Curriculum Vitae

Date Prepared: 08/30/2023

Name: Chelsea Namahana Wong

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Home Address: $\mathbf{X}\mathbf{X}\mathbf{X}$

Work Phone: $\mathbf{X}\mathbf{X}\mathbf{X}$

Work Email:

Place of Birth: $\mathbf{x}\mathbf{x}\mathbf{x}$

Education:

05/2008 BS (Cum University of Portland **Biology**

> Laude) Minors in Chemistry and Psychology

05/2018 MD (Honors) Medicine University of Illinois Urbana

Champaign

ABD PhD Neuroscience University of Illinois Urbana

> (PI: Arthur Kramer) Champaign

Postdoctoral Training:

Resident Internal Medicine Beth Israel Deaconess Medical 07/2018-

06/2021 Center

07/2021-Geriatric Fellow Geriatric Medicine Harvard Multicampus Geriatric

Medicine Fellowship Program 06/2023

08/2023-Post-Doctoral T32 Harvard Translational Research Beth Israel Deaconess Medical

Fellow in Aging Training Program Center/ Hebrew Senior Life

Hospital Affiliations

07/2018-06/2021 Resident Beth Israel Deaconess Medical Center Boston, MA

07/2021-06/2023 Geriatric Fellow Harvard Multicampus Geriatric Medicine Boston, MA

Fellowship Program: BIDMC, VA Boston,

BWH, MAH, PACE, HSL

9/2022-Moonlighting Hebrew Senior Life Boston, MA

Committee Service:

Local

2011 Research Program Coordinator Search University of Illinois Urbana Champaign

Committee

Committee Member

2010	MSP Facilities Committee	University of Illinois Urbana Champaign
		Co-Chair
2010-2011	Neuroscience Program Open House Committee	University of Illinois Urbana Champaign
		Co-Chair
2012-2014	Neuroscience Student Organization	University of Illinois Urbana Champaign
	2013-2014	President
	2012-2013	Vice President
2014-2017	Medical Scholars Program Advisory Committee	University of Illinois Urbana Champaign
		President Co-chair Class Representative

Professional Societies:

2011-2012	Society for Neuroscience	Member
2014-2018	American Medical Student Association	Member
2017-	ACP	Member
2019-	American Geriatrics Society	Member
2019-	Massachusetts Medical Society	Member
	2019-2021	Resident Representative – Committee on Geriatric Medicine
	2021-2023	Fellow Representative – Committee on Geriatric Medicine
	2022-	Vice-Chair, Fellow Representative – Committee on Geriatric Medicine

Editorial Activities:

• Ad hoc Reviewer

Journal of Neurophysiology Neural Plasticity

• Other Editorial Roles

2022 Editor/Reviewer Geriatrics | NEJM Resident 360.

https://resident360.nejm.org/rotation-prep/geriatrics/introduction

Honors and Prizes:

2004-2008 Presidential Scholar Scholarship University of Portland Academic Scholarship

