

UNIVERSITY OF PENNSYLVANIA - SCHOOL OF MEDICINE

Curriculum Vitae

Date: August 17, 2022

Brian C. Capell, M.D., Ph.D.

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Education:

August 1996 – May 2000 B.S. (*magna cum laude*), Boston College, Chestnut Hill, Massachusetts, USA

August 2001 – May 2009 M.D., New York University School of Medicine, New York, New York, USA

July 2004 – May 2008 Ph.D., New York University, New York, New York, USA (Mentor: Francis Collins, M.D., Ph.D., National Human Genome Research Institute, NIH, Bethesda, Maryland, USA)

Postgraduate Training and Fellowship Appointments:

June 2009 – June 2010 Intern in Medicine, Pennsylvania Hospital, Philadelphia, Pennsylvania, USA

July 2010 – July 2013 Resident in Dermatology, Hospital of the University of Pennsylvania, Philadelphia, Pennsylvania, USA

July 2013 – June 2017 Postdoctoral Fellow (Mentor: Shelley Berger, Ph.D., Epigenetics Program, Department of Cell and Developmental Biology, University of Pennsylvania, Philadelphia, Pennsylvania, USA)

Faculty Appointments:

July 2013 – June 2017 Instructor of Dermatology, University of Pennsylvania, Philadelphia, PA, USA

July 2017 – present Assistant Professor of Dermatology and Genetics, Penn Epigenetics Institute Core Faculty, Abramson Cancer Center, Penn Institute of Regenerative Medicine, University of Pennsylvania, Philadelphia, PA, USA

Specialty Board Certification:

2013 American Board of Dermatology

Medical Licensure:

2009-present Pennsylvania

Awards, Honors and Membership in Honorary Societies:

1996	Edward J. Bloustein Distinguished Scholar Award
2000	Order of the Cross and Crown Honor Society, Boston College College of Arts and Sciences
2000	Alpha Sigma Nu National Honor Society
2000	Golden Key National Honor Society
2004	Howard Hughes Medical Institute-NIH Research Scholar Award
2005	Howard Hughes Medical Institute-National Institutes of Health Advanced Scholar Award
2005	Howard Hughes Medical Institute Continuing Support Award
2006	American Society of Human Genetics, Predoctoral Award, First Place Winner
2007	57 th Meeting of Nobel Laureates in Physiology and Medicine, Lindau, Germany, July 1-6, 2007, selected as one of 50 students to the Delegation representing the United States
2007	International Achievement Summit of the Academy of Achievement, Washington, DC, June 19-23, 2007, selected student attendee
2009	William Randolph Hearst Foundation Award for Outstanding MSTP Student, NYU
2014	Albert M. Kligman Travel Award, Society for Investigative Dermatology Annual Meeting
2018	Young Investigator of the Year, American Academy of Dermatology
2018	Young Physician Scientist Award, American Society for Clinical Investigation
2019	Charles and Daneen Steifel Award, Dermatology Foundation

Memberships in Professional & Scientific Societies and Other Professional Activities:

National Societies:

	American Society of Human Genetics, 2005-2008
	American Physician Scientists Association, 2006-2009
	Society of Investigative Dermatology, 2010-present
	American Academy of Dermatology, 2010-present
2014-present	Leaders Society, Dermatology Foundation
October 2018	Ad hoc member, Arthritis, Connective Tissue, and Skin (ACTS) Study Section, NIAMS, NIH
2019-2024	Society of Investigative Dermatology Committee on Education

Editorial Positions:

2013-present	Ad hoc reviewer, <i>Journal of Investigative Dermatology</i>
2016-present	Ad hoc reviewer, <i>Ageing Research Reviews</i>
2017-present	Ad hoc reviewer, <i>Cell Stem Cell</i>
2017-present	Ad hoc reviewer, <i>Aging Cell</i>
2018-present	Ad hoc reviewer, <i>Nature Biotechnology</i>
2018-present	Ad hoc reviewer, <i>Cell Reports</i>
2018-present	Ad hoc reviewer, <i>PNAS</i>
2018-present	Ad hoc reviewer, <i>British Journal of Dermatology</i>
2018-present	Ad hoc reviewer, <i>JAMA Dermatology</i>
2019-present	Ad hoc reviewer, <i>Cellular and Molecular Life Sciences</i>
2019-present	Ad hoc reviewer, <i>Epigenetics</i>
2019-present	Ad hoc reviewer, <i>Yale Journal of Biology and Medicine</i>
2020-present	Ad hoc reviewer, <i>New England Journal of Medicine</i>
2020-present	Associate Editor, <i>Frontiers in Oncology</i>
2021-present	Ad hoc reviewer, <i>Nature Genetics</i>
2021-present	Ad hoc reviewer, <i>Frontiers in Cell and Developmental Biology</i>
2021-present	Ad hoc reviewer, <i>Nature Communications</i>

