

DATE OF PREPARATION: October 20, 2022

PERSONAL DATA:

- **Martin Picard, Ph.D.**
- **Contact information**
Division of Behavioral Medicine, 622 W. 168th Street, PH1540-N, New York, NY 10032
mp3484@columbia.edu, 646-774-8967 (PH office), 646-774-5026 (Kolb office) www.picardlab.org
- **Birthplace:** Montreal, Canada
- **Citizenship:** Canada. **US Immigration status:** Permanent Resident.

EXECUTIVE SUMMARY

- **Training:** Interdisciplinary training in mitochondrial biology of aging, mitochondrial genetics, systems biology, behavioral medicine, psychosocial oncology, and psychoneuroendocrinology.
- **Research:** My laboratory develops and applies mitochondrial science approaches to human psychobiology research, defining mechanisms that link the human experience to molecular processes within mitochondria. We have developed a mitochondrial health index (MHI) to study the mind-mitochondria connection, identified novel membrane structures for mitochondrial communication in human mitochondrial diseases, showed that cell-free mitochondrial DNA (cf-mtDNA) is a psychological stress-inducible molecule detectable in saliva, found that human hair greying is reversible and linked to life stress, and developed a cellular longitudinal lifespan model that recapitulates trajectories of human epigenetic aging and allostatic load *in vitro*. My group's expertise and mitochondrial assays also have been shared and implemented internationally.
- **Publications:** 107 publications; 8,350 citations; 12 papers > 200 citations ([Google Scholar](#)), including invited perspectives that have integrated concepts across fields to build the foundation for mitochondrial psychobiology.
- **Funding:** PI/MPI on 5 NIH R01s, 1 R21, and Co-I on 3 collaborative R01/U01 grants.
- **Awards:** *Early Career Impact Award*, FABBS; *Rising Stars Lecture*, NIH Director's Office; *Neal E Miller New Investigator Award*, ABMR; *Frontiers in PNI Lecturer*, PNIRS; *Age⁺ Prize*, Canadian Institute of Health Research.
- **Outreach:** >40 invited talks at international/national conferences and institutions in the past 5 years; research covered by TEDx Cambridge, *Scientific American*, *The New Yorker*, *The Wall Street Journal*, *NBC Today Show*.
- **Service:** Service includes co-chair of the Columbia University Seminar (USEM) on the future of aging research, peer review for academic journals and international granting agencies, and advisory roles to NIA and NIMH leadership. I am devoted to training the next generation of diverse translational scientists and mitochondrial psychobiologists.

ACADEMIC APPOINTMENTS:

- | | | |
|--|-------------------|--|
| • Associate Professor of Behavioral Medicine (in Psychiatry and Neurology) | 01/2019 - present | Department of Psychiatry, Division of Behavioral Medicine & Department of Neurology
Columbia University Irving Medical Center (CUIMC) |
| • Research Scientist VI | 07/2021 - present | New York State Psychiatric Institute (NYSPI) |
| • Research Scientist VIII | 10/2019 - present | Research Foundation for Mental Hygiene (RFMH) |
| • Faculty | 11/2015 - present | Columbia Translational Neuroscience Initiative, CUIMC |
| • Faculty | 11/2015 - present | The H. Houston Merritt Center, CUIMC |
| • Visiting Scientist | 03/2015 - 02/2020 | Wellcome Centre for Mitochondrial Research; <i>Newcastle University</i> , Newcastle UK |

- Herbert Irving Assistant Professor of Behavioral Medicine (in Psychiatry and Neurology) 11/2015 - 12/2018 Department of Psychiatry, Division of Behavioral Medicine
Department of Neurology
College Physicians & Surgeons, CUIMC

EDUCATION:

- Doctorate 01/2008 - 05/2012 *Mitochondrial Biology of Aging*
Thesis title: *Assessment of mitochondrial function in skeletal muscle during disease, disuse and normal aging*
Advisors: Tanja Taivassalo PhD, Russell T Hepple PhD
McGill University, Department of Kinesiology
Montreal, Canada
- B.Hons., Physiology 09/2003 - 01/2007 *Neuroimmunology*
Advisor: Julie Desbarats PhD
McGill University, Department of Physiology
Montreal, Canada

TRAINING:

- Postdoctoral Fellow 07/2012 - 06/2015 *Mitochondrial Genetics*
Center for Mitochondrial and Epigenomic Medicine
University of Pennsylvania, Philadelphia, PA
Mentor: Douglas C Wallace
- Fellow 09/2010 - 04/2012 CIHR Systems Biology Training Program
McGill University, Montreal, Canada
- Fellow 09/2009 - 04/2012 CIHR Psychosocial Oncology Training Program
McGill University, Montreal, Canada

OTHER WORK EXPERIENCES:

- Visiting Scholar 01/2013 - 03/2013 Novo Nordisk Foundation Center Integrative Physiology, Metabolism and Epigenetics Group; Romain Barres, PhD
University of Copenhagen, Copenhagen, Denmark
- 02/2012 - 06/2012 Institute for Aging and Health, Mitochondrial Research Group; Douglass M Turnbull, MD
Newcastle University, Newcastle Upon Tyne, UK
- 04/2012 - 07/2012 Clinical Exercise Physiology, Unité Médicale de Physiologie Fonctionnelle; Ruddy Richard, MD
Université de Strasbourg, Strasbourg, France
- 01/2010 - 03/2010 Muscle Aging Research Laboratory, Russell T Hepple, PhD
University of Calgary, Calgary, Canada
- Research Assistant 05/2007 - 08/2007 Mitochondrial Biochemistry Laboratory, Yan Burelle, PhD
Université de Montréal, Montreal, Canada
- 12/2006 - 05/2007 Mitochondrial Impairment, Impact, and Intervention Laboratory. Tanja Taivassalo, PhD
McGill University, Montreal, Canada
- 05/2005 - 09/2005 Clinical Exercise Physiology Laboratory, Montreal Chest

	Institute, Hélène Perrault, PhD McGill University Health Center, Montreal, Canada
05/2004 - 08/2004	Neuroimmunology Laboratory, Department of Physiology, Julie Desbarats, PhD McGill University, Montreal, Canada
05/2002 - 08/2002	Mechanical Engineering Laboratory Martin Brouillette, PhD Université de Sherbrooke, Sherbrooke, Canada

HONORS & AWARDS:

FACULTY:

- 2021 *Early Career Impact Award*: Federation of Associations of Behavioral and Brain Sciences (FABBS)
- 2019 *Rising Stars Lecture*: NIH Director's Office
Neal E Miller New Investigator Award: Academy of Behavioral Medicine Research (ABMR)
- 2017 *Herbert Irving Named Professorship (for 3 years)*: Columbia University Irving Medical Center
Faculty Research Fellow: Columbia Aging Center
Frontiers in PNI Lecturer: PsychoNeuroImmunology Research Society (PNIRS)
- 2015 *Gray Matters Fellow*: Columbia University, Department of Psychiatry

POST-GRADUATE:

- 2013 *Young Investigator Colloquium Award*: American Psychosomatic Society
Caroline Tum Suden/Francis A. Hellebrandt Award: American Physiological Society

GRADUATE:

- 2012 *Michael Smith Foreign Study Supplement*: National Science and Engineering Research Council (NSERC)
International Early Career Physiologist Travel Award: American Physiological Society
- 2011 *Prix Acfas Desjardins 2011 - Doctoral, all disciplines*: Association Francophone Pour le Savoir
International Travel Award: CIHR Institute of Musculoskeletal Health and Arthritis
EGSS Doctoral Award for Research and Professional Excellence: McGill University
Age + Prize: Canadian Institute of Health Research (CIHR)
International Travel Award: Fonds de la Recherche en Santé du Québec (FRSQ)
Best Oral Research Presentation: Scientific Day COPD RSR Network, FRSQ
David L. Montgomery Award: McGill University, Department of Kinesiology
Graduate Research Enhancement and Travel Award: McGill University, Faculty of Education
- 2010 *Best Oral Research Presentation*: FRSQ/RSR & APPQ Annual Congress
Graduate Research Enhancement and Travel Award: McGill University, Faculty of Education
- 2009 *Alexander Graham Bell Canada Graduate Scholarship (Doctoral)*: NSERC
Master's Research Excellence Award: McGill University, Education Graduate Student Society
McGill Provost's Graduate Fellowship: McGill University, Office of the provost
Tomlinson Doctoral Fellowship: McGill University (declined)
- 2008 *Alexander Graham Bell Canada Graduate Scholarship (Masters)*: NSERC
Masters Training Scholarship: Fonds de la Recherche en Santé du Québec (FRSQ) (declined)
Graduate Fellowship: McGill University Health Center Research Institute (declined)
- 2007 *Undergraduate Summer Research Award*: NSERC
- 2006 *Alvin Shrier Physiology Scholarship*: Physiology Department, McGill University

2004-6 *Principal's Student-Athlete Honour Roll*: McGill University
Dean's Honour List: McGill University

ADMINISTRATIVE LEADERSHIP AND ACADEMIC SERVICE:

NATIONAL/INTERNATIONAL:

- *Marie-Curie European Training Network (ETN) – Mitochondrial Morphofunction*: Member
Project Advisory Board member. Nijmegen, The Netherlands. 2017 - present
- *Biophysical Society – Bioenergetics, Mitochondria Subgroup*: Council Member 2019 - 2021
- *FASEB Mitochondrial Biogenesis in Health and Disease*: Session chair
Palm Springs, CA. 05/2019
- *World Mitochondria Society Meeting, Targeting Mitochondria*: Opening session chair
Berlin, Germany. 10/2016
- *European Muscle Conference*: Session chair
Montpellier, France. 09/2016

LOCAL/REGIONAL:

- *University Seminars: The Future of Aging Research*: Co-chair
Columbia University 2016 - 2021
- *Faculty Mentor*
Presidential Scholars in Society and Neuroscience (PSSN) Program 2018 - 2019
- *Host: Guest speaker Douglas C Wallace, PhD – Children's Hospital of Philadelphia*
CUIMC-Precision Medicine Initiative and Departments of Psychiatry and Neurology 01/2018
- *Host: Guest speaker Zhenglong Gu, PhD – Cornell University*
Departments of Psychiatry and Neurology 05/2017
- *Host: Guest speaker Giovanni Marsicano, PhD – Université Bordeaux II, France*
Departments of Psychiatry and Neurology 11/2016
- *Children's Hospital of Philadelphia Research Institute Summer Scholars Program*: Judging Committee
Poster Day, Children's Hospital of Philadelphia 2013 - 2014
- *Committee on Research and Graduate Studies*: Graduate student representative
McGill University, Faculty of Education 2011 - 2012
- *Muscle Mitochondria Meetings*: Founder
Organization of dialogue-based forum to facilitate interactions among faculty and graduate students 2010 - 2012
- *Education Graduate Student Society*: Departmental graduate student representative
McGill University, Faculty of Education. Montreal, Canada 2009 - 2012
- *Bloomberg-Manulife Roundtable with Inaugural winner Dr. Steven Blair*: Invited panelist
McGill University. Montreal, Canada 01/2012
- *Student Committee for Doctoral Students in Education*: Departmental doctoral representative
McGill University, Department of Kinesiology 2010 - 2011
- *Academic Integrity Day*: Workshop facilitator
McGill University Skillsets Event 02/2011
- *The importance of knowing how to write in graduate school*: Panelist
McGill University Skillsets Event "Sneak Peek Into Graduate School" 10/2010
- *ABCs of the PhD: How to be successful in your doctoral fellowship application*: Panelist
McGill University, Faculty of Education 09/2010