2004-2008	USA Funds Scholarship	USA Funds	Academic Scholarship
2004-2008	Ka'iulani Home For Girls Trust	Hawaii Community	Academic Scholarship
2004-2008	Scholarship Na Ho`okama a Pauahi Scholarship	Foundation Hawaii Community Foundation	Academic Scholarship
2004-2008	Dean's List	University of Portland	Recognition of high educational achievement
2007-2008	Murdock Scholar Research Program, Oregon Health & Science University	Oregon Health Sciences University	Selected to participate in a regional undergraduate research program
2009-2010	Marion Maccarrell Scott Scholarship	Hawaii Community Foundation	Academic Scholarship
2009-2010	Neuroscience Program Fellowship	University of Illinois Urbana Champaign	Academic Fellowship
2010-2012	NIMH Cognitive Psychophysiology Training Grant	National Institutes of Mental Health	Academic Fellowship
2012	Training Course in fMRI	University of Michigan	Selected to participate in NIH funded fMRI course
2014	Brains Camp	University of Iowa	Selected to Participate in brain imaging camp
2013-2016	Go Red Multicultural Scholarship	American Heart Association	Academic Scholarship
2014-2015	NIH MERIT Diversity Award	National Institutes of Health	Academic Scholarship
2014-2015	Paul D. Doolen Graduate Award for the Study of Aging- Alternate	University of Illinois Urbana Champaign	Academic Award
2011-2015	Office of Hawaiian Affairs Higher Education Scholarship Program	Hawaii Community Foundation	Academic Scholarship
2006-2016	Dr. Hans and Clara Zimmerman Foundation Health Scholarships	Hawaii Community Foundation	Academic Scholarship
2017	Diversity Stipend for the Residency Showcase as McGaw Medical Center of Northwestern University	Northwestern University	Academic Scholarship
2017	First Place Oral Presentation at Carle Foundation Hospital Research Day	University of Illinois Urbana Champaign	Research presentation award
2017	Visiting Student Elective Program for Students Underrepresented in	Northwestern University	Academic Scholarship
2017	Medicine at Northwestern University Gold Humanism Honor Society	University of Illinois Urbana Champaign	Inducted into honor society that embodies humanistic healthcare
2018	Lewis Trupin, MD, Women's Health Award	University of Illinois Urbana Champaign	Academic Award
2018	Doctor of Medicine with Honors	University of Illinois Urbana Champaign	Academic Award
2022	BIDMC Department of Medicine Fellowship Award for Epidemiology	BIDMC	Academic Award
2023	and Clinical Research Training T32 Harvard Translational Research in Aging Training Program	BIDMC/HSL	Research Training Grant

Report of Funded and Unfunded Projects

Past

2007-2008 Association between exhaled nitric oxide and blood nitrite during hemorrhage

Undergraduate Research

Investigated the role of exhaled nitric oxide and blood nitrite levels during the physiologic response of acute hemorrhage in the rat. Created a novel apparatus to collect exhaled nitric

oxide using a Mylar bag.

2007-2008 Exercise for Traumatic Brain Injury

Undergraduate Research

Investigated exercise as a treatment for traumatic brain injury in rats. Proficient in animal care, cortical contusion injury model surgery in rodents, performing perfusions, tissue extraction/staining, and tissue slicing with a microtome.

2018-2019 Cerebral blood flow and hypertension in older adults

Resident Research

Understanding the role of hypertension in association with cognitive function and cerebral blood flow in older adults. Gained skills in SAS.

Unfunded Current Projects

2009- The effects of exercise on brain health in older adults

Graduate Student Research

Conducted large scale exercise intervention studies in older adults. Used neuroimaging to understand associations between Cardiorespiratory fitness, brain function, and cognition in older adults. Gain skills in MATLAB, E-Prime, FSL, Linux, and SPSS.

2021- Sexual minority older adult health

Fellow Research

Project aims to understand the impact of frailty among older sexual and gender adults

Report of Local Teaching and Training

Teaching of Students in Courses:

2005-2008	, &	University of Portland
	Assistant Undergraduate Students	3hr lab 2x per week
2012-2015	Cell and Tissue Biology Teaching Assistant	University of Illinois Urbana Champaign
	First Year Medical Students	3hr lab x3 sessions per wk for 9 weeks
2016-2018	Peer Educator for Cell and Tissue Biology	University of Illinois Urbana Champaign
	First Year Medical Students	1-3 hrs per week for 6 wks
2017-2018	Peer Educator for Internal Medicine	University of Illinois Urbana Champaign
	Clerkship Third Year Medical Students	1-3 hrs per week for 6 wks

2022	POM 100: Practice of Medicine	Harvard Medical School
	Geriatrics Clinical Reasoning	2 hour session, once
	Small group preceptor	2 flour session, once
	1 st year medical students	
2023	POM 100: Practice of Medicine	Harvard Medical School
	Geriatrics Clinical Reasoning	2 hour session, once
	Small group preceptor	2 flour session, once
	1 st year medical students	

Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs):

