



The Z & B Mohs Micrographic Surgery and Dermatologic Oncology Fellowships



Accreditation Council for
Graduate Medical Education



American College
of Mohs Surgery

*Fellowship trained skin cancer
and reconstructive surgeons*



Welcome

This pamphlet summarizes the important aspects of the two fellowship positions that we offer in Micrographic Surgery and Dermatologic Oncology (MSDO). The fellowships are accredited by the Accreditation Council for Graduate Medical Education (ACGME). Successful completion of the fellowship qualifies you for membership in the College and qualifies you to sit for the American Board of Dermatology exam for Micrographic Dermatologic Surgery. Below we discuss our philosophy of education, describe the didactic and hands-on experience during the fellowship, and summarize aspects of relocating and living in Pittsburgh. Because we have two offices and a large number of cases, we train two fellows each year.

Each fellow is directed by Dr. Brodland. Each fellow is matched to one of our two offices. The Shadyside fellowship is located at the University Of Pittsburgh Medical Center–Shadyside Medical Building. The Jefferson fellowship is located at our Jefferson office at Jefferson Regional Medical Center Physician's Office Building.

Dr. Brodland teaches at each office at least two days a week. Although, the fellows spend the vast majority of their time at their fellowship office, in order to optimize their experience they will, on occasion, participate in clinic at the other office. When a fellow is not with Dr. Brodland, they will be with Dr. Geoffrey Lim. And, when either are out of the office, it is staffed with one of the experienced faculty Drs Zitelli, Kunishige or Willenbrink.

Our Doctors

DAVID G. BRODLAND, M.D. a native of Canton, South Dakota, received his medical degree at Southern Illinois University School of Medicine, graduating with honors. He received his resident training in Internal Medicine and Dermatology at the Mayo Clinic in Rochester, MN. In 1990 he completed his Mohs College approved fellowship training under the direction of Dr. Zitelli here in Pittsburgh. Prior to joining Dr. Zitelli in 1997, Dr. Brodland was on Faculty for 7 years at the Mayo Clinic in Rochester, MN where he was Associate Professor of Dermatology, Chair of Education, Director of Residency Program and Co-director of Dermatologic Surgery and the Mayo Cutaneous Laser Center. He continues his involvement in resident education as a clinical assistant professor with teaching appointments in Dermatology, Plastic Surgery, and Otolaryngology at the University of Pittsburgh.

Dr. Brodland has authored over 100 articles and chapters and a textbook on Reconstruction of the Nose. He has performed over 10,000 laser and cosmetic procedures. He is active in leadership positions in many dermatology organizations nationally. He is past President of the American College of Mohs Surgery. Dr. Brodland has received many honors including the Skin Cancer Foundation Fellowship Award, Mayo Foundation Scholar, and the Teacher of the Year Award at the Mayo Clinic. He is ABMS board certified in Micrographic Surgery and Dermatologic Oncology.

GEOFFREY F.S. LIM, M.D. a native of Erie, Pennsylvania, Geoffrey F.S. Lim, MD, FAAD, FACMS is fellowship trained in Mohs micrographic surgery and facial plastic reconstruction. He is also double board-certified in both Mohs Micrographic Surgery and Dermatology. Dr. Lim graduated summa cum laude in biochemistry at Allegheny College, where he was inducted into the Phi Beta Kappa honor society. He was awarded an international scholarship to conduct research at the Genome Institute of Singapore. He earned his medical degree from Drexel University College of Medicine in Philadelphia, where he was recognized for highest achievement in dermatology. He completed his internship in the department of internal medicine at Mount Sinai Beth Israel Medical Center in New York City, recognized by his peers with the 'Intern of the Year Award' for excellence in patient care.

Dr. Lim completed residency in Dermatology at the University Of Pittsburgh Medical Center, where he served as the Chief Resident. He earned the "John McSorley, M.D. Award" for attaining excellence in the field of dermatology as demonstrated through superior achievement in patient care and research. He later completed his fellowship in Mohs micrographic surgery and facial plastic reconstruction under the direction of two of the field's preeminent surgeons and educators: Dr. John A. Zitelli, who himself was trained by Frederic E. Mohs, the founder of Mohs surgery, and Dr. David G. Brodland.

Following his training Dr. Lim and his family moved to Colorado. There, he served as the director of Mohs micrographic surgery at Optum in Colorado Springs as well as co-founded a private medical, surgical and cosmetic dermatology practice, SkinMed Institute, with his wife, Dr. Mona Sadeghpour, in Lone Tree, CO. He served as principal educator in dermatology and dermatologic surgery for resident physicians at HelathONE Family Medicine and Internal Medicine Residency Programs as well as medical students at the University of Colorado and Rocky Vista University.

Dr. Lim has published numerous scientific articles in leading peer-reviewed journals, as well as authored book chapters and presented at national academic meetings. He presently serves on committees within the American College of Mohs Surgery, American Society for Dermatologic Surgery, and American Academy of Dermatology, in addition to volunteering his time advocating for patient safety.

JOHN A. ZITELLI, M.D. a native of Pittsburgh graduated Phi Beta Kappa from the University of Pittsburgh and graduated with highest honors from the University of Pittsburgh Medical School of Medicine. He received his Medicine and Dermatology training at the University Of Pittsburgh Medical Center. In 1980, he completed his fellowship training in Mohs Micrographic Surgery under the direction of Dr. Frederic Mohs at the University of Wisconsin. He taught for 7 years at the University of Pittsburgh as Associate Professor of Dermatology and Interim Chairman of the Department.

He has been in private practice since 1987 and continues to teach students and residents in Dermatology, Otolaryngology, Plastic Surgery of the University Of Pittsburgh Medical School with appointments of Adjunct Clinical Associate Professor of Dermatology, Otolaryngology, and Plastic Surgery.

Dr. Zitelli has authored over 100 articles and chapters on skin cancer surgery and reconstruction. He is recognized as a leader in his field. He has held leadership positions in most of the local, state and national dermatology organizations and served as president of the Pennsylvania Academy of Dermatology and the American College of Mohs Surgery. Some of his honors include the Frederic E. Mohs award for Distinguished Service to the American College of Mohs Micrographic Surgery and Cutaneous Oncology, The Distinguished Service Award of the American College of Mohs Surgery, The Samuel J. Stegman Award for Distinguished Service of the American Society for Dermatology Surgeon and honorary membership in the American Dermatological Association and the American Academy of Facial Plastic and Reconstructive Surgery. He is ABMS board certified in Micrographic Surgery and Dermatologic Oncology.

JOY KUNISHIGE, M.D. is a native of Chicago. She was a National Merit Scholar and graduated Phi Beta Kappa from the University of Florida, where she also completed medical school. Dr. Kunishige served as Chief Resident during dermatology residency at M.D. Anderson Cancer Center & the University of Texas in Houston. She pursued her fellowship in Mohs Surgery, Cutaneous Oncology, and Facial Plastic & Reconstructive Surgery, under the direction of Drs. John Zitelli & David Brodland. This training was officially approved by the American College of Mohs Surgery and the AMA's Accreditation Council of Graduate Medical Education.

Dr. Kunishige serves as Associate Director of our fellowship training program. In addition to articles on melanoma, cutaneous lymphoma, and board review, she is the author of New Beauty Magazine's book *Beautiful Skin Revealed*. Dr. Kunishige is a board-certified dermatologist and active member of the American Academy of Dermatology, American College of Mohs Surgery, American Society of Dermatologic Surgery, and Women's Dermatologic Society. She is ABMS board certified in Micrographic Surgery and Dermatologic Oncology.

TYLER J. WILLENBRINK, M.D. is a native of Cincinnati, Ohio, graduated *summa cum laude* from the University of South Carolina Honors College. He received his medical degree from University of South Carolina School of Medicine where he graduated *summa cum laude* and was inducted into the Alpha Omega Alpha Medical Honor Society. He completed his dermatology training at the University of Texas at Austin where he served as chief resident during his final year. He pursued his fellowship in Mohs Surgery, Cutaneous Oncology, and Facial Plastic & Reconstructive Surgery under the direction of Drs. John Zitelli & David Brodland.

Dr. Willenbrink has co-authored a multitude of research publications in top medical journals and has presented at both national and international academic meetings on a variety of topics related to Mohs surgery and cutaneous oncology. Dr. Willenbrink was a recipient of the "Tromovitch Award". He has served on committees in national dermatologic organizations. He is a member of the American College of Mohs Surgery and a fellow of the American Academy of Dermatology. He is ABMS board-certified in Micrographic Surgery and Dermatologic Oncology.

Our Staff

A significant part of your training will come from our experienced and excellent staff. They will help you learn coding, billing, staff management, histology & frozen section techniques, surgical assisting, and more. Our staff has very little turnover and are experts in their field. They understand teamwork and will always have your best interests in mind.



The Fellowship Program

Teaching Philosophy

We believe that if you want to learn, we love to teach. We believe in teaching you new ways to learn during fellowship and how to continue to learn after fellowship. Throughout most of pre-med, medical school, and residency, learning has emphasized reading, memorization, and trust that your teachers are correct in what they say. However, at this stage of learning after residency and fellowship, your education is so far advanced and specialized, that it is now your responsibility to collect the evidence, digest it, and reach your own conclusions. Reading only the abstracts and conclusions of journal articles is no longer good enough to become an expert in your field. Accepting the summaries from throw away journals as scientific proof is careless learning.