PROFESSIONAL ORGANIZATIONS AND SOCIETIES:

MEMBERSHIP AND POSITIONS:

- **National/International:**

- <i>American Psychosomatic Society – APS:</i> Member	2011 - present
- <i>International Society of Psychoneuroimmunology – ISPNE:</i> Member	2014 - present
- <i>North American Mitochondrial Disease Consortium – NAMDC:</i> Member	2017 - present
- <i>Academy of Behavioral Medicine Research – ABMR:</i> Elected Member	2019 - present
- <i>Psychoneuroimmunology Research Society – PNIRS:</i> Member	2017 - 2020
- <i>Biological Psychiatry:</i> Member	2017 - 2020
- <i>Biophysical Society:</i> Member	2019 - 2021
- <i>American Physiological Society – APS:</i> Member	2011 - 2018
- <i>American Society of Human Genetics – ASHG:</i> Member	2011 - 2012

- **Local/Regional:**

- <i>New York Nutrition and Obesity Research Center, CUIMC:</i> Member	2020 - present
- <i>Institute of Human Nutrition, CUIMC:</i> Member	2020 - present
- <i>Center for Translational and Computational Neuroimmunology, CUIMC:</i> Affiliate Member	2020 - present
- <i>Zuckerman Institute (Mind Brain Behavior Institute), Columbia University:</i> Affiliate Member	2018 - present
- <i>Herbert Irving Comprehensive Cancer Center, CUIMC:</i> Member	2017 - present
- <i>Neuromuscular Research Group, Montreal Neurological Institute (MNI):</i> Member	2009 - 2012
- <i>Canadian Association of Psychosocial Oncology:</i> Member	2009 - 2012
- <i>Respiratory and Epidemiology Clinical Research Unit, Columbia University:</i> Member	2004 - 2012

GRANT REVIEWER:

• Human Frontier Science Program: Ad-hoc reviewer	09/2022
• National Science Foundation: Ad-hoc reviewer	04/2021
• Aging Systems and Geriatrics (ASG) NIH study section: Ad-hoc reviewer (R01, R21, R03 grants)	02/2021
• Wellcome Trust, UK: Ad hoc reviewer	05/2020
• Israeli Ministry of Science, Technology and Space – Life Sciences, Israel: Ad hoc reviewer	01/2020
• The Irving Institute Study Section – Columbia University: Ad hoc reviewer	2017, 2019
• Biotechnology and Biological Sciences Research Council (BBSRC), UK: Ad hoc reviewer	10/2019
• National Switzerland Science Foundation: Ad hoc reviewer	09/2018
• Medical Research Council – MRC, UK: Ad hoc reviewer	10/2017
• Columbia University Irving Institute – CTSA: Ad hoc reviewer	2016 - 2017
• Danish Council for Independent Research, Medical Sciences Grant Review: Ad hoc reviewer	2015 - 2016
• National Science Center of Poland Grant Review Committee: Ad hoc reviewer	2015 - 2016

ADVISORY POSITIONS:

• NIA, Intramural Research Program: Primary reviewer for intramural concept proposal	2020
• Czech Academy of Sciences, Czech Republic: Program review panel member	2020

JOURNAL REVIEWER:

- **Aging and Biology Journals:** *Aging Cell, Biochemical Journal, Biochim Biophys Acta (BBA) Biomembranes, Bioessays, Biological Reviews, Biology, Biology of Sex Differences, Cell Metabolism, Cell Reports, Chromosome Research, Experimental Gerontology, FASEB Journal, General Comparative Endocrinology, Human Genetics, Journal of Bioenergetics and Biomembranes, Journal of Bioengineering and Biomedical Sciences, Journal of Cachexia, Sarcopenia and Muscle, Journal of Gerontology: Biological Sciences, mBio, Microscopy and Microanalysis, Mitochondrion, Molecular Metabolism, Nature Aging, Nucleic Acid Research*
- **Physiology Journals:** *American Journal of Physiology Cell Physiology, American Journal of Physiology Endocrinology Metabolism, American Journal of Physiology Regulatory Integrative Comparative Physiology, Applied Physiology Nutrition Metabolism, Frontiers in Physiology, Journal of Applied Physiology, The Journal of Physiology (London), Obesity, Physiological Reports*
- **Clinical Journals:** *American Journal of Respiratory and Critical Care Medicine, Anesthesiology, Aust N Z J Psychiatry, BBA Molecular Basis of Disease, Cancer Investigation, Cardiovasc Research, Circulation Research, Clinical Science, EBiomedicine, Experimental Dermatology, Journal of Alzheimer's Disease, Journal of Clinical Investigation, Journal of Clinical Medicine Research, Journal of Neurological Sciences, Journal of Pathology, New England Journal of Medicine*
- **Neuroscience and Psychoneuroendocrinology Journals:** *Acta Neuropathologica Communications, Biological Psychiatry, Brain Behavior and Immunity, Brain Behavior and Immunity-Health, Cerebral Cortex, Frontiers in Neuroscience, Journal of Neuroscience, Neuroscience Biobehavioral Reviews, Molecular Psychiatry, Neurochemistry International, Psychosomatic Medicine, Psychoneuroendocrinology, Stress, Translational Psychiatry*
- **Multidisciplinary Journals:** *eLife, iScience, Life Science Alliance, Nature Communications, Phenomics, Plos One, PNAS, Scientific Reports, Science Advances*
- **Consulting Editor:** *Health Psychology*

FELLOWSHIP AND GRANT SUPPORT:

FELLOWSHIP:

- **MFE-274188** Postdoc Fellowship 1/07/12 - 6/30/15
Canadian Institute of Health Research
Mitochondria as Mediators of Metabolic and Neuroendocrine Stressors on the Epigenome
The goal of this Postdoctoral Fellowship project was to define the primary effects of stressors on mitochondrial function and mtDNA, and identify consequences for epigenetic regulation of nuclear gene expression.

ACTIVE RESEARCH FUNDING:

- **R01 AG076821** PI 6/01/22 - 3/30/27
NIA
Mitochondrial Energetics, Circuits and Cognitive Decline in the Aging Human Brain
This collaborative project leverages our mitochondrial phenotyping platform to examine mitochondrial respiratory chain function in the human brain in relation to cognitive reserve, brain connectivity, and Alzheimer's disease.
- **R21 MH123927** PI 7/22/21 - 6/30/23
NIMH
Psychobiological Regulation of Cell-Free Mitochondrial DNA in Human Saliva
This project establishes diurnal variation and stress inducibility of saliva cell-free mitochondrial DNA in humans.

- **R01 MD016278** MPI (Monk, Trumpff, Gyamfi-Bannerman, Picard) 5/01/21 - 4/30/26
NIMD
Stress Phenotypes and Preterm Birth: Immune and Energetic Cellular Dysregulation and the Preventive Effect of Social Support
 This project uses a mitochondrial psychobiology approach to delineate by which mechanisms life stress results in disproportionate risk of PTB in minority women, and evaluate trajectories of mitochondrial dysfunction.
- **R01 AG066828** PI 4/15/20 - 12/31/24
NIA
Metabolic Regulation of Human DNA Methylation Clocks
 This project will establish longitudinal trajectories of epigenetic aging, inflammation, gene expression, and other aging biomarkers in a cellular lifespan model of accelerated aging, and their regulation by mitochondria.
- **R01 MH122706** PI 4/15/20 - 12/31/24
NIMH
Mitochondrial Regulation of Stress Reactivity in Humans
 This is a sub-project of the Mitochondrial Stress, Brain Imaging, and Epigenetics (MiSBIE) study that evaluates the influence of mitochondrial allostatic load on systemic allostatic load, stress reactivity, and psychological function.
- **R01 MH119379** Co-I (PI: Mann, Sublette) 4/01/20 - 3/31/25
NIMH
Inflammatory, Mitochondrial and Serotonergic Interrelationships in the Pathogenesis of Major Depression
 The proposed project performs brain positron emission tomography (PET) to measure glial activation serotonin 1A receptors in parallel with brain near infrared spectroscopy (NIRS) and direct mitochondrial assessments in blood.
- **U01 AG061356** Co-I (PI: De Jager) 9/30/18 - 8/31/23
NIA
Multi-omic network-directed proteoform discovery, dissection and functional validation to prioritize novel AD targets
 This project leverages proteomic, transcriptomic, metabolomic, and neuroimaging data to identify cellular mechanisms of cognitive dysfunction in the ROS-MAP longitudinal cohort.
- **R01 MH119336** Contact MPI (Picard, Marsland, Kaufman) 5/01/19 - 2/29/24
NIMH
Transduction of Psychological Stress into Systemic Inflammation by Mitochondrial DNA Signaling
 This project will test the hypothesis that circulating cell-free mtDNA release is the mechanism linking acute psychological stress and inflammation in humans.

PAST SUPPORT:

- **R01 AG056424** Subaward PI (PI: Irwin) 7/01/17 - 6/30/22
NIA
Mindfulness Meditation and Insomnia in Alzheimer Disease Caregivers: Inflammatory and Biological Aging Mechanisms
- **Director's pilot award** Contact MPI (Picard, Mocharov, Boldrini) 5/01/21 - 4/30/22
CUIMC Department of Psychiatry
Mapping Mitochondrial Function in the Human Brain: The MitoBrainMap v1.0

- **Pilot grant** PI 7/01/20 - 6/31/22
New York Nutrition and Obesity Research Center
Energy Expenditure in Genetic Mitochondrial Disease: Metabolic Regulation from Organelle to Organism
- **R01 HD086487** Subaward PI (PI: Tyrka) 7/01/16 - 6/30/21
NICHD
Risk Profiles and Mechanisms of Disease in Maltreated Children
- **Sponsored Research Agreement** PI 9/01/20 - 9/01/21
Epirium Bio Inc
Effects of Mitochondrial Hormone Signaling on Bioenergetic and Epigenomic Aging Trajectories
- **R35 GM119793** PI 9/01/16 - 5/31/21
NIGMS
Mitochondrial Stress Signal Transduction from Organelle to Organism
- **Irving Scholars Program** PI 7/1/17 - 6/30/20
Columbia University Irving Institute CTSA
Profiling Mitochondrial Health to Understand Physiological Variability
- **CU-ZI-MR-S-0002-R1** PI 3/1/18 - 2/31/20
Zuckerman Institute
The Mitochondrial Stress, Brain Imaging, and Epigenetics Study - MiSBIE
- **Pilot grant** PI 5/01/19 - 1/31/20
Nathaniel Wharton Fund
Biological Encoding of Stress in Hair: A Retrospective Longitudinal Pilot Study
- **Faculty Research Fellowship** PI 4/01/17 - 3/31/19
Columbia Aging Center
Mitochondrial Regulation of Aging in Humans: A Transdisciplinary Investigation
- **R21 MH113011** PI 4/01/17 - 3/31/19
NIMH
Mitochondrial Regulation of Stress Reactivity in Humans
- **CaMPR I (UL1TR001873)** PI 4/01/16 - 7/31/16
Columbia CTSA Irving Institute
Sub-cellular Mechanisms of Stress Perception Inside and Outside the Brain: The Role of Mitochondria

