**Date of preparation:** July 17, 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](http://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 internationally.
* **Publications**: 103 publications; 7,938 citations; 11 papers > 200 citations ([Google Scholar](https://scholar.google.com/citations?user=IG2t_uMAAAAJ&hl=en)), 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; PI on 2 internal 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 01/2019 - present Department of Psychiatry, Division of

Behavioral Medicine Behavioral Medicine
(in Psychiatry and Neurology) &

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; *Newcastle University,* Newcastle UK

* Herbert Irving Assistant 11/2015 - 12/2018 Department of Psychiatry, Division of

Professor of Behavioral Medicine Behavioral Medicine
(in Psychiatry and Neurology) 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

Physiology Fonctionelle; 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

MartinBrouillette, 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*: NIHDirector’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 2017-present

Project Advisory Board member. Nijmegen, The Netherlands.

* *Biophysical Society – Bioenergetics, Mitochondria Subgroup*: Council Member 2019-2021
* *FASEB Mitochondrial Biogenesis in Health and Disease:* Session chair 05/2019

Palm Springs, CA.

* *World Mitochondria Society Meeting, Targeting Mitochondria*: Opening session chair 10/2016

Berlin, Germany.

* *European Muscle Conference:* Session chair 09/2016

 Montpellier, France.

**Local/Regional:**

* *University Seminars: The Future of Aging Research:* Co-chair2016-2021

 Columbia University

* *Faculty Mentor*  2018-2019

 Presidential Scholars in Society and Neuroscience (PSSN) Program

* *Host: Guest speaker Douglas C Wallace, PhD – Children’s Hospital of Philadelphia* 1/2018

 CUIMC-Precision Medicine Initiative and Departments of Psychiatry and Neurology

* *Host: Guest speaker Zhenglong Gu, PhD – Cornell University* 05/2017

 Departments of Psychiatry and Neurology

* *Host: Guest speaker Giovanni Marsicano, PhD – Université Bordeaux II, France* 11/2016

 Departments of Psychiatry and Neurology

* *Children’s Hospital of Philadelphia Research Institute Summer Scholars Program:* Judging Committee 2013-2014

 Poster Day, Children’s Hospital of Philadelphia

* *Committee on Research and Graduate Studies:* Graduate student representative 2011-2012

McGill University, Faculty of Education

* *Muscle Mitochondria Meetings:*Founder2010-2012

Organization of dialogue-based forum to facilitate interactions among faculty and graduate students

* *Education Graduate Student Society:* Departmental graduate student representative2009-2012

 McGill University, Faculty of Education. Montreal, Canada

* *Bloomberg-Manulife Roundtable with Inaugural winner Dr. Steven Blair:* Invited panelist 01/2012

 McGill University. Montreal, Canada

* *Student Committee for Doctoral Students in Education****:*** Departmental doctoral representative  2010-2011

 McGill University, Department of Kinesiology

* *Academic Integrity Day:* Workshop facilitator 02/2011

 McGill University Skillsets Event

* *The importance of knowing how to write in graduate school:* Panelist 10/2010

 McGill University Skillsets Event “Sneak Peek Into Graduate School”

* *ABCs of the PhD: How to be successful in your doctoral fellowship application:* Panelist09/2010

 McGill University, Faculty of Education

**Professional Organizations and societies:**

**Membership and Positions:**

* **National/International:**

*- American Psychosomatic Society – APS:* Member 2011-present

*- International Society of Psychoneuroimmunology – ISPNE:* Member 2014-present

*- North American Mitochondrial Disease Consortium – NAMDC:* Member 2017-present

*- Academy of Behavioral Medicine Research – ABMR:* Elected Member 2019-present

*- Psychoneuroimmunology Research Society – PNIRS:* Member 2017-2020

*- Biological Psychiatry:* Member 2017-2020

*- Biophysical Society:* Member 2019-2021

*- American Physiological Society – APS:* Member 2011-2018

*- American Society of Human Genetics – ASHG:* Member2011-2012

* **Local/Regional:**

*- New York Nutrition and Obesity Research Center*, CUIMC*:* Member2020-present

*- Institute of Human Nutrition*, CUIMC*:* Member2020-present

*- Center for Translational and Computational Neuroimmunology*, CUIMC*:* AffiliateMember2020-present

*- Zuckerman Institute (Mind Brain Behavior Institute)*, Columbia University*:* AffiliateMember2018-present

*- Herbert Irving Comprehensive Cancer Center*, CUIMC*:* Member2017-present

*- Neuromuscular Research Group*, Montreal Neurological Institute (MNI)*:* Member2009-2012

*- Canadian Association of Psychosocial Oncology:* Member2009-2012

*- Respiratory and Epidemiology Clinical Research Unit*, Columbia University*:* Member2004-2012

**Grant Reviewer:**

* **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 Bhiophys 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, NEJM*
* **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, Transl Psychiatr*
* **Multidisciplinary Journals:** *eLife, iScience*, *Nature Communications*, *Phenomics*, *Plos One, PNAS,  Scientific Reports, Science Advances*

**Fellowship and Grant Support:**

**Fellowship:**

* **MFE-274188** Postdoc Fellowship 1/07/12 – 6/30/15 $135,000

**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:**

* **R21 MH123927** PI 7/22/21- 6/30/23 $225,000
**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 $2,496,626
**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.