During your fellowship year, our teaching will emphasize evidence based learning. Together, we will review the advances in all related fields of medicine, study the evidence, weigh the evidence, and decide if the evidence is valid enough to influence how we practice our specialty. We will add to your fund of knowledge by recommending an extensive self directed reading schedule. We want you to question everything, and believe nothing without knowing the evidence to support or refute it. We will guide you, encourage you, challenge you and support you. With this process comes the discipline to learn now and to continue your education after fellowship.

The Teaching Plan

The daily schedule for the fellow is similar each day. Mohs surgery is done every day, beginning first thing each morning. Follow-up patients are seen during the later morning while second layers are taken, and some reconstructions are begun. In the late morning and afternoon, after our group lunch, time is spent finishing Mohs and concentrating on reconstruction. Other minor surgeries and cosmetic procedures are also done in the afternoon.

The focus of teaching is on Mohs surgery and reconstruction. Our two programs perform 6000 Mohs cases each year, and each fellow will observe at least 3000 of those cases. We treat all types of cutaneous tumors including the more rare cases of melanoma, DFSP, Merkel cell tumors, extramammary Paget's disease, sebaceous carcinoma, AFX, and more. We have a special interest and expertise in treating melanoma using MART-1 and other immunoperoxidase stains for margin examination of other high risk cancers. Patients are referred to our practice from all over the world for treatment of difficult cases.

The fellow's surgical experience is extensive. Hands-on training begins on the first day of fellowship. Besides observing the largest and most difficult cases, and participating in the management of rare and difficult tumors, the fellow personally performs approximately 1000 Mohs cases on their own, start to finish, including the reconstruction. By the end of the fellowship year, you will have seen almost every type

of cutaneous tumor, performed even the most difficult repairs including forehead flaps and you will have discussed and formulated an opinion on all aspects of cutaneous oncology.

Reconstruction is also a focus of your learning, including all types of facial reconstruction such as forehead flaps, nasal lining, cartilage grafting, ear reconstruction, interpolation flaps, full and split thickness grafts, and difficult lip repairs. We refer very little out of the office for reconstruction. We work with others specialties closely when a multidisciplinary approach is necessary, including oculoplastics, otolaryngology, medical and surgical oncology, and others.

The fellow's training also includes extensive frozen section histopathology training that includes immunohistochemical staining. This means learning to interpret slides at the triple-headed microscope with the director's everyday. The fellow interprets the frozen sections for each case, and commits to their interpretation on the map. Then the fellow and the director read the slide together. This helps pathology training significantly. The fellow will also learn to cut and stain Mohs slides with proficiency, so that they can start their own lab and teach their own laboratory technician. We have a large teaching collection of frozen section slides for review of rare and interesting pathology as well as a digital slide library. The fellowship training will qualify you to obtain a CLIA certificate for a high complexity laboratory, a requirement for billing for Mohs surgery.

Our fellowship also provides excellent background for cosmetic and dermatologic procedures. In addition to the exposure to the principles of aesthetic repairs, direct experiences in various cosmetic procedures are also available. Botox, sclerotherapy, scar revisions, resurfacing procedures, CO2 laser, vascular lesion laser, diode laser, and photodynamic therapy are taught and performed by the directors and their associates. Exposure to other cosmetic procedures can be arranged depending on the fellow's interest.

There is continuity of care. The fellow will see the appearance of their work at one week post-operative bandage changes, and 3 and 6 month follow-up visits. This continuity of care also gives you the opportunity to see complications and learn how to manage them.

The Didactic Schedule

The didactic schedule for the fellow is very important in order to complete your training and ensure that you are an expert in cutaneous oncology. There is an extensive reading schedule of books, chapters and papers to cover the core curriculum. This is largely self directed, but discussed as needed to unravel controversies, untruths, and answer questions. When studied properly, it is a very intellectually stimulating part of the training process.

A favorite part of the fellowship is Journal Club held one evening each month for the two fellows, directors, and frequent ENT and Plastics residents. The fellows screen journals outside of dermatology, such as surgical oncology, ENT, plastics, ophthalmology and chooses 5-8 appropriate articles each month. During Journal Club, we discuss not only methods, but also review for proper evidence, and compare results to our current knowledge, looking for anything that can improve our patient care. Journal Club is an important tool that teaches the fellow how to keep up with the literature after training, and also emphasizes how to evaluate the literature properly.

The fellows attend, at our expense, the ASDS and the Mohs College meeting each year. Monthly, the local Pittsburgh Academy of Dermatology meets for patient presentations and an invited lecturer of national stature. This exposure to current techniques and teaching in other institutions allows the fellow to compare his training and knowledge with his/her peers. Each year we have a special anatomy and advanced reconstruction session utilizing two fresh cadaver heads. During this session the Fellows dissect important anatomic structures and perform more rare and advanced reconstruction that they might not see regularly during their training.



***Dr. Brodland, Dr. Contestable, Dr. Motosko, Dr. Zitelli, Dr. Lim learning at the Cadaver Reconstruction Session.**

We teach the Dermatology residents from the University of Pittsburgh, as well as Otolaryngology and Plastic surgery residents. Their rotation through our office is a valuable exposure to the knowledge and perspectives of other specialties and an enlightening experience for our fellows.

Practical training in office management is also a very important part of the fellowship experience. There is training in the entire management of the office, from employee management, to details on running the office. The fellow is present and active in monthly staff meetings and takes part in all staff matters to experience the entire spectrum of office management. The fellow will also learn how to start up and run an accredited laboratory, learning the basics of state and federal regulations, and fire and

safety regulations. There is training in billing, coding and insurance matters. We have extensive experience in coding and reimbursement issues at all levels - local, state and federal, including private payers and Medicare. We will teach the fellow correct coding and how to fight battles and collect what is due to them for their work. They learn the principles of the Resource Based Relative Value System (RBRVS), Current Procedural Terminology (CPT), and also the regulations required to maintain compliance for CLIA and HIPPA.

The teaching program encompasses the six competencies outlined by the ACGME.

1. Medical Knowledge
2. Patient Care
3. Professionalism
4. Interpersonal and Communication Skills
5. Practice-Based Learning and Improvement
6. System-Based Practice

The didactic and clinical experience should prepare each fellow to start a practice, or enhance any private or university practice that they join. It will give you the confidence to enter the profession at any level that you may choose, and insure your success (see prior fellows' experience below). The most important result is that we train fellows to be the best physician, not just a Mohs surgeon. The didactic and clinical experience should prepare each fellow to start a practice, or enhance any private or university practice that they join. It will give you the confidence to enter the profession at any level that you may choose, and insure your success (see prior fellows' experience below). The most important result is that we train fellows to be the best physician, not just a Mohs surgeon.

WEEKLY SCHEDULE/SHADYSIDE

	MON.	TUES.	WED.	THURS.	FRI.
7:30-1:30	MSDO	MSDO	MSDO	MSDO	MSDO
1:30-4:00	Reconstructive & Cosmetic Surgery				
4:00-6:00	Case Discussion & Basic Science Review, Library Study & Research, Journal Club				
Preceptor	LIM	LIM/BRODLAND	BRODLAND	LIM	BRODLAND

WEEKLY SCHEDULE/JEFFERSON

	MON.	TUES.	WED.	THURS.	FRI.
7:30-1:30	MSDO	MSDO	MSDO	MSDO	MSDO
1:30-4:00	Reconstructive & Cosmetic Surgery				
4:00-6:00	Case Discussion & Basic Science Review, Library Study & Research, Journal Club				
Preceptor	BRODLAND	BRODLAND/LIM	LIM	BRODLAND	LIM

Z&B MICROGRAPHIC SURGERY AND DERMATOLOGIC ONCOLOGY FELLOWSHIP

DIDACTIC READING SCHEDULE AVAILABLE AT THE OFFICES

TEXTS:

HARMON-MOHS MICROGRAPHIC SURGERY

KANTOR – DERMATOLOGIC SURGERY

BAKER – LOCAL FLAPS IN FACIAL RECONSTRUCTION

AASI – ATLAS OF PRACTICAL MOHS HISTOPATHOLOGY

**ROHRER-FLAPS AND GRAFTS IN DERMATOLOGIC
SURGERY**

KAUFMAN-PRACTICAL FACIAL RECONSTRUCTION:

THEORY AND PRACTICE

BOLOGNA-DERMATOLOGY

BERCOVITCH – DERMATO ETHICS

MORGAN – ATLAS OF MOHS AND FROZEN SECTION

FELLOW’S BIBLIOGRAPHY—A COLLECTION OF CLASSICAL

ARTICLES FROM THE LITERATURE. QUALDRM

PARTNERS, ZB SHARES, FELLOWS, FELLOW

RESOURCE MATERIALS, MOHS FELLOWSHIP

BIBLIOGRAPHY PROJECT.