EDUCATIONAL CONTRIBUTIONS:

DIRECT TEACHING/PRECEPTING/SUPERVISING:

- **Columbia University**
 Department of Genetics
GR6212 | Introduction to the Biology of Aging (12 students) – Lecturer 02/2022
- Department of Pharmacology
G9600 | Molecular Pharmacology Graduate Seminar (5 students) – Lecturer 04/2022
- G9600 | Molecular Pharmacology Graduate Seminar (8 students)** – Lecturer 03/2020

CUIMC – Vagelos College of Physicians and Surgeons		
Breakthroughs in Neuroscience Seminar (22) – Lecturer		02/2021
Breakthroughs in Neuroscience Seminar (25) – Lecturer		02/2020
Department of Psychiatry		
G4100 Biology of Neurologic and Psychiatric Disorders (13) – Lecturer		02/2019
Neurobiology and Behavior Graduate Program (NB&B)		
Graduate seminar (20) – Lecturer		11/2018
Integrated Program in Cellular, Molecular and Biomedical Studies (CMBS)		
Graduate seminar for MD/PhD students (14) – Invited lecturer		11/2022
Graduate seminar for MD/PhD students (12) – Invited lecturer		11/2017
Department of Biological Sciences		
UN1908 First Year Seminar in Modern Biology (40) – Lecturer		10/2017
• University of British Columbia, Department of Kinesiology, Vancouver, Canada		
Healthy Aging from Cells to Society (25) – Lecturer		02/2022
“Healthy aging from organelle (mitochondria) to organism” (1.5 hour)		
• Cornell University, Department of Nutritional Sciences, Ithaca NY		
NS2750 Human Biology and Evolution (60) – Lecturer		2015, 2016
“Mitochondrial DNA variation and disease” (1 hour)		
• McGill University, Department of Kinesiology and Physical Education Lecturer		
EDKP-443 Research Methods (55) – Lecturer		2011
“The Art and Science of Academic Writing” (6 hours)		
EDKP-449 Exercise Pathophysiology (38) – Lecturer		2011
“Structure, Function and Assessment of Mitochondria in Disease Atrophy” (6 hours)		
EDKP-605 Research Methods (15) – Lecturer		2011
“Experimental and Quasi-Experimental Designs” (6 hours)		
EDKP-485 Exercise Pathophysiology (118) – Lecturer		2009 - 2010
“Skeletal Muscle Function in Chronic Obstructive Pulmonary Disease: From Research to Practice” (3 hours)		
EDKP-485 Exercise Pathophysiology (23) – Lecturer		2017
“Spinal cord injuries and rehabilitation” (4.5 hours)		
• Natural Health Consultant Institute, Montreal, Canada		
• Anatomy and Physiology (13) – Course Instructor		2009 - 2010
Full course, 30 lectures (90 hours)		

ADVISING AND MENTORSHIP:

Postdoctoral

- Alexander Sercel	PhD in Cell Biology (USA)	2021 - present
- Anna Monzel	PhD in Integrated Systems Biology and Stem Cells (Germany)	2020 - present
- Kalpita Karan	PhD in Human molecular genetics (India)	2017 - 2021
	Current position: Research Scientist, Weill Cornell Medical School	
- Caroline Trumpff	PhD in Psychology (Belgium)	2017 - 2021
	Current position: Assistant Professor, Columbia University	
- Lan Li	PhD in Science, technology, and society studies (USA)	2018 - 2019
	<i>Presidential Scholar in Society and Neurosciences</i>	
	Current position: Assistant Professor, John Hopkins University	

- Robert-Paul Juster	PhD in Neuroscience (Canada) <i>FRQS Postdoctoral Fellowship</i> Current position: Assistant Professor, University of Montreal	2015 - 2016
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Graduate

- Janell Smith	PhD Program, Cellular, Molecular and Biomedical Studies	2022 - present
- Natalia Maria Bobba	PhD Program, Nutrition and Metabolic Biology	2020 - present
- Jeremy Michelson	PhD Program, Nutrition and Metabolic Biology	2019 - present
- Alex Junker	MPH Program, Sociomedical Sciences	2019 - 2021
- Tyler Dorrity (Rot)	PhD Program, Microbiology and Immunology	Fall 2018
- Elizabeth Pekarskaya (Rot)	PhD Program, Neurobiology and Behavior	Winter 2018
- Ryan Serrao	MSc Program, Data Science	2017 - 2018
- Marina Triplett (Rot)	PhD Program, Cellular, Molecular and Biomedical Studies	Fall 2017
- Amy Vincent	Visiting PhD student in Cell Biology, from Newcastle University, UK <i>* Received a Medical Research Council (MRC) Fellowship</i>	2015 - 2017

Rot: Rotation student

Undergraduate

- Soah Grace Franklin	Medical Humanities (Columbia University)	2022 - present
- Amanda Peng	Psychology and Biology (Barnard College)	2022 - present
- Ellie Yan	Neuroscience (Barnard College)	2022 - present
- Sophie Basarrate	Biology and Social Science (Columbia University)	2020 - present
- Fruma Landa	Psychology (Yeshiva University)	2020 - 2021
- Rachel Haarh	Neuroscience (Barnard College) (Honors Thesis)	2020 - 2021
- Lily Van Petten	Neuroscience (Fordham University)	2019 - 2020
- Shani Erdman	Psychology (Wesleyan College)	2019 - 2020
- Jennifer Wang	Neuroscience (Columbia) Accepted in MD program at SUNY Downstate	2018 - 2020
- Celina Porcaro	Psychology (Smith College) <i>*AMGEN Summer Undergraduate Research Fellowship</i>	Summer 2019
- Ayelet Rosenberg	Neuroscience and Behavior (Barnard) (Honors thesis) Accepted in MSc Neuroscience program at the Weissman Institute	2017 - 2020
- Veronica Taleon	Political Science and Pre-Med (Barnard)	2017 - 2019
- Snehal Bindra	Neuroscience (UCLA) Accepted in MD program at Vanderbilt	2018 - 2020
- Divia Rajasekharan	Biology (Columbia) <i>*Summer Undergraduate Research Fellowship</i>	Summer 2018
- Anisha Tyagi	Biomedical Engineering (Columbia)	Winter 2018
- Gabriel Sturm	Biology and computer science (Honors, Yeshiva University) <i>*AMGEN Summer Undergraduate Research Fellowship</i> Accepted in PhD bioengineering program Berkeley/UCSF	2016 - 2018
- Avsar Rana	Biology (Boston University)	Summer 2017
- Meir Retter	Mathematics and computer science (Yeshiva University)	Summer 2017
- Rikita Jodhani	Pharmacology (Boston University)	Summer 2016

High school

- Temmie Yu	Medical Sciences Technology (Bergen County Academies)	2022 - present
- Logan Beharry	Engineering and Biomedical (Bergen County Academies)	2020 - 2021
- Akshay Khanna	Science (John P Stevens High School)	Fall 2018

Staff

- Vanessa Giardino, BA	Project Coordinator	2022 - present
- Hannah Huang, BSc	Research Assistant	2022 - present
- Catherine Kelly, BA	Study coordinator	2021 - present
- Lea Gregario, RN	Research nurse (part time)	2021 - present
- Shannon Rausser, BSc	Research assistant	2018 - present
- Grace Liu, MA	Data manager (part time)	2017 - present
- Marlon McGill, BSc	Lab manager	2016 - 2022
- Anjali Goyal, BSc	Research assistant	2021 - 2022
- Marissa Cross, BA	Study coordinator	2017 - 2022
- Ayelet Rosenberg, BSc	Research assistant	2020 - 2021
- Snehal Bindra, BSc	Research assistant	2021
- Johanne Fortune, RN	Research nurse (part time)	2018 - 2020
- Gabriel Sturm, BSc	Research assistant	2018 - 2020
- Kirwan Walsh, BSc	Research assistant	2016 - 2017

Visiting scientists

- Atif Towheed, PhD	Visiting scholar (Middletown, NY)	2019 - 2020
- Carla Basualto, MD, PhD	Visiting scholar (Santiago, Chili)	2017, 2019

Volunteers

- Jack Devine, MSc	Research volunteer	2022 - present
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PHD ADVISORY AND EXAMINATION COMMITTEES:

- Sarah McLarnan	PhD candidate in Environmental Health Sciences Advisors: Drs. Julie Herbstman and Branson Pearson <i>Qualifying Exam Committee</i>	2021 - present
- Nickole Kanyuch	MD/PhD candidate Program in Neuroscience, University of Maryland Advisor: Dr. Tracy Bale <i>Thesis Committee</i>	2021-present
- Frédéric Dufour	PhD candidate in Biology, Université de Sherbrooke Advisor: Drs. Alan Cohen and Pierre-Étienne Jacques <i>External examiner, Thesis Defense</i>	09/2021
- Kobi Wasner	PhD candidate in Biology, Université du Luxembourg Advisor: Dr. Anne Grunewald <i>External examiner, Thesis Defense</i>	03/2021

- Vrinda Kalia	PhD candidate in Environmental Health Sciences Advisor: Dr. Gary Miller <i>Thesis Committee</i>	10/2020
- Christian Garcia	PhD candidate in Human Nutrition Advisor: Dr. Edward Owusu-Ansah <i>Thesis Committee and Thesis Defense</i>	2017 - 2019
- Christopher Griffey	MD/PhD program Advisor: Dr. Ai Yamamoto <i>Qualifying Exam Committee</i>	09/2019
- Maria Natalia Bobba	PhD candidate in Nutrition and Metabolic Biology Advisor: Dr. Lori Zeltser <i>Qualifying Exam Committee</i>	09/2019
- James Belarde	MD/PhD program Advisor: Dr. Carol Troy <i>Qualifying Exam & Thesis Committee</i>	2017 - 2019
- Annie Lee	PhD candidate in Neuroscience Advisor: Dr. Frank Polleux <i>Thesis Defense Committee</i>	05/2018
- Danielle E. Matsushima	PhD candidate in Genetics Advisor: Dr. Chozha Rathinam <i>Thesis Defense Committee</i>	05/2016

GRADUATE PROGRAMS INTERVIEWING COMMITTEES:

- MD/PhD program, CUIMC	2019 - present
- PhD program in Nutrition and Metabolic Biology, CUIMC	2019 - present
- PhD program in Neurobiology and Behavior, CUIMC	2018 - present
- Integrated Program in Cellular, Molecular, and Biomedical Studies, CUIMC	2017 - present

REPORT OF CLINICAL AND PUBLIC HEALTH ACTIVITIES AND INNOVATIONS:

- **Mitochondrial Disease Clinic, Columbia University Irving Medical Center**
Attending weekly neurology clinic of Dr. Michio Hirano, MD (new cases and follow ups) 2018 - present
New York Presbyterian Hospital, Columbia Neurological Institute, 3rd floor. One half-day/week.