* **Director’s pilot award** Contact MPI (Picard, Mocharov, Boldrini) 5/01/21- 4/30/22 $50,000
**CUIMC Department of Psychiatry**

*Mapping Mitochondrial Function in the Human Brain: The MitoBrainMap v1.0*

This project will develop a software-hardware approach to physically voxelize frozen slabs of the human brain.

* **Pilot grant** PI 7/01/20 - 6/31/22 $100,000
**New York Nutrition and Obesity Research Center**

*Energy Expenditure in Genetic Mitochondrial Disease: Metabolic Regulation from Organelle to Organism*

This pilot project will establish energy expenditure in parallel with mitochondrial function and signaling in people with mitochondrial disorders.

* **R01 AG066828** PI 4/15/20 - 12/31/24 $2,138,727
**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 $2,812,658
**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 $3,097,438
**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 $7,179,195

**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 $2,721,847

**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.

* **R01 AG056424** Subaward PI (PI: Irwin) 7/01/17 – 6/30/22 $90,000

**NIA**

*Mindfulness Meditation and Insomnia in Alzheimer Disease Caregivers: Inflammatory and*

*Biological Aging Mechanisms*

This randomized controlled trial investigates the effects of a mindfulness-based intervention to resolve sleep disturbances, and explore cellular mechanisms related to aging, systemic inflammation and mitochondria.

* **R01 AG076821** PI 6/01/22- 3/30/27 $2,483,460
**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.

**Past Support:**

* **R01 HD086487** Subaward PI (PI: Tyrka) 7/01/16 – 6/30/21 $36,000

**NICHD**

*Risk Profiles and Mechanisms of Disease in Maltreated Children*

* **Sponsored Research Agreement** PI 9/01/20 - 9/01/21 $189,184
**Epirium Bio Inc**

*Effects of Mitochondrial Hormone Signaling on Bioenergetic and Epigenomic Aging Trajectories*

* **R35 GM119793** PI9/01/16 – 5/31/21$1,250,000

**NIGMS**

*Mitochondrial Stress Signal Transduction from Organelle to Organism*

* **Irving Scholars Program** PI 7/1/17 – 6/30/20 $180,000

**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 $41,000

**Zuckerman Institute**

*The Mitochondrial Stress, Brain Imaging, and Epigenetics Study - MiSBIE*

* **Pilot grant**  PI 5/01/19 - 1/31/20 $58,139

**Nathaniel Wharton Fund**

*Biological Encoding of Stress in Hair: A Retrospective Longitudinal Pilot Study*

* **Faculty Research Fellowship** PI 4/01/17 – 3/31/19 $60,000

**Columbia Aging Center**

*Mitochondrial Regulation of Aging in Humans: A Transdisciplinary Investigation*

* **R21 MH113011** PI 4/01/17 – 3/31/19 $274,553

**NIMH**

*Mitochondrial Regulation of Stress Reactivity in Humans*

* **CaMPR I (UL1TR001873)** PI 4/01/16 – 7/31/16 $15,000

**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)** – Lecturer02/2022

Department of Pharmacology

**G9600 | Molecular Pharmacology Graduate Seminar (5 students)** – Lecturer04/2022

**G9600 | Molecular Pharmacology Graduate Seminar (8 students)** – Lecturer03/2020

CUIMC – Vagelos College of Physicians and Surgeons
**Breakthroughs in Neuroscience Seminar (22)** – Lecturer02/2021 **Breakthroughs in Neuroscience Seminar (25)** – Lecturer02/2020

Department of Psychiatry
**G4100 | Biology of Neurologic and Psychiatric Disorders (13)** – Lecturer02/2019

Neurobiology and Behavior Graduate Program (NB&B)
**Graduate seminar (20)** – Lecturer11/2018

Integrated Program in Cellular, Molecular and Biomedical Studies (CMBS)
**Graduate seminar for MD/PhD students (14)** – Invited lecturer11/2022
**Graduate seminar for MD/PhD students (12)** – Invited lecturer11/2017

Department of Biological Sciences
**UN1908 | First Year Seminar in Modern Biology (40)** – Lecturer10/2017

* **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**) – Lecturer2011

"Structure, Function and Assessment of Mitochondria in Disuse 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)** –Lecturer2017

"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
*Presidential Scholar in Society and Neurosciences*
Current position: Assistant Professor, Rice University

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

*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 2015-2017

 *\* Received a Medical Research Council (MRC) Fellowship*

*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) 2018-2020
Accepted in MD program at SUNY Downstate

