

THOMAS CHAN, PHD

BIO

I grew up in our family's Chinese Restaurant and was raised by my two grandmothers. I was constantly around older adults who imparted life lessons while I taught them how to use the latest technologies. These formative experiences influenced my research interests in aging, lifespan mentorships, and technology interventions. I collaborate with public health researchers and municipalities to examine the use of mentoring to improve cognitive and mental health outcomes for both mentees and mentors. Likewise, I team with technology companies and aerospace personnel to research and develop augmented reality and artificial intelligence systems to enhance age-related executive functioning and performance. The ultimate goal of my work is to advance the quality of life and developmental trajectories of underserved groups by designing scalable, culturally relevant, user-centered, strengths-based interventions that are fun. I am also a first-time dad.



Taking care of my daughter Ivy while testing out the latest augmented reality headset.

EDUCATION

Postdoctoral Fellowship 2016 – 2018	Epidemiology, Biostatistics, & Mental Health of Aging Bloomberg School of Public Health & School of Medicine Johns Hopkins University
PhD 2016	Positive Developmental Psychology School of Social Science, Policy & Evaluation Claremont Graduate University
Predoctoral Scholar 2008 – 2010	Developmental Psychobiology The Sackler Institute for Developmental Psychobiology Columbia University
MA 2008	Psychology The City College of New York
BS 2005	Psychology State University of New York at Oneonta

POSITIONS

2018 – present	Assistant Professor Department of Psychology Health Equity Research and Education Center Autonomy Research Center California State University Northridge
2020 – 2021	Research Affiliate Human Systems Integration (319H) NASA Jet Propulsion Laboratory (JPL) California Institute of Technology
2016 – 2018	NIH-National Institute on Aging Postdoctoral Fellow Department of Mental Health Center on Health and Aging Johns Hopkins University

2016 – 2017 **Social and Behavioral Scientist**
User Interface and Experience Design to Promote Community Dining Behaviors
Spotluck, Inc.

RESEARCH SUPPORT

2021 – present **PD/Co-Principal Investigator**
The AWARE Project: Arming Wearable Augmented Reality Equipment to Strengthen Psychological Reserves and Resilience
Department of Defense
PIs: Thomas Chan, Kacie Blackman, & Carrie Saetermoe
Total Costs: \$580,190

2020 – present **PD/Co-Principal Investigator**
Speed Dating Trust: Simulation-based User Enactment Study in Mars 2020 Ground Planning Systems
NASA Jet Propulsion Lab, Engineering and Science Directorate (180-502)
PIs: Thomas Chan, So Young Kim-Castet, Basak Ramaswamy, & Scott Davidoff
Total Costs: \$50,000

2020 – present **Co-Investigator**
NASA MUREP Space Technology Artemis Research (M-STAR) Planning Grant
California State University Northridge, Autonomy Research Center for STEAHM
PI: Nhut Ho
Total Costs: \$40,000

2018 – present **NIH BUILD PODER Core Faculty**
Building Infrastructure Leading to Diversity; Promoting Opportunities for Diversity in Education and Research
California State University Northridge, Health Equity Research and Education Center
PIs: Carrie Saetermoe, Gabriela Chavira, Crist Khachikian, & Margaret Shiffrar
Total Costs: \$5,148,514

2018 – 2020 **Principal Investigator**
The Mobile Mindfulness Attention Study: Piloting the Feasibility of a Wearable EEG Device and Attention Quantifying Software in Older Adults
Johns Hopkins University, Center for Innovative Care in Aging
PI: Thomas Chan
Total Costs: \$2,500

2016 – 2019 **Co-Investigator**
The SWIM Project: Piloting the Bandit Dolphin Kinect Application to Promote Cognitive and Functional Health in Community-Dwelling Adults
Johns Hopkins University, Schools of Public Health & Medicine
PI: Michelle C. Carlson
Total Costs: \$25,000