Academic and Institutional Committees:

2019-present Professionalism Committee, Department of Dermatology, University of Pennsylvania
2020-present Steering Committee, Richards Society for Tenure Track Faculty, University of Pennsylvania
2020-present Co-Core Director, Cutaneous Phenomics and Transcriptomics (CPAT) Core, Penn NIH P30 Skin Biology and Disease Research Center
2021-present Faculty Leader, Penn Trainee Advocacy Alliance (TAA)
2022-present Admissions Committee, Penn Medical Scientist Training Program (MSTP)
2022-present Tumor Biology Program Liaison, Community Outreach and Engagement (COE) at the Abramson Cancer Center (ACC)

Undergraduate Mentoring:

Magahis, Claudia June 2022-present *The role of ferroptosis/LSD1 in epidermal biology*
Support: Capell Lab
Current: Undergraduate, University of Pennsylvania

Bao, Lydia June 2022-present *UTX/sex differences in epidermal cancer/biology*
Support: Capell Lab
Current: Undergraduate, University of Pennsylvania

Carrera, Maria June-August 2022 *METTL3/m6A in epithelial gene regulation/biology*
Support: Penn Summer Undergraduate Internship Program
Current: Undergraduate, Xavier University of Louisiana

Zou, Jonathan Feb. 2018-May 2022 *The role of KMT2C/D in epidermal tumor suppression*
Support: Capell Lab
Current: Medical student, University of Rochester School of Medicine

Lee, Jessica Jan.-May 2019 *Epitranscriptomics in the skin*
Support: Penn State BS-MD Combined Program
Current: Medical student, Thomas Jefferson Kimmel College of Medicine

Carrera, Maria June-August 2018 *The role of LSD1 in SCC*
Support: Penn Summer Undergraduate Internship Program
Current: Graduate student, University of Pennsylvania

Graduate Mentoring:

Egolf, Shaun July 2018-April 2022 *The role of KMT2C/D-LSD1 axis in epithelial biology*
Support: Penn Dermatology T32, NCI F99/K00
Current: Postdoctoral Fellow, AstraZeneca

Maldonado-Lopez, Alexandra July 2019-present *Epitranscriptomics in the skin*
Support: Penn Dermatology T32
Current: Graduate student, University of Pennsylvania

Pacella, Gina July 2019-present *The role of UTX in epithelial biology and cancer*
Support: NCI F31
Current: Graduate student, University of Pennsylvania

Kuprasertkul,
Nina October 2021-present *MLL4/LSD1, ferroptosis, and epigenetic-metabolic interplay*
Support: Penn Dermatology T32
Current: MSTP student, University of Pennsylvania

Additional thesis committees:

Mailyn Nishiguchi, Hannah Kolev, Katherine Beattie, Karun Kiani, Charles Danan (chair), June Yang,
Phuong Nguyen, Amy Gladstein, Maria Carrera

Postgraduate Mentoring:

Aubert, Yann Sept. 2018-Dec. 2020 *Application of bioinformatics to epithelial biology/cancer*
Support: Capell Lab
Current: Bioinformatician, Toulouse Institute for Infectious
and Inflammatory Diseases

Ko, Eun Kyung Sept. 2018-present *H3K36 methylation pathway in squamous cell carcinomas*
Support: SUN Pharma/SID Innovation Fellowship
Current: Postdoctoral fellow, University of Pennsylvania

Courses Taught:

2019 CAMB 542 Topics in Molecular Medicine
2020 CAMB 695 Scientific Writing
2021 BIOL 493 Epigenetics of Human Health and Disease

