

# Nicholas Ford Brazeau

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## EDUCATION

**University of North Carolina School of Medicine, Chapel Hill, NC**

Prospective MD, 2023

*Alpha Omega Alpha*

**UNC Gillings School of Global Public Health, Chapel Hill, NC**

PhD: Department of Epidemiology, March 2020

Dissertation: *The Molecular, Spatial, and Genetic Epidemiology of Malaria in the Democratic Republic of the Congo*

PhD Awarded: March 2020

**Harvard College, Cambridge, MA**

A.B. in Human Evolutionary Biology with *Highest Honors* (Thesis & Degree), 2013

*Magna Cum Laude* (GPA)

## RESEARCH

**Triangle Center for Evolutionary Medicine, Durham, NC.**

Charles Nunn, PhD, Professor of Evolutionary Anthropology and Global Health.

Michael Emch, PhD, Professor and Chair of Geography.

**Research Consultant, September 2022-Present.** Anticipate coordinating a team of graduate students to develop an agent-based simulation model aimed at describing early pandemic propagation. Will help lead statistical method development and implementation.

**Imperial College London, Department of Infectious Disease Epidemiology, London, UK.**

Azra Ghani, PhD, Professor and Chair, Department of Infectious Disease Epidemiology.

Robert Verity, PhD, Medical Research Council Research Fellow.

**Research Associate: COVID-19 Response Team, April 2020-December 2020.** Focused on estimating the COVID-19 infection fatality ratio (IFR) from aggregate data using statistical modeling and serologic data. IFR work featured on [WebMD](#), [NewScientist](#), and [other venues](#).

**Visiting Researcher, August 2019-December 2019.** Implemented population genetic models focused on identity by descent measures for tracing malaria relatedness.

**UNC Gillings School of Global Public Health, Department of Epidemiology, Chapel Hill, NC.**

Steven R. Meshnick, MD, PhD, Professor, Department of Epidemiology.

Jonathan J. Juliano, MD, Associate Professor, Department of Medicine.

**Research Assistant/PhD Student, March 2016-March 2020.** Analyzed and monitored the spatial prevalence, emergence of drug resistance, and molecular evolution among *Plasmodium falciparum* and *Plasmodium vivax* using bioinformatic, epidemiological, and molecular techniques. Aim 1 of dissertation and resultant manuscript on *P. vivax* in the Democratic Republic of the Congo featured on [Nature Communications Editors' Highlights for Public Health](#) and as part of [the 2022 World Malaria Day Collection](#).

**Kibale Chimpanzee Project, Kibale National Park, Uganda.**

Richard Wrangham, PhD, Ruth B. Moore Professor of Biological Anthropology.

Zarin Machanda, PhD, HEB Associate Concentration Advisor.

**Fulbright Researcher, September 2013-May 2014.** Expanded and continued undergraduate thesis research.

**Student Field & Project Researcher, January 2011-May 2013.** Examined the growth trajectories of wild chimpanzees using a non-invasive, novel photogrammetric approach. Project culminated into my Senior Honor's Thesis. Awarded approximately \$14,000 in funding.

**Harvard Medical School, Boston, MA.**

Rahmi Oklu, MD, PhD

**Student Researcher, March 2010-May 2013.** Conducted clinical research as well as literature reviews on May-Thurner syndrome and critical limb ischemia.

## NOTABLE AWARDS

**Kirschstein-NRSA Predoctoral MD/PhD Degree Fellowship, January 2019 – Current.**

Awarded an F30 grant from the NIH to support doctoral thesis work and MD/PhD training (*NIH Impact Score: 11*; F30AI143172-01).

**Albert Schweitzer Fellowship, April 2016-April 2017.**

Community service and leadership fellowship for work as Co-Director of the Diabetes Maintenance and Prevention Program at the Open Door Clinic of Alamance County. Group visit model featured by [UNC Newsroom/TraCS](#).

**Fulbright U.S. Student Fellowship, September 2013-June 2014.**

Postgraduate research fellowship to western Uganda to study the ontogenic trajectories of the wild chimpanzees with the Kibale Chimpanzee Project.

**Thomas T. Hoopes Prize, May 2013.**

Annual award for exceptional undergraduate theses at Harvard College. One of the highest academic accolades bestowed on undergraduates.