- Celina Porcaro Psychology (Smith College) Summer 2019

 *\*AMGEN Summer Undergraduate Research Fellowship*

- Ayelet Rosenberg Neuroscience and Behavior (Barnard) (Honors thesis) 2017-2020
Accepted in MSc Neuroscience program at the Weissman Institute

- Veronica Taleon Political Science and Pre-Med (Barnard) 2017-2019

- Snehal Bindra Neuroscience (UCLA) 2018-2020
Accepted in MD program at Vanderbilt

- Divia Rajasekharan Biology (Columbia) Summer 2018
*\*Summer Undergraduate Research Fellowship*

- Anisha Tyagi Biomedical Engineering (Columbia) Winter 2018

- Gabriel Sturm Biology and computer science (Honors, Yeshiva University) 2016-2018

 *\*AMGEN Summer Undergraduate Research Fellowship*Accepted in PhD bioengineering program Berkeley/UCSF

- 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*

- Logan Beharry School of Engineering, Biomedical (Bergen County Academies) 2020-2021

- Akshay Khanna Science (John P Stevens High School) Fall 2018

 *Staff*

- 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

- Hannah Huang, BSc Research volunteer 2022-present

**PhD Advisory and Examination Committees:**

- Sarah McLarnan PhD candidate in Environmental Health Sciences 2021-present
Advisors: Drs. Julie Herbstman and Branson Pearson
*Qualifying Exam Committee*

- Nickole Kanyuch MD/PhD candidate Program in Neuroscience, University of Maryland 2021-present
Advisor: Dr. Tracy Bale
*Thesis Committee*

- Frédérik Dufour PhD candidate in Biology, Université de Sherbrooke 09/2021
Advisor: Drs. Alan Cohen and Pierre-Étienne Jacques
*External examiner, Thesis Defense*

- Kobi Wasner PhD candidate in Biology, Université du Luxembourg 03/2021
Advisor: Dr. Anne Grunewald
*External examiner, Thesis Defense*

- Vrinda Kalia PhD candidate in Environmental Health Sciences 10/2020
Advisor: Dr. Gary Miller
*Thesis Committee*

- Christian Garcia PhD candidate in Human Nutrition 2017-2019
Advisor: Dr. Edward Owusu-Ansah
*Thesis Committee and Thesis Defense*

- Christopher Griffey MD/PhD program 09/2019
Advisor: Dr. Ai Yamamoto
*Qualifying Exam Committee*

- Maria Natalia Bobba PhD candidate in Nutrition and Metabolic Biology 09/2019
Advisor: Dr. Lori Zeltser
*Qualifying Exam Committee*

- James Belarde MD/PhD program 2017-2019
Advisor: Dr. Carol Troy
*Qualifying Exam & Thesis Committee*

- Annie Lee PhD candidate in Neuroscience 05/2018
Advisor: Dr. Frank Polleux
*Thesis Defense Committee*

- Danielle E. Matsushima PhD candidate in Genetics 05/2016
Advisor: Dr. Chozha Rathinam
*Thesis Defense Committee*

**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. 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 (in press)
2. \* SturmG, MonzelAS, KaranKR, MichelsonJ, WareSA, CardenasA, LinJ, BrisC, SanthanamB, MurphyMP, LevineME, HorvathS, BelskyD, WangS, ProcaccioV, KaufmanBA, HiranoM, **PicardM**. A multi-omics and bioenergetics longitudinal aging dataset in primary human fibroblasts with mitochondrial perturbations. *Sci Data* 2022 (in press) [Preprint](https://www.biorxiv.org/content/10.1101/2021.11.12.468448v1)
3. \* Trumpff C, Rausser S, Haahr R, Karan KR, Gouspillou G, Puterman E, Kirschbaum C, **Picard M**. Dynamic behavior of cell-free mitochondrial DNA in human saliva. *Psychoneuroendocrinol* 2022 [Preprint](https://www.biorxiv.org/content/10.1101/2021.09.15.460321v1)
4. Higgins-ChenAT, ThrushKL, WangY, MinteerCJ, KuoPL, WangM, NiimiP, SturmG, LinJ, MooreAZ, BandinelliS, VinkersCH, VermettenE, RuttenBPF, GeuzeE, Okhuijsen-PfeiferC, van der HorstMZ, SchreiterS, GutwinskiS, LuykxJJ, **PicardM,** FerrucciL, CrimminsEM, BoksMP, HäggS, Hu-SeligerTT, LevineME. A computational solution for bolstering reliability of epigenetic clocks: Implications for clinical trials and longitudinal tracking. *Nat Aging* 2022 [PubMed](https://www.nature.com/articles/s43587-022-00248-2)
5. \* 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](https://pubmed.ncbi.nlm.nih.gov/35600441/)
6. \* KaranKR, TrumpffC, CrossM, EnglestadKM, MarslandAL, McGuireP, HiranoM, **Picard M**. Leukocyte cytokine responses in adult patients with mitochondrial DNA defects. *J Mol Med* 2022 100(6):963-971 [PubMed](https://pubmed.ncbi.nlm.nih.gov/35635577/)
7. 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 1;57(5):630-638 [PubMed](https://pubmed.ncbi.nlm.nih.gov/34966070/)
8. Moriconi C, Dzieciaktowska M, Roy M, D’Alessandro A, Roingeard 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. HudsonKE. Retention of functional mitochondria in mature RBCs from patients with SCD. *Br J Haematol* 2022 (in press) [PubMed](https://pubmed.ncbi.nlm.nih.gov/35670632/)
9. KaliaV, BradnerJM, NiedzwieckiMM, LauFK, BucherML, ManzKE, FuentesZC, PennellKD, **PicardM**, WalkerDI, HuW, JonesDP, MillerGW. Cross-species metabolomic analysis of tau- and DDT-related toxicity. *PNAS Open* 1(2):pgac050 [PubMed](https://pubmed.ncbi.nlm.nih.gov/35707205/)
10. 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* 71(1):51-69 [Link](https://rss.onlinelibrary.wiley.com/doi/abs/10.1111/rssc.12521)