2014 – 2016 **Research Associate and Project Manager**
Developmental Pathways to Entrepreneurship and Problem Solving in Later Life
Claremont Graduate University, Quality of Life Research Center
PIs: Jeanne E. Nakamura & Mihaly Csikszentmihalyi
Total Costs: \$100,000

2013 – 2014	Principal Investigator Do Current City Programs and Policies Meet the Needs of Claremont’s Seniors? The City of Claremont, Human and Community Services PI: Thomas Chan Total Costs: \$500
2010 – 2016	Research Associate Sources of Good Mentoring at Work & The Cross Cultural Study of Happiness and Meaningful Life Activities Claremont Graduate University, Quality of Life Research Center PIs: Jeanne E. Nakamura & Mihaly Csikszentmihalyi Total Costs: \$409,975
2008 – 2010	Research Assistant and Project Manager Development of the Prefrontal Cortex in Response to Ecological Stressors and Threats Columbia University, Division of Developmental Neuroscience PIs: Christoph P. Wiedenmayer & Harry Shair Total Costs: \$1,220,137

AWARDS & HONORS

2021	Summer Grant Awardee. California State University Northridge [\$3000]
2020 – present	Faculty Mentor. NASA Spacesuit User Interface Technologies for Students Artemis Challenge [\$3950]
2019	College of Social and Behavioral Science Research Award. California State University Northridge [\$4400]
2018	BUILD PODER Faculty Scholar Academy. California State University Northridge [\$2500]
2016-18	NIH/NIA Epidemiology and Biostatistics of Aging Postdoctoral Fellowship (Grant# NIA-T32AG000247). Johns Hopkins University [\$100,000+]
2017	BrainFutures Conference Scholarship. BrainFutures [\$600]
2014	The Over and Above Community Contribution Award. The City of Claremont
2014	Jenness Hannigan Research Stipend. Claremont Graduate University [\$200]
2013	Claremont Needs Assessment Stipend. The City of Claremont [\$500]
2013,15-16	Graduate Council Conference Awards. Claremont Graduate University
2012	Departmental Research Award. Claremont Graduate University [\$3000]
2012	World Congress Award. International Positive Psychology Association [\$350]
2012-16	Dean’s Conference Awards. Claremont Graduate University
2011	Dean’s Merit Fellowship. Claremont Graduate University [\$1000]
2011	Departmental Research Award. Claremont Graduate University [\$750]
2010-13	Claremont Merit-Based Fellowships. Claremont Graduate University [\$60,000+]
2010	Developmental Psychobiology Award. Columbia University [\$500]

PUBLICATIONS

*denotes student author | †formerly published as Miranda-Chan, T.

Peer Reviewed Manuscripts

Chan, T., Argueta, J.*, Armendariz, J.*, Graham, A.*, Hwang, S.*, Ramaswamy, B., Kim, S., & Davidoff, S., (2021). Human-Computer interaction glow up: Examining operational trust and intention towards Mars autonomous systems. *American Institute of Aeronautics and Astronautics: ASCEND Technical Work*.

Chan, T., Wanigatunga, A.A., Terracciano, A., Carlson, M.C., Bandeen-Roche, K., Costa P.T., Simonsick, E.M., & Schrack, J.A (2021). Traits and treadmills: Association between personality and fatigability risk in well-functioning older adults. *Psychology and Aging*.

Boeder, J.*, Fruiht, V., Erikson, K.*, Hwang, S.*, Blanco, G.*, & **Chan, T.** (2021). Reflecting on an academic career: Associations between past mentoring investments and career benefits. *Mentoring & Tutoring: Partnership in Learning*.

Boeder, J.*, Fruiht, V., Hwang, S.*, Blanco, G.*, & **Chan, T.** (2021). Learning to love, work, and live your best life: Mentoring in emerging adulthood predicts later flourishing and subjective well-being. *Emerging Adulthood*. 1-13.