## HONORS & AWARDS

Alpha Omega Alpha	September 2022
Kevin R. Stone, MD '81 Travel Fellowship	July 2022
Greenburg Excellence in Doctoral Research, Epidemiology Dept. <i>Nominee</i>	March 2021
Kirschstein-NRSA Predoctoral MD/PhD Degree Fellowship (F30: F30AI143172-01)	January 2019
Infectious Disease Training Grant (T32: 5T32AI070114-12)	August 2018
University of Washington Statistical Genetics Travel Award	July 2018
Triangle Center for Evolutionary Medicine Graduate Fellowship	August 2017
Benjamin H. Kean Travel Fellowship in Tropical Medicine	July 2017
International Conference on <i>Plasmodium vivax</i> Research Travel Award	June 2017
Albert Schweitzer Fellowship	April 2016
Eugene S. Mayer Honor Society for Community Service	April 2016
IDS Education and Research Foundation Medical Scholar	April 2015
Alexander MD/PhD Scholarship	February 2015
Pillsbury Award, for Best Oral Presentation in Public Health	January 2015
Medical Scientist Training Program, Training Grant (T32: 2T32GM008719-16)	August 2014

Fulbright U.S. Student Research Fellowship	May 2013
Thomas T. Hoopes Prize	May 2013
Howells Award, Most Outstanding Undergraduate Thesis in Human Evolutionary Biology	May 2013
RSNA <i>Cum Laude</i> Award Winner (Poster)	November 2012
Herchel Smith-Harvard Undergraduate Research Fellowship	April 2012
American Society of Primates General Small Grant Recipient	May 2012
Goelet Fund Recipient	April 2012
Museum of Comparative Zoology Grant-in-Aid of Research Recipient	February 2012
Harvard College Research Scholar	October 2011-May 2012

## TEACHING & MENTORING

### **Mentoring, MD/PhD Bioinformatic & Computational Biology Student**

University of North Carolina, June 2022 – May 2023.

Formally mentored a MD/PhD student (Sean Connelly) within the [IDEEL](#) group on molecular surveillance, statistical genetics, and spatial analyses. Met weekly. Mentee has manuscript in preparation.

### **Instructor, Applied Malaria Molecular Surveillance Workshop**

Ethiopian Public Health Institute, August 5-8, 2022.

Delivered lecture on identity by state and by descent with emphasis on relevance to control and eliminations efforts and led corresponding practical for national program managers and country partners. Contributed to other modules: allele frequencies, population structure, and complexity of infection as well as general workshop organization. Funded by Bill & Melinda Gates Foundation and Imperial College London.

### **Instructor, TRICEM Evolutionary Medicine Summer Institute**

North Carolina State University, May 23, 2019.

Led module using basic compartmental modeling to map the spread of *hrp2*-deletions in the Democratic Republic of the Congo. Discussed basic evolutionary concepts.

### **Co-Instructor, R for Epidemiologists (EPID799-C)**

UNC Gillings School of Global Public Health, August 2018-December 2018.

Co-instructed an advanced R-programming course for graduate students at UNC covering functional programming, advanced graphics, multilevel modeling, and web-scraping.

## GLOBAL PUBLIC HEALTH EXPERIENCES

### **Medical Trainee, Lilongwe, Malawi**

Kamuzu Central Hospital, Pediatric Unit, February 2019.

Medical rotation working primarily in the pediatric “emergency zone” at Kamuzu Central Hospital. Aided in patient care, including diagnoses and procedures.

### **Visiting Researcher, Addis Ababa, Ethiopia**

Ethiopian Public Health Institute, July 2017.

Screened over 600 clinical isolates from *in vivo* drug efficacy studies across Ethiopia for drug resistance markers. Led a four-day module on next-generation amplicon sequencing and R-statistical software for EPHI researchers.

## PUBLIC SERVICE, CLUBS, & SOCIETIES

**Academic Peer Reviewer:** Evolutionary Medicine and Public Health, American Journal of Epidemiology, Parasites and Vectors, BMC Women's Health, Frontiers in Malaria (*Review Editor: Antimalarial Drug Resistance*)

**Academic Memberships:** American Society for Tropical Medicine and Hygiene, International Society of Evolution, Medicine, & Public Health

### ***UNC MD/PhD Case Conference***, Chapel Hill, NC

North Carolina Translational and Clinical Sciences Institute

John B. Buse, MD, PhD, Professor of Medicine, Endocrinology School of Medicine Chief, UNC

Co-Director. August 2022-May 2023. Promoted and organized translational medicine opportunities for MD-PhD students. Emphasized rigorous, reproducible, and representative practices.

### ***UNC MD/PhD Case Conference***, Chapel Hill, NC

Co-Leader. July 2022-May 2023. Organized monthly medical case-conferences for MD-PhD students as part of continuing medical education and integration of learning across the program.

### ***Student Health Action Coalition (SHAC)***, Carrboro, NC

Medical Team Senior (MTS) Staff. November 2021-Present. Served as the senior student as part of a primary care team at a student-run free clinic.

### ***UNC MD/PhD Admissions Committee***, Chapel Hill, NC

Member. September 2018-December 2019. Student admission committee member. Reviewed applications and aided in admission decisions.

### ***Diabetes Maintenance and Prevention Program***, Burlington, NC

John B. Buse, MD, PhD, Professor of Medicine, Endocrinology School of Medicine Chief, UNC

Laura Young, MD, PhD, UNC Endocrinology Faculty

Co-Director. May 2015-June 2019. Provided and coordinated free clinical services for patients with prediabetes and diabetes. Implemented shared medical appointments. *Awarded Albert Schweitzer fellowship in recognition of service.*

### ***Gene's Knockouts, UNC MSTP Team***, Chapel Hill, NC

Captain. March 2016-July 2019. Organized and coordinated the annual MD/PhD retreat in Wilmington, NC. Promoted team activities and events throughout the academic year.

