

GABRIEL E. MOLINA

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EDUCATION

Harvard Medical School

Boston, MA

M.D. Candidate

Aug 2015 – Present

- **Awards:** Harvard Medical School Fellowship, Pugh Fellowship, MGH Dermatology AAD Medical Student Grant Award

Harvard University

Cambridge, MA

A.B. in The Classics – Classical Languages and Literatures, Magna cum Laude

Sept 2011 – May 2015

- **GPA:** 3.93 | **Honors:** Phi Beta Kappa Honor Society, 2014 Charles P. Segal Student Travel and Research Fellowship Recipient
- Senior Thesis: The Variability of Myth: Ancient Representation and Appropriation of the Gigantomachy. Advisor: David Elmer

RESEARCH EXPERIENCE

Departments of Dermatology and Oncology, Massachusetts General Hospital

Boston, MA

Yearlong research fellow under mentorship of Dr. Steven Chen (Dermatology) and Dr. Kerry Reynolds (Oncology)

Aug 2018 – Jul 2019

- Created, organized, and distributed a database of ~10,000 patients treated with immune checkpoint inhibitors (ICIs) across Partners HealthCare. This curated database has been used by specialists in several fields for their organ-specific toxicity studies.
- Studies I have designed, collected and analyzed data for, and written manuscripts and/or presented on include: prognostic implications of co-occurring dermatologic and gastrointestinal immune-related adverse events (irAEs); impact of dermatology consultation on management of inpatient dermatologic irAEs; diagnostic and therapeutic differences between ICI-induced and idiopathic bullous pemphigoid; atypical pattern of Stevens-Johnson syndrome-like reaction from ICI use.
- Co-authored book chapter on dermatologic toxicities in a practical book intended for patients considering starting immunotherapy.

Department of Dermatology, Massachusetts General Hospital

Boston, MA

Student researcher under mentorship of various dermatology faculty

Jan 2018 – Present

- For ongoing study on the variability in dermatology clerkship assessments, created comprehensive mailing list of dermatology clerkship directors and administrators across the country, analyzed survey responses, coordinated and conducted interviews with students at three medical schools, and prepared oral and poster presentations of preliminary results.
- Gathered clinical information and conducted literature review to prepare separate clinicopathological challenges on an unusual presentation of prurigo pigmentosa (manuscript) and Wolf's isotopic response (oral presentation).
- Collaborated with child life specialists and product designer to develop a tool to assess and monitor the quality of life of children with allergic contact dermatitis. Then designed a prospective study and created a formal study protocol to validate this tool.

Dermatologic Surgery Unit, Massachusetts General Hospital

Boston, MA

Student researcher under mentorship of Dr. Victor Neel, MD, PhD

Feb 2018 - Present

- For study on infection risk of post-Mohs surgery lower-extremity wounds healing by second intention, created 7-year wound infection database, collected, organized, and analyzed all data, prepared final manuscript, and presented poster at national meeting.
- Participated in study design and grant application for ongoing prospective study on skin microbiome changes during wound healing.

Department of Dermatology, Beth Israel Deaconess Medical Center

Boston, MA

Student researcher under mentorship of Dr. Robert Stavert, MD and Dr. Peggy Wu, MD, MPH

Dec 2017 – Aug 2018

- Assisted in data interpretation and final manuscript preparation for study regarding the benefit of a teledermatology service in improving the dermatologic knowledge and confidence of primary care providers.
- Completed IRB proposal, assisted in data gathering and analysis, and prepared manuscript for study reporting a novel palliative therapy option for refractory extramammary Paget's disease, a rare and notoriously challenging skin cancer.

Division of Infectious Diseases, Massachusetts General Hospital and Harvard Medical School

Cambridge, MA

Research Intern in the Laboratory of Dr. Marcia Goldberg, MD

Jan 2012 – May 2015

- Conducted *in vitro* studies on the pathogen-host interactions and mechanisms involved in the *Shigella* type III secretion system.
- Performed advanced cloning experiments, protein interaction assays, and cell infection bioassays on human-derived cell lines.