**2021**

1. \* Rosenberg A, Rausser S, RenJ, MosharovEV, SturmG, OgdenRT, Patel P, SoniRK, LacefieldC, Tobin DJ, Paus R, **Picard M**. Quantitative mapping of human hair graying and reversal in relation to life stress. *eLife* 2021;10:e67437 [PubMed](https://pubmed.ncbi.nlm.nih.gov/34155974/) [*eLife* Digest](https://elifesciences.org/digests/67437/hair-is-a-history-book?utm_source=twitter&utm_medium=social) *eLife* [Insight](https://elifesciences.org/articles/70584)
2. \* FaitgJ, LacefiedC, DaveyT, WhiteK, LawsR, KosmidiS, ReeveAK, KandelE, VincentAE, **PicardM**. 3D neuronal mitochondrial morphology in axons, dendrites, and cell bodies of the aging mouse hippocampus. *Cell Rep* 2021; 36(6): 109509 [PubMed](https://pubmed.ncbi.nlm.nih.gov/34380033/)
3. \* 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](https://pubmed.ncbi.nlm.nih.gov/34698636/)
4. FernströmJ, MellonSH, McGillMA, **PicardM**, ReusVI, HoughCM, LinJ, EpelES, WolkowitzOM, Lindqvist D. Blood-based mitochondrial respiratory chain function in major depression. *Transl Psychiatr* 2021; 17;11(1):593 [PubMed](https://pubmed.ncbi.nlm.nih.gov/34789750/)
5. Klein H, Trumpff C, Yang HS, Lee AJ, **Picard M**, Bennett DA, De Jager. Mitochondrial DNA quantity and quality in the human aged and Alzheimer’s disease brain. *Mol Neurodegener* 2021;16:75 [PubMed](https://pubmed.ncbi.nlm.nih.gov/34742335/)
6. \* Bindra S, McGillMA, TriplettMK, TyagiA, ThakerPH, DahmoushL, GoodheartMJ, Ogden RT, E Owusu-Ansah, Karan KR, ColeS, SoodAK, LutgendorfSK, **PicardM**. Mitochondria in epithelial ovarian carcinoma exhibit abnormal phenotypes and blunted associations with biobehavioral factors. *Sci Rep* 2021; 11:11595  [PubMed](https://pubmed.ncbi.nlm.nih.gov/34078919/)
7. TrumpffC, SturmG, **PicardM**, FossS, Lee S, FengT, DoC, CardenasA, McCormackC, TyckoB, ChampagneFA, MonkC. Added sugar intake during pregnancy: Fetal behavior, birth outcomes and placental DNA methylation. *Dev Neurobiol* 2021; 63(5): 878-889 [PubMed](https://pubmed.ncbi.nlm.nih.gov/33415750/)

**2020**

1. \* Karan KR, Trumpff C, McGill MA, Thomas JE, Sturm G, LauriolaV, Sloan RP, Rohleder N, Kaufman BK, Marsland AL, **Picard M**. Mitochondrial respiratory chain function modulates LPS-induced inflammatory signatures in human blood. *Brain Behav Immun Health* 2020; 100080 [PubMed](https://pubmed.ncbi.nlm.nih.gov/33073254/)
2. Ware SA, Desai N, Lopez M, Leach D, Zhang Y, Giordano L, Nouraie M, **Picard M**, Kaufman B. An automated, high throughput methodology optimized for quantitative cell-free mitochondrial and nuclear DNA isolation from plasma. *J Biol Chem* 2020; 295(46):15677-15691 [PubMed](https://pubmed.ncbi.nlm.nih.gov/32900851/)
3. UlgheraitM, ChenA, McAllisterS, Kim HX, DelventhalR, WayneCR, GarciaCJ, RecinosY, Oliva M, CanmanJC, **PicardM**, Owusu-AnsahE, Shirasu-HizaM. Circadian regulation of mitochondrial uncoupling and lifespan.
*Nat Commun* 2020; 11:1927 [PubMed](https://pubmed.ncbi.nlm.nih.gov/32317636/?from_term=martin+picard&from_filter=years.2019-2020&from_page=2&from_pos=3)