Fruiht, V., Boeder, J.*, & **Chan, T.** (2021). Rising stars and underdogs: The role race and parental education play in predicting mentorship. *Youth and Society*. 1-27.

Blackman, K., Smiley, S., Valentine, W., Chaudhari, L., Kwan, P., Cotton-Curtis, W., Saetermoe, C., & **Chan, T.** (2021). The earliest food deserts: Availability of infant and follow-on formula, and lactation support products among stores in Black and Non-Hispanic White zip codes in Los Angeles County. *Maternal and Child Health Journal*.

Boeder, J.*, Tse, D. C. K., Fruiht, V., & **Chan, T.** (2020). Medium matters: A decade of media consumption predicts positive and negative self-perceptions of aging. *Journals of Gerontology: Psychological Sciences*, 76(7), 1360-1360-1366.

Boeder, J.*, Hwang, S.*, & **Chan, T.** (2020). Engagement with life among the oldest-old in assisted living facilities: Enriching activities and developmental adaptation to physical loss. *Ageing & Society*. 1-22.

Moored, K.D., **Chan, T.**, Varma, V.R., Chuang, Y., Parisi, J.M., & Carlson, M.C. (2018). Engagement in enriching early life activities is associated with larger hippocampal and amygdala volumes in community-dwelling older adults. *Journals of Gerontology: Psychological Sciences*, 104, 92-101.

Chan, T., Parisi, J.M., Moored, K.D., & Carlson, M.C. (2018). Variety of enriching early life activities linked to late life cognitive functioning in urban community-dwelling African Americans. *Journals of Gerontology: Psychological Sciences*, 74(8), 1345-1356.

Fruiht, V., & **Chan, T.** (2018). Naturally occurring mentorship in a national sample of first-generation college goers: a potential portal for academic and developmental success. *American Journal of Community Psychology*, 61, 386-397.

Miranda-Chan, T., Fruiht, V., Dubon, V., & Wray-Lake, L. (2016). The longitudinal outcomes and roles naturally occurring community mentors have on a nationally represented sample of youth. *American Journal of Community Psychology*, 57, 47-59.

- Miranda-Chan, T., & Nakamura, J. (2015).** A generativity track to life meaning in retirement: Ego-integrity returns on past academic mentoring investments. *Work, Aging and Retirement*, 2(1), 24-37.
- Kabitzke, P., Barr, G., **Chan, T.**, Shair, H., & Wiedenmayer, C.P. (2014). Medial prefrontal cortex processes threatening stimuli in juvenile rats. *Neuropsychopharmacology*, 39(8), 1924-1932.
- Chan, T.**, Kyere, K., Davis, B.R., Shemyakin, A., Kabitzke, P., Shair, H., Barr, G.A., & Wiedenmayer, C.P. (2011). The role of the medial prefrontal cortex in innate fear regulation in infants, juveniles, and adolescents. *Journal of Neuroscience*, 31(13), 4991-4999.

Book Chapters

- Nakamura, J., & **Chan, T.** (2020). Positive aging from a lifespan perspective. In *Handbook of Positive Psychology* (3rd edition).
- Nakamura, J., Warren, M., Branand, B., Liu, M., Wheeler, B., **Chan, T.** (2014). Positive psychology across the lifespan. In *Perspectives on the Intersection of Multiculturalism and Positive Psychology* (pp. 109-124). Springer Netherlands.

