**DERMATOLOGY**

The Department of Dermatology provides instruction directed at the basic science aspects of the skin and at clinical cutaneous disease during each of the medical school years. The emphasis of the department is upon the pathophysiology of cutaneous reaction patterns, a correlation of skin lesions (gross Pathology) with microscopic changes, the recognition and treatment of diseases that primarily affect the skin, and the identification of skin changes that reflect diseases in other organ systems.

We welcome students to take a dermatology clerkship regardless of the medical discipline they intend to pursue. This should take place after completing several core clerkships including Medicine, Surgery and Pediatrics. We believe students should receive as broad exposure to medicine as possible before taking our introductory clerkship (Clinical Clerkship in Dermatology) and making career decisions. If further experience/learning is desired, we also suggest taking our Advanced Clinical Clerkship in Dermatology. For those students with a career interest in Dermatology, taking electives in related sub-specialties such as Rheumatology, Immunology, and Plastic Surgery are encouraged.

For more information on student electives please click here (https://www.hopkinsmedicine.org/som/students/academics/electives.html).

### Program Requirements

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<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<td></td>
<td>Preclinical (first/second) years of Genes to Society (GTS) curriculum</td>
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<td>Elective courses must be approved by the preceptor; any member of the department may act as preceptor.</td>
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<td>CLINICAL CLERKSHIP IN DERMATOLOGY</td>
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<td>Students may apply towards the end of their 3rd year or in their 4th year of medical school for a clinical elective in dermatology where the focus is placed on intensive exposure to a large number of patients in different clinical settings. Students will spend time exclusively at the Johns Hopkins facilities (Outpatient Center, Greenspring Station, Harriet Lane Pediatrics Center and Johns Hopkins Hospital Dermatology consult service). Our clinical services at these locations provide an excellent opportunity for students to interact with different types of patients and to be exposed to a wide range of skin problems. Parallel to the clinical activities, there are didactic sessions held either in the mornings or on Wednesday. Formal lectures on basic dermatology topics are given by dermatology residents and faculty members. No formal exam is given and grading is based on the evaluations submitted by residents and faculty members and a short oral presentation.</td>
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<td>ME.220.699</td>
<td>Dermatology Elective</td>
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### ADVANCED CLINICAL CLERKSHIP IN DERMATOLOGY

Students who have already taken the Clinical Clerkship in Dermatology at Johns Hopkins and who are interested in a specific area of dermatology or in dermatology research may benefit from this elective. This elective gives the student the opportunity for more "in depth" participation in specific areas of interest within the department of dermatology under guidance of a faculty mentor. Arrangements have to be made between the interested student and the faculty member who will be mentoring him/her PRIOR TO BEGINNING THE ELECTIVE. The main objective is active participation in a small clinical research project, or clinical and scholarly work with a faculty member with a certain specialty focus. The faculty mentor will provide the specific schedule. Students are encouraged to participate in all didactic activities including Grand Rounds and faculty lectures during the time spent in the department.

### Research Opportunities in the Department of Dermatology

**Dr. Crystal Aguh**

Ethnic Skin Program and Fellowship

**Dr. Nathan Archer**

Our research focus is to understand mechanisms of protective innate and adaptive immune responses to skin pathogens, in particular *S. aureus*, and the role of aberrant immune responses and the skin microbiome in the pathogenesis of inflammatory skin diseases, including atopic dermatitis and psoriasis. Our long-term goal is to discover mechanisms that can serve as targets for future immune-based therapies and vaccination strategies.

**Dr. Kristin Bibee**

Translational research in cancer biology, clinical research on social determinants of health and patient reported outcomes as it relates to dermatologic care, technologic innovations in Dermatology Surgery

**Dr. Anna Chien**

Translational research in general dermatology; mechanism of skin aging; photobiology

**Dr. Luis Garza**

Stem cells, Regeneration, Wound healing

**Dr. Sewon Kang**

Translational research in dermatology

**Dr. Shawn Kwatra**

Itch research

During this rotation, students can participate in epidemiologic and translational itch research using a variety of resources. Preference for students with previous experience with R or other coding software.

**Dr. Elise Ng**

Research areas: AI in dermatologic surgery, scar outcomes, melanoma, investigate factors that impact clinical surgical practice

**Dr. Inbal Sander**
Rheumatologic dermatology diseases, dermatopathology

**Dr. Jeffrey Scott**

Clinical research in dermatologic surgery and cutaneous oncology, including defining quality and value in Mohs micrographic surgery, patient-reported outcomes and social determinants of skin cancer treatment, and evidence-based management of high-risk and rare skin cancers.

**Dr. Joel Sunshine**

Dr. Sunshine's research focus is in two main areas: (1) developing novel genetic nanomedicines for activation of antitumor responses in melanoma and Merkel cell carcinoma and (2) improving our understanding of the critical mechanisms in the tumor microenvironment (TME) through multiplex immunohistochemistry, with a focus on evaluating the role of antigen presentation in the TME. Potential projects are available in both areas of active investigation.

**Dr. Janis Taube**

Current research emphasis involves development of the AstroPath platform for immunotherapy biomarker discovery. Image analysis algorithms from astronomy are applied to pathology specimens from patients with melanoma and other tumor types to help identify spatial, multispectral signatures to help predict which patients are most likely to respond to a given therapeutic regimen. Tumor-immune atlases are generated and links to machine learning/AI algorithms are under development.