**2019**

1. \* 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. *Epigenetics* 2019; 14(10):961-976 [PubMed](https://www.ncbi.nlm.nih.gov/pubmed/31156022)
2. \* TrumpffC, MarslandAL, Basualto C, MartinJL, CarrollJE, Sturm G, GuZ, Vincent A, Kaufman BA, **Picard M**. Acute psychological stress increases serum circulating cell-free mitochondrial DNA. *Psychoneuroendocrinol* 2019; 106:268-276 [PubMed](https://www.ncbi.nlm.nih.gov/pubmed/31029929?dopt=Abstract)
3. \* Trumpff C, Marsland AL, Sloan RP, Kaufman BK, **Picard M**. Predictors of ccf-mtDNA reactivity to acute psychological stress identified using machine learning classifiers: A proof-of-concept. *Psychoneuroendocrinol* 2019; 107:82-92 [PubMed](https://www.ncbi.nlm.nih.gov/pubmed/31112904)
4. \* Vincent AE, White K, Davey T, Philips J, RT Hogden, Lawless C, Warren C, Hall MG, Ng Y, Falkous G, Holden T, Deehan D, Taylor RW, Turnbull DM, **Picard M**. Quantitative 3D mapping of the human skeletal muscle mitochondrial network. *Cell Rep* 2019; 26(4):996-1009 [PubMed](https://www.ncbi.nlm.nih.gov/pubmed/30655224)
5. Liu C, Tate T, Batourina E, Truschel S, **Picard M**, Potter S, Adams M, Reiley M, Schneider K, Tamargo M, Xiang T, Lu C, Xiao C, He J, Mendelsohn CL. Pparg promotes differentiation, prevents squamous metaplasia, and regulates mitochondrial gene expression in bladder epithelial cells. *Nat Commun*; 10(1):4589 [PubMed](https://www.ncbi.nlm.nih.gov/pubmed/31597917?dopt=Abstract)
6. McManus MJ, **Picard M**, Chen HW, De Haas HJ, Potluri P, Towheed A, Leipzig J, Angelin A, Sengupta O, Kauffman B, Narula J, Wallace DC. Mitochondrial DNA variation dictates the expressivity and progression of nuclear DNA mutations causing cardiomyopathy. *Cell Metab* 2019; 29(1):78-90 [PubMed](https://www.sciencedirect.com/science/article/pii/S1550413118305035?via%3Dihub)

**2018**

1. \* 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. *Annals Neurol* 2018; 84(2):289-301 [PubMed](https://www.ncbi.nlm.nih.gov/pubmed/30014514)
2. *Finalist paper for the 2020 Ziskind-Somerfeld Research Award*
\* **PicardM**, PratherAA, PutermanE, CuillerierA, CocciaM, Aschbacher K, Burelle Y, Epel ES. A mitochondrial health index sensitive to mood and caregiver stress. *Biol Psychiatr* 2018; 84(1):9-17 [PubMed](http://www.biologicalpsychiatryjournal.com/article/S0006-3223%2818%2930043-X/fulltext)
3. Lindqvist D, Wolkowitz OM, **Picard M**, Ohlsson L, Bersani FS, Fernström J, Westrin A, Hough CM, Lin J, Reus VI, Epel ES, Mellon SH. Major depressive disorder is associated with elevated levels of circulating cell-free mitochondrial DNA, but not of leukocytes mitochondrial DNA copy number. *Neuropsychopharmacol* 2018; 43(7):1557-1564 [PubMed](https://www.ncbi.nlm.nih.gov/pubmed/29453441)
4. Gouspillou G, Godin R, Piquereau J, **Picard M**, Mofarrahi M, Mathew J, Purves-Smith FM, Sgarioto N, Hepple RT, Burelle Y, Hussain SNA. Protective role of Parkin in skeletal muscle contractile and mitochondrial function.
*J Physiol* 2018; 596(13):2565-2579 [PubMed](https://www.ncbi.nlm.nih.gov/pubmed/29682760)
5. Guha M, Srinivasana S, Raman P, Jiang Y, Kaufman BA, Taylor D, Dong D, Chakrabarti R, **Picard M**, Carstens RP, Kijima Y, Feldman M, Avadhani NG. Aggressive triple negative breast cancers have unique molecular signature on the basis of mitochondrial genetic and functional defects. *Biochim Biophys Acta* 2018; 1864(4):1060-1071 [PubMed](https://www.ncbi.nlm.nih.gov/pubmed/29309924)
6. Verhoeven JE, Révész D, **Picard M**, Epel EE, Wolfowitz OM, Matthews KA, Penninx BWJH, Puterman E. Depression, telomeres and mitochondrial DNA: between-person and within-person associations from a 10-year longitudinal study. *Mol Psychiatr* 2018; 23(4):850-857   [PubMed](https://www.ncbi.nlm.nih.gov/pubmed/28348385)
7. Révész D, Verhoeven JE, **Picard M**, Sidney S, Epel ES, Penninx BWJH, Puterman E. Associations between cellular aging markers and metabolic syndrome: findings from the CARDIA study. *J Clin Endocrinol Metab* 2018; 103(1):148-157 [PubMed](https://www.ncbi.nlm.nih.gov/pubmed/29053810?dopt=Abstract)