Applied Research Reports & Peer Commentaries

- Chan, T.**, & Carlson, M. C. (2016). Building upon the CALLA framework: The intersection of novel problem solving and applied wisdom. [Peer commentary on “A novel theoretical life course framework of triggering cognitive development across the lifespan,” by R. Wu, G.W. Rebok, & F.V. Lin. *Human Development*, 59(6), 366-371.
- Nakamura, J., **Miranda-Chan, T.**, Graham, L., Procter, K., & Csikszentmihalyi, M. (2016). *Paths to social purpose after 60*. Encore.org.
- Chan, T.**, Lucas, H., Liu, M., Likens, S., & Lass, J. (2014). *Community needs assessment of Claremont's older adults*. The City of Claremont, Community and Human Services.
- Mangan, S., Toledo, J., Anastasiadou, A., **Chan, T.**, & Berry, T. (2014). *Youth Activity Center: Evaluation report*. The City of Claremont, Community and Human Services.
- Chan, T.**, Nakamura, J., & Csikszentmihalyi, M. (2013). *Study of early career physicians: Mentoring in the field of medicine*. Quality of Life Research Center, CA.

PRESENTATIONS

*denotes student author

Symposiums

- Chan, T.**, Argueta, J.*, Armendariz, J.*, Graham, A.*, Hwang, S. *, Kim-Castet, S., Ramaswamy, B., & Davidoff, S., (2021, November). *Human-Computer interaction glow up: Examining operational trust and intention towards Mars autonomous systems*. Paper to be presented at 2021 ASCEND Conference, Las Vegas, NV.
- Hwang, S.*, & **Chan, T.** (2020, April). *Leveraging augmented reality to promote mental health outcomes in aging Asian Americans*. Symposium virtually presented at 34th Annual California State University Student Research Competition, Oakland, CA.

- Chan, T.** (2019, February). *Making aging magical: Using augmented reality for promoting health interventions and engaging medical assessments.* Symposium presented at Medical Design & Manufacturing West Conference, Anaheim, CA.
- Carlson, M.C., **Chan, T.**, Adam, A., Ahmad, O., Roy, P., Rosano, C., Rosso, A., Krakauer, J. (2018, November). *Piloting a virtual reality application to promote executive function and community mobility in aging adults.* Symposium presented at Gerontological Society of Aging Annual Scientific Meeting, Boston, MA.
- Chan, T.** (2018, November). *Innovation in healthcare: Leveraging technological assets to combat health disparities.* Symposium presented at The Fifth Art of Innovations Conference, Northridge, CA.
- Chan, T.** (2018, October). *Leveraging community partnerships to promote positive aging and development.* Symposium presented at Integrative Behavioral Health Research Institute, Los Angeles, CA.
- Chan, T.** (2017, July). *Beyond health and wealth: The psychosocial resources and retirement conditions that predict people's long-term happiness trajectories through the retirement transition.* Symposium presented at Fifth World Congress on Positive Psychology, Montreal, QC.
- Nakamura, J., Graham, L., **Chan, T.**, & Procter, K. (2017, July). *Facilitating purpose in later life: Pathways to social purpose and innovation after sixty.* Symposium presented at The International Association of Gerontology & Geriatrics World Congress, San Francisco, CA.
- Fruiht, V. & **Miranda-Chan, T.** (2017, April). *Naturally occurring mentors of first-generation college students.* Symposium presented at Society for Research in Child Development, Biennial Meeting, Austin, TX.
- Miranda-Chan, T.**, Fruiht, V., Dubon, V., & Wray-Lake, L. (2016, March). *The functions of longitudinal outcomes of adolescents' naturally occurring mentorships: A mixed method approach.* Symposium presented at Society for Research on Adolescence, Biennial Meeting, Baltimore, MD.
- Chan, T.** (2015, June). *The contributions of vital engagement to good work.* Symposium presented at the Fourth World Congress on Positive Psychology, Lake Buena Vista, FL.
- Chan, T.** (2013, June). *Generativity and ego-integrity returns on past mentoring investments.* Symposium presented at the Third World Congress on Positive Psychology, Los Angeles, CA.
- Liu, M. & **Chan, T.** (2013, June). *Inclusion of positive empathy as a distinct construct in empathy research.* Symposium presented at the Third World Congress on Positive Psychology, Los Angeles, CA.
- Chan, T.** (2012, April). *Longitudinal investigation of the role of birth order on early maternal expectations and involvement, child leadership potential, and adult leadership attainment.* Symposium presented at the annual meeting of the Western Psychological Association, San Francisco, CA.