PUBLICATIONS:

PEER-REVIEWED RESEARCH PUBLICATIONS (PRIMARY RESEARCH): *PUBLICATION AS SENIOR/CORRESPONDING AUTHOR

2022

1. * Sturm G, Karan KR, Monzel AS, Santhanam BS, Taivassalo T, Bris C, Duplaga SA, Cross M, Towheed A, Higgins-Chen A, McManus MJ, Cardenas A, Lin J, Epel ES, Rahman S, Vissing V, Grassi B, Levine M, Horvath S, Haller RG, Lanaers G, Wallace DC, Tavazoie S, Procaccio V, Kaufman BA, Seifert EL, Hirano H, **Picard M**. OxPhos dysfunction causes hypermetabolism and reduces lifespan in cells and in patients with mitochondrial diseases. *Commun Biol* (in press) [Preprint](#)

2. Gyllenhammer LE, **Picard M**, McGill MA, Boyle KE, Vawter MP, Rasmussen JM, Buss C, Entringer S, Wadhwa PD. Prospective association between maternal allostatic load during pregnancy and child mitochondrial content and bioenergetic capacity. *Psychoneuroendocrinol* 2022 144:105868 [PubMed](#)
3. * Sturm G, Monzel AS, Karan KR, Michelson J, Ware SA, Cardenas A, Lin J, Bris C, Santhanam B, Murphy MP, Levine ME, Horvath S, Belsky D, Wang S, Procaccio V, Kaufman BA, Hirano M, **Picard M**. A multi-omics and bioenergetics longitudinal aging dataset in primary human fibroblasts with mitochondrial perturbations. *Sci Data* 2022 (in press) [Preprint](#)
4. * Trumpff C, Rausser S, Haahr R, Karan KR, Gousspillou G, Puterman E, Kirschbaum C, **Picard M**. Dynamic behavior of cell-free mitochondrial DNA in human saliva. *Psychoneuroendocrinol* 2022 143:105852 [PubMed](#)
5. Higgins-Chen AT, Thrush KL, Wang Y, Minter CJ, Kuo PL, Wang M, Niimi P, Sturm G, Lin J, Moore AZ, Bandinelli S, Vinkers CH, Vermetten E, Rutten BPF, Geuze E, Okhuijsen-Pfeifer C, van der Horst MZ, Schreiter S, Gutwinski S, Luykx JJ, **Picard M**, Ferrucci L, Crimmins EM, Boks MP, Hägg S, Hu-Seliger TT, Levine ME. A computational solution for bolstering reliability of epigenetic clocks: Implications for clinical trials and longitudinal tracking. *Nat Aging* 2022 2:644–661 [PubMed](#)
6. * Trumpff C, Klein H, Owusu-Ansah E, Lee A, Petyuk V, Wingo TS, Wingo AP, Thambisetty M, Ferrucci L, Seyfried NT, Bennett DA, De Jager PL, **Picard M**. Mitochondrial respiratory chain protein co-regulation in the human brain. *Heliyon* 2022 30;8(5):e09353 [PubMed](#)
7. * Karan KR, Trumpff C, Cross M, Englestad KM, Marsland AL, McGuire P, Hirano M, **Picard M**. Leukocyte cytokine responses in adult patients with mitochondrial DNA defects. *J Mol Med* 2022 100(6):963-971 [PubMed](#)
8. Weiss SL, Henrickson SE, Lindell RB, Sartori L, Zhang D, Bush J, Farooqi S, Starr J, Deutschman CS, McGowan Jr FX, Becker L, Tuluc F, Wherry J, **Picard M**, Wallace DC. Influence of immune cell subtypes on mitochondrial phenotypes measured in peripheral blood mononuclear cells from children with sepsis. *Shock* 2022 57(5):630-638 [PubMed](#)
9. Moriconi C, Dzieciakowska M, Roy M, D’Alessandro A, Roingard P, Lee JY, Gibb DR, McGill MA, Qiu A, La Carpia F, Francis RO, Hod EA, Thomas T, **Picard M**, Akpan I, Buehler PW, Zimring JC, Spitalnik S, Hudson KE. Retention of functional mitochondria in mature RBCs from patients with sickle cell disease. *Br J Haematol* 2022 (in press) [PubMed](#)
10. Kalia V, Bradner JM, Niedzwiecki MM, Lau FK, Bucher ML, Manz KE, Fuentes ZC, Pennell KD, **Picard M**, Walker DI, Hu W, Jones DP, Miller GW. Cross-species metabolomic analysis of tau- and DDT-related toxicity. *PNAS Open* 2022 1(2):pgac050 [PubMed](#)
11. Zhang R, Ogden RT, **Picard M**, A Srivastava. Nonparametric k -sample test on shape spaces with applications to mitochondrial shape analysis. *J R Stat Soc – Series B* 2022 71(1):51-69 [Link](#)

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14. * Rausser S, Trumpff C, McGill MA, Junker A, Wang W, Ho S, Mitchell A, Karan K, Monk C, Segerstrom S, Reed R, **Picard M**. Mitochondrial phenotypes in purified human immune cell subtypes and cell mixtures. *eLife* 2021 10:e70899 [PubMed](#)
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21. Ulgherait M, Chen A, McAllister S, Kim HX, Delventhal R, Wayne CR, Garcia CJ, Recinos Y, Oliva M, Canman JC, **Picard M**, Owusu-Ansah E, Shirasu-Hiza M. Circadian regulation of mitochondrial uncoupling and lifespan. *Nat Commun* 2020; 11:1927 [PubMed](#)

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29. *Finalist paper for the 2020 Ziskind-Somerfeld Research Award*
* **Picard M**, Prather AA, Puterman E, Cuillerier A, Coccia M, Aschbacher K, Burelle Y, Epel ES. A mitochondrial health index sensitive to mood and caregiver stress. *Biol Psychiatr* 2018; 84(1):9-17 [PubMed](#)

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49. Leduc-Gaudet JP, **Picard M**, St-Jean Pelletier F, Sgarioto N, Auger MJ, Robitaille R, St-Pierre DH, Gouspillou G. Mitochondrial morphology is altered in atrophied skeletal muscle of aged mice. *Oncotarget* 2015; 6(20):17923-17937 [PubMed](#)
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51. Azuelos I, Jung B, **Picard M**, Liang F, Li T, Lemaire C, Giordano C, Hussain SNA, Burelle Y, Petrof B. Relationship between autophagy and ventilator-induced diaphragmatic dysfunction. *Anesthesiology* 2015; 122(6):1349-1361 [PubMed](#)

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52. **Picard M**, Zhang J, Hanecock S, Derbeneva O, Golhar R, Golik P, O'Hearn S, Levy SE, Potluri P, Lvova M, Davila A, Lin CS, Perin JC, Rappaport EF, Hakonarson H, Trounce I, Procaccio V, Wallace DC. Progressive increase in mtDNA 3243A>G heteroplasmy results in abrupt transcriptional remodeling. *PNAS* 2014; 111(38):E403 [PubMed](#)
53. Aschbacher K, Kornfeld S, **Picard M**, Puterman E, Havel P, Lustig R, Epel E. Chronic stress increases vulnerability to diet-related visceral adiposity, oxidative stress and metabolic risk. *Psychoneuroendocrinology* 2014; 46:14-22 [PubMed](#)
54. Glancy B, Hsu LY, Dao L, Bakalar M, French S, Chess DJ, Taylor JL, **Picard M**, Aponte A, Daniels MP, Esfahani S, Cushman S, and Balaban RS. In vivo microscopy reveals extensive embedding of capillaries selectively within the sarcolemma of slow twitch skeletal muscle fibers. *Microcirculation* 2014;21(2):131-47 [PubMed](#)

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Featured in [Editorial](#)
56. * **Picard M**, Gentil B, McManus MJ, StLouis K, White K, Gartside S, Wallace DC, Turnbull DM. Acute exercise remodels mitochondrial membrane interactions in mouse skeletal muscle. *J Appl Physiol* 2013; 115(10):1562-71 [PubMed](#)

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62. **Picard M**, Godin R, Sinnreich M, Baril J, Bourbeau J, Perrault H, Taivassalo T, Buelle Y. The Mitochondrial phenotype of peripheral muscle in COPD: Disuse or dysfunction? *Am J Respir Crit Care Med* 2008; 178(10):1040-7 [PubMed](#)
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PEER-REVIEWED RESEARCH PUBLICATIONS (REVIEWS, META-ANALYSES, INVITED PERSPECTIVES):

2022

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65. * Bobba-Alves N, Juster RP, **Picard M**. The energetic cost of allostatic load. *Psychoneuroendocrinol* 2022
66. * **Picard M**. Energy transduction and the mind-mitochondria connection. *Biochem (Lond)* 2022 44 (4): 14–18 [Link](#)
67. * Junker A, Juster RP, **Picard M**. Integrating sex and gender in mitochondrial science. *Curr Opin Physiol* 2022; 26:100536 [Link](#)
68. * Junker A, Wang J, Gouspillou G, Ehinger JK, Elmér E, Sjövall F, Fisher-Wellman K, Neuffer PD, Molina AJA, Ferrucci L, **Picard M**. Human studies of mitochondrial biology demonstrate an overall lack of binary sex differences: A multivariate meta-analysis. *FASEB J* 2022; 36:e22146 [PubMed](#)
69. * **Picard M**. Why do we care more about disease than health? *Phenomics* 2022; 2:145–155 [Link](#)
70. O'Sullivan J, Peters E; Amer Y, Atuluru P, Chéret J, Rosenberg A, **Picard M**, Paus R. The impact of perceived stress on the hair follicle: Towards solving a psychoneuroendocrine and neuroimmunological puzzle. *Front Neuroendocrinol* 2022; 66:101008 [PubMed](#)

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74. * **Picard M**, Sandi C. The social nature of mitochondria: Implications for human health. *Neurosci Biobehav Rev* 2021; 120(5):595-610 [PubMed](#)
75. O’Sullivan JDB, Nicu C, **Picard M**, Chéret J, Bedogni B, Tobin DJ, Paus R. The biology of human hair greying. *Biol Rev* 2021; 96(1):107-128 [PubMed](#)

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76. * **Picard M**, Trumpff C, Burelle Y. Mitochondrial psychobiology: Foundation and applications. *Curr Opin Behav Sci* 2019; 28:142-151 [PubMed](#)
77. * Han LKM, Verhoeven JE, Tyrka A, Penninx BWJH, Wolkowitz OM, Månsson KNT, Lindqvist D, Vinkers CH, Boks MP, Révész D, Mellon SH, **Picard M**. Accelerating research on biological aging and mental health: Current challenges and future directions. *Psychoneuroendocrinol* 2019; 106:293-311 [Special issue: *Stress and cellular aging*] [PubMed](#)
78. Sturmberg JP, **Picard M**, Aron DC, Bennett JM, Bircher J, DeHaven MJ, Gijzel SMW, Marcum JA, Heng HHQ, Martin CM, Miles A, Peterson C, Rohleder N, Walker C, Rikkert MO, Melis RJF. Health and disease: Emergent states resulting from adaptive social and biological network interactions. *Front Med* 2019; 6(59):1-14 [PubMed](#)