**2017**

1. ZhangR, WangY, YeK, **Picard M**, GuZ. Independent impacts of aging on mitochondrial DNA quantity and quality in humans. *BMC Genomics* 2017; 18:890   [PubMed](https://www.ncbi.nlm.nih.gov/pubmed/29157198)
2. Mechta M, Ingerslev LR, Fabre O, **Picard M**, Barrès R. Evidence supporting absence of mitochondrial DNA methylation. *Front Genet* 2017; 6(166):1-9 [PubMed](https://www.frontiersin.org/articles/10.3389/fgene.2017.00166/full)
3. Kandel J, **Picard M**, Wallace DC, Eckmann DM. Mitochondrial DNA 3243A>G heteroplasmy is associated with changes in cytoskeletal protein expression and cell mechanics. *Proc Roy Soc* *Interface* 2017; 14(131): 20170071   [PubMed](https://www.ncbi.nlm.nih.gov/pubmed/28592659)
4. Morrow RM, **Picard M**, Derbeneva O, Leipzig J, McManus MJ, Gouspillou G, Barbat-Artigas S, Hepple RT, Murdock DG, Wallace DC. Mitochondrial energy deficiency signals hyperproliferation of skeletal muscle mitochondria and enhanced insulin sensitivity. *PNAS* 2017; 114(10):2705-2710    [PubMed](https://www.ncbi.nlm.nih.gov/pubmed/28223503)

**2016**

1. \* Vincent AE, Ng YS, White K, Davey T, Mannella C, Falkous G, Feeney C, Schaefer AM, McFarland R, Gorman GS, Taylor RW, Turnbull DM, **Picard M**. The spectrum of mitochondrial ultrastructural defects in mitochondrial myopathy. *Sci Rep* 2016; 6:30610   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/27506553)
2. Wang Y, **Picard M**, Gu Z. Genetic evidence for elevated pathogenicity of mitochondrial DNA heteroplasmy in autism spectrum disorder. *Plos Genet* 2016; 12(10):e1006391   [PubMed](https://www.ncbi.nlm.nih.gov/pubmed/27792786)
3. Cadete VG, Deschesnes S, Cuillerier A, Brisebois F, Sugiura A, Vincent AE, Turnbull DM, **Picard M**, McBride H, Burelle Y. Formation of mitochondria-derived vesicles is an active and physiologically relevant mitochondrial quality control process in the cardiac system. *J Physiol* 2016; 594(18):5343-62    [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/27311616)
4. dos Santos C, Hussain SN, Mathur S, **Picard M**, Herridge M, Correa J, Bain A, Guo M, Advani A, Advani SL, Tomlinson G, Katzberg H, Streutker CJ, Cameron J, Schols A, Gosker H, Batt J for the MEND ICU group, the RECOVER Program investigators and the Canadian Critical Care Translational Biology Group. Mechanisms of chronic muscle wasting and dysfunction after an intensive care unit stay: A pilot study. *Am J Resp Crit Care Med* 2016; 194(7):821-30   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/?term=27058306)
5. Grüenewald A, Rygiel KA, Hepplewhite PD, Morris C, **Picard M**, Turnbull DM. Mitochondrial DNA depletion in respiratory chain-deficient Parkinson disease neurons. *Ann Neurol* 2016; 79(3):366-78   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/26605748)
6. Bersani FS, Morley C, Lindqvist D, Epel ES, **Picard M**, Yehuda R, Flory J, Bierer LM, Makotkine J, Abu-Amara D, Coy M, Reus VR, Lin J, Blackburn EH, Marmar C, Wolkowitz OM, Mellon SH. Mitochondrial DNA copy number is reduced in male combat veterans with PTSD. *Prog Neuro Psychopharmacol Biol Psychiatr* 2015; 26(64):10-17   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/26120081)
7. Rygiel K, Tuppen H, Reeve AK, Taylor RW, **Picard M**, Miller J, Turnbull DM. Complex mitochondrial DNA rearrangements in individual cells from patients with sporadic inclusion body myositis. *Nucl Acid Res* 2016; 44(11):5313-5329   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/27131788)
8. Konokhova Y, Spendiff S, Jagoe RT, Aare S, Kapchinsky S, MacMillan N, Rozakis P, **Picard M**, Leheudre MA, Pion CH, Bourbeau J, Hepple RT, Taivassalo T. Failed upregulation of TFAM protein and mtDNA copy number in oxidatively deficient fibers of COPD locomotor muscle. *Skelet Musc* 2016; 6(10)   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/26893822)