Research Support:

Previous:

2004-2005 Howard Hughes Medical Institute-National Institutes of Health Research Scholars Program,
\$17,800
2005-2006 Howard Hughes Medical Institute-National Institutes of Health Advanced Scholar Award, \$28,400
2006-2007 National Institutes of Health Intramural Research Training Award, \$30,600
2007-2008 National Institute of General Medical Sciences (NIGMS) Medical Scientist Training Program
(MSTP) Grant, \$27,000
2008-2009 Howard Hughes Medical Institute Continuing Support Award, \$46,000
2013-2014 Dermatology Foundation Dermatologist Investigator Research Fellowship, \$30,000
2013-2014 University of Pennsylvania NIH Skin Disease Research Center Physician-Scientist in Training
Minigrant, \$15,000
2014 American Skin Association Research Scholar Award in Melanoma and Non-Melanoma Skin
Cancer, \$60,000
2014-2017 Dermatology Foundation Physician Scientist Career Development Award, \$165,000
2014-2017 Melanoma Research Foundation Career Development Award, \$100,000
2017-2018 Penn NIH P30 Skin Biology and Disease Research Center Pilot and Feasibility Award, \$50,000
2018-2019 Penn-Wistar SPORE in Skin Cancer, \$50,000
2019-2020 Penn Center for Excellence in Environmental Toxicology Pilot Award, \$50,000
2019-2020 Penn Head and Neck Cancer Center Pilot Award, \$100,000
2019-2020 Penn Epigenetics Institute At Large Pilot Award, \$50,000
2016-2021 NIH K08AR070289 Epigenomic mechanisms of skin carcinogenesis, \$108,916/yr direct
2018-2021 Damon Runyon Clinical Investigator Award, \$200,000/yr direct
2019-2022 Dermatology Foundation Charles and Daneen Steifel Award, \$100,000/yr direct

Ongoing:

2020-2025 NIH R01AR077615: Epigenetic enhancer control in maintaining homeostasis and preventing
carcinogenesis in the epidermis, \$244,964/yr direct

Research Patents:

2007-present “Farnesyltransferase inhibitors for treatment of laminopathies, cellular aging and atherosclerosis.”
United States Patent US7838531B2; European Patent Office, international patent number:
06733984.6-2123-US2006002977 (USPTO Application #: 20080131375 - Class: 424 92 USPTO);
Publication Number: WO/2006/081444 with the World Intellectual Property Organization.

Bibliography:

- 2003 Tingart M, Apreleva M, Lehtinen J, **Capell B**, Palmer WE, Warner JP. "Reliability and Validity of MRI in Quantitative Analysis of Rotator Cuff Muscle Volumes". *Clinical Orthopaedics and Related Research*. 415(10): 2003.
- 2005 **Capell BC**, Erdos MR, Madigan JP, Fiordalisi JJ, Varga R, Conneely KN, Gordon LB, Der CJ, Cox AD, Collins FS. “Inhibiting the farnesylation of progerin prevents the characteristic nuclear blebbing of Hutchinson-Gilford progeria syndrome”. *Proceedings of the National Academy of Sciences USA*. 102(36): 2005.
- 2006 Varga R, Eriksson M, Erdos MR, Olive M, Harten I, Kolodgie F, **Capell BC**, Cheng J, Faddah D, Perkins S, Avallone H, San H, Qu X, Ganesh S, Gordon LB, Virmani R, Wight TN, Nabel EG, Collins FS. “Progressive vascular smooth muscle cell defects in a mouse model of Hutchinson-Gilford progeria syndrome”. *Proceedings of the National Academy of Sciences USA*. 103(9): 2006.
- Chiu ES, **Capell BC**, Press R, Aston SJ, Jelks EB, Jelks GW. “Successful Management of Orbital Cellulitis and Temporary Visual Loss after Blepharoplasty”. *Plastic and Reconstructive Surgery*. 118(3): 2006.
- Capell BC** & Collins FS. “Human laminopathies: nuclei gone genetically awry”. *Nature Reviews Genetics*. 7(12): 2006.
- 2007 Cao K, **Capell BC**, Erdos MR, Djabali K, Collins FS. “A lamin A protein isoform overexpressed in Hutchinson-Gilford progeria syndrome interferes with mitosis in both progeria and normal cells”. *Proceedings of the National Academy of Sciences USA*. 104(12): 2007.
- Capell BC**, Collins FS, Nabel EG. “Mechanisms of cardiovascular disease in accelerated aging syndromes”. *Circulation Research*. 101(1): 2007.
- 2008 Jazayeri L, Callaghan MJ, Grogan RH, Hamou CD, Thanik V, Ingraham CR, **Capell BC**, Pelo CR, Gurtner GC. “Diabetes increases p53-mediated apoptosis following ischemia”. *Plastic and Reconstructive Surgery*. 121(4): 2008.
- Capell BC**, Olive M, Erdos MR, Cao K, Faddah DA, Whipperman M, San H, Qu X, Ganesh SK, Chen X, Avallone H, Kolodgie F, Virmani R, Nabel EG, Collins FS. “A farnesyltransferase inhibitor prevents the onset and late progression of cardiovascular disease in a progeria mouse model”. *Proceedings of the National Academy of Sciences USA*. 105(41): 2008.
- 2009 **Capell BC**, Tlougan BE, Orlow SJ. “From the rarest to the most common: insights from progeroid syndromes into skin cancer and aging.” *Journal of Investigative Dermatology*. 129(10): 2009.
- 2011 Cohen JV, **Capell BC**, Kinniry PA, Epstein AL. “Rapidly fatal pulmonary fibrosis in a patient with psoriatic arthritis treated with adalimumab.” *Journal of Rheumatology*. 38(2): 2011.