2019	TLSwhat?	BIDMC
	2 nd and 3 rd year Internal Medicine Residents	30 minute lecture
2020	The Invisible Hand	BIDMC
	2 nd and 3 rd year Internal Medicine Residents	30 minute lecture
2020	102?! Again	BIDMC
	2 nd and 3 rd year Internal Medicine Residents	30 minute lecture
2021	They can do what?	BIDMC
	Internal Medicine Program	15 minute lecture
2021	Behavioral Heuristics in Coronary Artery	BIDMC
	Bypass Graft Surgery 2 nd and 3 rd year Internal Medicine Residents	1 hr lecture
2021	Mortality and readmission risk can be predicted by the record based Multidimensional Prognostic Index: a cohort study of inpatients older than 75 years	VA Boston
	Midlevels, Residents, Attendings	1 hr lecture
2021	Randomized Clinical Trial	HMS-Multicampus Geriatric Fellowship
	Residents, Fellows, Attendings	1 hr lecture
2021	Physiology of Aging: Musculoskeletal System	HMS-Multicampus Geriatric Fellowship
	Residents, Fellows, Attendings	1 hr lecture
2021	Clinical Reasoning Conference	HMS-Multicampus Geriatric Fellowship
	Residents, Fellows, Attendings	1 hr lecture
2022, 2023	Delirium	BIDMC Internal Medicine Residency Program
	Residents	1 hr lecture
2022	Seminar on Aging: Sexual and Gender Minority Older Adults	HMS-Multicampus Geriatric Fellowship
	Residents, Fellows, Attendings	1 hr lecture
2022	Sexual and Gender Minority Older Adults and Frailty	HMS-Multicampus Geriatric Fellowship
	Residents, Fellows, Attendings	1 hr lecture

Report of Regional, National and International Invited Teaching and Presenta	<u>tions</u>
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Report of Reg	donal, National and International Invited Teaching and Presentations
	tations below were sponsored by 3 rd parties/outside entities sentations below sponsored by outside entities are so noted and the sponsor(s) is (are) identified.
Regional	
2008	The relationship between exhaled nitric oxide and blood nitrite during hemorrhagic shock and resuscitation / Invited Presentation
	Northwest Undergraduate Science Research Conference Portland, OR
2010	The effect of aerobic exercise on Dual-Task performance in older adults / Selected oral abstract Show Me Mental State Conference
2010	Show Me Mental State Conference St Louis, MO The effect of aerobic exercise on Dual-Task performance in older adults / Invited Presentation
2010	First Year Project Seminar, University of Illinois Urbana Champaign Urbana, IL
2012	Cognitive Aging and Interventions / Invited Presentation NEUR 451 University of Illinois Urbana Champaign
2013	Urbana, IL The associations between aerobic exercise, brain function, and performance in older adults / Invited Presentation
	NSP Wednesday Spring Seminar, University of Illinois Urbana Champaign Urbana, IL
2014	Aerobic fitness promotes differences in brain function and performance in older adults / Invited Presentation Friday on the Brain Seminar, University of Illinois Urbana Champaign
2014	Urbana, IL Effect of a 12-month exercise intervention on brain function and cognitive performance in older adults / Invited Presentation
	NSP Wednesday Spring Seminar, University of Illinois Urbana Champaign Urbana, IL
2015-2018	Intellectual Wellness / Invited Presentation KIN 365, University of Illinois Urbana Champaign
2017	Urbana, IL A rare case of Esophageal Crohn Disease in a patient on Immunomodulator therapy / Selected oral abstract
	Carle Foundation Hospital Research Day, Carle Foundation Hospital Urbana, IL
2022	Developing a Novel Frailty Index to Study Frailty of Sexual and Gender Minority Older Adults in the All of Us Database Selected Oral Paper Presentation
2022	Gerontological Society of America Annual Conference Indianapolis, IN Developing a Novel Frailty Index to Study Frailty of Savyal and Gondar Minority Older
2022	Developing a Novel Frailty Index to Study Frailty of Sexual and Gender Minority Older Adults in the All of Us Database /Invited Presentation LGBTQ at the Roux Speaker Series, Roux Institute Northeastern University
2023	Portland, MA Frailty among Sexual and Gender Minority Older Adults: The All of Us Database Selected Oral Paper Presentation

Report of Clinical Activities and Innovations

Current Licensure and Certification:

2015-	Basic Life Support CPR Training
2018-	Advance Cardiovascular Life Support
2018-2022	Massachusetts Limited Medical License
2022-	Massachusetts Full Medical License