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80. * **Picard M**, McEwen BS. Psychological stress and mitochondria: A systematic review (Part I). *Psychosom Med* 2018; 80(2):141-153 [PubMed](#)
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83. * **Picard M**, McEwen BS, Epel ES, Sandi C. An energetic view of stress: Focus on mitochondria. *Front Neuroendocrinol* (Elsevier) 2018; 49:72-85 [Invited review] [PubMed](#)
84. Kaufman B, **Picard M**, Sondheimer N. Mitochondrial DNA, nuclear context and the risk for carcinogenesis. *Env Mol Mut* 2018; 60(5):455-462 [PubMed](#)

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85. * Vincent AE, Turnbull DM, Hajnoczky G, Eisner V, **Picard M**. Mitochondrial nanotunnels. *Trends Cell Biol* 2017; 27(11):787-799 [PubMed](#)
86. * **Picard M**, Juster RP, Sloan RP, McEwen BS. Mitochondrial nexus to allostatic load biomarkers. *Psychosom Med* 2017; 79(1):114-117 [PubMed](#)

87. Sturmberg JP, Bennett J, **Picard M**, Martin C. Multimorbidity as the manifestation of network disturbances. *J Eval Clin Pract* 2017; 23(1):199-208 [PubMed](#)

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88. * **Picard M**, Wallace DC, Burelle Y. The rise of mitochondria in medicine. *Mitochondrion* 2016; 30:105-16 [PubMed](#)
89. * **Picard M**, Hirano M. Disentangling (epi)genetic and environmental contributions to the mitochondrial 3243A>G mutation phenotype: Phenotypic destiny in mitochondrial disease? *JAMA Neurol* 2016; 73(8):923-5 [Invited commentary] [PubMed](#)
90. Juster RP, Russell JJ, Almeida D, **Picard M**. Allostatic load and comorbidities: A mitochondrial, neuroepigenetic, and psychoevolutionary perspective. *Dev Psychopathol* 2016; 28(4pt1):1117-46 [PubMed](#)
91. Rygiel KA, **Picard M**, Turnbull DM. The ageing neuromuscular system and sarcopenia: A mitochondrial perspective. *J Physiol* 2016;594(16):4499–4512 [PubMed](#)
92. **Picard M**, Vincent AE, Turnbull DM. Expanding our understanding of mtDNA deletions. *Cell Metab* 2016; 24(1):3-4 [PubMed](#)

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93. * **Picard M**. Mitochondrial synapses: Intracellular communication and signal integration. *Trends Neurosci* 2015; 38(8):468-474 [PubMed](#)
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97. * **Picard M**, Turnbull DM. Linking the metabolic state and mitochondrial DNA in chronic disease, health and aging. *Diabetes* 2013; 62(3):672-8 [PubMed](#)
98. * **Picard M**, Juster RP and Sabiston CM. Is the whole greater than the sum of the parts? Self-rated health and transdisciplinarity. *Health* 2013; 5(12A):24-30 [PDF](#)
99. Bizik G, **Picard M**, Nijjer R, Tourjman V, McEwen BS, Lupien SJ, Juster RP. Allostatic load as a tool for monitoring comorbidities in schizophrenia and bipolar disorder. *Harv Rev Neurosci* 2013; 21(6):296-313 [PubMed](#)
100. Gouspillou G, **Picard M**, Godin R, Burelle Y, Hepple RT. Role of peroxisome proliferator-activated receptor gamma coactivator 1-alpha (PGC-1 α) in denervation-induced atrophy in aged muscle: Facts and hypotheses. *Longevity and Healthspan* 2013; 2:1-13 [PubMed](#)
101. **Picard M**, Shirihai O, Gentil BJ, Burelle Y. Mitochondrial morphology transitions and functions: Implications for retrograde signaling? *Am J Physiol Regul Integr Comp Physiol* 2013; 304:R393-406 [PubMed](#)

2012

102. * **Picard M** and Burelle Y. Mitochondria: Starving to reach quorum? *Bioessays* 2012; 43(4):272-4 [PubMed](#)
103. **Picard M**, Hepple RT, Burelle Y. Mitochondrial functional specialization in glycolytic and oxidative muscle fibers: Tailoring the organelle for optimal function. *Am J Physiol Cell Physiol* 2012; 302(4):C629-41 [PubMed](#)

2011

104. **Picard M**, Taivassalo T, Gouspillou G, Hepple RT. Mitochondria: Isolation, structure and function. *J Physiol (London)* 2011; 589(18):4413-21 [PubMed](#)
105. * **Picard M**. Pathways to aging: The mitochondrion at the intersection of biological and psychosocial sciences. *J Aging Res* 2011; 814096:1-11 [PubMed](#)
106. Juster RP, Bizik G, **Picard M**, Arseneault-Lapierre G, Sindi S, Trepanier L, Marin MF, Wan N, Sekerovic Z, Lord C, Fiocco A, Plusquellec P, McEwen B, Lupien S. A transdisciplinary perspective of chronic stress in relation to psychopathology throughout lifespan development. *Dev Psychopathol* 2011; 23(03):725-76 [PubMed](#)
107. * **Picard M**, Sabiston C, McNamara JK. The need for a transdisciplinary, global health framework. *J Alt Complement Med* 2011; 17(2):179-84 [PubMed](#)

MANUSCRIPTS UNDER REVIEW:

1. * Rosenberg A, Saggari M, Rogu P, Mosharov EV, Junker A, Sandi C, Dumitriu D, Anacker C, **Picard M**. Mouse brain-wide mitochondrial connectivity anchored in gene, brain and behavior. Preprint: <https://www.biorxiv.org/content/10.1101/2021.06.02.446767v2> (Under revision in *Nat Commun*)
2. * Bobba-Alves N, Sturm G, Lin J, Ware SA, Karan KR, Monzel A, Bris C, Procaccio V, Lenaers G, Higgins-Chen A, Levine M, Horvath S, Santhanam BS, Kaufman BA, Hirano M, Epel ES, **Picard M**. Chronic Glucocorticoid Stress Reveals Increased Energy Expenditure and Accelerated Aging as Cellular Features of Allostatic Load. Preprint: <https://biorxiv.org/cgi/content/short/2022.02.22.481548v2> (Under review in *Nat Metab*)

PEER-REVIEWED RESEARCH PRESENTATIONS (POSTERS AND TALKS INCLUDING BY *TRAINEES):

1. * Bobba-Alves N, Sturm G, Lin J, Higgins-Chen A, Levine M, Horvath S, Hirano H, Epel E, Picard M. Modeling the energetic cost of stress adaptation in human cells. Energetics in Anthropology Workshop – Duke University, NC. (May 2022)
2. * Sercel AJ, Sturm G, Rausser S, Hirano M, Gallagher D, Melanson EL, St-Onge MP, Picard M. Does mitochondrial respiratory chain dysfunction alter cellular and whole-body energy Expenditure? Poster presentation, Energetics in Anthropology Workshop – Duke University, NC. (May 2022)
3. * Junker A, Wang J, Gouspillou G, Ehinger JK, Elmér E, Sjövall F, Fisher-Wellman K, Neuffer PD, Molina AJA, Ferrucci L, Picard M. Sex differences in human mitochondria are heterogeneous. Oral presentation at the American Psychosomatic Society conference, Long Beach CA. (March 2022)
4. * Bobba-Alves N, Sturm G, Lin J, Ware SA, Karan KR, Monzel A, Bris C, Procaccio V, Lenaers G, Higgins-Chen A, Levine M, Horvath S, Santhanam BS, Kaufman BA, Hirano M, Epel ES, Picard M. Chronic Glucocorticoid Stress Increases Energy Expenditure and Accelerates Aging Trajectories in Human Fibroblast. Oral presentation at the American Psychosomatic Society, Long Beach CA. (March 2022)
5. * Basarrate S, Trumpff S, Picard M. Heterogeneous distribution of psychological stress hormone receptors across major human organ systems: a map for stress transduction. Oral presentation at the American Psychosomatic Society, Long Beach CA. (March 2022)
6. * Rosenberg A, Saggari M, Rogu P, Limoges AW, Sandi C, Mosharov EV, Dumitriu D, Anacker C, **Picard M**. Mouse brain-wide mitochondrial connectivity anchored in gene, brain and behavior. EMBO Workshop on Mitochondrial homeostasis and human disease. (September 2021)

7. * Sturm G, Karan G, Monzel A, Santhanam B, Bris C, Lin J, Procaccio V, Kaufman B, T Saeed, Hirano M, **Picard M**. Mitochondrial respiratory chain dysfunction causes hypermetabolism and accelerates cellular aging trajectories in a longitudinal cellular lifespan system. Oral presentation at the EMBO Workshop on Mitochondrial homeostasis and human disease. (September 2021)
8. * Rosenberg A, Rausser S, Ren J, Mosharov EV, Sturm G, Ogden RT, Patel P, Soni RK, Lacefield C, Tobin DJ, Paus R, **Picard M**. Human hair greying is reversible and involves changes in mitochondrial proteins. Oral presentation at the EMBO Workshop on Mitochondrial homeostasis and human disease. (September 2021)
9. * Faitg J, Lacefield C, Davey T, White K, Laws R, Kosmidi S, Reeve AK, Kandel E, Vincent AE, **Picard M**. 3D neuronal mitochondrial morphology in axons, dendrites, and cell bodies of the aging mouse hippocampus. Poster presentation at the EMBO Workshop on Mitochondrial homeostasis and human disease. (September 2021)
10. * Rosenberg A, Saggari M, Rogu P, Sandi C, Dumitriu D, Anacker C, **Picard M**. Mitochondrial health in mouse cortical and sub-cortical brain region networks is linked to behavior. Society for Biological Psychiatry – Poster presentation (April 2021 - Online)
11. * Sturm G, Michelson J, Kothari M, Karan K, Cardenas A, McGill MA, Hirano M, **Picard M**. Mapping human aging with longitudinal multi-omic and bioenergetic measures in cellular lifespan system. International Conference on Complex Systems – Oral presentation (July 2020 - Online)
12. * Trumpff C, Klein HU, Sandi C, Bennett DA, De Jager P, **Picard M**. Late-life psychosocial exposures and the human brain mitochondrial proteome. American Psychosomatic Society 2020 – Long Beach, CA. (March 2020) Oral presentation accepted, not presented due to conference cancellation.
13. * Rausser S, Trumpff C, McGill MA, Karan KR, Reed RG, **Picard M**. Mitochondrial phenotypes in immune cell subtypes in adult women and men. American Psychosomatic Society 2020 – Long Beach, CA. (March 2020) Poster presentation accepted, not presented due to conference cancellation.
14. * Karan K, Trumpff C, Sturm G, Thomas JE, McGill MA, Rohleder N, Sloan RP, **Picard M**. Mitochondrial respiratory capacity modulates acute LPS-stimulated inflammatory signatures in human blood. TriMAD 2019 – Philadelphia, CA. (October 2019)
15. * Trumpff C, Rausser S, Juster RP, Mitchell A, Ahmad S, Karan KR, Sturm G, McGill MA, Kirschbaum C, **Picard M**. Daily and weekly within-person stability of neuroendocrine, metabolic, and immune biomarkers: An intensive longitudinal exploratory study. International Society of Psychoneuroendocrinology 2019 – Milan, Italy. (August 2019)
16. * Karan KR, Trumpff C, McGill MA, Thomas JE, Sturm G, Lauriola V, Rohleder N, Sloan RP, **Picard M**. Mitochondrial respiratory capacity regulates acute LPS-stimulated inflammatory signatures in human blood. International Society of Psychoneuroendocrinology 2019 – Milan, Italy. (August 2019)
17. * Sturm G, Cardenas A, Bind MA, Horvath S, Wang S, Wang Y, Hägg S, Hirano M, **Picard M**. Human Aging DNA Methylation Signatures are Conserved but Accelerated in Cultured Fibroblasts. International Society for Computational Biology (ISCB/ECCB). (June 2019)
18. * Cross M, Trumpff C, Engelstad K, Gabriel Sturm G, McGill MA, Karan KR, Rosales XQ, Anderson Z, Clark J, Tepler S, Taleon V, Wang J, Manly J, Martinez M, Medina V, Fortune J, Liu G, Lauriola V, Elder DJ, Ogden T, Thiebaut de Schotten M, Shapiro P, McEwen BS, Sloan RP, Wager TD, Hirano M, Picard M. The Mitochondrial Stress, Brain Imaging, and Epigenetics Study – MiSBIE. United Mitochondrial Disease Foundation (UMDF). (June 2019)
19. * Vincent AE, Turnbull DM, **Picard M**. Oncogenic spread of mutant mitochondria in aging and disease. FASEB Mitochondrial Biogenesis in Health and Disease. (May 2019)
20. * Bindra S, McGill MA, Triplett M, Tyagi A, Strack S, Cole S, Sood A, Lutgendorf S, **Picard M**. Tumor mitochondria exhibit abnormal phenotypes and blunted associations with positive and negative psychosocial factors. American Psychosomatic Society – Vancouver, Canada. (March 2019) (** citation poster)