### ***Eugene S. Mayer Honor Society for Community Service***, Chapel Hill, NC

Member. March 2016. Recognized for commitment to community service.

### ***John B. Graham Medical Student Research Society***, Chapel Hill, NC

Co-Vice President of Student Research Day. January 2018-August 2019.

Master of Public Health & Leave of Absence Liaison. January 2015-January 2018. Helped to organize and coordinate the 2019 student research day at UNC. Liaison for leave of absence students.

### ***Evolutionary Medicine Interest Group***, Research Triangle, NC

Co-Founder. January 2015-January 2016. Connected medical students from Duke and UNC along with public health students from UNC and veterinary students at NC State with interests in evolutionary medicine and one health. Organized meetings and lectures and promoted multi-school and interdisciplinary collaborations.

**Kasiisi School Project**, Kibale National Park, Uganda.

Volunteer Instructor, Summer 2012, September 2013-June 2014. Raised conservation awareness and helped to enhance the educational opportunities among schools surrounding Kibale National Park.

**Habitat for Humanity**, Cambridge, MA.

Co-Director, College Treasurer, Volunteer, September 2010-January 2013. Co-directed the Harvard Chapter of Habitat for Humanity. Co-led a spring break service trip to Macon, GA.

**Harvard Bureau of Study Council**, Cambridge, MA.

Award Peer Tutor, September 2012-Jan 2012. Nominated by Harvard Professors to be a peer tutor. Tutored in evolutionary anatomy and physiology (Life Sciences 2).

**Harvard Advising Program Office**, Cambridge, MA.

Peer Advisor Fellow, September 2010-May 2013. Peer adviser for freshman students at Harvard College.

## OTHER TRAINING

GCP for Clinical Trials with Investigational Drugs, Biologics and Devices Course      September 2022

Advanced Care Life Support (ACLS) Course      July 2022

*American Red Cross, Durham, NC*

Basic Life Support (BLS) Course      June 2021

*American Red Cross, Raleigh, NC*

Collaborative Institutional Training Initiative (CITI) Program      May 2021

*UNC School of Medicine, Chapel Hill, NC (July 2014, August 2016, July 2020)*

Institute for Healthcare Improvement Open School Online Courses      September 2020, May 2021

*Introduction to Health Care Leadership*

*Introduction to Patient Safety*

*From Error to Harm*

*Human Factors and Safety*

*Teamwork and Communication*

*Responding to Adverse Events*

*Introduction to the Triple Aim for Populations*

*Introduction to Patient-Centered Care*

*Leading Quality Improvement*

*Interpreting Data: Run Charts, Control Charts, and Other Measurement Tools*

*Testing and Measuring Changes with PDSA Cycles*

*How to Improve with the Model for Improvement*

*Introduction to Health Care Improvement*

Responsible Conduct of Research      July 2018

*Chapel Hill, NC*

MD/PhD Student Leadership Course      September 2017

*Chapel Hill, NC*

## INTERESTS & ATHLETIC AWARDS

Harvard University, Varsity Wrestling, September 2009-March 2011

All State Wrestling 2008, 2009 (academic)