Center of Innovative Research at Banyan Biomarkers, Inc

Gainesville, FL

Paid Student Employee under the supervision of Dr. Victor Prima and Dr. Kevin Wang

June 2007 – Aug 2011

- Conducted *in vitro* and *in vivo* research on a potential novel treatment for gram-negative bacterial LPS toxicity and septic shock.
- Co-invented US patent and co-authored final manuscript.

MEDICAL EDUCATION, LEADERSHIP, & VOLUNTEER EXPERIENCE

McGraw-Hill Education

Boston, MA

Content creator and editor of dermatology infographics

Dec 2018 – Present

- Wrote, designed, and edited 15 infographics on a variety of high-yield topics and diagnoses in dermatology geared toward medical students preparing for board exams as well as clinicians looking for a quick review. Co-authored an additional 15 infographics.

PremedHQ

Coach for high school students interested in careers in medicine

Boston, MA

Oct 2018 – Present

- As coach of two high school seniors, responsibilities include planning and running weekly meetings with student and parents, offering advice and resources ranging from standardized test prep to shadowing opportunities, creating college application goals and timelines, guiding in outline, draft, and revisions of application essays, conducting interview preparation and practice sessions.

Leverett House Non-resident Pre-medical Tutor

Advisor for Harvard pre-medical undergraduate students

Cambridge, MA

Feb 2018 – Present

- As an advisor to undergraduate students applying to medical school, responsibilities include offering guidance on list of schools, assisting in draft and critical revisions of personal statement and other application materials, scheduling biweekly meetings, composing the House committee letter which details student's career and achievements, and conducting mock interviews.

Education Representative for Class of 2019

Novel educational initiative that mediates communication and feedback between faculty and students as part of new HMS curriculum

Boston, MA

Aug 2015 – Present

- Led five pre- and post-clinical course-specific working groups, which included organizing regular meetings with course faculty and serving as liaison between faculty and students to offer real-time, bidirectional feedback on all course-related material and sessions.
- As Communications Chair, coordinated weekly emails to first-year class that consisted of upcoming assignments, study tips, academic resources, and course-related surveys as well as other campus-wide events and initiatives.
- Partnered with HMS faculty and administrators to update, revise, and improve the medical school pre-clinical attendance policy.

Curriculum Consultant

Student-run group focused on course development and revision

Boston, MA

Aug 2015 – Sept 2016

- Responded to "consult requests" from faculty to assist in curriculum changes ranging from offering feedback on particular preparatory material to helping design new and upcoming courses.

Massachusetts Senior Classical League, Boston Latin School

Executive Board Member (Member at-large 2012-2013), Certamen Coach

Boston, MA

Sept 2011 – Present

- Worked alongside Boston Latin School teachers to build their Junior Classical League (JCL) chapters, coach and mentor Latin students and Certamen (classically-themed quiz bowl) players by attending weekly practices, and run annual Certamen tournaments.
- Wrote / edited questions for and moderated at annual New England Certamen tournaments including Harvard, Yale, and Princeton.
- Directed Certamen tournament, proctored academic tests, and judged competitions (essay contest, Latin and English oratories, dramatic interpretation) at annual Massachusetts State Latin Convention.

National Junior Classical League

2012, 2018 Florida Intermediate Certamen Coach; 2013-2015, 2019 Florida Advanced Certamen Coach; Academic test writer

Multiple Locations

Summers 2012 – 2018

- As coach of statewide team, selected and prepared team of Florida high school students for National Certamen competition in July by holding statewide tryouts, running weekly 6-hour, statewide practices, and organizing daily local study sessions and practices.
- Created 196-page guide on classical mythology used around the country in preparation for national competition; created study guides for *Iliad*, *Odyssey*, *Metamorphoses*, *Aeneid*. Wrote detailed Latin literature syllabus and ~1800 corresponding practice questions.
- Wrote ~10 national academic tests on classical mythology, Latin vocabulary, Latin grammar, Latin literature, and Decathlon.