21. * Trumpff C, Marsland AL, Sloan RP, Kaufman BA, **Picard M**. Psychophysiological predictors of stress induced mitochondrial reactivity identified using machine learning classifiers. American Psychosomatic Society – Vancouver, Canada. (March 2019)
22. * **Picard M**. Social principles linking human and mitochondrial behavior. American Psychosomatic Society – Vancouver, Canada. (March 2019)
23. * Vincent AE, Rosa HS, Pabis K, Lawless C, Grünewald A, Chen C, Rygiel KA, Rocha MC, Falkous G, Perissi V, White K, Davey T, Grady JP, Petrof B, Sayer AA, Cooper C, Taylor RW, Turnbull DM, **Picard M**. Clonal expansion of mtDNA deletions originates as a perinuclear niche in aging and disease. Keystone Symposia: Mitochondria in Aging and Age-related Disease. (January 2019)
24. * Vincent AE, Rosa HS, Pabis K, Lawless C, Grünewald A, Chen C, Rygiel KA, Rocha MC, Falkous G, Perissi V, White K, Davey T, Grady JP, Petrof B, Sayer AA, Cooper C, Taylor RW, Turnbull DM, **Picard M**. Sub-cellular origin of mtDNA deletions in human skeletal muscle. CSHL Evolving Concept of Mitochondria Conference – Cold Spring Harbor Laboratory, NY. (October 2018)
25. * Trumpff C, Marsland AL, Martin JL, Carroll JE, Sturm G, Gu Z, Vincent A, Kaufman BA, **Picard M**. Acute psychological stress and ccf-mtDNA reactivity: Psycho-physiological profiles of high responders using multivariate classification algorithms. International Society of Psychoneuroendocrinology – Irvine, CA. (September 2018)
26. * Karan K, Trumpff C, Sturm G, Thomas JE, McGill MA, Rohleder N, Sloan RP, **Picard M**. Mitochondrial modulation of LPS-induced inflammation and glucocorticoid sensitivity in human blood. International Society of Psychoneuroendocrinology 2018 – Irvine, CA. (September 2018)
27. * Sturm G, Karan K, Trumpff C, Basualto C, McGill MA, Hirano M, **Picard M**. Chronic glucocorticoid stress causes a distinct mitochondrial signature and accelerates cellular aging in human fibroblasts. Cell Symposia: Aging and Metabolism – Sitges, Spain. (September 2018)
28. * Trumpff C, Marsland AL, Martin JL, Carroll JE, Sturm G, Gu Z, Vincent A, Kaufman BA, **Picard M**. Circulating cell-free mitochondrial DNA is induced by brief psychological stress. Society for Biological Psychiatry 2018 – New York, NY. (May 2018)
29. * Vincent AE, Rosa HS, Pabis K, Lawless C, Grünewald A, Chen C, Rygiel KA, Rocha MC, Falkous G, Perissi V, White K, Davey T, Grady JP, Petrof B, Sayer AA, Cooper C, Taylor RW, Turnbull DM, **Picard M**. Sub-cellular origin of mtDNA deletions in human skeletal muscle. Annual Neuromuscular Translational Research Conference 2018 – Cambridge, UK. (April 2018)
30. * Vincent AE, White K, Davey T, Philips J, Serrao R, Warren C, Hall, MG, Ng Y, Falkous G, Hogden T, Deehan D, Taylor RW, Turnbull DM, **Picard M**. Quantitative 3D mapping of the skeletal muscle mitochondrial network in health and mtDNA disease. Annual Neuromuscular Translational Research Conference 2018 – Cambridge, UK. (April 2018)
31. * Trumpff C, Marsland AL, Martin JL, Carroll JE, Sturm G, Gu Z, Kaufman BA, **Picard M**. Socio-evaluative stress selectively increases serum circulating cell-free mitochondrial DNA (ccf-mtDNA). American Psychosomatic Society – Louisville, KY. (March 2018)
32. * Vincent AE, White K, Davey T, Philips J, Hall MG, Ng YS, Falkous G, Holden T, Taylor RW, Turnbull DM, **Picard M**. Three dimensional visualisation and quantitative analysis of mitochondrial networks in human skeletal muscle. EUROMIT 10 – Colone, Germany. (June 2017)
33. * Vincent AE, Rosa H, Rygiel KA, Grünewald A, Rocha MC, Reeve AK, Chen C, Falkous G, White K, Davey T, Petrof BJ, Sayer AA, Cooper C, Taylor RW, Turnbull DM, **Picard M**. Clonally expanded mtDNA deletions in human skeletal muscle originate as a proliferative perinuclear niche. EUROMIT 10 – Colone, Germany. (June 2017)
34. * **Picard M**, McManus MJ, Csordas G, Varnai P, Dorn GW, Williams D, Petrof BJ, Turnbull DM, Hajnoczky G, Wallace DC. Trans-mitochondrial coordination of cristae at physiologically-regulated membrane junctions. EUROMIT 10 – Colone, Germany. (June 2017)

35. * Vincent AE, Rosa H, Rygiel KA, Grady JP, Rocha M, Taylor RW, Turnbull, **Picard M**. Mitochondrial DNA deletions originate as a proliferative perinuclear niche. Keystone Symposium, Mitochondria Communication - Taos NM, USA. (Jan 2017)
36. * Vincent AE, Rosa H, Rygiel KA, Grady JP, Rocha M, Taylor RW, Turnbull, **Picard M**. Mitochondrial DNA deletions originate as a proliferative perinuclear niche. TRiMAD - Philadelphia PA, USA. (Nov 2016)
37. **Picard M**, McManus MJ, Gray J, Nasca C, Moffat C, Kopinsky P, Seifert E, McEwen BS, Wallace DC. Discrete Signatures of multi-systemic dysregulation in mice with genetic mitochondrial defects: Implications for health and disease. United Mitochondrial Disease Foundation - Seattle WA, USA. (June 2016)
38. * Vincent AE, Rosa H, Rygiel KA, Grady JP, Rocha M, Taylor RW, Turnbull, **Picard M**. Clonal expansion of mtDNA deletions in skeletal muscle: new insights into mechanisms. United Mitochondrial Disease Foundation - Seattle WA, USA. (June 2016) *[Best poster presentation]*
39. **Picard M**, McManus MJ, Gray J, Nasca C, Moffat C, Kopinsky P, Seifert E, McEwen BS, Wallace DC. Discrete Signatures of Multi-systemic Dysregulation in Mice with Genetic Mitochondrial Defects. NIH Mitochondrial Biology Symposium - Bethesda MD, USA. (May 2016)
40. * Vincent AE, Rosa H, Rygiel KA, Grady JP, Rocha M, Taylor RW, Turnbull, **Picard M**. Clonal expansion of mtDNA deletions across the skeletal muscle mitochondrial network: Insights into mechanisms. NIH Mitochondrial Biology Symposium - Bethesda MD, USA. (May 2016)
41. * Vincent AE, Ng YS, White K, Davey T, Manella C, Falkous G, Feeney C, Schaefer AM, McFarland R, Gorman GS, Taylor RW, Turnbull DM, **Picard M**. The spectrum of mitochondrial ultrastructural and morphological defects in mitochondrial myopathy. Mitochondrial Medicine: Developing New Treatments for Mitochondrial Disease - Hinxton-Cambridge, UK. (May 2016)
42. * Vincent AE, White K, Davey T, Taylor RW, Turnbull, **Picard M**. 3D reconstruction and quantitative analysis of skeletal muscle mitochondrial networks in patients with mitochondrial disease. Neuromuscular Translational Research Conference - Oxford, UK. (March 2016)
43. **Picard M**, McManus MJ, Gray J, Nasca C, Moffat C, Kopinsky P, Seifert E, McEwen BS, Wallace DC. Mitochondrial functions modulate the stress response in mice. ISPNE - Edinburgh, Scotland. (September 2015) * Best poster presentation
44. **Picard M**, McManus MJ, Csordas G, Varnai P, Dorn GW, Williams D, Hajnoczky G, Wallace DC. Trans-mitochondrial coordination of cristae at regulated membrane junctions. Multifaceted Mitochondria, Cell Press meeting - Chicago IL, USA. (July 2015)
45. **Picard M**, McManus MJ, McEwen BS, Wallace DC. Mitochondria Impact Neuroendocrine, Metabolic and Inflammatory Responses to Acute Stress in the Mouse. ISPNE - Montreal, Canada. (August 2014)
46. * **Picard M**, McEwen BS, Juster RP, McManus MJ, Wallace DC. Mitochondrial Allostatic Load (MAL): Putting the 'gluc' back into glucocorticoids. American Psychosomatic Society - San Francisco CA, USA. (March 2014)
47. * **Picard M**, Murphy J, Spendiff S, Hepple RT, Petrof BJ, Wallace DC, Turnbull DM, Taivassalo T. Is Mitochondrial COX Deficiency a Cause of Myofiber Atrophy in Humans. 13th Meeting on Advances in Skeletal Muscle Biology in Health and Disease - Gainesville FL, USA. (March 2014)
48. **Picard M**, Zhang J, Hanecock S, Derbeneva O, Procaccio V, Golhar R, Golik P, O'Hearn S, Levy SE, Potluri P, Lvova M, Davila A, Lin CS, Perin JC, Rappaport EF, Hakonarson H, Wallace DC. Increasing mitochondrial DNA heteroplasmy causes biphasic reprogramming of nuclear gene expression in human cells. Keystone Conference Q5: Mitochondrial Dynamics and Physiology - Santa Fe NM, USA. (February 2014)
49. **Picard M**, Zhang J, Hanecock S, Derbeneva O, Procaccio V, Golhar R, Golik P, O'Hearn S, Levy SE, Potluri P, Lvova M, Davila A, Lin CS, Perin JC, Rappaport EF, Hakonarson H, Wallace DC. Mitochondrial DNA heteroplasmy reprograms nuclear gene expression. Genomics in Metabolism Conference - Copenhagen, Denmark. (November 2013)