Academic-All State Soccer 2009

## PUBLICATIONS

1. **Brazeau, NF**; Verity, R; Jenks, S; Fu, H; Whittaker, C; Winskill, P; Dorigatti, I; Walker, PGT; Riley, S; Schnekenberg, RP; Hoeltgebaum, H; Mellan, TA; Mishra, S; Unwin, HJT; Watson, OJ; Cucunubá, ZM; Baguelin, M; Whittles, L; Bhatt, S; Ghani, AC; Ferguson, NM; Okell, LC. *Estimating the COVID-19 infection fatality ratio accounting for seroreversion using statistical modelling*. Communications Medicine, 2022. PMID: 35603270.
2. Pons-Salort, M; John, J; Watson, OJ; **Brazeau, NF**; Verity, R; Kang, G; Grassly, NC. *Reassessing Reported Deaths and Estimated Infection Attack Rate during the First 6 Months of the COVID-19 Epidemic, Delhi, India*. Emerging Infectious Diseases, 2022. PMID: 35213800.
3. Mitchell, CL; Topazian, HM; **Brazeau, NF**; Deutsch-Feldman, M; Muwonga, J; Sompwe, E; Tshefu, AK; Mwandagaliwa, MK; Parr, JB; Juliano, JJ. *Household Prevalence of Plasmodium falciparum, Plasmodium vivax, and Plasmodium ovale in the Democratic Republic of the Congo, 2013-2014*. Clinical Infectious Diseases, 2021. PMID: 33238298.
4. McCabe, R; Kont, MD; Schmit, N; Whittaker, C; Løchen, A; Baguelin, M; Knock, E; Whittles, LK; Lees, J; **Brazeau, NF**; Walker, PG; Ghani, AC; Ferguson, NM; White, PJ; Donnelly, CA; Hauck, K; Watson, OJ. *Modelling intensive care unit capacity under different epidemiological scenarios of the COVID-19 pandemic in three Western European countries*. International Journal of Epidemiology, 2021. PMID: 33837401.
5. **Brazeau, NF**; Mitchell, CL; Watson, OJ; Deutsch-Feldman, M; Mogran, AP; Waltmann, A; Thwai, KL; Emch, M; Wray, G; Mwandagaliwa, MK; Tshefu, AK; Likwela, JL; Parr, J; Verity, R; Edwards, J; Meshnick, SR & Juliano JJ. *The Epidemiology of P. vivax Among Adults in the Democratic Republic of the Congo: A Cross-Sectional, Nationally-Representative Survey*. Nature Communications, 2021. PMID: 34234124
6. Djaafara, BA; Whittaker, C; Watson, OJ; Verity, R; **Brazeau, NF**; Widyastuti; Oktavia, D; Adrian, V; Salama, N; Bhatia, S; Nouvellet, P; Sherrard-Smith, E; Churcher, TS; Surendra, H; Lina, RN; Ekawati, LL; Lestari, KD; Andrianto, A; Thwaites, G; Baird, JK; Ghani, AC; Elyazar, IRF; Walker, PGT. *Using syndromic measures of mortality to capture the dynamics of COVID-19 in Java, Indonesia, in the context of vaccination rollout*. BMC Medicine, 2021. PMID: 34144715.
7. Deutsch-Feldman, M; Parr, JB; Keeler, C; **Brazeau, NF**; Goel, V; Emch, M; Edwards, JK; Kashamuka, M; Tshefu, AK; Meshnick, SR. *The Burden of Malaria in the Democratic Republic of the Congo*. Journal of Infectious Diseases, 2021. PMID: 33057671.
8. Watson, OJ; Alhaffar, M; Mehchy, Z; Whittaker, C; Akil, Z; **Brazeau, NF**; Cuomo-Dannenburg, G; Hamlet, A; Thompson, HA; Baguelin, M; FitzJohn, RG; Knock, E; Lees, JA; Whittles, LK; Mellan, T; Winskill, P; Imperial College COVID-19 Response Team, Howard, N; Clapham, H; Checchi, F; Ferguson, N; Ghani, A; Beals, E; Walker, P. *Leveraging community mortality indicators to infer COVID-19 mortality and transmission dynamics in Damascus, Syria*. Nature Communications, 2021. PMID: 33888698

9. Lin, Jessica T; Waltman, A; Moser, K; Park, Z; Na, A; Aydemir, O; **Brazeau, NF**; Gosi, P; March, P; Smith, M; Spring, M; Sok, S; Bailey, JA; Saunders, DL; Lon, C; Wojnarski, M. *Selection of Cytochrome B Mutants is Rare Among Plasmodium falciparum Patients Failing Treatment with Atovaquone-Proguanil in Cambodia*. Antimicrobial Agents and Chemotherapy, 2020. PMID: 33361308
10. **Brazeau, NF\*** & Levinson K\*; Schranz, A; Moser, K; Hollis, I; Katz, J; Bowen, A; van Duin, D; Lachewicz, A; Anderman, T; Miller, M; Juliano, JJ; Bartelt, LA. *Daptomycin exposure promotes irreversible loss of daptomycin susceptibility in clinical S. epidermidis infection co-incident with an isolated single point mutation in WalK*. Evolution, Medicine, and Public Health, 2020. PMID: 33214904
11. Mitchell, C; **Brazeau, NF**; Deutsch-Feldman, M; Mwandagilirwa, MK; Tshefu, AK; Thwai, KL; Parr, JB; Juliano, JJ; Meshnick, SR. *Under the Radar: Epidemiology of Plasmodium ovale infections in the Democratic Republic of the Congo*. Journal of Infectious Diseases, 2020. PMID: 32766832.
12. Deutsch-Feldman, M; **Brazeau, NF**; Thwai, KL; Mwandagilirwa, MK; Tshefu, AK; Edwards, JK; Verity, R; Emch, M; Gower, EW; Juliano, JJ; Meshnick, SR. *Spatial and epidemiological drivers of P. falciparum Malaria Among Adults in the Democratic Republic of the Congo*. BMJ Global Health, 2020. PMID: 32601091.
13. Verity, R\* & Aydemir, O\* & **Brazeau, NF\***; Watson, OJ; Hathaway, NJ; Mwandagilirwa, MK; Marsh, PW; Thwai, KL; Fulton, T; Denton, M; Morgan, AP; Parr, JB; Tumwebaze, PK; Conrad, M; Rosenthal, PJ; Ishengoma, DS; Ngondi, J; Gutman, J; Mulenga, M; Norris, DE; Moss, WJ; Mensah, BA; Myers-Hansen, JL; Ghansah, A; Tshefu, AK; Ghani, AC; Meshnick, SR; Bailey, JA; Juliano, JJ. *The Impact of Antimalarial Resistance on the Genetic Structure of Plasmodium falciparum in the DRC*. Nature Communications, 2020. PMID: 32355199.
14. Morgan, AP\* & **Brazeau, NF\***; Ngasal, B; Edward, L; Denton, M; Morris, U; Filer, DL; Aydemir, O; Bailey, JA; Parr, JB; Martensson, A; Bjorkman, A; Juliano, JJ. Demography and population structure of falciparum malaria in Tanzania and Zanzibar underscores the role of importation in elimination. Malaria Journal, 2020. PMID: 31992305
15. **Brazeau, NF\*** & Assefa, A\*; Mohammed, H; Seme, H; Tsadik, AG; Parr, JB; Keeler, C; Hathaway, NJ; Meshnick, SR; Bailey, JA; Kassa, M; Juliano, JJ & Woyessa, A. *Pooled Deep Sequencing of Drug Resistance Loci from Plasmodium falciparum Parasites across Ethiopia*. American Journal of Tropical Medicine Hygiene. 2019; PMID: 31436149.
16. Deutsch-Feldman, M; Aydemir, O; Carrel, M; **Brazeau, NF**; Bhatt, S; Bailey, JA; Kashamuka, M; Tshefu, AK; Taylor, SM; Juliano, JJ; Meshnick, SR; Verity, R. *The changing landscape of Plasmodium falciparum drug resistance in the Democratic Republic of Congo*. BMC Infectious Diseases. 2019; PMID: 31640574.
17. Boyce R; **Brazeau N**; Fulton T; Hathaway N; Matte M; Ntaro M; Mulogo E; Juliano JJ. *Prevalence of Molecular Markers of Antimalarial Drug Resistance across Altitudinal Transmission Zones in Highland Western Uganda*. American Journal of Tropical Medicine Hygiene. 2019; PMID: 31436149.
18. Sá, JM; Kaslow, SR; Moraes-Barros, RR; **Brazeau, NF**; Parobek, CM; Tao, D; Salzman, RE;