- Verstraeten VL, Peckham LA, Olive M, **Capell BC**, Collins FS, Nabel EG, Young SG, Fong LG, Lammerding J. "Protein farnesylation inhibitors cause donut-shaped cell nuclei attributable to a centrosome separation defect." *Proceedings of the National Academy of Sciences USA*. 108(12): 2011.
- 2012 Conneely KN, **Capell BC**, Erdos MR, Sebastiani P, Timofeev N, Terry DF, Baldwin CT, Budagov T, Atzmon G, Barzalai N, Thomas GA, Puca AA, Perls TT, Geesaman BJ, Boehnke M, Collins FS. "Human longevity and common variations in the *LMNA* gene: a meta-analysis." *Aging Cell*. 11(3): 2012.
- 2013 **Capell BC**, Berger SL. "Genome-wide epigenetics." *Journal of Investigative Dermatology*. 133(6): 2013.
- Shah PP, Donahue G, Otte G, **Capell BC**, Nelson DM, Cao K, Aggarwala V, Cruickshanks HA, Singh Rai T, McBryan T, Gregory BD, Adams PD, Berger SL. "Lamin B1 depletion in senescent cells triggers large-scale changes in gene expression and in the chromatin landscape." *Genes & Development*. 27(6): 2013.
- 2015 McNeal A, Liu K, Nakhate V, Natale CA, **Capell BC**, Dentchev T, Berger SL, Herlyn M, Seykora JT, Ridky TW. "*CDKN2B* loss promotes progression from benign melanocytic nevus to melanoma." *Cancer Discovery*. 5(10): 2015.
- Dou Z, Xu C, Donahue G, Ivanov A, Pan J, Zhu J, **Capell BC**, Catanzaro JM, Ricketts MD, Shimi T, Adam SA, Mamorstein R, Zong WX, Goldman RD, Johansen T, Adams PD, Berger SL. "Autophagy mediates degradation of nuclear lamina." *Nature*. 527(7576): 2015.
- 2016 **Capell BC**, Drake A, Shah PP, Dorsey J, Simola DF, Dou Z, Zhu J, Sammons M, Donahue G, Rai TS, Natale CA, Ridky TW, Adams PD, Berger SL. "MLL1 is essential for the senescence-associated secretory phenotype." *Genes & Development*. 30(3): 2016.
- Ghosh K, **Capell BC**. "The senescence-associated secretory phenotype: critical effector in skin cancer and aging." *Journal of Investigative Dermatology*. 136(11): 2016.
- 2017 Miller CJ, Shin TM, Sobanko JF, Sharkey J, Grunyk J, Chu E, **Capell BC**, Ming M, Eitzkorn JR. "Risk factors for positive or equivocal margins after wide local excision of 1345 cutaneous melanomas". *J Amer Acad Derm*. 77(2): 2017.
- Dou Z, Ghosh K, Vizioli MG, Zhu J, Sen P, Wangenstein KJ, Simithy J, Lan Y, Lin Y, Zhou Z, **Capell BC**, Xu C, Xu M, Kieckhafer JE, Jiang T, Shoshkes-Carmel M, Tanim KMAA, Barber GN, Seykora JT, Millar SE, Kaestner KH, Garcia BA, Adams PD, Berger SL. "Cytoplasmic chromatin triggers inflammation in senescence and cancer." *Nature*. 550(7676): 2017.
- Ratushny V, **Capell BC**, Rosenbach M. "Presumed serum sickness following thymoglobulin treatment of acute cellular rejection of a cardiac allograft." *Cutis*. 100(3): 2017.
- Ghosh K, Modi B, James WD, **Capell BC**. "BAP1: case report and insight into a novel tumor suppressor." *Biomed Central Dermatology*. 17(1): 2017.
- 2018 Ghosh K, O'Neil K, **Capell BC**. "Histone modifiers: Dynamic regulators of the cutaneous transcriptome." *Journal of Dermatological Science*. 89(3): 2018.
- Lin-Shiao E, Lan Y, Coradin M, Anderson A, Donahue G, Simpson CL, Sen P, Saffie R, Busino L, Garcia BA, Berger SL, **Capell BC**. "KMT2D regulates p63 target enhancers to coordinate epithelial homeostasis." *Genes & Development*. 32(2): 2018.
- Capell BC**, Berger SL. "The Role of Epigenetics in Disease and Treatment". *Harrison's Principles of Internal Medicine: 20th Edition*: 2018.