Harvard Relay for Life of the American Cancer Society

Executive Board Member (Co-Director, Fundraising Chair) of Harvard's largest on-campus charity event

Cambridge, MA

Sept 2011 – May 2015

- Led Harvard Relay for Life's fundraising efforts to over \$100,000 raised for the 2013 and 2014 Relays.
- Established partnership with Uno Pizzeria & Grill and instituted restaurant fundraisers at Insomnia Cookies and Pinkberry.
- Acquired donated items from New England Patriots, Boston Red Sox, Broadway shows, etc. to organize campus-wide auction.
- Created Relay sponsorship packet and used it to secure corporate sponsorships from local and national businesses.

PUBLICATIONS & PATENTS

Molina GE, Yu SH, Neel VA. Observations regarding infection risk in lower-extremity wound healing by second intention. *Dermatol Surg*. 12 Aug, 2019. doi: 10.1097/DSS.0000000000002094.

Molina GE, Allen IM, Hughes MS, et al. Prognostic implications of co-occurring dermatologic and gastrointestinal toxicity from immune checkpoint inhibition therapy for advanced malignancies: a retrospective cohort study. *J Am Acad Dermatol*. 23 Jul, 2019. doi: 10.1016/j.jaad.2019.07.049.

Hughes MS, Zheng H, Zubiri L, **Molina GE**, et al. Colitis after checkpoint blockade: a retrospective cohort study of melanoma patients requiring admission for symptom control. *Cancer Medicine*. 9 Jul, 2019. doi: 10.1002/cam4.2397.

Molina GE, Smith KC, Duncan LM, Yu J. Recurrent pruritic papules and reticulated hyperpigmentation in a young woman: answer. In Press: *Am J Dermatopathol*.

Molina GE, Smith KC, Duncan LM, Yu J. Recurrent pruritic papules and reticulated hyperpigmentation in a young woman: challenge. *Am J Dermatopathol*. 7 Mar, 2019. doi: 10.1097/DAD.0000000000001408.

Molina GE, Khalifian S, Mull JL, et al. Topical combination of fluorouracil and calcipotriene as a palliative therapy for refractory extramammary Paget disease. *JAMA Dermatol.* 2019;155(5):599-603.

Mohan GC, **Molina GE**, Stavert R. Store and forward teledermatology improves dermatology knowledge among referring primary care providers: a survey-based cohort study. *J Am Acad Dermatol.* 2018;79(5):960-961.

Molina GE, Burgin S. Subacute nodular migratory panniculitis. In: Goldsmith LA, editor. VisualDx Visual Clinical Decision Support Tool [online]. Rochester, NY: Logical Images; February 2018. Available from: <https://www.visualdx.com/visualdx/diagnosis/subacute%20nodular%20migratory%20panniculitis?moduleId=101&diagnosisId=52708>

Molina GE, Burgin S. X-linked reticulate pigmentary disorder. In: Goldsmith LA, editor. VisualDx Visual Clinical Decision Support Tool [online]. Rochester, NY: Logical Images; February 2018. Available from: <https://www.visualdx.com/visualdx/diagnosis/x-linked%20reticulate%20pigmentary%20disorder?moduleId=101&diagnosisId=56232>

Molina GE, Burgin S. Familial white lentiginosis. In: Goldsmith LA, editor. VisualDx Visual Clinical Decision Support Tool [online]. Rochester, NY: Logical Images; November 2017. Available from: <https://www.visualdx.com/visualdx/diagnosis/familial%20white%20lentiginosis?moduleId=101&diagnosisId=56199>

Svetlov SI, Prima V, Wang A, **Molina G**, Wang KK, inventors. Compositions and methods relating to argininosuccinate synthetase. US patent 9,682,132. June 2017.