Posters

*denotes student author

- Armendariz, J.*, Hwang, S.*, Blanco, G.*, Pena, M.* & **Chan, T.** (2021, November). *Examining stereotype threat in neuropsychological testing: A usability and user experience pilot study.* Poster to be presented at Gerontological Society of Aging Annual Scientific Meeting, Phoenix, AZ.
- Blanco, G.*, Boeder, J.*, Fruiht, V., Erikson, E.*, Hwang, S.*, & **Chan, T.** (2021, November). *A retrospective study of retired academics: Long-term career benefits of past mentoring behaviors.* Poster to be presented at Gerontological Society of Aging Annual Scientific Meeting, Phoenix, AZ.

- Carrillo, J.*, Pena, M.*, Milyavskaya, N.*, & **Chan, T.** (2021, November). *Trust with autonomous intelligence systems to promote adoption in assistive technologies: A literature review*. Poster to be presented at Gerontological Society of Aging Annual Scientific Meeting, Phoenix, AZ.
- Pena, M.*, Carrillo, J.*, Milyavskaya, N.*, & **Chan, T.** (2021, November). *Human factors linked with initial and continuous trust in autonomous systems: A literature review*. Poster to be presented at Gerontological Society of Aging Annual Scientific Meeting, Phoenix, AZ.
- Hwang, S.*, Armendariz, J.*, Argueta, J.*, Fruiht, V., & **Chan, T.** (2021, November). *Piloting an augmented reality life review experience to promote mental health outcomes in aging Asian American women*. Poster to be presented at Gerontological Society of Aging Annual Scientific Meeting, Phoenix, AZ.
- Lachica, I.J.*, **Chan, T.**, Vicente, J., Ayala, M., Krause, A.X., Weise, M.A., & Hinkel-Lipsker, J.W. (2020, August). *A novel augmented reality platform delivers sensory cues to improve Parkinsonian gait*. Poster presented at 44th Meeting of the American Society of Biomechanics, Atlanta, GA.
- Hwang, S.*, Boeder, J., Erikson, E., Fruiht, V., & **Chan, T.** (2020, March). *Flourishing in adulthood is associated with self-efficacy and the mentoring received in emerging adulthood*. Poster to be presented at Society for Research on Adolescence Biennial Meeting, San Diego, CA.
- Chan, T.**, Argueta, A.*, Kennedy, J.*, Argueta, J.*, Blackman, K. (2019, November). *A magic gathering: Piloting an augmented reality engine to promote mental health and well-being*. Poster presented at Gerontological Society of Aging Annual Scientific Meeting, Austin, TX.
- Chan, T.**, Moored, K.D., Parisi, J.M., & Carlson, M.C. (2018, May). *Enriching early life activities to build cognitive reserves and combat health disparities*. Poster presented at The Cognitive Aging Conference, Atlanta, GA.
- Moored, K.D., **Chan, T.**, Varma, V.R., Chuang, Y., Parisi, J.M., & Carlson, M.C. (2018, May). Early life enrichment predicts hippocampal and amygdala volumes in older adulthood. Poster presented at The Cognitive Aging Conference, Atlanta, GA.
- Boeder, J.*, **Chan, T.**, Miranda, B., Knock, J., & Niles, M. (2016, January). *Being haunted by past romantic decisions: A phenomenological investigation of salient romantic regret in adulthood*. Poster presented at the annual meeting of the Society for Personality and Social Psychology, San Diego, CA.
- Chan, T.**, Nakamura, J., & Csikszentmihalyi, M. (2013, August). *A glimpse of the enduring implications of mentoring students*. Poster presented at the annual meeting of the American Psychological Association, Honolulu, HI.
- Kabitzke, P.A., Kativhu, C., **Chan, T.**, Barr, G.A., Shair, H.N., & Wiedenmayer, C.P. (2011, November). *Processing of threatening stimuli by the medial prefrontal cortex begins in juvenile rats*. Poster presented at the annual meeting of the Society of Neuroscience, Washington, DC.
- Ko, I., Dias, S., Koch, J., Fruiht, J., Branand, B., **Chan, T.**, & Nakamura, J. (2011, April). *The relationship between work-home interference and job/life satisfaction: Mediating effects of meaning and flow*. Poster presented at the annual meeting of the Western Psychological Association, Los Angeles, CA.

