS) showed that procedure type had a significant effect on these outcomes. However, recent analysis of postoperative year two data is revealing unexpected changes, with fewer differences between autogenous tissue and implant reconstructions. This now brings into question when these outcomes stabilize. Few studies have adequately assessed long-term patient satisfaction, psychosocial health and quality of life outcomes in the breast reconstruction population. In addition, few studies have assessed these same outcomes in the long-term for the unreconstructed population. Both implant and autogenous tissue procedures are associated with different short and long-term complications and with different ‘ageing’ processes that can affect patient satisfaction. Long-term data is crucial for plastic surgeons to adequately counsel women during the complex decision-making process of mastectomy reconstruction.

The Plastic Surgery basic research faculty, composed of Cynthia Marcelo, PhD, Melanie Urbanchek, PhD, and Dennis Claflin, PhD together are studying muscle pathology accompanying ventral hernia with Michael Franz, MD (PI).

Dr. Marcelo performs studies of keratinocyte biology and along with Steve Feinberg, DDS, PhD (PI). The Marcelo/Feinberg laboratories are engaged in a number of cell-based bioengineering projects. Dr. Marcelo, Dr. Fujimori (a research fellow now in Japan), in collaboration with Dr. Izumi and Dr. Feinberg from Oral Maxillofacial Surgery have developed a number of techniques to isolate small, adult “stem-like” cells from epidermis and mucosal tissue. These techniques which involved mechanical separation and culturing techniques have been patented and are being expanded to develop methods for growing urethra and bladder epithelium with endpoint of creating a constructed bladder/urethra replacement tissue.

Drs. Michael Franz (General Surgery), Marcelo, Urbanchek, Kuzon, with Erika Henkelman, MD (currently a resident at the University of Illinois in Springfield) studied the role of mechanical force on the development of abdominal hernias using animal models and tissue culture systems. Drs. Kuzon, Marcelo, Urbanchek, Franz and Henkelman are also developing a new biological tissue prosthesis for abdominal wall reconstruction.

Dennis Claflin, PhD is focused on two projects: a) assessing the roles of local activation and lateral force transmission in the failure of skeletal muscle fibers from dystrophic muscle and b) determining the effects of physical activity and ageing on the contractile properties of individual skeletal muscle fibers from humans. Melanie Urbanchek, PhD, began two new grants with Paul Cederna, MD (PI) titled Bio-Integrating Structural and Neural-Prosthetic Materials and The Effects of GDNF on Peripheral Nerve Regeneration.

Several fellows made significant contributions to the plastic surgery field through their research efforts. They include: Yasushi Fujimori, MD, who is an instructor of plastic and reconstructive surgery, Osaka Medical College, Osaka, Japan. Dr. Fujimori was a visiting fellow in the laboratory of Dr. Marcelo. He has finished a study of the role of fatty acids in epidermal stem cell culture development as part of an ongoing project in the keratinocyte biology laboratories.

Vikas Dhawan, MD, PhD from Chandigarh, India (Moscow State University of Medical and Stomatological Sciences, Moscow, Russian Federation) is studying skeletal, cardiac, renal, and tendon tissue engineering. Dr. Dhawan was mentored by David Brown, MD.

Dan Krochnal, MD, from Farmington Hills, Michigan (University of Michigan) continued his outcomes study of recurrent ventral hernia repair techniques. He is currently a general surgery intern at the University of Michigan. Daniel Schwarz, MD (University of Illinois in Chicago) is studying metrics of bone healing in mandibular distraction osteogenesis undergoing irradiation with the help of Ayman Elmeligy, MD (University of Cairo). They are mentored by Steven Buchman, MD.

Two current U-M medical students have found time to complete research investigations in the laboratories. Sam Lien, from Midland, MI (Hope College) completed a project titled Temporary Paralysis of Abdominal Wall Muscles Restricts Incisional Hernia Development. Lynn “Tut” Fuller’s study is titled Evaluation of the Greater Palatine Nerve in Congenitally-Clefted Goat Palates. Lynn is from Dubuque, Iowa and St. Thomas College (St. Paul, MN).

Christina Prabhu, from Dublin, OH (North Eastern Ohio College of Medicine) studied The Effect of Aging and Laparotomy on the Capillarity of Abdominal Musculature.

Four U-M undergraduates contributed to our research goals through coursework, independent studies and summer fellowships. They were Andrea Bohl (Biomedical Engineering), from Lambertville, MI, Albert Ma (LSA) from Rochester MI, Shaun Patel (LSA), from Woodhaven, MI, and Thane Wolcott from Dexter MI (LSA). Andrea visualized nerve innervating mouse abdominal walls. Al studies neuromuscular junctions in rectus abdominus and external oblique muscles of a hernia model. Shaun studies the effects of hernias upon abdominal muscle properties, while Thane studies mouse abdominal muscle material properties following prostheses inlay.

Jacob Isenberg from Ann Arbor (Brown University) spent this summer shadowing Drs. Brown and Lytle.