Practice Activities

2018-2021	Internal Medicine	BIDMC, VA-Boston, Signature	40-80hr/week
	Residency Program	Health in Brockton, Fenway Health	
		Center	
2021-2022	Geriatric Clinical	HMS Multicampus Fellowship	50 hours per week
	Fellowship Program	Program- Geriatrics, in-patient,	
		outpatient, home visits, long term	
		care	
2022-2023	Advanced Geriatric	HMS Multicampus Fellowship	20 hours per week
	Fellowship Program	Program – Geriatrics, Long-term	
		Care Hospital	

Clinical Innovations:

Stoneman Project at	Completed a root cause analysis surrounding vancomycin dosing in hemodialysis
BIDMC (2019)	patients. EHR was modified when ordering vancomycin for HD patient with alert to
	ordering provider to contact Renal Fellow.

Report of Teaching and Education Innovations

Creation of Case Studies for Cell and Tissue Biology Lab (2012-2015)	Created and implemented clinical cases applicable to material taught in Cell and Tissue Biology Laboratory Course. For each lab session 3-4 cases were presented to integrate relevant clinical and histological information within case format with a set of guided questions. This was done for nine lab sessions.
2022	PWY130 Homeostasis I: Aging Physiology Case Contributor

Report of Education of Patients and Service to the Community

 \boxtimes No presentations below were sponsored by 3^{rd} parties/outside entities

☐ Those presentations below sponsored by outside entities are so noted and the sponsor(s) is (are) identified.	
Activities	
2010, 2013	Brain Awareness Day / Presenter
	Participated in educating Champaign community about brain health with hands-on activities
2013-2015	Avicenna Community Health Center
	Severed as a triage volunteer to complete patient intake and vital signs. Also as the Pharmacy Co-Manager I helped launch, organize, and implement an effective and efficient free pharmacy program.

Report of Scholarship

Peer-Reviewed Scholarship in print or other media:

Research Investigations

Wong, C. N., Wilczek, M. P., Smith, L. H., Bosse, J. D., Richard, E. L., Cavanaugh, R., ... & Olivieri-Mui, B. (2023). Frailty Among Sexual and Gender Minority Older Adults: The All of Us Database. The Journals of Gerontology: Series A, glad149. https://doi.org/10.1093/gerona/glad149

Voss MW, **Wong CN**, Baniqued PL, Burdette JH, Erickson KI, Prakash RS, McAuley E, Laurienti PJ, Kramer AF. Aging brain from a network science perspective: something to be positive about? PloS one. 2013 Nov 6;8(11):e78345.

Burzynska AZ, Chaddock-Heyman L, Voss MW, **Wong CN**, Gothe NP, Olson EA, Knecht A, Lewis A, Monti JM, Cooke GE, Wojcicki TR. Physical activity and cardiorespiratory fitness are beneficial for white matter in low-fit older adults. PloS one. 2014 Sep 17;9(9):e107413.

Burzynska AZ, **Wong CN**, Voss MW, Cooke GE, McAuley E, Kramer AF. White matter integrity supports BOLD signal variability and cognitive performance in the aging human brain. PLoS One. 2015 Apr 8;10(4):e0120315.

Burzynska AZ, **Wong CN**, Voss MW, Cooke GE, Gothe NP, Fanning J, McAuley E, Kramer AF. Physical activity is linked to greater moment-to-moment variability in spontaneous brain activity in older adults. PloS one. 2015 Aug 5;10(8):e0134819.

Oberlin LE, Verstynen TD, Burzynska AZ, Voss MW, Prakash RS, Chaddock-Heyman L, **Wong C**, Fanning J, Awick E, Gothe N, Phillips SM. White matter microstructure mediates the relationship between cardiorespiratory fitness and spatial working memory in older adults. Neuroimage. 2016 May 1;131:91-101.

Voss MW, Weng TB, Burzynska AZ, **Wong CN**, Cooke GE, Clark R, Fanning J, Awick E, Gothe NP, Olson EA, McAuley E. Fitness, but not physical activity, is related to functional integrity of brain networks associated with aging. Neuroimage. 2016 May 1;131:113-25.