50. **Picard M**, Zhang J, Hanecock S, Derbeneva O, Procaccio V, Golhar R, Golik P, O’Hearn S, Levy SE, Potluri P, Lvova M, Davila A, Lin CS, Perin JC, Rappaport EF, Hakonarson H, Wallace DC. mtDNA A3243G Heteroplasmy induces bi-phasic reprogramming of the nuclear genome. NHLBI Mitochondrial Biology Symposium - Bethesda, USA. (May 2013)
51. **Picard M**, Azuelos I, White K, Jung K, Petrof BJ and Turnbull DM. Contractile in/activity influence mitochondrial morphology and membrane interactions in mouse skeletal muscle. Experimental Biology 2013 - Boston MA, USA. (April 2013)
52. **Picard M**, Zhang J, Hanecock S, Derbeneva O, Procaccio V, Golhar R, Golik P, O’Hearn S, Levy SE, Potluri P, Lvova M, Davila A, Lin CS, Perin JC, Rappaport EF, Hakonarson H, Wallace DC. Mitochondrial DNA heteroplasmy reprograms nuclear gene expression. 2013 Annual CHOP Research Poster Day - Philadelphia PA, USA. (February 2013)
53. * **Picard M**, White K, Gartside S, Turnbull DM. Three-dimensional dynamic organization of mitochondria in skeletal muscle: Effects of a single bout of voluntary exercise. APS Intersociety Meeting: Integrative Biology of Exercise VI - Westminster MD, USA. (October 2012)
54. * **Picard M**, Lax NZ, Ratnaike T, Juster RP, Turnbull DM. Mitochondrial allostatic load? The combined effect of glucose intolerance and mitochondrial DNA mutations on neurological symptoms incidence. International Society of Psychoneuroendocrinology Meeting - New York NY, USA. (September 2012)
55. **Picard M**, Wright KJ, Ritchie D, Thomas MM, Hepple RT. Intrinsic mitochondrial function is relatively preserved in permeabilized cardiomyocytes of senescent myocardium. American College of Sports Medicine 59th annual Meeting and 3rd World Congress on Exercise is Medicine - San Francisco CA, USA. (June 2012)
56. **Picard M**, Liang F, Hussain SNA, Godin R, Goldberg P, Danialou G, Chaturvedi R, Matecki S, Jaber S, Des Rosiers C, Karpati G, Turnbull DM, Taivassalo T, Petrof BJ. Metabolic overload and mitochondrial dysfunction as a cause of diaphragmatic failure after mechanical ventilation. Experimental Biology - San Diego, USA. (April 2012)
57. **Picard M**, Juster RP, Sabiston C. Self-rated mental health predicts emotional well-being in breast cancer survivors. American Psychosomatic Society – Athens, Greece. (March 2012)
58. **Picard M**, Liang F, Hussain SNA, Godin R, Goldberg P, Danialou G, Chaturvedi R, Matecki S, Jaber S, Des Rosiers C, Rygiel K, Karpati G, Turnbull DM, Petrof BJ, Taivassalo T. Metabolic oversupply in the mechanically ventilated human diaphragm is associated with respiratory chain deficiency and alterations of mtDNA. Society of General Physiologists 2011 Symposium: Mitochondrial Physiology and Medicine - Woods Hole MA, USA. (September 2011)
59. **Picard M**, Liang F, Hussain SNA, Godin R, Goldberg P, Danialou G, Chaturvedi R, Matecki S, Jaber S, Des Rosiers C, Karpati G, Petrof BJ, Taivassalo T. Complete segmental cytochrome c oxidase (COX) deficiency dolocalizes with lipid accumulation in the human diaphragm after mechanical ventilation. Euromit 8 - Zaragoza, Spain. (June 2011)
60. **Picard M**, Taivassalo T, Ritchie D, Wright KJ, Thomas MM, Romestaing C, Hepple RT. Mitochondrial isolation exaggerates severity of mitochondrial dysfunction in severely atrophied aging muscle. Euromit 8 - Zaragoza, Spain. (June 2011)
61. **Picard M**, Liang F, Hussain SNA, Goldberg P, Danialou G, Chaturvedi R, Matecki S, Jaber S, Des Rosiers C, Karpati G, Godin R Taivassalo T, Petrof BJ. Mitochondrial dysfunction and lipid accumulation in the human diaphragm during mechanical ventilation. American Thoracic Society (ATS) Meeting - Denver CO, USA. (May 2011)
62. **Picard M**, Ritchie D, Wright KJ, Thomas MM, Rowan SL, Taivassalo T, Hepple RT. Isolated mitochondria from skeletal muscle show exaggerated impairments with aging compared to mitochondria from permeabilized myofibers. ACSM Conference of Integrative Physiology of Exercise - Miami FL, USA. (September 2010)
63. * **Picard M**, Sabiston CA, McNamara JA. What is health? Framing a transdisciplinary perspective for health as a holistic phenomenon. 5th International Multidisciplinary Conference - Calgary, Canada. (September 2009)

CHAPTERS, MONOGRAPHS, EDITORIALS:

1. (Book Chapter) * **Picard M**, McManus MJ. Mitochondrial signaling in neurodegeneration. In Reeve AK, Simcox A, Duchon MR, Turnbull DM. (Eds.) *Mitochondrial dysfunction in neurodegenerative disorders*, 2nd edition, London: Springer (2016)
2. (Book Chapter) Juster RP, Seeman T, McEwen BS, **Picard M**, Mahar I, Mechawar N, Sindi S, Smith NG, Souza-Talarico J, Sarnyai Z, Lanoix D, Plusquellec P, Ouellet-Morin I, Lupien SJ. Social inequalities and the road to allostatic load: From vulnerability to resilience. In Cichetti D. (Ed.) *Developmental Psychopathology Handbook: Genes and Environment*, 3rd edition, Hoboken, NJ: Wiley (2016)

THESIS:

- **Picard M**. Assessment of mitochondrial function in skeletal muscle during disease, disuse and normal aging. *PhD Dissertation*, McGill University, Canada. 05/2012

MEDIA COVERAGE HIGHLIGHTING OUR RESEARCH:

Energy, mitochondria, and health

- “Energy, and How to Get It” – [The New Yorker](#) 11/2021

The reversibility of hair greying, aging, and its link to stress

- “Going Grey? Relax. Those Silver Strands Could Disappear” – [Columbia Magazine](#) 10/2021
- “It’s Easy to Avoid Going Gray. Just Stress Less.” – [Wall Street Journal](#) 07/2021
- “New research on how to reverse gray hair” – [PBS News Hour](#) 07/2021
- “Aging May Not Be a Linear Process, Study on Reversible Stress-Induced Graying Suggests” – [GENews](#) 07/2021
- “Gray Hair Can Return to Its Original Color—and Stress Is Involved, of Course” – [Scientific American](#) 06/2021
- “It’s True: Stress Does Turn Hair Gray (And It’s Reversible)” – [Columbia News](#) 06/2021
- Other outlets: [Daily Mail](#), [Globe and Mail](#), [New York Post](#), [Philly Voice](#), [Yahoo News](#), [Sci Tech Daily](#), [ScienceDaily](#), [New Scientist](#), [International Business Times](#), [Insider.com](#), [Healthing.ca](#), [Pledge Times](#), [Business Insider](#)
- Radio coverage: [BYU radio](#), [Radio Canada-Bien Entendu](#), [ABC](#), [RNZ](#), BBC Radio World Show, BBC Mundo
- TV coverage: [NBC Today show](#), [CTV News](#), [7NEWS Perth](#),
- Podcasts: [eLife](#)

Mitochondria and mental health

- “A Glimpse at the Mind-Body Connection Under the Microscope” – [FABBS](#) 10/2021
- “Could mitochondria be the key to a healthy brain?” – [Knowable](#) 06/2021
- “Mitochondria May Hold Keys to Anxiety and Mental Health” – [Quanta Magazine](#) 08/2020

The sociality of mitochondria

- “‘Social’ Mitochondria, Whispering Between Cells, Influence Health” – [Quanta Magazine](#) 07/2021
- “The idea that inanimate objects have consciousness, gains steam in science communities” – [Salon](#) 07/2021

Psychological stress and mitochondrial genome release in the blood

- “Brain’s Dumped DNA May Lead to Stress, Depression” – [Scientific American](#) 09/2019

INVITED AND/OR PEER-SELECTED ORAL PRESENTATIONS:

INTERNATIONAL MEETINGS:

1. American Psychosomatic Society. Long Beach, CA. 03/2022

2. Society for Neuroscience – SfN. (Remote)	11/2021
3. World Mitochondria Society. Berlin, Germany. (Remote)	10/2021
4. Academy of Behavioral Medicine Research – ABMR. Santa Cruz, CA.	10/2021
5. EMBO workshop on mitochondrial homeostasis in human disease.	09/2021
6. American College of Neuropsychopharmacology – ACNP. (Remote)	12/2020
7. Aging in Single Cells Special Working Group – Sante Fe Institute. Santa Fe, NM.	02/2020
8. European Brain and Behavior Society – EBBS. Prague, Czech Republic.	09/2019
9. International Society for Psychoneuroendocrinology – ISPNE. Milan, Italy.	08/2019
10. Academy of Behavioral Medicine Research – ABMR. Tucson, AZ.	06/2019
11. Gordon Conference, Mitochondria in Health and Disease. Ventura Beach, CA.	03/2019
12. Keystone Symposia, Mitochondria in Skeletal Muscle and Aging. Keystone, CO.	01/2019
13. International Society for Psychoneuroendocrinology – ISPNE. Irvine, CA.	09/2018
14. United Mitochondrial Disease Foundation – UMDF. Nashville, TN.	06/2018
15. Amsterdam Aging Meeting 2018. Amsterdam, Netherlands.	06/2018
16. Society for Biological Psychiatry – SOBP. New York, NY.	05/2018
17. American Psychosomatic Society – APS. Louisville, KY.	03/2018
18. Biophysical Society, Bioenergetics subgroup. San Francisco, CA.	02/2018
19. Psychoneuroimmunology Research Society – PNIRS. Galveston, TX.	06/2017
20. Practicalities of Cellular Imaging, Newcastle University. Newcastle Upon Tyne, UK.	03/2017
21. American Psychosomatic Society – APS. Seville, Spain.	03/2017
22. World Mitochondria Society: Targeting Mitochondria 2016. Berlin, Germany.	10/2016
23. International Society for Psychoneuroendocrinology – ISPNE. Miami, FL.	09/2016
24. European Muscle Conference 2016. Montpellier, France.	09/2016
25. Wellcome Trust Conference on Mitochondrial Medicine. Hinxton, UK.	05/2016
26. Biophysical Society - Bioenergetic Subgroup. Los Angeles, CA.	02/2016
27. Multifaceted Mitochondria, Cell Press Meeting. Chicago, IL.	07/2015
28. American Psychosomatic Society – APS. Savannah, GA.	03/2015
29. International Conference on Systems and Complexity Sciences for Health Care. Washington, DC.	11/2014
30. Mitochondrial Physiology MiP2014. Obergurgl, Austria.	09/2014
31. Targeting Mitochondrial Dysfunction and Toxicity Meeting. Boston, MA.	03/2014
32. International Congress on Whole Person Care. Montreal, Canada.	10/2013
33. Experimental Biology – EB 2011. Washington, DC.	04/2011
34. Experimental Biology – EB 2011. Washington, DC.	04/2011
35. International Psychosocial Oncology Society (IPOS). Quebec, Canada.	05/2010