- Gibson, TJ; Velmurugan, S; Melendez-Muniz, V; Kite, WA; Han, PK; Eastman, RT; Kim, A; Kessler, EG; Abebe, YF; James, ER; Chakravarty, S; Orr-Gonzalez, S; Lambert, L; Engels, T; Thomas, ML; Fasinu, PS; Serre, D; Gwadz, RW; Walker, L; DeConti, DK; Mu, J; Bailey, JA; Lee Sim, BK; Hoffman, SL; Fay, MP; Dinglasan, RR; Juliano, JJ; Wellems, TE. *Plasmodium vivax chloroquine resistance links to pvcrt transcription in a genetic cross*. Nature Communications, 2019; PMCID: PMC6754410.
19. **Brazeau NF**; Whitesell A; Doctor SM; Keeler C; Mwandagilirwa MK; Tshetu AK; Likwela JL; Juliano JJ; Meshnick SR. *Plasmodium vivax Infections in Duffy-Negative Individuals in the Democratic Republic of the Congo*. American Journal of Tropical Medicine Hygiene. 2018; PMID: 30203741.
  20. Kahkoska AR\* & **Brazeau NF\***; Lynch K; Kirkman MS; Largay J; Young LA; Buse JB. *Implementation and Evaluation of Shared Medical Appointments for Type 2 Diabetes at a Free, Student-Run Clinic in Alamance County, North Carolina*. Journal of Medical Education and Training. 2018;2(1). pii: 032. PMCID: PMC6053275.
  21. Parobek, CM & Parr, JB; **Brazeau, NF**; Lon, C; Chaorattanakawe, S; Gosi, P. Barnett, EJ; Norris, LD; Meshnick, SR; Spring, MD; Lanteri, CA; Bailey, JA; Saunders, DL; Lin, JT & Juliano, JJ. (2017) *Partner-Drug Resistance and Population Substructuring of Artemisinin-Resistant Plasmodium falciparum in Cambodia*. Genome Biology and Evolution. 9(6):1673-1686. PMCID: PMC5522704.
  22. Parobek, CM; Lin, JT; Saunders, DL; Barnett, EJ; Lon, C; Lanteri, CA; Balasubramanian, S; **Brazeau, NF**; DeConti, DK; Garba, DL; Meshnick, SR; Spring, MD; Chuor, CM; Bailey, JA; Juliano, JJ. (2016) *Selective sweep suggests transcriptional regulation may underlie Plasmodium vivax resilience to malaria control measures in Cambodia*. Proceedings of the National Academy of Sciences of the United States of America. 113(50): E8096-E8105; PMCID: PMC5167194.
  23. **Brazeau, NF\*** & Hathaway, NJ\*; Parobek, CM; Lin, JT; Bailey, JA; Lon, C; Saunders, DL, Juliano JJ. (2016) *Longitudinal Pooled Deep Sequencing of the Plasmodium vivax K12 Kelch Gene in Cambodia Reveals a Lack of Directional Selection*. American Journal of Tropical Medicine & Hygiene. 95(6):1409-1412. PMCID: PMC5154458.
  24. **Brazeau, NF**; Labbok, M; Soeters, H; Chalachala, JL; Lapika, B; Vitta, BS; Behets, F; Meshnick, SR; Yotebieng, M. (2016) *Exclusive Breastfeeding and Clinical Malaria Risk in 6-month old Infants: A Cross-Sectional Study from Kinshasa, Democratic Republic of the Congo*. American Journal of Tropical Medicine & Hygiene. 95(4):827-830. PMCID: PMC5062781.
  25. Wrangham, RW; Koops, K; Machanda, ZP; Bernard, AB; **Brazeau, NF**; Donovan, R; Rosen, J; Wilke, C; Otali, E; Muller, MN. (2016) *Matrilineal Fidelity, not Group Conformity, Explains Stability of a Chimpanzee Social Custom*. Current Biology. 26(22):3033-3037. PMID: 27839974.
  26. Juliano, J; Parobek, C; **Brazeau, NF**; Ngasala, B; Randrianarivelojosa, M; Lon, C; Mwandagilirwa, K; Tshetu, A; Dhar, R; Das, B; Hoffman, I; Martinson, F; Martensson, A; Saunders, D; Kumar, N; Meshnick, SR. (2016) *Pooled Amplicon Deep Sequencing of Candidate Plasmodium falciparum Transmission Blocking Vaccine Antigens*. American Journal of Tropical Medicine & Hygiene. 94(1): 143-6. PMCID: PMC4710419.