- 2019 **Capell BC**. "Paget's Diseases: United by Epidermis and Epigenetics." *Journal of Investigative Dermatology*. 139(4): 2019.
- Egolf S, Aubert Y, Doepner M, Anderson A, Maldonado-Lopez A, Pacella G, Lan Y, Simpson CL, Ridky T, **Capell BC**. "LSD1 inhibition promotes epithelial differentiation through derepression of fate-determining transcription factors." *Cell Reports*. 28(8): 2019.
- Aubert Y, Egolf S, **Capell BC**. "The unexpected noncatalytic roles of histone modifiers in development and disease." *Trends in Genetics*. 35(9): 2019.
- 2020 Natale C, Li J, Dentchev T, **Capell BC**, Seykora JT, Stanger B, Ridky T. "Pharmacologic activation of G protein-coupled estrogen receptor inhibits pancreatic ductal adenocarcinoma". *Cellular and Molecular Gastroenterology and Hepatology*. May 3:S2352-345X(20)30066-7. doi: 10.1016/j.jcmgh.2020.04.016. Online ahead of print: 2020.
- Saffie R, Rolland D, Önder Ö, Basrur V, Elenitoba-Johnson K, **Capell BC**, Busino L. "FBXW7 triggers degradation of KMT2D to favor growth of diffuse large B-cell lymphoma cells." *Cancer Research*. 80(12): 2020.
- Egolf S, **Capell BC**. "LSD1: A viable therapeutic target in cutaneous squamous cell carcinoma?" *Expert Opinion on Therapeutic Targets*. 24(7): 2020.
- Capell BC**, Seykora JT. "Loss of methylation modification marks psoriasis." *Journal of Investigative Dermatology*. 140(6): 2020.
- 2021 Zheng Q, **Capell BC**, Parekh V, O'Day C, Atillasoy C, Bashir HM, Yeh C, Shim EH, Prouty SM, Dentchev T, Lee V, Wushanley L, Kweon Y, Suzuki-Horiuchi Y, Pear W, Grice EA, Seykora JT. Whole-Exome and Transcriptome Analysis of UV-Exposed Epidermis and Carcinoma In Situ Reveals Early Drivers of Carcinogenesis. *J Invest Dermatol*. 2021 Feb;141(2):295-307.e13. doi: 10.1016/j.jid.2020.05.116. Epub 2020 Jul 8. PMID: 32649944; PMCID: PMC7790860.
- Pei S, Fischer AS, Milbar H, **Capell BC**, Elenitsas R, Rubin AI. Perforating and granulomatous exogenous ochronosis. *J Cutan Pathol*. 2021 Jan 20. doi: 10.1111/cup.13807. Epub ahead of print. PMID: 33470444.
- Rao RC, Rao RC, Dlouhy BJ, **Capell BC**, Akeju O. The endangered physician-scientist and COVID-19. *Cell Rep Med*. 2021 Feb 16;2(2):100190. doi: 10.1016/j.xcrm.2021.100190. Epub 2021 Jan 14. PMID: 33521693; PMCID: PMC7832285.
- Pacella G, **Capell BC**. Epigenetic and metabolic interplay in cutaneous squamous cell carcinoma. *Exp Dermatol*. 2021 Apr 12. doi: 10.1111/exd.14354. Epub ahead of print. PMID: 33844325.
- Capell BC**. From Enhancers to Keratinocyte Cancers. *J Invest Dermatol*. 2021 May;141(5):1134-1136. doi: 10.1016/j.jid.2020.11.008. PMID: 33888214; PMCID: PMC8175092.
- Huang S, Huang S, Kuri P, Aubert Y, Brewster M, Li N, Farrelly O, Rice G, Bae H, Prouty S, Dentchev T, Luo W, **Capell BC**, Rompolas P. Lgr6 marks epidermal stem cells with a nerve-dependent role in wound re-epithelialization. *Cell Stem Cell*. 2021 Jun 2:S1934-5909(21)00225-3. doi: 10.1016/j.stem.2021.05.007. Epub ahead of print. PMID: 34102139.
- Egolf S, Zou J, Anderson A, Simpson CL, Aubert Y, Prouty S, Ge K, Seykora JT, **Capell BC**. MLL4 mediates differentiation and tumor suppression through ferroptosis. *Sci Adv*. 2021 Dec 10;7(50):eabj9141. doi: 10.1126/sciadv.abj9141. Epub 2021 Dec 10. PMID: 34890228; PMCID: PMC8664260.