**2015**

1. **Picard M**, McManus MJ, Gray J, Nasca C, Moffat C, Kopinsky P, Seifert E, McEwen BS, Wallace DC. Mitochondrial functions modulate neuroendocrine, metabolic, inflammatory and transcriptional responses to psychological stress. *PNAS* 2015; 112(48):E6614-23  [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/26627253?dopt=Abstract)
2. **Picard M**, McManus MJ, Csordas G, Varnai P, Dorn GW, Williams D, Hajnoczky G, Wallace DC. Inter-mitochondrial coordination of cristae at regulated membrane junctions. *Nat Commun* 2015; 6:6259   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/25687472)
3. 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](http://www.ncbi.nlm.nih.gov/pubmed/26053100)
4. **Picard M**, Azuelos I, Jung B, Giordano C, Matecki S, Hussain SNA, White K, Li T, Liang F, Benedetti A, Gentil BJ, Burelle Y, Petrof B. Mechanical ventilation triggers abnormal mitochondrial dynamics and morphology in the diaphragm. *J Appl Physiol* 2015; 118(9):1161-1171   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/25767033)
5. 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](http://www.ncbi.nlm.nih.gov/pubmed/25828754)

**2014**

1. **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](http://www.ncbi.nlm.nih.gov/pubmed/25192935)
2. 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. *Psychoneuroencocrinology* 2014; 46:14-22   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/24882154)
3. 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](http://www.ncbi.nlm.nih.gov/pubmed/25279425)

**2013**

1. \* **Picard M**, White K, Turnbull DM. Mitochondrial morphology, topology and membrane interactions in skeletal muscle: A three-dimensional electron microscopy study. *J Appl Physiol* 2013; 114(2):161-71   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/23104694)
Featured in[Editorial](http://www.ncbi.nlm.nih.gov/pubmed/23195634)
2. \* **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](http://www.ncbi.nlm.nih.gov/pubmed/23970537)

**2012**

1. **Picard M**, Jung B, Liang F, Azuelos I, Hussain SNA, Goldberg P, Godin R, Danialou G, Chaturvedi R, Rygiel K, Matecki S, Jaber S, Des Rosiers C, Karpati G, Ferri L, Burelle Y, Turnbull DM, Taivassalo T, Petrof BJ. Mitochondrial dysfunction and lipid accumulation in the human diaphragm during mechanical ventilation. *Am J Resp Crit Care Med* 2012; 186(11):1140-9 (*Journal cover)*   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/23024021)   Featured in [Editorial](http://www.ncbi.nlm.nih.gov/pubmed/23204373)
2. **Picard M**,Wright KJ, Ritchie D,Thomas MM, Hepple RT. Mitochondrial function in permeabilized cardiomyocytes is relatively preserved in the senescent heart. *PLoS One 2012; 7(8):e43003*   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/22912774)

**2011**

1. **Picard M**, Ritchie D, Wright KJ, Thomas MM, Hepple RT. Alterations in intrinsic mitochondrial function with aging are fiber type-specific and do not explain differential atrophy between muscles. Aging Cell 2011; 10:1047-55   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/21933339)
2. **Picard M**, Taivassalo T, Ritchie D, Wright KJ, Thomas MM, Romestaing C, Hepple RT. Mitochondrial structure and function are disrupted by standard isolation methods. *PLoS One* 2011; 6(3):e18317 [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/21512578) Recommended by [F1000](http://f1000.com/prime/716197972)

**2008-2010**

1. **Picard M**, Ritchie D, Wright KJ, Romestaing C, Thomas MM, Rowan SL, Taivassalo T, Hepple RT. Mitochondrial functional impairment with aging is exaggerated in isolated mitochondria compared to permeabilized myofibers*.* *Aging Cell* 2010; 9:1032-46   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/20849523)   Recommended by [F1000](http://f1000.com/prime/6067956)
2. **Picard M**, Godin R, Sinnreich M, Baril J, Bourbeau J, Perrault H, Taivassalo T, Burelle Y. The Mitochondrial phenotype of peripheral muscle in COPD: Disuse or dysfunction? *Am J Respir Crit Care Med* 2008; 178(10):1040-7   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/18755922)
3. **Picard M**, Csukly K, Robillard ME, Godin R, Ascah A, Bourcier-Lucas C, Burelle Y. Resistance to Ca2+-induced opening of the permeability transition pore differs in mitochondria from glycolytic and oxidative muscles. *Am J Physiol Regul Integr Comp Physiol* 2008; 295(2):R659-68   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/18495829)