27. Machanda, Z; **Brazeau, NF**; Bernard, AB; Donovan, RM; Papakyrikos, AM; Wrangham, R; Smith, TM. (2015) *Dental eruption in East African wild chimpanzees*. Journal of Human Evolution. 82: 137-144. PMID: 25796539.
28. **Brazeau, NF**; Pinto, E.; Harvey, H; Oliveira, G; Pomerantz, B; Wicky, S; Oklu, R. (2013) *Critical Limb Ischemia*. Diagnostic and Interventional Radiology. 19(2): 173-180. PMID: 23233402.
29. **Brazeau, NF**; Harvey, H; Pinto, E; Deipolyi, A; Hesketh, R; Oklu, R. (2013) *May-Thurner Syndrome: diagnosis and management*. European Journal for Vascular Medicine. 42(2): 96-105. PMID: 23485836.
30. McDermott, S; Oliveira, G; Ergul, E; **Brazeau NF**; Wicky, S; Oklu, R. (2012) *May-Thurner syndrome: Can it be diagnosed on a solitary MRV study?* Diagnostic and Interventional Radiology. 19(1): 44-48. PMID: 22801870.

## **Publications (ICL COVID-19 Response Team)**

*Alphabetized author list of the Imperial College COVID-19 Response Team*

1. Hogan, AB; Winskill, P; Watson, OJ; Walker, PGT; Whittaker, C; **Imperial College COVID-19 Response Team**; Muhib, F; Hauck, K; Ferguson, NM; Ghani, AC. *Within-country age-based prioritisation, global allocation, and public health impact of a vaccine against SARS-CoV-2: A mathematical modelling analysis*. Vaccine, 2021. PMID: 33933313.
2. Fu, H; Wang H; Xi, X; Boonyasiri, A; Wang, Y; Hinsley, W; Fraser, KJ; McCabe, R; Olivera Mesa, D; Skarp, J; Ledda, A; Dewé, T; Dighe, A; Winskill, P; van Elsland, SL; **Imperial College COVID-19 Response Team**; Imai N; Bhatia S; Ferguson NM. *Database of epidemic trends and control measures during the first wave of COVID-19 in mainland China*. Int J Infect Dis, 2021 PMID: 33130212.
3. Nouvellet, P; Bhatia, S; Cori, A; Ainslie, KEC; **Imperial College COVID-19 Response Team**; Ferguson, NM; Donnelly, CA. *Reduction in mobility and COVID-19 transmission*. Nature Communications, 2021. PMID: 33597546.
4. Thompson, HA; Imai, N; Dighe, A; **Imperial College COVID-19 Response Team**; Donnelly, CA; Ferguson, NM. *SARS-CoV-2 infection prevalence on repatriation flights from Wuhan City; China*. J Travel Med, 2020. PMID: 32830853.
5. Unwin, HJT; Mishra, S; Bradley, VC; Gandy, A; Mellan, TA; Coupland, H; Ish-Horowicz, J; Vollmer, MAC; Whittaker, C; Filippi, SL; Xi, X; Monod, M; Ratmann, O; Hutchinson, M; Valka, F; Zhu, H; Hawryluk, I; Milton, P; **Imperial College COVID-19 Response Team**; Ghani, AC; Ferguson, NM; Riley, S; Donnelly, CA; Bhatt, S; Flaxman, S. *State-level tracking of COVID-19 in the United States*. Nat Comm, 2020. PMID: 33273462.
6. Grassly, NC; Pons-Salort, M; Parker, EPK; White, PJ; Ferguson, NM; **Imperial College COVID-19 Response Team**. *Comparison of molecular testing strategies for COVID-19 control: a mathematical modelling study*. Lancet Infect Dis, 2020. PMID: 32822577.