Russo BC, Stamm LM, Raaben M, Kim CM, Kahoud E, Robinson LR, Bose S, Queiroz AL, Herrera BB, Baxt LA, Mor-Vaknin N, Fu Y, **Molina G**, Markovitz DM, Whelan SP, Goldberg MB. Intermediate filaments enable pathogen docking to trigger type 3 effector translocation. *Nature Microbiol.* 2016;1:16025.

Prima V, Wang A, **Molina G**, et al. Inhibition of LPS toxicity by hepatic argininosuccinate synthase (ASS): novel roles for ASS in innate immune responses to bacterial infection. *Int Immunopharmacol.* 2011;11(9):1180-1188.

ORAL PRESENTATIONS, POSTERS, & SPEECHES

Oral Presentations

Molina GE, Allen IM, Hughes MS, et al. Implications of co-occurring dermatologic and gastrointestinal toxicity from immune checkpoint inhibition therapy. Oral presentation at: 24th World Congress of Dermatology; Jun 13, 2019; Milan, Italy.

Molina GE, Allen IM, Hughes MS, et al. Prognostic implications of co-occurring dermatologic and gastrointestinal toxicity from immune checkpoint inhibition therapy for advanced malignancies. Oral presentation at: 79th Annual Soma Weiss Student Research Day of Harvard Medical School; Mar 12, 2019; Boston, MA.

Molina GE, Chen ST. Efficacy and Utility of Team-based Learning in Dermatology Residency Curriculum. Oral presentation at: The Dermatology Teachers Exchange Group of the American Academy of Dermatology Annual Meeting; Mar 4, 2019; Washington, D.C.

Molina GE, Smith KC, Nazarian RM, Yu J. Generalized granulomatous reaction following herpes zoster infection. Oral presentation at: Gross & Microscopic Symposium of the American Academy of Dermatology Annual Meeting; Mar 2, 2019; Washington, D.C.

Molina GE, Allen IM, Hughes MS, et al. Prognostic implications of co-occurring dermatologic and gastrointestinal toxicity from immune checkpoint inhibition therapy for advanced malignancies. Oral presentation at: Medical Dermatology Society Annual Meeting; Feb 28, 2019; Washington, D.C.

Molina GE, Chen ST. Cross-sectional survey of medical student assessment in dermatology clerkships. Oral presentation at: The Dermatology Teachers Exchange Group of the Association of Professors of Dermatology Annual Meeting; Oct 5, 2018; Chicago, IL.

Poster & Case Presentations

Zubiri L, **Molina GE**, Allen I, Reynolds KL. Efectos adversos que requieren ingreso hospitalario en pacientes diagnosticados de tumor avanzado tratados con inhibidores de checkpoint: datos de toxicidad y significación clínica. Poster presented at: Spanish Society of Medical Oncology National Congress 2019 Congress; Oct 22-25, 2019; Pamplona, Spain.

Zubiri L, **Molina GE**, Allen I, Reynolds KL. Severe immune-related adverse effects (irAE) requiring hospital admission in patients treated with immune checkpoint inhibitors for advanced malignancy: temporal trends and clinical significance. Poster presented at: European Society for Medical Oncology 2019 Congress; Sept 27 - Oct 1, 2019; Barcelona, Spain.

Molina GE, Reynolds KL, Chen ST. Diagnostic and therapeutic differences between immune checkpoint inhibitor-induced and idiopathic bullous pemphigoid. Poster presented at: 77th Annual Meeting of the Society for Investigative Dermatology; May 8-11, 2019; Chicago, IL.

Molina GE, Yu SH, Neel VA. Novel observations regarding infection risk in lower extremity wounds healing by second intention. Poster presented at: 51st Annual Meeting of the American College of Mohs Surgery; May 2-5, 2019; Baltimore, MD.

Molina G, Chen, ST, Lo JA, et al. Dermatology consultation reduces interruption of oncologic management among hospitalized patients with immune-related adverse events. Poster presented at: 5th Annual Harvard Combined Dermatology Poster Session; Apr 30, 2019; Boston, MA.