Wong CN, Chaddock-Heyman L, Voss MW, Burzynska AZ, Basak C, Erickson KI, Prakash RS, Szabo-Reed AN, Phillips SM, Wojcicki T, Mailey EL. Brain activation during dual-task processing is associated with

cardiorespiratory fitness and performance in older adults. Frontiers in aging neuroscience. 2015 Aug 12;7:154.

Ngo GC, **Wong CN**, Guo S, Paine T, Kramer AF, Sutton BP. Magnetic susceptibility-induced echo-time shifts: Is there a bias in age-related fMRI studies?. Journal of Magnetic Resonance Imaging. 2017 Jan;45(1):207-14.

Baniqued PL, Gallen CL, Voss MW, Burzynska AZ, **Wong CN**, Cooke GE, Duffy K, Fanning J, Ehlers DK, Salerno EA, Aguiñaga S. Brain network modularity predicts exercise-related executive function gains in older adults. Frontiers in aging neuroscience. 2018 Jan 4;9:426.

Case reports

Burzynska AZ, **Wong CN**, Chaddock-Heyman L, Olson EA, Gothe NP, Knecht A, Voss MW, McAuley E, Kramer AF. White matter integrity, hippocampal volume, and cognitive performance of a world-famous nonagenarian track-and-field athlete. Neurocase. 2016 Mar 3;22(2):135-44.

Professional educational materials or reports, in print or other media:

Wong, CN, & Lubinski, BL, (2022). DELIRIUM. [Handout]. Harvard Multisite Geriatric Fellowship Program.

Thesis:

Wong CN. The relationship between exhaled nitric oxide and blood nitrite during hemorrhagic shock and resuscitation. Undergraduate Thesis at the University of Portland. May 2008.

Abstracts, Poster Presentations and Exhibits Presented at Professional Meetings:

Phillips CR, **Wong CN**, Oyama TT, Anderson S, Giraud GD, and Holden WE. Nitrite consumption and production in the cardiopulmonary circulation during hemorrhagic shock and resuscitation. Critical Care. 2008 Apr;12(2):1-.

Wong CN, Voss MW, Basak C, Prakash R, Erickson KI, Chaddock L, Kim J, Szabo A, White S, Wojicicki T, Mailey E, Gothe N, Olson E, McAuley E & Kramer AF. "A profile of brain activation as a function of fitness in a Dual-Task", Society for Neuroscience Conference, November 13, 2011, Washington, DC.

Wong CN, Voss MW, Chaddock L, Baniqued PL, Cooke G, Monti JM, Szabo AN, Wójcicki TR, Gothe NP, Olson EA, Fanning J, McAuley E, & Kramer AF. "Cognitive control related brain function is altered by aerobic fitness level in older adults", Society for Neuroscience Conference, October 17, 2012, New Orleans, LA.

Monti JM, Voss MV, **Wong CN**, Szabo AN, Cooke G, Chaddock L, Baniqued PL, Wójcicki TR, Gothe NP, Olson EA, Fanning J, McAuley E, Cohen NJ, & Kramer AF. "Physical activity and aerobic fitness are

associated with greater relational memory and hippocampal function in older adults", Society for Neuroscience Conference, October 17, 2012, New Orleans, LA.

Belfi, AM, Voss MW, Mani M, Wong CN, Cooke G, Sutterer M, Clark R, Tranel D, McAuley E, & Kramer AF. "Age-related laterality and sub-system differences in the intrinsic functional connectivity of the default mode network", Cognitive Neuroscience Society Conference, April 13-16, 2013, San Francisco, CA.

Sutterer MJ, Voss MW, Mani M, **Wong CN**, Cooke G, Belfi A, Weng T, Tranel D, McAuley E, & Kramer AF. "Age-related differences in anterior cingulate-insula connectivity are associated with the fronto-executive but not emotional saliency network", Cognitive Neuroscience Society Conference, April 13-16, 2013, San Francisco, CA.