MOHS COLLEGE WEBSITE FELLOW’S LECTURE SERIES

FACIAL ANATOMY COURSE for FELLOWS:ACMS WEBSITE

JULY

BOLOGNA 47

HARMON 1

KANTOR 1-3, 6, 13, 18, 32, 33

BAKER 1-5

ATLAS-LEFFEL 2

FACULTY PUBLISHED PAPERS

ETHICS JAAD

PATIENT SAFETY MODULES (PATIENT SAFETY NETWORK)

Z&B PUBLICATION BOOK

FELLOW’S BIBLIOGRAPHY

MOHS COLLEGE WEBSITE FELLOW’S LECTURE SERIES

FACIAL ANATOMY COURSE FOR FELLOWS: ACMS WEBSITE

AUGUST

HARMON 12

KANTOR 9, 12, 30, 31, 56

BAKER 6-8

ATLAS-LEFFEL CHAPTER 3-4

POWERPOINT LECTURES-RADIATION PHYSICS

FACULTY PUBLISHED PAPERS

ETHICS JAAD

QI MODULES (Plan-do-act-study model)

Z&B PUBLICATION BOOK

FELLOW’S BIBLIOGRAPHY

MOHS COLLEGE WEBSITE FELLOW’S LECTURE SERIES

FACIAL ANATOMY COURSE FOR FELLOWS: ACMS WEBSITE

SEPTEMBER

KANTOR 20-23
BAKER 9-12
ATLAS-LEFFEL CHAPTER 5
TEACHING SLIDE COLLECTION
FACULTY PUBLISHED PAPERS
ETHICS JAAD
DERMATOETHICS CHAPTERS 1-19
Z&B PUBLICATION BOOK
FELLOW'S BIBLIOGRAPHY
MOHS COLLEGE WEBSITE FELLOW'S LECTURE SERIES
FACIAL ANATOMY COURSE FOR FELLOWS: ACMS WEBSITE

OCTOBER

HARMON 2
KANTOR 24-27
BAKER 13-14
ATLAS-LEFFEL 6
TEACHING SLIDE COLLECTION
FACULTY PUBLISHED PAPERS
ETHICS JAAD
Z&B PUBLICATION BOOK
FELLOW'S BIBLIOGRAPHY
MOHS COLLEGE WEBSITE FELLOW'S LECTURE SERIES

NOVEMBER

HARMON 3
KANTOR 28, 38, 39, 40
BAKER 15-16
ATLAS-LEFFEL 7
TEACHING SLIDE COLLECTION
POWERPOINT LECTURES ON RECONSTRUCTION/VIDEO LIBRARY OR RECONSTRUCTION
FACULTY PUBLISHED PAPERS
Z&B PUBLICATION BOOK
ETHICS JAAD
FELLOW'S BIBLIOGRAPHY
MOHS COLLEGE WEBSITE FELLOW'S LECTURE SERIES

DECEMBER

HARMON 4
KANTOR 41-45
BAKER 17-18
ATLAS-LEFFEL CHAPTER 8
TEACHING SLIDE COLLECTION
POWERPOINT LECTURES RECONSTRUCTION/VIDEO LIBRARY ON RECONSTRUCTION
ETHICS JAAD
DERMATOETHICS 20-39
Z&B PUBLICATION BOOK
FELLOW'S BIBLIOGRAPHY
MOHS COLLEGE WEBSITE FELLOW'S LECTURE SERIES

JANUARY

HARMON 5
KANTOR 10, 34-36
BAKER 19-21
ATLAS-LEFFEL CHAPTER 9

JANUARY(cont)

**TEACHING SLIDE COLLECTION
POWERPOINT LECTURES ONCOLOGY
ETHICS JAAD
Z&B PUBLICATION BOOK
FELLOW'S BIBLIOGRAPHY
MOHS COLLEGE WEBSITE FELLOW'S LECTURE SERIES**

FEBRUARY

**HARMON 6
BAKER 22-23
ATLAS-LEFFEL CHAPTER 10
POWERPOINT LECTURES MISC
ETHICS JAAD
FELLOW'S BIBLIOGRAPHY; MOHS COLLEGE WEBSITE FELLOW'S LECTURE SERIES**

MARCH

**HARMON 7
BAKER 24-25
ATLAS LEFFEL CHAPTER 11
POWER POINT LECTURES MISC
INTERPERSONAL SKILLS – EMOTIONAL INTELLIGENCE AT WORK
Z&B PUBLICATION BOOK
FELLOW'S BIBLIOGRAPHY
MOHS COLLEGE WEBSITE FELLOW'S LECTURE SERIES**

APRIL

**HARMON 8-9
BAKER CHAPTER 26
ATLAS-LEFFEL CHAPTER 12
INTERPERSONAL SKILLS – EMOTIONAL INTELLIGENCE AT WORK
FELLOW'S BIBLIOGRAPHY
MOHS COLLEGE WEBSITE FELLOW'S LECTURE SERIES**

MAY

**HARMON 10
BAKER CHAPTERS 27
ATLAS-LEFFEL 13-14
ETHICS JAAD
FELLOW'S BIBLIOGRAPHY
MOHS COLLEGE WEBSITE FELLOW'S LECTURE SERIES**

JUNE

**HARMON 11
BAKER CHAPTER 28
ATLAS CHAPTER 15
FRAUD & ABUSE-COMPANY FILE
CPT CODING -CPT MANUAL
FELLOW'S BIBLIOGRAPHY
MOHS COLLEGE WEBSITE FELLOW'S LECTURE SERIES**

Strengths

The strengths that this program offers relate to the volume and complexity of the Mohs cases and their reconstructions. You will learn about every cutaneous tumor, you will see every cutaneous tumor, and you will personally manage patients with most of them. You will leave your fellowship feeling comfortable excising difficult Mohs layers, and confident that you can reconstruct even the most difficult surgical defects. Your experience in cosmetic surgery and in the esthetics of reconstruction will enable you to deftly handle revisions and refinements when needed. You will have the experience to train your own staff, including clinical, laboratory and clerical employees. If you choose to build an Ambulatory Surgery Center, you will understand the rules and regulations required to start and manage such a facility. We have a 100% ABMS Micrographic Dermatologic Surgery pass rate (31 fellows).

The faculty for our programs is senior, experienced faculty. You benefit by the years of surgical experience and benefit by exposure to five different senior surgeons. There is only one fellow at each location and daily teaching is intense and one on one. It is not diluted with groups of students, residents, or other fellows.

A strength that is often overlooked when evaluating fellowship programs is the longevity and knowledge of the clerical, laboratory and medical administrative staff. Our office experiences a low turnover of staff, which allows each staff member to become proficient and an expert in their area of work. From our nurses to the front office staff, they all provide the fellow with additional resources of information and training. They enjoy teaching too.

The fellowship location is a strength. Pittsburgh is a wonderful city in which to live and study. Besides having been voted as one of America's most livable cities, Pittsburgh is home to one of the top medical centers in the world.

The fellowship is the beginning of a lifelong relationship with the program and former and future fellows that train here. Historically, we have become a special family of Mohs surgeons that help each other with new problems, and continue to academically grow together. From time to time, we gather at meetings for dinner, or join together at our own retreats for continued fellowship.

The Fellow's Duties

The fellow's primary duty is to learn and accomplish the goal of the educational program. This includes diligent reading of the didactic schedule, preparation for Journal Club, and studying about the daily problems faced in patient care. One original research project is required.

There is no "scut" work. Fellows do not dictate; they are not required to staff clinics to generate income for their salaries, and they have no weekend clinical duties or any call schedule. This is a purely educational fellowship.

Research Projects

Fellows are required to complete an original research project that is suitable for publication in a peer reviewed journal. Our fellows have published an impressive list of projects and have contributed to the fund of knowledge of our specialty. The majority of projects have impacted the way we treat patients and manage our practice. Some of these projects include:

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|---------------------------|---|
| <u>J. Sabetta</u> | <u>The Incidence of Bacteremia during Skin Surgery.</u> This project documented that surgery on non-infected skin was associated with a very low incidence of bacteremia and established guidelines for antibiotic prophylaxis in dermatologic surgery. |
| <u>D. Wolff</u> | <u>Surgical Margins for Basal Cell Carcinoma.</u> This project established the rule of 4mm margins for standard excision of well-defined basal cell carcinomas. |
| <u>R. Moy</u> | <u>HPV-16 in Periungual Squamous Cell Carcinoma.</u> This study documented that HPV is a common cause of squamous cell carcinoma in this location. |
| <u>D. Brodland</u> | <u>Surgical Margins for Squamous Cell Carcinoma.</u> This established the guidelines for standard excision of squamous cell carcinoma, which have been widely adopted internationally. |
| <u>C. Brown</u> | <u>Surgical Margins for Primary and Recurrent Melanomas, and Mohs Surgery for Melanoma.</u> These three papers not only added evidence for surgical margins for melanoma, but also documented that Mohs surgery is safe and effective, that recurrent (persistent) melanomas have a prognosis equal to primary melanomas rather than metastatic melanomas, and that 5mm margins are inadequate for melanoma in situ. |
| <u>T. Parker</u> | <u>Surgical Margins for DFSP.</u> This article provides evidence for guidelines for excision. |
| <u>M. Huether</u> | <u>Mohs Surgery for Spindle Cell Tumors of the Skin.</u> This article discusses the success of Mohs surgery compared to standard surgery for a variety of spindle cell tumors.