7. Dighe, A; Cattarino, L; Cuomo-Dannenburg, G; Skarp, J; Imai, N; Bhatia, S; Gaythorpe, KAM; **Imperial College COVID-19 Response Team**; Ghani, AC; Donnelly, CA; Ferguson, NM; Riley, S. *Response to COVID-19 in South Korea and implications for lifting stringent interventions*. BMC Med, 2020. PMID: 33032601.
8. Hogan AB; Jewell BL; Sherrard-Smith E; Vesga JF; Watson OJ; Whittaker C; Hamlet A; Smith JA; Winskill P; Verity R; Baguelin M; Lees JA; Whittles LK; **Imperial College COVID-19 Response Team**; Ferguson NM; Okell LC; Churcher TS; Arinaminpathy N; Ghani AC; Walker PGT; Hallett TB. *Potential impact of the COVID-19 pandemic on HIV; tuberculosis; and malaria in low-income and middle-income countries: a modelling study*. Lancet Glob Health, 2020. PMID: 32673577.
9. Walker PGT; Whittaker C; Watson OJ; Baguelin M; Winskill P; Hamlet A; Djafaara BA; Cucunubá Z; Olivera Mesa D; Green W; Thompson H; Nayagam S; **Imperial College COVID-19 Response Team**; Lalloo DG; Ferguson NM; Ghani AC. *The impact of COVID-19 and strategies for mitigation and suppression in low- and middle-income countries*. Science, 2020. PMID: 32532802.
10. Jeffrey B; Walters CE; **Imperial College COVID-19 Response Team**; Ferguson NM; Donnelly CA; Riley S. *Anonymised and aggregated crowd level mobility data from mobile phones suggests that initial compliance with COVID-19 social distancing interventions was high and geographically consistent across the UK*. Wellcome Open Research, 2020. PMID: 32954015.

## SELECTED POSTERS & PRESENTATIONS

1. **Brazeau, NF**. *COVID-19 Infection Fatality Ratio: Where we started, Where we were, Where we are*. [Oral Presentation](#) with UNC Institute of Global Health and Infectious Disease, December 2020, Chapel Hill, NC.
2. **Brazeau, NF**; Weir, WH; Wesolowski, A; Aydemir, O; Watson, OJ; Morgan, AP; Deutsch-Feldman, M; Bailey, JA; Ghani, AC; Juliano, JJ; Meshnick, SR; Verity, R. *Spatial Patterns of Falciparum Malaria Genetic Relatedness Driven by Human Movement in the Democratic Republic of the Congo*. **Oral Presentation** at American Society of Tropical Medicine and Hygiene, Remote, 2020.
3. **Brazeau, NF**; Zhu, D; Morgan, C. *Intuition for Infectious Disease Epidemiological Models*. **Oral Presentation** with UNC MSTP Monday Night Seminar, 2020, Chapel Hill, NC.
4. **Brazeau, NF**; Mitchell, CL; Watson, OJ; Waltmann, A; Mogran, AP; Deutsch-Feldman, M; Thwai, KL; Emch, M; Wray, G; Mwandagalirwa, MK; Tshetu, AK; Likwela, JL; Parr, J; Verity, R; Edwards, J; Meshnick, SR & Juliano JJ. *The Epidemiology of Asymptomatic P. vivax Among Adults in the Democratic Republic of the Congo*. **Oral Presentation** at American Society of Tropical Medicine and Hygiene, 2019, National Harbor, MY.
5. **Brazeau, NF**; Taylor, A; Meshnick, SR; Juliano, JJ; Verity, R. *polyIBD: Inferring Identity by Descent in Complex, Polyclonal Infections: An Update*. **Poster Presentation** at American Society of Tropical Medicine and Hygiene, 2018, New Orleans, LA.