Chan, T., Kyere, K., Oliver, C.F., Madrid, J.*, Schubmehl, C.*, Chemiakine, A., Shair, H., & Wiedenmayer, C.P. (2010, November). *The connection between the medial prefrontal cortex, amygdala and periaqueductal gray in innate fear processing during ontogeny*. Poster presented at the annual meeting of the International Society for Developmental Psychobiology, San Diego, CA.

Chan, T., Kyere, K., Madrid, J.*, Schubmehl, C.*, Chemiakine, A., Kabitzke, P., & Wiedenmayer, C.P. (2010, November). *The role of the medial prefrontal cortex in emotion regulation of infants, juveniles, and adolescents*. Poster presented at the annual meeting of the Society for Neuroscience, San Diego, CA.

Kyere, K., **Chan, T.**, Shemyakin, A., & Wiedenmayer, C.P. (2009, November). *The medial prefrontal cortex in fear behavior in young rats*. Poster presented at the annual meeting of the Society for Neuroscience, Chicago, IL.

Invited Talks

Pathways to Careers in User Experience (UX) & Interface (UI) Research and Design. Invited panelist by BUILD Promoting Opportunities for Diversity in Education & Research (PODER). California State University Northridge, CA. October 30, 2018.

Evaluation Findings and Community Improvement Recommendations: A Claremont Senior Programs Community Needs Assessment. Invited presenter by Kiwanas Association, CA. May 22, 2014.

Evaluation Findings and Policy Recommendations: A Claremont Senior Programs Community Needs Assessment. Invited presenter by The City of Claremont City Council, CA. May 6, 2014.

Program Recommendations for Claremont Senior Programs. Invited presenter and panelist by The City of Claremont Committee on Aging, CA. March 12, 2014.

A Claremont Senior Programs Community Needs Assessment. Invited presenter and panelist by The City of Claremont Committee on Aging, CA. March 13, 2013.

TEACHING

2018 – present	Assistant Professor Course: Introduction to Gerontology California State University Northridge
2013 – 2015	Lecturer Courses: Psychology of Aging, Social Psychology & Positive Psychology Whittier College
2013	Teaching Associate Course: Structural Equation Modeling Claremont Graduate University
2008 – 2009	Lecturer Courses: Personality Psychology & Social Psychology The City College of New York
2006 – 2008	Graduate Teaching Assistant and Section Instructor Course: Introduction to Psychology The City College of New York

PROFESSIONAL ACTIVITIES

Ad Hoc Reviewer

Innovation in Aging (Oxford)

The Journals of Gerontology – Series A: Biological Sciences & Medical Sciences

The Journals of Gerontology – Series B: Psychological & Social Sciences

The Gerontologist

Research on Aging (Sage)

Work, Aging and Retirement (Oxford)

Journal of Medical Internet Research (JMIR) Serious Games

American Journal of Community Psychology

Youth and Society

International Positive Psychology Association | World Congress

American Institute of Aeronautics and Astronautics | ASCEND

- Chair TECH.HMT: Designing Human-Machine Teaming

Professional Affiliations

Gerontological Society of America

American Psychological Association

Society for Neuroscience

International Society for Developmental Psychobiology

International Positive Psychology Association