<u>Intra-incisional Clindamycin for Skin Surgery.</u> This method replaced intra-incisional nafcillin as our standard for antibiotic prophylaxis for skin surgery. |

- A. Hendi** **Mohs surgery for Extramammary Paget's disease.** This study documented that EMPD is a difficult tumor to treat, even with Mohs, and stimulated the routine use of CK-7 staining in our practice, with dramatic results.
- Melanocyte Density in Normal Sun-exposed Skin.** This study defined what is normal in sun-exposed skin and helped to reduce the over-diagnosis of melanoma of surgical margins on the face.
- R. Griego** **Intra-incisional Prophylactic Antibiotics for Dermatologic Surgery.** This landmark article established the method of using intra-incisional antibiotics rather than oral antibiotics to reduce the incidence of wound infections after skin surgery.
- J. Cook** **Mohs Micrographic Surgery; A Cost Analysis.** This landmark article documented that Mohs surgery is cost effective, similar to office based excision without frozen section control, and less expensive than ASC or hospital excision.
- J. Boyer** **Local Control of Primary Merkel Cell Carcinoma.** This article suggests that if Merkel Cell carcinoma is completely removed by Mohs surgery with clear margins then there is no significant benefit to radiation therapy. However, if the Merkel cell carcinoma is excised by traditional methods that may leave positive margins, then radiation treatments locally may play an important role.
- G. Bricca** **Immunostaining Melanoma Frozen Sections: the 1 Hour Protocol.** In this article, Greg perfected the ability to perform quick and reliable Mart-I stains on frozen sections for treating melanoma. This dramatically improved our ability to treat melanoma.

<u>K. Johnson</u>	<u>The Meaning of Microscopic Metastases of Melanoma.</u> This project summarizes the research that documents that not all microscopic deposits have the potential to develop into clinically harmful disease, and therefore raises the questions of how hard we search for microscopic metastatic disease and what we do about it.
<u>M. Murphy</u>	<u>Errors in the Interpretation of Mohs Histopathology Sections over a One year fellowship.</u> This article documented in a definitive way that extensive proctor training is necessary in order to reduce errors in the reading and interpretation of Mohs histopathology sections and that nearly 15 hundred cases were required in order to reduce the level of errors to acceptable level further supporting the need for fellowship training for Mohs surgeons to ensure proficiency in this essential part of Mohs surgery.
<u>J. DeBloom</u>	<u>The Invasive Growth Potential of Residual Melanoma and Melanoma in situ.</u> By comparing Breslow depths at the time of primary treatment and the time of marginal recurrence, this paper provided the first quantitative evidence of this invasive potential of inadequately treated melanoma in situ and invasive melanoma. These findings underscored the importance of complete local tumor removal at the time of primary treatment.
<u>L. Ravitiskiy</u>	<u>Cost Comparison of Mohs Micrographic Surgery and Conventional Excision.</u> This momentous article confirms that Mohs micrographic surgery achieves better cure rate at lower costs than conventional excision. Thus, over the years Mohs surgery remained cost effective for a variety of cutaneous malignancies.
<u>T. Bramlette</u>	<u>The Microanatomy and Clinical Outcomes of the Paramedian Forehead Flap.</u> This article documented that the paramedian forehead flap is a random pattern flap as opposed to axial artery flap. Additionally, the article suggests the pre-operative Doppler studies to establish the exact location of the supratrochlear artery may not be necessary to obtain equal clinical outcomes and flap survival.
<u>J. Kunishige</u>	<u>Surgical Margins for Melanoma In Situ.</u> By reviewing the number of stages needed to treat over 1,000 cases of melanoma in situ with Mohs, this study determined the margins necessary to achieve 95% clearance. Thus, this article set a new gold standard for wide excision of melanoma in situ. It also showed less than 1% recurrence rates when using Mohs surgery for melanoma, supporting its use and efficacy.

P. Sniezek

Randomized controlled Comparison of Acetaminophen versus of NSAIDS Alone and in Combination with Acetaminophen Versus Prescription Narcotics for Pain Control Following Mohs Surgery and Reconstruction.

In this IRB approved, double-blinded placebo controlled study; Dr. Sniezek found that a combination of acetaminophen plus Ibuprofen was a safe and highly effective regimen for controlling post operative pain following Mohs surgery and reconstruction. This combination was statistically superior to acetaminophen and Tylenol #3 for pain control. Additionally, there were no increases in bleeding complications with the use of ibuprofen. The combination of NSAIDS & Acetaminophen is now widely adopted in many specialties in lieu of narcotics due to more than 40 similar studies mimicking the methods we used to study it.

C. Weinberger

High risk cutaneous squamous cell carcinoma treated with Mohs surgery randomized to elective management of the draining lymph nodes vs. periodic clinical nodal observation.

This is a prospective, randomized collaborative study with the UPMC ENT department which is comparing two accepted standards of management regarding treatment of the clinically-negative neck for high risk SCC's: observation with treatment only upon detection of palpable nodal disease vs empiric treatment of the lymph node basin as per the standard ENT protocol. Through this study, which is likely to be completed in 10 years, we hope to obtain clinical information regarding survival outcomes.

B. Merritt

A Multi-Site Prospective Study of the Adverse Events and Complications Associated with Mohs Surgery for the Treatment of Skin Cancer. This study involved 12 sites around the United States, with the goal of evaluating the safety of Mohs surgery.

M. Campoli:

A prospective multicenter cohort study of prospective analysis of patients with cutaneous squamous cell carcinoma undergoing Mohs Micrographic surgery to investigate the clinical, histologic, and treatment characteristics associated with incidental perineural invasion, i.e. histologic perineural invasion, extending beyond the tumor bulk, in patients with cutaneous squamous cell carcinoma.

S. Freeman

Prognostic value of sentinel lymph node biopsy status in melanoma patients based on depth of the primary tumor. This meta-analysis is the largest of its kind and was designed to measure the actual prognostic value of sentinel lymph node biopsy in melanoma patients with tumors of various depths.

<u>S. Valentin</u>	<u>The Value of using Mart I Immunostains for evaluation of Surgical Margins in Melanoma and Melanoma In Situ.</u>
<u>O. Perez</u>	<u>Correlation between Clinical and Histiologic Tumor Margins Observed During Excision of Basal cell and Squamous cell carcinoma with Mohs Micrographic surgery.</u> This is a prospective, multicenter study to help identify subtypes of BCC and SCC with greatest tendency to sub-clinical spread.
<u>E. Brent Kirkland</u>	<u>Mitotic Rate for Thin Melanomas.</u> This article reviews the use of 1 mitosis/mm ² as a staging tool and prognostic variable in thin melanomas (Breslow depth ≤ 1 mm). In particular, the article addresses whether a single mitotic figure should be used as a staging threshold for thin melanomas when deciding to pursue a sentinel lymph node biopsy.
<u>P. Ellison</u>	<u>A Prospective Multi-Center Characterization of Mohs Micrographic Surgery for Melanoma.</u> This IRB approved, prospective, multi-center study is designed to describe and characterize the use of Mohs surgery in the treatment of melanoma. Accuracy, reliability, reproducibility, cost effectiveness and survival outcomes are central considerations being evaluated by this study.
<u>L. Stigall</u>	<u>Mohs Micrographic Surgery for Melanoma and Melanoma In Situ of the Trunk and Proximal Extremity.</u> This is a prospective multi-center study designed to show the efficacy and long term outcomes of patients with melanoma in situ of the trunk and proximal extremities treated with Mohs micrographic surgery. This study has the largest patient cohort and longest duration of follow up on melanoma patients treated by any surgical modality to date.

M. Machan

Effectiveness and Advantages of On-Site Pathology Services in the Care of Skin Cancer Patients. This IRB-approved, multi-center study addresses the concerns in the June 2013 Government Accountability Office report regarding the suspected abuse of self-referral pathology services by dermatologists by assessing the effectiveness and extolling the advantages of on-site (self-referral) pathology services in the care of skin cancer patients.

V. Terushkin

Digit-Sparing Mohs surgery for melanoma. This study evaluates the outcomes of a prospectively collected sample of digital melanomas treated with Mohs Micrographic surgery. Outcomes, such as local recurrence and melanoma-specific survival, are compared to historical controls treated with wide local excision and/or digital amputation.

Mohs Surgery for Merkel Cell Carcinoma. This study evaluates the outcomes of Merkel cell carcinoma treated with Mohs surgery and provides evidence that post-op radiation is unnecessary after Mohs in contrast to WLE.

B. Greenhaw

A Gene Expression Profile Test Used for Estimating Prognosis in Invasive Melanoma. This single-institution, retrospective study is designed to evaluate the prognostic ability of a commercially available gene expression test used in a group of prospectively collected invasive melanoma patients and to compare the test's accuracy in relation to other known clinical and histologic prognostic indicators."

A. Tschetter

5-year clinical outcomes of patients with and without perineural invasion in cutaneous squamous cell carcinoma: a prospective, multicenter cohort study. This study will provide 5-year outcomes data for the previously published study: "A prospective evaluation of the clinical, histologic, and therapeutic variables associated with incidental perineural invasion in cutaneous squamous cell carcinoma: (Campoli M, Brodland DG, Zitelli J. J Am Acad Dermatol. 2014 Apr; 70(4): 603-6). Data reported from this multicenter study will include local cutaneous recurrence rates, recurrence-free survival, disease-specific survival and overall survival for the total cohort as well as multivariate analysis comparing patients with incidental perineural invasion to matched controls without perineural invasion."

G. Marrazzo

Clinical outcomes in high-risk squamous cell carcinoma patients treated with Mohs micrographic surgery and clinical observation.

This single-institution, retrospective study aims to validate the Brigham-Women's Hospital staging system for cutaneous squamous cell carcinoma in an independent population and demonstrate favorable outcomes, when stratified by T-stage, for hrSCC patients treated with MMS and clinical observation.