– Melanie Urbanchek
This year our faculty and residents have led adventurous and exciting lives outside of the hospital. Just last May, Ed Wilkins and his wife Julie made a partial ascent of Mount Everest’s north face, and spent time exploring the surrounding countryside and learning about the local culture. Not to be outdone by Dr. Wilkins, Chris Panuccio (2nd year resident) took a trip to Alaska where he scaled the icy cliffs of the Delta range mountains and lived to tell about it. David Brown finally got his long dreamed-of pilot’s license, and now spends his spare time navigating the skies above Michigan (and buzzing unsuspecting resident and faculty homes). One of our new interns, Adam Oppenheimer, spent a month in Thailand and another month in China with charitable groups “Healing the Children” and “Operation Smile” before beginning residency here.

Of course, many of our faculty and residents excel in sports. Jeff Kozlow (3rd year resident) recently won a city league soccer championship. Andrew Zwyghuizen (3rd year resident) spent all of his free time this summer perfecting his wake-boarding. And of course Paul Cederna continues to dominate the hockey scene in southeast Michigan.

But not all accomplishments are related to adventures and sports. Jafar Hasan (5th year resident) completed his M.B.A. degree at the Ross School of Business at the University of Michigan.

At home, our families continue to grow and thrive. Christi Cavaliere is excited to announce that she is expecting the birth of her first child this February. Steve Haase’s baby boy Luke just celebrated his very first birthday, and Joon Choi’s (5th year resident) baby boy Ryan Joon (“RJ”) is looking forward to his first birthday as well. Amy Alderman’s baby girl Caroline recently celebrated her first birthday and has started crawling around the house to everyone’s delight. Mike Bernstein’s (4th year resident) daughter Sage also just celebrated her very first birthday and is doing wonderfully. Two of Riley Rees’ children have recently graduated. His oldest daughter, Jennifer, completed a Master’s degree in nursing, and his oldest son, Shawn, completed a degree in finance. Steve Buchman’s daughter Lauren just started first grade, and his twins Brevin and Ally are about to enter preschool. Hack Newman’s youngest son Matthew married Susanna Lynch in a picturesque ceremony in Damariscotta, Maine this August. Now three of his four boys are married. And finally, Doug Sammer got engaged to Ellen Konucipil this May in San Francisco.

All in all it has been an eventful year, full of adventure and new life. We expect that the next year will bring as many wonderful surprises.

– Doug Sammer, MD & Joon Choi, MD

The 2005/2006 academic term was a banner year for the faculty and residents here at the University of Michigan. Our reputation as a premier Plastic Surgery Section continues to be bolstered by the honors, awards, publications, and special recognitions that have become the hallmark of our program and continually reinforce our standing at both the national and international level. The following are just some of the highlights of our proud accomplishments and distinctions over the past academic year.

Our faculty and residents have 65 manuscripts either published or accepted for publication in such prestigious journals as JAMA (Dr. Alderman), PRS, Tissue Engineering, and the Journal of Hand Surgery. In addition, members of the Section wrote 42 book chapters and Dr. Chung is an editor on two upcoming texts on hand surgery.

Our faculty have been honored by over 25 invited external lectures and have traveled all over the world to give talks and act as visiting professors. Dr. Brown lectured in New Delhi, India on tissue engineering while Dr. Chung traveled to Spain, Vietnam, and Singapore speaking on hand surgery. Dr. Kuzon was the Hoyle Campbell Visiting Professor at the University of Toronto and Dr. Buchman was the Tord SkoogL Lecturer at the Scandinavian Plastic Surgery Society Meeting in Malmo, Sweden.

The residents, research fellows, and faculty have presented 68 abstracts regionally, nationally, and internationally demonstrating the wide range of basic and clinical research as well as surgical innovation generated in our Section. Our faculty members are either principal investigators or co-investigators on over $10,000,000 worth of extra mural funding from esteemed agencies such as the NIH, DARPA, and the Carls Foundation. Dr. Cederna has been an important force in gaining over $5,000,000 in research support from the Department of the Navy as a part of a University Research Initiative. Drs. Marcelo and Kuzon have been on point for a successful renewal of our Plastic Surgery Training Grant from the NIH, the first to go to a Plastic Surgery Section.

Finally, our faculty and staff have been the recipients of over 20 honorary awards over this past academic year including the John F. Crikelair Award (Drs. Cederna and Jacobs) from the Plastic Surgery Research Council, the Frederick A. Coller Award (Drs. Yu and Cederna), the Excellence in Research Award from the American College of Surgeons (Drs. Lytle and Brown), The Bernd Spiessel Award from the Maxillofacial Surgeons Foundation (Drs. Schwarz and Buchman), and the Best Paper of the Year Award from the American Society of Maxillofacial Surgeons (Dr. Buchman).

By any measure, it has been a very productive academic year for the Plastic Surgery Section at the University of Michigan and there are far too many accomplishments to fully account in this brief column. Please join us in congratulating all of the members of our Section for another tremendous year.

– Steve Buchman, MD