Molina GE, Allen IM, Hughes MS, et al. Prognostic implications of co-occurring dermatologic and gastrointestinal toxicity from immune checkpoint inhibition therapy for advanced malignancies. Poster presented at: 5th Annual Harvard Combined Dermatology Poster Session; Apr 30, 2019; Boston, MA.

Molina GE, Yu SH, Neel VA. Novel observations regarding infection risk in lower extremity wounds healing by second intention. Poster presented at: 5th Annual Harvard Combined Dermatology Poster Session; Apr 30, 2019; Boston, MA.

Molina G, Chen, ST, Lo JA, et al. Dermatology consultation reduces interruption of oncologic management among hospitalized patients with immune-related adverse events. Poster presented at: Cancer, Autoimmunity, and Immunology Conference of the National Institute of Health and American Association for Cancer Research; Apr 15-16, 2019; Bethesda, MD.

Hughes MS, Zheng H, Zubiri L, Mooradian M, **Molina GE**, Lumish M, Allen IM, Reynolds K, Dougan ML. Factors associated with severity of immune checkpoint inhibitor gastroenterocolitis requiring hospitalization in melanoma patients. Poster presented at: ASCO-SITC Clinical Immuno-Oncology Symposium; Feb 28 – Mar 2, 2019; San Francisco, CA.

Molina G, Yu SH, Lorenzo M. A 68-year-old female with recurrent discoloration, cold sensitivity, and painful lesions following brachial plexus injury. Case presented at: New England Dermatological Society Clinical Meeting; Feb 9, 2019; Boston, MA.

Molina GE, Chen ST. Cross-sectional survey of medical student assessment in dermatology clerkships. Poster presented at: Medical Education Day of The Academy at Harvard Medical School; Dec 11, 2018; Boston, MA.

Hughes MS, Zheng H, Dougan M, Zubiri L, **Molina GE**, Reynolds K. Immune checkpoint inhibitor induced gastroenterocolitis: a single-center experience. Poster presented at: Research Poster Symposium of Massachusetts Medical Society; Nov 30, 2018; Boston, MA.

Smith KC, **Molina GE**, Duncan LM, Yu J. Prurigo pigmentosa: a case report. Poster presented at: 55th Annual Meeting of The American Society of Dermatopathology; Nov 8-11, 2018; Chicago, IL.

Molina G, Chen, ST, Lo JA, et al. Characterizing inpatient dermatologic immune-related adverse events (irAEs) and the role of dermatology consultation in their management. Poster presented at: 4th Annual Harvard Combined Dermatology Poster Session; May 29, 2018; Boston, MA.

Mohan G, **Molina GE**, Stavert R. Store and forward teledermatology improves dermatology knowledge among referring primary care providers: a survey-based cohort study. Poster presented at: 4th Annual Harvard Combined Dermatology Poster Session; May 29, 2018; Boston, MA.

Molina G, Chen, ST, Lo JA, et al. Characterizing inpatient dermatologic immune-related adverse events (irAEs) and the role of dermatology consultation in their management. Poster presented at: International Investigative Dermatology Meeting of the Society for Investigative Dermatology; May 16-19, 2018; Orlando, FL.

Molina G, Mohan G, Ahn C, et al. A 36-year-old male with painful disseminated nodules. Case presented at: New England Dermatological Society Clinical Meeting; Feb 3, 2018; Boston, MA.

Speeches

Molina G. *Embracing Uncertainty*. Cum Laude Honors Society Ceremony, Oak Hall School; Apr 25, 2019; Gainesville, FL.

Molina G. *We Do It Because It's Easy*. Annual Honor Council Assembly, Oak Hall School; Jan 7, 2015; Gainesville, FL.

SKILLS & INTERESTS

Skills: Spanish (native fluency), Latin (advanced proficiency), Ancient Greek (reading), Stata, Microsoft Office Suite, InDesign

Interests: Tennis, basketball, drums and percussion, Greco-Roman mythology, Classical art, Latin literature