M. Burnett

Mohs Micrographic Surgery for Invasive Melanoma of the Trunk and Proximal Extremity.

This is a prospective study of the largest cohort of patients with invasive melanoma of the trunk and proximal extremities treated with Mohs micrographic surgery. This study also has the longest duration of follow-up of melanoma patients treated by any surgical modality.

D. Panther

Clinical and pathologic characteristics of low-risk versus high-risk squamous cell carcinoma, as defined by gene expression profile.

This ongoing study seeks to characterize SCC according to their designation as low or high risk for recurrence, which will be determined by a gene expression profile test. **Invasive Melanoma**, a chapter in *Evidence Based Procedural Dermatology* This book chapter seeks to review and weigh the evidence for procedural treatment of invasive melanoma.

E. Stiegel

Outlier Melanomas on the Trunk and Proximal Extremity.

This retrospective study aims to evaluate the capability and potential value of Mohs surgery for detection and treatment of “outlier” melanomas – tumors that extend sub-clinically beyond traditionally – recommended excision margins – on the trunk and proximal extremities. Book chapter: Nasal reconstruction. This chapter in “Mohs Micrographic Surgery: From Layers to Reconstruction” will review various techniques and principles regarding reconstructive surgery of the nose.

M. Powers

A 5-year Prospective, Multi-Institutional Characterization on the Utilization of Mohs Micrographic Surgery for Melanoma.

This study aims to evaluate and describe local control/cure rates, overall survival rates and characterization of melanoma recurrence after Mohs surgery. Book Chapter: Auricular Reconstruction. This chapter in “Mohs Micrographic Surgery: From Layers to Reconstruction” will review various techniques and principles regarding reconstruction of the ear.

R. Thorpe

Melanoma Nomogram to Predict High Risk Patients Using a Gene Expression Profile Test in Conjunction with Tumor and Patient Characteristics.

This study aims to develop a clinically relevant nomogram to

R. Thorpe cont'd

predict 1-year and 5-year recurrence free survival, distant metastasis free-survival, and melanoma-specific survival using the latest in gene expression profiling (GEP) in cancer biology and readily available information from routine pathology reports. By integrating GEP data, a more accurate staging nomogram was developed.

G. Lim

Correlation of Basal Cell Carcinoma Subtype with Histologically Confirmed Subclinical Extension during Mohs Micrographic Surgery. This multi-center prospective study correlated the histologic subtype of basal cell carcinoma with increased likelihood of subclinical extension as defined by the number of Mohs stages required to clear tumor. It also investigated the tendency of basal cell carcinoma to drift from one subtype to another during Mohs surgery.

T. Soleymani

Clinical outcomes of high-risk cutaneous squamous cell carcinomas treated with Mohs micrographic surgery alone: an analysis of local recurrence, regional nodal metastases, progression-free survival, and disease-specific death. This study, which is the largest high-risk cSCC cohort to date treated exclusively with MMS, investigates the clinical outcomes of high-risk cSCC treated with MMS alone, analyzing LR, NM, DM, and DSD and compared our outcomes with historical published controls using both the BWH and AJCC 8th edition staging systems. In addition, we analyze progression-free survival and DSD in those patients who underwent salvage head and neck dissection for progressive regional nodal metastases.

A prospectively collected, cross-sectional cohort analysis of the efficacy of pre-operative, intra-incisional antibiotic prophylaxis in Mohs micrographic surgery: an effective method in reducing surgical site infections while minimizing systemic antibiotic use. This was a prospectively collected, cross-sectional cohort study of 11,412 patients who underwent Mohs micrographic surgery in an ambulatory surgical facility over a 22 month period to assess the efficacy of single-dose, pre-operative, intra-incisional clindamycin prophylaxis as an alternative to oral or systemic antibiotic therapy to decrease the risk of postoperative wound infections in dermatologic and facial reconstructive surgery.

B. Beal

Outcomes of invasive melanoma treated with Mohs Micrographic Surgery. In this prospective multicenter study, we examined outcomes of invasive melanoma treated with Mohs Micrographic Surgery by AJCC stage and Breslow depth using a combined dataset of the University of Pennsylvania and Zitelli & Brodland, PC. This publication will allow for easy comparison of outcomes by invasive melanoma treated with Mohs Micrographic Surgery vs standard surgical excision.

B. Beal cont'd

Cost-effective analysis of invasive melanoma of the trunk and extremity treated with Mohs Micrographic Surgery vs standard surgical excision

Our aim was to determine the cost-effectiveness of Mohs Micrographic Surgery for invasive melanoma of the trunk and extremity. Standard surgical excision with post-operative margin sampling has the lowest local recurrence rate for trunk & extremity melanoma. Therefore, we wanted to determine if Mohs Micrographic Surgery is cost-effective for invasive melanoma of the trunk and extremity. Mohs Micrographic Surgery was cost-effective for invasive melanoma of the trunk and extremity, superior to standard surgical excision with substantial cost savings. Thus, by increasing utilization of Mohs Micrographic Surgery for invasive melanoma of the trunk and extremity, total healthcare costs associated with trunk & extremity invasive melanoma will substantially decrease.

J. Soh

Marginally recurrent melanoma results from inadequate surgical margins.

This residual melanoma retains its progressive nature; potentiating the chance of regrowth and invasion within the site of primary treatment. We sought to characterize cases of marginally recurrent melanoma (previously excised with intent to cure) that were treated with salvage Mohs micrographic surgery (MMS).

At the time of interim analysis, we found that 16% of cases of melanoma in-situ marginally recurred as invasive melanoma with a mean Breslow depth of 0.63 mm. Twenty-seven percent of melanomas marginally recurred at a greater Breslow depth than at initial treatment (mean BD increase of 0.31 mm). After salvage Mohs surgery, we calculated a 5- year recurrence free survival and melanoma specific survival of 97.2%. There was a 92.6% overall survival. The average time to marginal recurrence was 60 months. This project highlights the importance of clearing melanoma on the first treatment, having a long follow up period to detect marginal recurrence and that Mohs is an effective primary and salvage option for melanomas. We are working with other institutions to make this multi-center study.

N. Taylor

Gene expression profile to predict risk of recurrence in melanoma of the head and neck.

This multi-institutional study utilized the patient cohort developed by Dr. Thorpe to analyze gene expression profiling of invasive melanomas of the head and neck. With this data, we demonstrated that GEP is able to predict nodal recurrence-free survival, distant metastasis-free survival, and melanoma-specific survival.

T. Willenbrink

Pinch Grafting versus Second Intention Wound Healing for Mohs Micrographic Surgery Defects Below the Knee. This is a prospective, randomized controlled trial comparing time to wound healing and complication rates for below the knee MMS defects repaired with pinch grafts versus those left to heal by second intention. We hope to show that pinch grafts both reduce time to wound healing and the rate of complications in the notoriously problematic wounds of the lower extremity.

M. Wallace

Outcomes of melanoma satellite and in-transit metastases treated with Mohs micrographic surgery: a retrospective cohort study. Satellite and in-transit melanoma metastases are associated with poor outcomes. Reported 5-year melanoma-specific survival in patients with non-nodal regional metastatic disease ranges from 68-75% compared to 91% in patients without regional metastatic disease. Thicker primary tumors, ulceration, primary tumor located on the lower extremity, and regional lymph node metastases are risk factors for the development of satellite and in-transit metastases. Early recognition and treatment are paramount. When possible, surgical resection is considered first line therapy for melanoma satellite and in-transit metastases. Frederic E. Mohs, MD was the first to describe the use of micrographic surgery with the fixed-tissue technique for melanoma satellite and in-transit metastases in 1986. In the case of surgically unrespectable disease or where surgery is contraindicated, other alternate treatment modalities include systemic, radiation, isolated limb perfusion or infusion, electrochemotherapy, intralesional, and topical therapies. This retrospective study aims to elucidate the role Mohs micrographic surgery plays in the treatment of melanoma satellite and in-transit metastases.

J. Fazio

The real world challenge of high risk cutaneous squamous cell carcinoma of the head and neck-implications for treatment and research. This study investigates the clinical outcomes of head and neck high-risk SCC treated with MMS, analyzing local recurrence, nodal metastases, distant metastases, and disease specific death. Outcomes were stratified by stage and genetic expression profile. Additionally, progression free survival and disease specific death were analyzed for patients with recurrence and stratified by stage and type of salvage therapy used.

F. Lacy

Effect of long-acting over-the counter analgesics on post-operative pain. This IRB approved, randomized, controlled trial is designed to evaluate the use of naproxen as a long-acting pain reliever in the period following Mohs surgery. The study aims to further reinforce the benefit and safety of non-opioid analgesics for pain after skin surgery and attempts to improve upon the current standard of ibuprofen in combination with acetaminophen.

J. Contestable

Quantifying the morbidity of locally recurrent cutaneous SCC – a comparative case-control study. This prospective, case-control, study collected primary cSCC (controls) and recurrent cSCC (cases) and comparatively evaluated the difference in morbidity associated with primary MMS versus salvage MMS. Tumors of similar size, BWH stage, and location are evaluated for differences in: number of layers, size of margin to clear, complexity of repair, and surgically induced functional deficits.