6. **Brazeau, NF**; Taylor, A; Meshnick, SR; Juliano, JJ; Verity, R. *polyIBD: Inferring Identity by Descent in Complex, Polyclonal Infections*. **Oral Presentation** at Genomic Epidemiology of Malaria Meeting, 2018, Hinxton, UK.
7. Verity, R; **Brazeau, NF**; Watson, OJ; Gerlovina, I; Chang, HH; Greenhouse, B; Conway, D; Bailey, JA; Juliano, JJ; Meshnick, SR; Ghani, A. *Joint Inference of Population Structure and Complexity of Infection*. **Oral Presentation** at Genomic Epidemiology of Malaria Meeting, 2018, Hinxton, UK.
8. Aydemir, O; **Brazeau, NF**; Verity, R; Marsh, PW; Deutsch-Feldman, M; Hathaway, NJ; Fulton, T; Mwandagilirwa, KM; Tshefu, AK; Meshnick, SR; Juliano, JJ; Bailey, JA. Drug resistance and population structure of *Plasmodium falciparum* across the Democratic Republic of Congo using highly multiplexed panel of thousands of molecular inversion probes. **Oral Presentation** at Genomic Epidemiology of Malaria Meeting, 2018, Hinxton, UK.
9. **Brazeau, NF**; Verity, R; Hathaway, NJ; Rao, P; Parobek, CM; Balasubramanian; Fukuda, M; Wojnarski, M; Smith, P; Juliano, JJ; Carlton, JM; Saunders, DL; Lon, C; Lin, JT; *Whole Genome Analysis of Polyclonal Plasmodium vivax Relapses in Cambodia*. **Oral Presentation** at American Society of Tropical Medicine and Hygiene Annual Meeting, 2017, Baltimore, MD.
10. **Brazeau, NF**; Mitchell, CL; Whitesell, A; Doctor, SM; Parobek, CM; Guerrero, SM; Meshnick, SR; Juliano, JJ. *Plasmodium vivax Infections Amongst Duffy-Negative Individuals in the Democratic Republic of the Congo: An Update*. **Poster** presented at Johns Hopkins Malaria Research Institute Future of Malaria Research Symposium, 2017, Baltimore, MD.
11. **Brazeau, NF**; Lon, C; Rao, P; Hathaway, NJ; Parobek, CM; Balasubramanian, S; Fukuda, M; Wojnarski, M; Smith, P; Juliano, JJ; Carlton, JM; Saunders, DL; Lin, JT; *Whole Genome Analysis of Successive Plasmodium vivax Relapses in Cambodia*. **Turbo Talk** presented at International Conference for *Plasmodium vivax* Research, 2017, Manaus, Brazil. (Talk delivered by senior author, Dr. Lin)
12. Kahkoska, A; **Brazeau, NF**; Largay, J.; Young, L; Buse, J. *Implementation and Evaluation of Shared Medical Appointments for Type 2 Diabetes at a Free, Student-Run Clinic in Alamance County, NC*. **Moderated Poster Discussion** presented at American Diabetes Association 77<sup>th</sup> Scientific Sessions, 2017, San Francisco, CA.
13. **Brazeau, NF**; Whitesell, A; Doctor, SM; Parobek, CM; Guerrero, SM; Juliano, JJ; Meshnick, SR. *Plasmodium vivax Infections Amongst Duffy-Negative Individuals in the Democratic Republic of the Congo*. **Poster** presented at American Society of Tropical Medicine and Hygiene Annual Meeting, 2016, Atlanta, GA.
14. **Brazeau, NF**; Hathaway, NJ; Parobek, CM; Lin, JT; Bailey, JA; Chantop, L; Saunders, DL; Juliano, JJ. *Longitudinal Pooled Deep Sequencing of Plasmodium vivax Kelch Propeller Domain in Cambodia Reveals a Lack of Directional Selection*. **Poster** presented at American Society of Tropical Medicine and Hygiene Annual Meeting, 2016, Atlanta, GA.
15. **Brazeau, NF**; Tabala, M; Kiketa, L; Kayembe, D; Chalachala, JL; Kawende, B; Lapika, B; Meshnick, SR; Yotebieng, M. *Exclusive Breastfeeding and Clinical Malaria Risk in 6-month old Infants: A Cross-Sectional Study from Kinshasa, Democratic Republic of the Congo*. **Poster**

presented at American Society of Tropical Medicine and Hygiene Annual Meeting, 2015, Philadelphia, PA.

16. **Brazeau, NF**; Parobek, C; Lon, C; Saunders, D; Juliano, JJ. *Longitudinal sampling of Plasmodium falciparum and Plasmodium vivax K13 Kelch Propeller Domain in Cambodia and Thailand reveals positive selection. Poster* presented at the University of North Carolina School of Medicine Student Research Day, 2016, Chapel Hill, NC.
17. **Brazeau, NF**; Machanda, ZP; Smith, AR; Sandel, AS; Castillo, ER; Pontzer, H; Emery Thompson M; Muller, MN; Wrangham, RW. (2013) *Growth and Ecology in Wild Chimpanzees: A Photogrammetric Analysis. Poster* presented at the American Association of Physical Anthropology Annual Meeting, 2013, Knoxville, TN.
18. **Brazeau, NF**; Harvey, H; Irani, Z; Yakes, W; Oklu, R. (2012) *Belly Up to the Bar: The Histopathological Basis and Clinical Uses of Ethanol Embolization in Vascular Malformations. Poster* presented at the Radiological Society of North America Annual Meeting, 2012, Chicago, IL. **Granted RSNA Cum Laude designation**
19. **Brazeau, NF**. (2012) Applying Darwinian Concepts to an Etiological Analysis of May-Thurner Syndrome. **Poster** presented at the Harvard College Undergraduate Research Symposium, 2012, Cambridge, MA.