Burzynska AZ, Chaddock-Heyman L, **Wong CN**, Voss MW, Olson E, Gothe N, Lewis A, Wojcicki T, Fanning J, Chung HD, Awick E, McAuley E, & Kramer AF. "Positive effects of physical exercise and aerobic activity on white matter in old age", Brain Plasticity and Neurorehabilitation Conference, March 4-6th, 2013, Toronto, CA.

Burzynska AZ, Chaddock-Heyman L, **Wong CN**, Voss MW, Olson E, Gothe N, Lewis A, Wojcicki T, Fanning J, Chung HD, Awick E, McAuley E, & Kramer AF. "Positive effects of physical exercise and aerobic activity on white matter in old age", Organization for Human Brain Mapping Conference, June 16-20, 2013, Seattle, WA.

Wong CN, Burzynska AZ, Chaddock-Heyman L, Voss MW, Basak C, Erickson KI, Prakash R, Szabo AN, Phillips S, Wojcicki T, Mailey E, McAuley E & Kramer AF. "Aerobic fitness promotes differences in brain function relevant to cognitive performance in older adults", Cognitive Aging Conference, April 3-6, 2014, Atlanta, Georgia.

Cooke GE, Monti JM, Wong CN, Cohen NJ, & Kramer, AF. "The Role Of Sleep On Next Day Cognition", Cognitive Neuroscience Society, April 5-8, 2014, Boston, Massachusetts.

Burzynska AZ, **Wong CN**, Voss MW, Chaddock-Heyman L, Knecht A, Cooke G, Olson EA, Gothe NP, Lewis A, Wojcicki TR, Fanning J, Chung HD, Awick E, McAuley E, and Kramer AF. "Cardiorespiratory fitness and physical activity are associated with higher bold signal variability in old age", Oral presentation, Cognitive Aging Conference, April 3-6, 2014, Atlanta, Georgia.

Weng TB, **Wong CN**, Burzynska AZ, Chaddock-Heyman L, Cooke, GE, Monti, JM, McAuley E, and Kramer AF. "Age-related differences in executive function are associated with the differentiation of functional brain networks at rest", Cognitive Aging Conference, April 3-6, 2014, Atlanta, Georgia.

Cooke GE, Monti JM, Wong CN, Cohen NJ, & Kramer AF. "The Role Of Sleep On Next Day Cognition", Cognitive Aging Conference, April 3-6, 2014, Atlanta, Georgia.

Wong CN, Chaddock-Heyman L, Voss MW, Basak C, Erickson KI, Prakash R, Szabo AN, Phillips S, Wojcicki T, Mailey E, McAuley E & Kramer AF. "Effect of a 12-month exercise intervention on brain function and cognitive performance in older adults", Research Day, April 16, 2015, Urbana, Illinois.

Wong CN, Khan S. Kataria K. "A rare case of Esophageal Crohn Disease in a patient on Immunomodulator therapy", Carle Foundation Research Day, 2017, Urbana, Illinois.

Wong CN, Khan S. Kataria K. "A rare case of Esophageal Crohn Disease in a patient on Immunomodulator therapy", ACP Downstate, October 17, 2017, Springfield, Illinois.

Wong, C., Wilczek, M., Bosse, J., Smith, L., Manjourides, J., Orkaby, A., & Olivieri-Mui, B. "Developing a Novel Frailty Index to Study Frailty of Sexual and Gender Minority Older Adults in the All of Us Database", Gerontological Society of America, November 6, 2022, Indianapolis, IN.

Wong, C., Wilczek, M., Bosse, J., Smith, L., Manjourides, J., Orkaby, A., & Olivieri-Mui, B. "Frailty among Sexual and Gender Minority Older Adults: The All of Us Database", American Geriatrics Society, May 4, 2023, Long Beach, CA.

Narrative Report

I am currently a T32 Post-Doctoral Fellow at the Harvard Translational Research in Aging Training Program at HebrewSenior Life and BIDMC. I completed my residency training at BIDMC Internal Medicine Residency Program and fellowship training at the Harvard Multicampus Geriatric Fellowship Program. I also completed as Advanced Geriatric Medicine Second Year in Research. My research has varied from large-scale exercise interventions, neuroimaging, and now health services, but has always focused on the health of older adults. My current work focus on the health of sexual and gender minority older adults.