C. Motosko

Role of Incompletely Biopsied Tumors in Pathologic Upstaging of Melanoma After Mohs Micrographic Surgery. In Mohs micrographic surgery for the treatment of melanoma, debulking specimens are used for additional staging, and may or may not lead to upstaging, or an increase in the T category of the AJCC melanoma staging classification system. This study evaluates debulking specimens of melanomas treated with MMS with the aim to investigate the rate of upstaging, as it relates to completely and incompletely biopsied specimens, defined by positive peripheral/deep margins, or clinical pigment seen after biopsy.

Our Fellow's Destiny

One common question of prospective fellowship applicants is: Where have past fellows ended up? Private practice or academics? Our fellows have done both. The following is a list of former fellows and a brief synopsis of their career.

- 1.) **Julia Sabetta:** 1984 (Yale University), joined the faculty at the University of Connecticut, and after a few years left to begin a private practice in Greenwich, CT.
- 2.) **Dan Wolf:** 1985 (Albert Einstein College of Medicine) returned to the full time faculty of Albert Einstein after his fellowship for a few years. He is now in private practice in Florida.
- 3.) **Vince Hung:** 1986 (University of Southern California) completed residencies in Internal Medicine, Emergency Medicine, and Dermatology before fellowship. After fellowship he completed residencies in General and Plastic Surgery and a fellowship in hand surgery before joining the faculty at USC. Vince is now in private practice in Los Angeles.
- 4.) **Ron Moy:** 1987 (UCLA) was recruited from UCLA to join our faculty at the University of Pittsburgh, where he officially completed his fellowship in Mohs surgery. He remained on the faculty and then joined Dr. Zitelli in his first private practice. Ron later joined the full time faculty at UCLA, and now is in private practice in Los Angeles.

- 5.) **David Frankel:** 1988 (University of Chicago), worked for a short time in Los Angeles after fellowship before assuming the role of editor of the Lancet in North America.
- 6.) **David Brodland:** 1989 (Mayo Clinic-Rochester) returned to Mayo Clinic's full time faculty for 7 years before moving back to Pittsburgh as a partner in this practice, and director of these fellowships.
- 7.) **Michael Fazio:** 1990 (Thomas Jefferson University), joined Dr. Jack Sebben (of electrosurgery fame) after his fellowship. He now owns a private practice in Sacramento, CA.
- 8.) **Christine Brown:** 1991 (University of Texas-Southwestern) joined an established dermatology practice in Dallas before starting her own private practice.
- 9.) **Robert Buzzell:** 1992 (St. Louis University) returned to Southern Illinois University to establish a dermatology residency and a Mohs fellowship program as well.
- 10.) **Timothy Parker:** 1993 (Medical College of Wisconsin) opened his own private practice in Kansas City immediately after fellowship.
- 11.) **Mark Baucom:** 1994 (Emory University) returned to Atlanta to start his own private practice.
- 12.) **Robert Griego:** 1995 (Baylor College of Medicine) bought an established Mohs practice in Phoenix where he remains in private practice.
- 13.) **Joel Cook:** 1996 (University of South Carolina) returned to the full time faculty at the Medical University of South Carolina, and is Mohs surgery fellowship training director.
- 14.) **Mike Huether:** 1997 (Yale University) joined a dermatology practice in Tucson before starting his own private practice there.
- 15.) **Cary Dunn:** 1998 (Columbia University College of Physicians and Surgeons) established a private practice in Sarasota.
- 16.) **John Boyer:** 1999 (Uniformed Services University of Health Sciences) returned to the faculty at the Naval Hospital in Bethesda to complete his Naval obligations, and then he started his private practice in Hawaii.
- 17.) **David Pharis:** 2000 (Emory University) joined former fellow Mark Baucom in private practice in Atlanta, and now has his own practice in Atlanta.

- 18.) **Ryan O'Quinn:** 2001 (Vanderbilt University) started his own private practice in San Antonio.
- 19.) **Gregory Bricca:** 2002 (University of California – Davis) was hand picked by Mike Fazio to train in Mohs, and after his fellowship with us, he joined Mike's practice in Sacramento. Now he has his own practice in Sacramento.
- 20.) **Ali Hendi:** 2003 (University of Miami) joined the full time faculty at Mayo Clinic in Jacksonville, and now is in private practice in the Washington DC area.
- 21.) **Karen Johnson:** 2004 (University of Colorado) worked a year of locum-tenens in Lancaster and with us while building her private practice with an ASC in Denver.
- 22.) **James DeBloom:** 2005 (University of Iowa) built a private practice in Greenville, SC. Did locum-tenens in Lancaster and with us while building his practice in South Carolina.
- 23.) **Michael Murphy:** 2006 (Ohio State College of Medicine), (former active duty Army). On the dermatology residency staff at Brooke Army Medical Center, completed his tour in Iraq. He is now in private practice in Indianapolis.
- 24.) **Larisa Ravitskiy:** 2007 (New York University School of Medicine) joined Ohio State University as Director of Mohs and Dermatologic Surgery Unit. She is now in private practice in Columbus, Ohio.
- 25.) **Tracy Bramlette:** 2007 (University of Connecticut School of Medicine), joined a general dermatology private practice group in San Francisco, California.
- 26.) **Joy Kunishige:** 2008 (University of Texas Health Science Center-Houston), served as the Director of Surgery at Northwest Dermatology in Hoffman Estates, Illinois. She returned to Pittsburgh to join our group.
- 27.) **Patrick Sniezek:** 2008 (University of Iowa), Former active duty Navy; on the Dermatology staff at National Naval Medical Center, Bethesda MD. He is now in private practice in Colorado Springs, CO.
- 28.) **Christine Weinberger:** 2009 (Dartmouth Medical School) joined the University of Vermont and teaches in their Mohs fellowship training program.
- 29.) **Brad Merritt:** 2009 (University of North Carolina at Chapel Hill School of Medicine), returned to the University of North Carolina at Chapel Hill to become director of the Mohs Surgery division, and fellowship director of their Mohs training program.

- 30.) **M. Campoli:** 2010 (SUNY Buffalo School of Medicine), serves as Director of Mohs Surgery at Fairview Medical Group in Minneapolis, Minnesota. He also continues to work with the Z&B group as well.
- 31.) **S. Freeman:** 2010 (University of South Alabama college of Medicine). Returned to Mobile, Alabama to start a private practice.
- 32.) **S. Valentin:** 2011 (University of Puerto Rico School of Medicine). Returned to the University of Puerto Rico in San Juan, Puerto Rico as Director of Mohs Surgery and to Private Practice in Carolina, Puerto Rico.
- 33.) **Oliver Perez:** 2011 (The Johns Hopkins School of Medicine). Returned to Jacksonville, Florida to start a private practice.
- 34.) **E. Brent Kirkland:** 2012 (Case Western Reserve University School of Medicine) joined a private practice group in Mason, OH. He also continues to work with Z&B group as well.
- 35.) **P. Ellison:** 2013 (Uniformed Services University of the Health Sciences), joined the faculty at the San Antonio Services Health Consortium to complete his Air Force obligations. He is now in practice with former fellow John Boyer, M.D. in Hawaii.
- 36.) **Landon Stigall:** 2013 (James H. Quillen College of Medicine), joined a private practice in Kingsport, Tennessee and spends part of his time advising and teaching medical students at the James H. Quillen College of Medicine.
- 37.) **Mac Machan:** 2013 (University of Kansas Medical Center) joined a private practice surgical dermatology group in Las Vegas, Nevada.
- 38.) **Vitaly Terushkin:** 2014 (NYU School of Medicine) joined private practice groups in Hackensack and Tinton Falls, New Jersey. He also returned to NYU to complete a dermatopathology fellowship.
- 39.) **Bradley Greenhaw:** 2014 (University of Mississippi) joined a private practice in Tupelo, Mississippi.
- 40.) **Amanda Tschetter:** 2015 (University of South Dakota) joined faculty at the University of Minnesota.
- 41.) **Gerardo Marrazzo:** 2015 (University of Texas-Southwestern Medical Center) joined a private practice, Skin Surgery Center, Hickory, NC.
- 42.) **Mark Burnett:** 2016 (New York-Presbyterian Hospital/Weill Cornell Medical Center, New York, NY) joined a private practice in California.

- 43.) **David Panther:** 2016 (Loma Linda University Medical Center, Loma Linda, CA) joined a private practice in Walla Walla, WA."
- 44.) **Evan Stiegel:** 2017 (Cleveland Clinic Foundation, Cleveland Ohio) joined a private practice, Skin Surgery Center, Wilson, NC.
- 45.) **Molly Powers:** 2017 (Henry Ford Health System, Detroit MI) returned to Henry Ford Department of Dermatology in Detroit, MI
- 46.) **Ryan Thorpe:** 2018 (Duke University) joined a private practice in Boise, ID
- 47.) **Geoffrey Lim:** 2018 (University of Pittsburgh, Pittsburgh, PA) joined a practice in Colorado Springs, CO. and co-founded a private practice in Lone Tree, CO, before moving back to Pittsburgh as faculty in this practice.
- 48.) **Teo Soleymani:** 2019 (Stanford University), joined faculty at UCLA in Los Angeles, CA.
- 49.) **Brandon Beal:** 2019 (Cleveland Clinic), started a private practice in Jacksonville, FL.
- 50.) **Jonathan Soh:** 2020 (University of Rochester), worked locum tenens as he started a practice in western New York.
- 51.) **Nicholas Taylor:** 2020 (New York University School of Medicine), joined a private practice group in Chapel Hill, NC.
- 52.) **Matthew Wallace:** 2021 (Vanderbilt University), joined a private practice in Richmond, VA; started a Mohs Surgery Center at Richmond Dermatology.
53. **Tyler Willenbrink:** 2021 (University of Texas, Austin); become a full time member of the Z&B practice.
54. **Justin Fazio:** 2021 (Medical College of Wisconsin) following completion of fellowship, joined forces with his father, Dr. Michael Fazio (fellow #7), in private practice in Sacramento, California.
55. **Frank Lacy:** 2022 (University of North Carolina at Chapel Hill), joined a private practice in Winston-Salem, NC.
56. **Catherine Motosko:** 2023 (University of Miami), joined a private practice in New York City, NY.
57. **James Contestable:** 2023 (Uniformed Services University of the Health Sciences), joined the faculty as a department head of Dermatology at the Naval Medical Center Portsmouth, VA to complete his Navy obligations.