2022 **Capell BC**. Loss of TET2 Tips the Scales Toward Tumorigenesis. *J Invest Dermatol*. 2022 May;142(5):1253-1255. doi: 10.1016/j.jid.2021.11.023. Epub 2022 Jan 31. PMID: 35109986; PMCID: PMC9128576.

Capell BC, Berger SL. “The Role of Epigenetics in Disease and Treatment”. *Harrison’s Principles of Internal Medicine: 21st Edition*: 2022.

Hedberg ML, Berry CT, Moshiri AS, Xiang Y, Yeh CJ, Attilasoy C, **Capell BC**, Seykora JT. Molecular Mechanisms of Cutaneous Squamous Cell Carcinoma. *Int J Mol Sci*. 2022 Mar 23;23(7):3478. doi: 10.3390/ijms23073478. PMID: 35408839; PMCID: PMC8998533.

Ko EK, Anderson A, Zou J, Huang S, Cho S, Alawi F, Prouty S, Lee V, Ge K, Seykora JT, **Capell BC**. H3K36M provokes cellular plasticity to drive aberrant glandular formation and squamous carcinogenesis. In preparation. 2022.

Invited Lectures/Seminars:

2005 **Capell BC**. “Progeria, Lamin A, and Insight into Normal Aging”. *National Human Genome Research Institute Genome Technology Branch Meeting*, National Institutes of Health, Bethesda, Maryland, March 2005.

2006 **Capell BC**, Eriksson M, Varga R, Erdos MR, Olive M, Kolodgie F, Avallone H, San H, Qu X, Virmani R, Nabel EG, Collins FS. “*In vitro* and *in vivo* effects of farnesyltransferase inhibitors for Hutchinson-Gilford progeria syndrome”. Presented as an oral presentation at the *National MD/PhD Student Conference*, Keystone, Colorado, July 7-9, 2006.

Capell BC, Erdos MR, Conneely KN, Eriksson M, Enloe S, Geesaman BJ, Boehnke M, Collins FS. “Association between a *LMNA* haplotype and longevity in humans”. Presented as an oral presentation at the *Cold Spring Harbor Laboratory Molecular Genetics of Aging Conference*, Cold Spring Harbor, New York, October 4-8, 2006.