NATIONAL MEETINGS:

1. Metabolic Psychiatry Roadmap Retreat 2022. Santa Barbara, CA.	05/2022
2. Energetics in Anthropology Workshop. Duke University, NC.	05/2022
3. MITO2i symposium. Toronto, Canada. [Keynote] (Remote)	04/2022
4. UCLA Mito Symposium. Los Angeles, CA.	12/2021
5. NIH-BRS Workshop: Deeply Phenotyped Longitudinal Studies of aging. (Remote)	02/2021
6. Allostatic Load Workshop. New Orleans, LA.	02/2019

7. NHLBI Workshop Panelist: Enhancing Cardiovascular Resilience. Bethesda, DC. 06/2018
8. NIEHS/NIA Workshop Panelist: Exploring telomeres as sentinels for environmental and psychosocial stress, and susceptibility. Research Triangle Park, NC. 09/2017
9. Annual Congress of the Canadian Association of Psychosocial Oncology. Vancouver, Canada. 04/2012
10. Annual Congress of the Canadian Association of Psychosocial Oncology. Quebec, Canada. 05/2011

REGIONAL MEETINGS:

1. Translational Regional Mitochondria, Aging and Disease (TRiMAD) Symposium. Pittsburgh, PA. 10/2017
2. Stress Meeting 2017 – Festschrift for Bruce S McEwen. Princeton University, NJ. 06/2017
3. Translational Regional Mitochondria, Aging and Disease (TRiMAD) Symposium. State College, PA. 11/2015
4. 10th McGill Education Graduate Student Society Conference, McGill University. Montreal, Canada. 03/2011
5. COPD Strategic Research Group Meeting of the Réseau en Santé Respiratoire (RSR) of the Fond de Recherche en Santé du Québec (FRSQ). Montreal, Canada. * Best oral presentation 02/2011
6. Congrès Conjoint de l'APPQ et du Réseau en Santé Respiratoire (RSR) du Fond de Recherche en Santé du Québec (FRSQ). Quebec, Canada. *Best oral presentation 11/2010
7. 9th McGill Education Graduate Student Society Conference, McGill University. Montreal, Canada. 03/2010
8. 9th McGill Education Graduate Student Society Conference, McGill University. Montreal, Canada. 03/2010
9. 19th McGill University Health Center Research Institute Conference. Montreal, Canada. 06/2009
10. FRSQ Respiratory Health Network Meeting: COPD Strategic Research Group. Montreal, Canada. 01/2008
11. Department of Physiology Annual Research Day, McGill University. Montreal, Canada. 03/2006

INVITED SEMINARS (NATIONAL OR INTERNATIONAL):

1. Université de Montréal, Biology Department. Montreal, Canada. (Remote) 03/2022
2. Genetics and Genomics Program, Texas A&M. 11/2021
3. Centre de Recherche sur le Vieillissement, Université de Sherbrooke. (Remote) 10/2021
4. Quantitative Methods Network (QMNet), University of Melbourne. (Remote) [Link](#) 09/2021
5. Network Physiology Perspectives of Human Health Webinar, The Physiological Society. (Remote) 07/2021
6. Bench-to-Bedside Seminar, United Mitochondrial Disease Foundation (UMDF). (Remote) 03/2021
7. Penn State University College of Medicine, Department of Physiology. (Remote) 03/2021
8. Friedrich-Alexander University, Chair of Health Psychology. Germany. (Remote) 12/2020
9. NIH Liquid Biopsy Special Interest Group webinar. (joint with Brett Kaufman; Remote) 05/2020
10. UCLA, David Geffen School of Medicine, Metabolism Theme. Los Angeles, CA. (Remote) 03/2020
11. Ohio State University, Institute for Behavioral Medicine Research. Columbus, OH. 03/2020
12. University of Southern California, Leonard Davis School of Gerontology. Los Angeles, CA. 09/2019
13. NIH Rising Stars Lecture Series, Director's Office. Bethesda, MD. 09/2019
14. University of Pittsburgh, Department of Psychology. Pittsburgh, PA. 05/2019
15. Intramural Research Program – Biomedical Research Center, NIA-NIH. Baltimore, MD. 05/2019
16. NIA-IRB Longitudinal Studies Section, Harbor Hospital. Baltimore, MD. 05/2019
17. Victoria University, Institute for Health and Sport. Melbourne, Australia. 03/2019
18. Deakin University, Institute of Physical Activity and Nutrition. Melbourne, Australia. 03/2019
19. Interprofessional Community, "The future of Brain Health". Pasadena, CA. 03/2019
20. Henry Stewart Talks. <https://hstalks.com/bs/3836/> (Series on *Mitochondrial Biogenesis*) 11/2018
21. Université du Luxembourg, Center for Biomedicine. Luxembourg, Luxembourg. 06/2018

22. Thomas Jefferson University, MitoCare Center. Philadelphia, PA.	02/2018
23. Harvard University, National Scientific Council on the Developing Child. Boston, MA.	12/2017
24. Boston University, Department of Biochemistry. Boston, MA.	11/2017
25. University of Iowa, Department of Psychological and Brain Sciences. Iowa City, IA.	10/2017
26. Wayne State University, Center for Molecular Medicine and Genetics, Department of Psychiatry and Behavioral Neurosciences. Detroit, MI.	05/2017
27. EPFL, Brain Mind Institute. Lausanne, Switzerland.	04/2017
28. Penn State University, Department of Bio-Behavioral Health. State College, NY.	02/2017
29. Cambridge University, Mitochondrial Biology Unit. Cambridge, UK.	04/2016
30. York University, Muscle Health Research Centre. Toronto, Canada.	04/2016
31. Gettysburg College, Department of Biochemistry and Molecular Biology. Gettysburg, PA.	02/2016
32. Université de Montréal Centre for Studies on Human Stress. Montreal, Canada.	07/2015
33. Tufts University, Department of Biology. Boston, MA.	04/2015
34. Université de Montréal, Faculty of Pharmacy. Montreal, Canada.	02/2015
35. Centre de Recherche du CHU Ste-Justine. Montreal, Canada.	01/2015
36. Université de Montréal, Department of Physiology. Montreal, Canada.	01/2015
37. Wellcome Trust & Royal Society, Committee for Sir Henry Dale Fellowship. London, UK.	10/2014
38. East Carolina University, Diabetes and Obesity Institute. Greenville, NC.	11/2014
39. John Templeton Complexity Network Meeting. Colorado Springs, CO.	08/2013
40. Academy of Behavioral Medicine (ABMR) Research Meeting. Monterey, CA.	06/2013
41. Boston University Medical Center. Boston, MA.	12/2012
42. University of Chicago Medicine, Comprehensive Cancer Center. Chicago, IL.	10/2012
43. University of California San Francisco, Department of Psychiatry. San Francisco, CA.	06/2012
44. University of California San Francisco, Department of Medicine. San Francisco, CA.	06/2012

INVITED SEMINARS (REGIONAL OR LOCAL):

1. Mailman School of Public Health, Columbia Aging Center and Department of Environmental Health Sciences. New York, NY.	04/2022
2. Yale-Columbia Psychiatry Annual Retreat	03/2022
3. Columbia University, University Seminar (USEM) on the Future of Aging, <i>with Linda Freed.</i> (Remote)	12/2021
4. Columbia Teachers College, Applied Physiology Seminar. (Remote)	03/2021
5. Columbia University, Department of Neurology, Division of Neuroimmunology. (Remote)	03/2021
6. Columbia University, Columbia Aging Center. (Remote)	03/2021
7. Columbia University, Department of Psychiatry: Molecular Imaging and Neuropathology. (Remote)	11/2020
8. Columbia University, Department of Neurology. New York, NY. (Remote)	11/2020
9. Columbia University, Irving Institute. New York, NY. (Remote)	10/2020
10. Temple University, Center for Translational Research. Philadelphia, PA. (Remote)	05/2020
11. Columbia University, Institute of Human Nutrition. New York, NY. (Remote)	05/2020
12. Columbia University, Sackler Institute (Part II). New York, NY.	05/2019
13. Columbia University, Sackler Institute (Part I). New York, NY.	05/2019
14. Columbia University, Department of Biological sciences. New York, NY.	02/2019
15. Columbia University, Departments of Epidemiology and Neurology. New York, NY.	01/2019
16. Columbia University, Department of Medicine: Clinical/Epidemiological Research. New York, NY.	12/2017

17. Columbia University, Department of Psychiatry: Grand Rounds. New York, NY. 10/2017
18. Columbia University, Department of Neurology Annual Research Retreat. New York, NY. 06/2017
19. Columbia University, Columbia Mito Group (Part II). New York, NY. 01/2017
20. Columbia University, Columbia Mito Group (Part I). New York, NY. 12/2016
21. Columbia University, University Seminars (USEM) on the Future of Aging Research. New York, NY. 12/2016
22. Columbia Translational Neuroscience Initiative Fortnightly PI Luncheon. New York, NY. 02/2016
23. Columbia University, The Merritt Center, Department of Neurology. New York, NY. 02/2016
24. Cornell University, Division of Nutritional Sciences. Ithaca, NY. 11/2015
25. Feinstein Institute for Medical Research. Long Island, NY. 07/2014
26. The Children's Hospital of Philadelphia, Mitochondrial Affinity Group. Philadelphia, PA. 02/2014
27. Columbia University Medical Center, Division of Behavioral Medicine. New York, NY. 12/2013
28. Children's Hospital of Philadelphia, Mitochondrial Research Affinity Group. Philadelphia, PA. 05/2013
29. The Rockefeller University, Laboratory of Neuroendocrinology. New York, NY. 04/2013
30. McGill University, Montreal Muscle Group. Montreal, Canada. 11/2011
31. McGill University, Faculty of Education. Montreal, Canada. 03/2011
32. Université de Montréal, Montreal Muscle Group. Montreal, Canada. 10/2010
33. McGill University, Montreal Muscle Group. Montreal, Canada. 05/2010
34. McGill University, Meakins Christie Laboratories: The Beer Seminar. Montreal, Canada. 06/2009

PUBLIC OUTREACH:

1. 2022 Age Boom Academy Panelist: Caregiving equity and how stress gets under the skin 10/2022
2. TEDx Cambridge "[What powers the mind-body connection?](#)" 09/2022
3. Eat Move Think [Podcast](#) 07/2022
4. Mind & Matter [Podcast](#) 05/2022
5. The Energy Blueprint [Podcast](#) 07/2019
6. The human upgrade [Podcast](#) 02/2019
7. Wagner College, Annual Kaufman-Repage Lecture. New York, NY. 10/2018
8. Public lecture, University of Amsterdam. Amsterdam, Netherlands. 06/2018
9. Public lecture, The Nathaniel Wharton Fund, The Lottos Club. New York, NY. 05/2018