Program Director: David G. Brodland, MD email: davidbrodland@aim.com

Faculty: Geoffrey F.S. Lim, MD email: Geoffrey.lim@zitellibrodland.com

Fellowship Coordinator: Rachel Vannoy email: Rachel.vannoy@zitellibrodland.com

Fellowship/ACGM: Paula Zitelli email: paula.zitelli@zitellibrodland.com

Parking at Shadyside: Connected to the office building, on Centre Ave, is a parking garage with direct access to our office. The clearance of the garage is 6'2". After you park, take the elevators to the 1st floor, turn right to proceed through the double doors labelled "Shadyside Medical Building". Take the medical building elevators to the 3rd floor, Suite 303. Bring your parking ticket with you into the building. You will need it to pay for parking at the pay stations located by the garage elevators. We will provide you with a validation sticker, this will reduce your parking to \$5.

Parking at Jefferson: Follow signs to Medical office Building parking. Lots A is the closest to our office, there are spaces designated "Ambulatory Surgery Parking" you may park in these spots if available and no other closer parking spots are open. If lot A is full use Lot B or valet parking is available for aprox \$5. We are located on the main floor, Suite 360 to the left behind the information desk. You pay with cash or credit card at the pay station located in the lobby before returning to your car or with cash only at the booth as you exit. There is no parking validation. A parking pass that waives fees will be given to you.

We do not offer visiting rotations for external electives.

Number of applicants interviewed: 15-25 virtual interviews. 5-10 in person interviews in October and November.

Life in Pittsburgh

Pittsburgh has been labeled one of America's Most Livable Cities, and for good reason. This year it was the most livable city in the United States and one of the top most livable in the world. The cost of living is low compared to cities of similar size. The city is very safe and offers many amenities including cultural events, professional sports, indoor and outdoor recreation, world class health care delivery, good schools, shopping, and ethnic diversity. It is no longer a dirty industrial city for steel making, but instead has transformed into a clean renaissance city known for technology and health care. The view of the city from Mt. Washington was voted the 2nd best view of any city in the country. Most of all, Pittsburgh is known as a city friendly to all visitors. It is not uncommon for Pittsburghers to go out of their way to help strangers find their way, or to smile and welcome obvious visitors. Everyone feels welcome.

Like to eat? Ethnic fare can be a favorite – did you ever eat a Pierogie or Kielbasa? There's something special about a salad that comes with sliced chicken or steak and topped with cheese and French fries. Or, did you ever eat a sandwich with fries and slaw right between the slices of bread? These are some of Pittsburgh's favorites.

Neighborhoods

Most fellows have chosen to live near the medical center for convenience and for good choices in housing. Local neighborhoods of Shadyside, Bloomfield, Lawrenceville, and Squirrel Hill provide easy to rent, affordable units with easy access to all of Pittsburgh's assets. The vibrant Southside area is another great neighborhood closer to the Jefferson Hospital. Suburbs north, south and east offer more room and outdoor space, and the commute is reasonable.

Schools and Day Care

Public schools in the Pittsburgh area are rated highly and offer everything parents want for their children. Day care is readily available in local neighborhoods and nearby the office, so that children are safe and secure.

Recreation

Pittsburgh offers recreational choices for everyone. The area has some of the most beautiful bike and hiking trails in the country. Converted from abandoned railways, the trails are groomed, flat and easily accessible in all areas of the region. There are more public golf courses per capita than most other cities. The mountains east of the city also offer downhill skiing, cross country skiing, tubing, hiking, mountain biking, world class white water rafting and kayaking, and scenic views. Other activities include auto racing, horse and dog racing, deck hockey, tennis, platform tennis, marathons, fishing, hunting, shooting, and more. No one can be bored in Pittsburgh.

Family Entertainment

Pittsburgh boasts numerous activities for young families. Carnegie Children's Museum, the Museum of Natural History with its dinosaur collection, Carnegie Science Center and its interactive displays, amusement parks such as Kennywood Park, Idlewild Park and Sandcastle Water Park, the Aquarium, the Aviary, the Pittsburgh Zoo, Phipps Conservatory with its lovely botanical gardens, Heinz Regional History Center, and Frank Lloyd Wright's famous Fallingwater.

Cultural Events

The city has the world class Pittsburgh Symphony, the Pittsburgh Ballet Theater, Pittsburgh Public Theater, the Civic Light Opera, and many other local theater opportunities. There are many museums such as the Carnegie Museum of Natural History, the Carnegie Museum of Art, and the Andy Warhol Museum, as well as many other smaller museums.

Sports

Pittsburgh is definitely a sports town. Six time Super Bowl Pittsburgh Steelers dominate local talk during football season. The Pittsburgh Pirates play in one of the most beautiful and fun baseball stadiums in the league, host to the 2006 All Star Game. There is also professional hockey with the exciting play of the Pittsburgh Penguins, the recent Stanley Cup Champions. Professional soccer and nationally recognized golf venues are all part of the sports scene.

On the college level, The University of Pittsburgh provides good competition in football and basketball, usually in the Top 20 in football and in the NCAA playoffs in basketball, stimulating sports talk much of the year.

Transportation

Local public transportation is easy with the Pittsburgh Regional Transit bus and subway system within the city and to the suburbs. Train service, taxi services and even an incline transportation system to and from Mt. Washington are available. The Greater Pittsburgh Airport is one of the most modern airports with great air service to the rest of the world.

Worship

Pittsburgh is a very ethnic city from its European roots of steelworker immigrants to more recent Asian and Hispanic residents. The ethnic diversity stimulated by the Universities and technology revolution has added to Pittsburgh's melting pot reputation. Most, if not all, religions are represented within the city. The following link may help you find places of worship:

<https://www.diversity.pitt.edu/diverse-populations/religious-resources/local-places-worship>

Shopping

For spouses interested in shopping, or for fellows on their days off, Pittsburgh shopping has a lot to offer. Large department stores such as Macy's, Nordstrom's, Tiffany, Louis Vuitton, Burberry, and many small boutiques can be found in the city and nearby malls. The downtown Strip District offers outlets, ethnic food stores, produce, nightclubs and restaurants. Other interesting shopping areas include the Waterworks Mall, the Waterfront Shops, Station Square Shops, South Side Works, and nearby Grove City Outlets. For more information visit the University of Pittsburgh Medical Center website titled "Relocating to Pittsburgh" <https://www.getbellhops.com/moving-to/pittsburgh-pennsylvania/>

Your Interview Day

Interviews must be scheduled separately for each of our two programs. Each program (Shadyside program and Jefferson program) has its own match number and rank list. Most applicants interview first virtually. In person interviews by invitation may be scheduled at both locations on two separate but consecutive days. Half days at each office are also possible. Interviews are scheduled Monday through Friday.

Your interview is by invitation, and can be arranged through our office. Rachel Vannoy is the assistant administrator in charge at the Shadyside and Jefferson/South Hills location. She can help you with phone numbers for lodging nearby, transportation choices, and information about taxi service, car rental, and shuttle services.

Plan to spend the entire day or a half day at each location to observe the typical day in the life of a fellow. We generally begin at 730AM on each and you will see Mohs surgery and reconstruction. You will meet the current fellow and have a chance to share stories and ask questions. You will meet the staff, and get a chance to talk to them at lunch and throughout the day.

We usually end the day by 5 pm with a summary of the fellowship program, and a chance to talk and ask questions with Dr. Brodland or Dr. Lim depending on the site.

Bring a set of surgical scrubs to feel more comfortable. We will guide you throughout the day and hope to keep you feeling welcome. It is a no-stress interview.

Shadyside lodging choices include:

Family House: (412)-647-7777; www.FamilyHouse.org; Located directly across from Shadyside Hospital; 5245 Centre Avenue, Pittsburgh, PA 15232. Must have a companion.

- Located near Pittsburgh hospitals
- \$89.00 & up/night
- Free Shuttle Service
- Wireless internet and computer access

Wyndhm Pittsburgh at University Center: (412) 682-6200: A short cab ride away; Bigelow Boulevard at Lytton Avenue, Oakland Area.

- \$129.00 and up for patient or hospital rate
- approximately 20 minute drive to Shadyside
- Parking in lot and garage-\$29.00 per night
- Shuttle Service to Shadyside if within 3 miles of hotel (M-F 8a-4p)
- Full Service Restaurant-Inquire about cost.