Capell BC, Olive M, Erdos MR, Eriksson M, Varga R, Kolodgie F, Avallone H, San H, Qu X, Gordon LB, Virmani R, Nabel EG, Gahl WA, Collins FS. “*In vitro* and *in vivo* effects of farnesyltransferase inhibitors for Hutchinson-Gilford progeria syndrome”. Presented as a plenary oral presentation at the *The American Society of Human Genetics 56th Annual Meeting 2006*, New Orleans, Louisiana, October 9-13, 2006.

2007 **Capell BC**, Olive M, Erdos MR, Cao K, Faddah D, San H, Qu X, Kolodgie F, Avallone H, Nabel EG, Collins FS. “Prevention of cardiovascular defects in a mouse model of Hutchinson-Gilford progeria syndrome by inhibition of farnesylation”. Presented as an oral presentation at the *National Institutes of Health 2007 Graduate Student Research Symposium*, Bethesda, Maryland, May 4, 2007.

Capell BC, Olive M, Erdos MR, Whipperman M, Cao K, Faddah DA, San H, Qu X, Ganesh S, Chen X, Avallone H, Kolodgie F, Virmani R, Nabel EG, Collins FS. “A farnesyltransferase inhibitor prevents cardiovascular disease in a progeria mouse model”. Presented as a platform oral presentation at the *The American Society of Human Genetics 57th Annual Meeting 2007*, San Diego, California, October 23-27, 2007.

2008 **Capell BC**. “Progeria, *LMNA*, and insight into normal aging”. Presented as a platform oral presentation at the *The Plastic Surgery Research Council, 53rd Annual Meeting*, Southern Illinois University, Springfield, Illinois, May 28-31, 2008.

2013 **Capell BC**. “From the Most Rare to the Most Common: Insights into Premature and Normal Aging”. Presented at Dermatology Grand Rounds at Keio University, Tokyo, Japan, March 19, 2013.

- 2013 **Capell BC.** “Senescence leads to large-scale epigenomic destabilization invoking hallmarks of reprogramming”. Presented at the 2013 Chemical Biology of Aging Mini-Symposium, University of Pennsylvania, Philadelphia, Pennsylvania, November 1, 2013.
- 2014 **Capell BC.** “The senescence epigenome: insights into an imperfect tumor suppressor”. Presented as an oral presentation at the *Keystone Symposia Joint Meeting on Cancer Epigenetics and Transcriptional Regulation*, Santa Fe, New Mexico, February 10, 2014.
- 2014 **Capell BC.** “Senescence leads to large-scale epigenomic destabilization invoking hallmarks of reprogramming”. Presented as an oral presentation at the *Society for Investigative Dermatology Annual Meeting*, Albuquerque, New Mexico, May 8, 2014.
- 2016 **Capell BC.** “Epigenetic regulation of DNA damage-induced inflammation.” Presented as an oral presentation at the *Society for Investigative Dermatology Annual Meeting*, Scottsdale, Arizona, May 13, 2016.
- 2016 **Capell BC.** “From chromatin to cancer: how epigenetic disruption drives carcinogenesis.” Presented as a Grand Rounds lecture, University of Michigan Department of Dermatology, Ann Arbor, Michigan September 29, 2016.
- Capell BC.** “From chromatin to cancer: how epigenetic disruption drives carcinogenesis.” Presented as a Grand Rounds lecture, Johns Hopkins University Department of Dermatology, Baltimore, Maryland, October 12, 2016.
- Capell BC.** “From chromatin to cancer: how epigenetic disruption drives carcinogenesis.” Presented as a Research Seminar, Washington University Division of Dermatology, St. Louis, Missouri, October 13, 2016.
- Capell BC.** “From chromatin to cancer: how epigenetic disruption drives carcinogenesis.” Presented as a Research Seminar, University of Pennsylvania Department of Dermatology, Philadelphia, Pennsylvania, October 25, 2016.
- 2017 **Capell BC.** “Epigenetic enhancer disruption as a driver of squamous carcinogenesis.” Presented as a Platform Oral Presentation, *Society for Investigative Dermatology Annual Meeting*, Portland, Oregon, April 29, 2017.
- Capell BC.** “Epigenetic enhancer disruption as a driver of squamous carcinogenesis.” Presented as a Platform Oral Presentation, *2017 Gordon Conference on Epithelial Differentiation and Keratinization*, Lucca (Barga), Italy, May 9, 2017.
- 2018 **Capell BC.** “Enhancing the Barrier.” Presented as a Plenary Session, *International Investigative Dermatology Meeting*, Orlando, Florida, May 17, 2018.
- Capell BC.** “From Chromatin to Cancer: How Epigenetic Disruption Promotes Epithelial Carcinogenesis.” Presented as an oral lecture, *Abramson Cancer Center Distinguished Lectures in Cancer*, Philadelphia, Pennsylvania, May 15, 2018.
- 2019 **Capell BC.** “Enhancing the Barrier: Epigenetic enhancer regulation in epithelial development and carcinogenesis”. Presented as an oral presentation at the Skin Epigenetics Pre-Meeting at the *Society for Investigative Dermatology Annual Meeting*, Chicago, Illinois, May 7, 2019.
- Capell BC.** “Enhancing the Barrier: Epigenetic enhancer regulation in epithelial development and carcinogenesis”. Presented as an oral platform presentation at the *Society for Investigative Dermatology Annual Meeting*, Chicago, Illinois, May 10, 2019.