Hyatt House: (412) 621-9900 5335 Baum Blvd Bloomfield, PA

- \$130.00 & up/night for patient rate plus tax.
- \$24.00 Parking
- Free Breakfast

Hampton Inn: (412) 681-1000; 3315 Hamlet Street, Oakland Area.

- 125.00 & up for patient or hospital rate
- \$10/night Parking
- Approximately 20 minute drive to Shadyside
- Free breakfast/Free WIFI

Residence Inn Marriott-Pittsburgh University Medical Center:

412-621-5600; 3341 Forbes Ave, Pittsburgh PA

- \$129.00 & Up/Night for patient or hospital rate
- Parking \$22/night
- Free WiFi/Breakfast

If you choose to stay in Shadyside, consider visiting shops and restaurants on Walnut Street.

South Hills lodging choices includes:

Hampton Inn: (412) 650-1000 1550 Lebanon Church Rd, Pittsburgh

- ☒ \$115.00 & up/Night for patient or hospital rate
- ☒ Breakfast available 6am-10am
- ☒ Free Parking

Wyngate Hotel of West Mifflin: (412) 653-6600 1340 Lebanon Church Rd, Pittsburgh

- ☒ \$93.00 & Up/night for patient or hospital rate
- ☒ rates change daily
- ☒ Breakfast available

Marriott Spring Hills Suites: (412) 653-9800 1000 Regis Ave, Pittsburgh

- ☒ \$115.00/night and up for patient rate
- ☒ Full breakfast buffet available
- ☒ Free parking

Holiday Inn Express: (412) 469-1900 3122 Lebanon Church Rd, Pittsburgh

- ☒ \$95.00/night for patient or hospital rate
- ☒ Free parking
- ☒ Hot breakfast available

If you choose to stay in the South Hills area, consider visiting shops and restaurants in the Southside area; Carson Street.

Transportation

Taxi service to and from the airport is readily available and usually costs \$55.00 and up. Taxi service to the Jefferson office is available, but taxi service from that office to other destinations is unreliable. We recommend renting a car.

Z trip (formerly Yellow Cab): 412-777-7777 or 412-321-8100/ Classy Cab: 412-322-5080/ Veterans Taxi: 412-481-8387; SuperShuttle: 800-258-3826 or 412-322-8507; UBER or LYFT as well

Transit: Pittsburgh Regional Transit: 412-442-2000 (RidePRT.org)

Westmoreland County Transit: 724-834-9282 (WestmorlandTransit.com)

Car rental is available at the airport and local numbers are:

Budget: (412) 472-5252

National Car Rental: 844-366-0502

Avis: (800) 352-7900

Alamo Car Rental: 844-366-0500

Enterprise: (412) 472-3490

What to look for in a Fellowship Program

We feel that a good program should prepare you for any situation that awaits you after fellowship. You should be sure that the program you choose offers enough cases to allow you to see just about anything that you will see later in practice. Case load is important, including the number of cases that you will personally do as a fellow. Look at the size and complexity of cases done by the program to be sure that you see both large and small, easy and complex cases. Look for diversity in tumor types, including high risk basal cell and squamous cell carcinomas, DFSPs, atypical fibroxanthomas and other spindle cell tumors, melanomas, Merkel cell carcinomas, and Extramammary Paget's disease.

An important area to observe is the Mohs histology laboratory. One of the most significant problem areas in training is slide quality. Make sure that you will be taught to run a high quality lab, and how to cut good quality slides yourself. Make sure that you will be taught to become proficient in cutting. Look carefully at the day's slides, as you will likely produce quality similar to your training.

Evaluate your teachers. Are they academic? Do they practice evidence based medicine? Do they contribute to the fund of knowledge of Mohs surgery, and will they stimulate you to reach your highest potential?

Ask about your didactic teaching. Is there an organized program for learning? The best fellowships are more than just preceptorships.

Finally, make sure you will have exposure to the business side of medicine. This is your last chance to learn from others, how to manage employees, how to bill correctly and collect from insurance companies. Are you taught Medicare policies and AMA procedures? The business of medicine is most important to you once you enter practice whether it is private or academic.

Good Luck! We are always here to advise, interpret, and answer questions. You are the future, and we support you.

David G. Brodland, MD

Geoffrey Lim, MD

Joy Kunishige, MD

Tyler J. Willenbrink, MD

John A. Zitelli, MD

DIRECTIONS TO SHADYSIDE MEDICAL BUILDING

(ADJACENT TO SHADYSIDE HOSPITAL)

5200 CENTRE AVENUE SUITE 303

PITTSBURGH, PA 15232

412-681-9400

FROM THE EAST: From I-376 (Parkway), take the Squirrel Hill exit. Follow the signs to Squirrel Hill. At the first light turn left onto Murray Avenue. Follow Murray Ave to the end and turn left onto Wilkins Ave. At the next light turn right onto S Negley. Follow S Negley down a long hill to Centre Ave. Turn left onto Centre Ave. Continue on Centre Ave. to the traffic light at Cypress St and make a left into the Medical Building driveway and the parking garage will then be on the right.

FROM THE WEST: From I-279/376 through Fort Pitt Tunnels; right towards Monroeville. Take the Forbes Ave/Oakland Exit. Continue on Forbes Ave for about 1.5 miles. Turn left onto Moorewood; at the 4th light turn right onto Centre Ave. Continue to the Cypress St intersection and turn right in the Medical Center Bldg Driveway, the parking garage will be on the right.

FROM THE NORTH: From I-279, take the Veterans Bridge exit, then follows signs toward Mellon Arena, get into the far left lane. Follow signs to Bigelow Blvd (380 East). At the 3rd traffic light continue straight onto Craig St. Follow Craig St to the 2nd light, make a left onto Centre Ave. Follow Centre to the Cypress St. intersection and turn right into the Medical Center Bldg Driveway and the parking garage will be on the right.

FROM RT 28: Take the Highland Park Bridge exit, cross the bridge and follow signs to Washington Blvd (Rt 8). At 1st intersection turn right onto Washington Blvd (this will eventually turn into Fifth Ave. after crossing over Penn Ave.) Follow Fifth Ave. to S. Aiken Ave. Turn right onto S. Aiken Ave. Continue straight and turn left onto Centre Ave. Continue straight on Centre Ave to the intersection of Cypress St. Turn left in the Medical Center Driveway and the parking garage will be on the right.

FROM THE SOUTH: Approaching the city via the Liberty Bridge. Follows signs to 579 North then to Bigelow Blvd (380 East). At the 3rd traffic light continue straight onto Craig St. Follow Craig St to 2nd light and then turn left onto Centre Ave. Continue on Centre to the Cypress St intersection and turn right into the Medical Center Driveway, the parking garage will be on the right.

DIRECTIONS TO SOUTH HILLS MEDICAL BUILDING

(ADJACENT TO JEFFERSON HOSPITAL)

575 COAL VALLEY ROAD, SUITE 360

CLAIRTON, PA 15025

412-466-9400

FROM THE EAST: Take I-376 (Parkway). Take the Blvd of the Allies exit. At the fork, take left lane to the Liberty Bridge and through the Liberty Tunnel. Stay in the right lane through the Liberty Tunnel. At the end of the tunnel, make a right to follow signs to Rt. 51 South. Follow Rt. 51 South approximately 10 miles. You will go past Century III Mall (approx. 1 mile) and make a left onto Coal Valley Road. Follow about ½ mile to the stop sign at the top of the hill. Turn right and follow signs for Patient/Visitor parking to the left.

FROM THE WEST: Take I-279 N to Rt. 51 South. Follow approximately 13 miles. You will go past Century III Mall (approx. 1 mile) and make a left onto Coal Valley Road. Follow about ½ mile to the stop sign at the top of the hill. Turn right and follow signs for Patient/Visitor parking to the left.

FROM THE NORTH: Take Rt. I-79 S to I-279 S. Follow 279 S to 579 across the Veterans Bridge. On the Veterans Bridge, take Liberty Bridge ramp. Go through the Liberty Tunnels staying in the right lane. At the end of the tunnel, make a right to follow signs to Rt. 51 S. Follow approximately 13 miles. You will go past Century III Mall (approx. 1 mile) and make a left onto Coal Valley Road. Follow about ½ mile to the stop sign at the top of the hill. Turn right and follow signs for Patient/Visitor parking to the left.

FROM THE SOUTH: Take Rt. 51 N. about 5 miles north of Regis Malady (Elizabeth) Bridge. Turn right onto Coal Valley Road. Follow about ½ mile to the stop sign at the top of the hill. Turn right and follow signs for Patient/Visitor parking to the left.

FROM THE SOUTHWEST: For communities that use the new PA Turnpike 43. Head north on PA Turnpike 43. Take exit 54 towards PA 51/Pittsburgh/Elizabeth. Turn right onto PA-51/Clairton Blvd. Turn right onto Coal Valley Road. Follow about ½ a mile to the stop sign at the top of the hill. Turn right and follow signs for Patient/Visitor parking to the left.

FROM ROUTE 28: Take the I-579 S. Exit towards the Liberty Bridge; merge onto 579 S. Take the exit on the **left** towards the Liberty Bridge and through the Liberty Tunnels. At the end of the tunnel, make a right and follow signs to Rt. 51 S. Follow approximately 13 miles. You will go past Century III Mall (approx. 1 mile) and make a left onto Coal Valley Road. Follow about ½ mile to the stop sign at the top of the hill. Turn right and follow signs for Patient/Visitor parking to the left.