- Capell BC.** “Harnessing the Potential of Epigenetic Therapy for Skin Disease”. Presented as an invited oral presentation at the *Innovations in Dermatological Sciences*, Summit, New Jersey, September 9, 2019.
- 2020 **Capell BC.** “From Chromatin to Cancer: How Epigenetic Disruption Drives Carcinogenesis”. Presented as an invited lecture at the Mount Sinai Tisch Cancer Institute, New York, New York, January 14, 2020.
- Capell BC.** “From Chromatin to Cancer: How Epigenetic Disruption Drives Squamous Carcinogenesis”. Presented as an invited lecture at the Penn Dental School *Frontiers in Science* series, Philadelphia, PA, June 4, 2020.
- Capell BC.** “Dynamic METTL3-m6A epitranscriptomic regulation of epithelial homeostasis and carcinogenesis.” Presented as a Short Talk, *Keystone Symposia on RNA Editing and Modifications*, September 30-October 2, 2020.
- Capell BC.** “Epigenetic control of ultraviolet radiation responses in the epidermis.” Presented as an invited lecture, *Penn Center for Excellence in Environmental Toxicology*, Philadelphia, PA, November 9, 2020.
- 2021 **Capell BC.** “Skin Aging: Epigenetics and Epitranscriptomics.” Presented as an invited lecture, *Society for Investigative Dermatology Annual Meeting (Virtual)*, May 2021.
- Capell BC.** “Epigenetics and Epithelial Cancer: How gene regulation gone awry creates cancer (and therapeutic vulnerabilities)”. Presented as an invited virtual seminar, *UTSW Simmons Comprehensive Cancer Center*, September 7, 2021.
- Capell BC.** “Epigenetic and Metabolic Interplay in the Balance Between Epithelial Differentiation and Carcinogenesis”. Presented as an invited virtual seminar, *SUNY Buffalo School of Dental Medicine Department of Oral Biology*, February 28, 2022.
- Capell BC.** “Epigenetic and Metabolic Interplay in the Balance Between Epithelial Differentiation and Carcinogenesis”. Presented as an invited virtual seminar, *Brigham and Women’s Hospital Department of Dermatology*, March 11, 2022.
- Capell BC.** “Genetic and epigenetic mechanisms in skin homeostasis and disease”. Presented as an invited lecture, *American Academy of Dermatology Annual Meeting*, Boston, Massachusetts, March 28, 2022.
- Capell BC.** “Chromatin at the nexus of epithelial development, differentiation, and cancer”, To be presented as an invited seminar, *University of Michigan Center for Cell Plasticity and Organ Design (CPOD)*, Ann Arbor, Michigan, September 20, 2022.
- Capell BC.** “Chromatin at the nexus of epithelial development, differentiation, and cancer”. To be presented as an invited seminar, *Northwestern University Department of Dermatology*, Chicago, Illinois, November 15, 2022.

Selected Abstracts:

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