**Peer-Reviewed Research Publications (Meta-Analyses, Invited Perspectives, Reviews):**

**2022**

1. \* Junker A, Juster RP, **Picard M**. Integrating sex and gender in mitochondrial science. *Curr Opin Physiol* 2022; 26:100536 [Link](https://www.sciencedirect.com/science/article/pii/S2468867322000542?via%3Dihub)
2. \* Junker A, Wang J, Gouspillou G, Ehinger JK, Elmér E, Sjövall F, Fisher-Wellman K, Neufer 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](https://pubmed.ncbi.nlm.nih.gov/35073429/)
3. \* **Picard M**. Why do we care more about disease than health? *Phenomics* 2022; 2:145–155 [Link](https://link.springer.com/article/10.1007/s43657-021-00037-8)
4. 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](https://pubmed.ncbi.nlm.nih.gov/35660551/)
5. Brasanac J, Gamradt S, Otte C, Milaneschi Y, Monzel AS, **Picard M**, Gold S. Cellular specificity of mitochondrial and immunometabolic dysfunction in major depression. *Mol Psychiatr* 2022; 27:2370–2371 [PubMed](https://pubmed.ncbi.nlm.nih.gov/35181755/)

**2021**

1. \* TrumpffC, MichelsonJ, LagranhaCJ, TaleonV, KaranK, SturmG, LindqvistD, FernströmJ, MoserD, KaufmanBA, **Picard M**. Stress and circulating cell-free mitochondrial DNA: a systematic review of human studies, physiological considerations, and technical recommendations. *Mitochondrion* 2021; 59:225-245 [PubMed](https://pubmed.ncbi.nlm.nih.gov/33839318/) [Protocol](https://ars.els-cdn.com/content/image/1-s2.0-S1567724921000489-mmc2.pdf)
2. \* **Picard M**. Blood mtDNA copy number: What are we counting? *Mitochondrion* 2021; 60:1-11 [PubMed](https://pubmed.ncbi.nlm.nih.gov/34157430/)
3. \* **Picard M**, Sandi C. The social nature of mitochondria: Implications for human health. *Neurosci Biobehav Rev*2021; 120(5):595-610 [PubMed](https://pubmed.ncbi.nlm.nih.gov/32651001/)
4. O’SullivanJDB, NicuC, **PicardM**, ChéretJ, BedogniB, TobinDJ, PausR. The biology of human hair greying. *Biol Rev* 2021; 96(1):107-128 [PubMed](https://pubmed.ncbi.nlm.nih.gov/32965076/)

**2019**

1. \* **PicardM**, Trumpff C, Burelle Y. Mitochondrial psychobiology: Foundation and applications. *Curr Opin Behav Sci* 2019; 28:142-151 [PubMed](https://pubmed.ncbi.nlm.nih.gov/32637466/)
2. \* 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](https://www.ncbi.nlm.nih.gov/pubmed/31154264)
3. 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](https://www.ncbi.nlm.nih.gov/pubmed/?term=30984762)

**2018**

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2. \* **Picard M**, McEwen BS. Psychological stress and mitochondria: A systematic review (Part I). *Psychosom Med* 2018; 80(2):141-153 [PubMed](https://www.ncbi.nlm.nih.gov/pubmed/29389736)
3. \* **Picard M**, McEwen BS. Psychological stress and mitochondria: A conceptual framework (Part II). *Psychosom Med* 2018; 80(2):126-140 [PubMed](https://www.ncbi.nlm.nih.gov/pubmed/29389735)
4. \* Vincent AE, **Picard M**. Multilevel heterogeneity of mitochondrial respiratory chain deficiency. *J Pathol* 2018; 245: 311–323 [*Invited commentary*]  [PubMed](https://www.ncbi.nlm.nih.gov/pubmed/30058194)
5. \* **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](https://www.ncbi.nlm.nih.gov/pubmed/29339091)
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**2017**

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**2016**

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2. \* **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](http://www.ncbi.nlm.nih.gov/pubmed/27322764)
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4. Rygiel KA, **Picard M**, Turnbull DM. The ageing neuromuscular system and sarcopenia: A mitochondrial perspective. *J Physiol* 2016;594(16):4499–4512   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/26921061)
5. **Picard M**, Vincent AE, Turnbull DM. Expanding our understanding of mtDNA deletions. *Cell Metab* 2016; 24(1):3-4   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/27411002)

**2015**

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2. Sturmberg JP, Bennett J, **Picard M**, Seely A. The trajectory of life: Decreasing physiological network complexity through changing fractal patterns. *Front Physiol* 2015; 6:169   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/26082722)

**2014**

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*Nat Rev Endocrinol* 2014; 10(5):303-10   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/24663223)
2. \* **Picard M** and McEwen BS. Mitochondria impact brain function and cognition. *PNAS* 2014; 111(1):7-8 [Invited Commentary]   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/24367081)

**2013**

1. \* **Picard M**, Turnbull DM. Linking the metabolic state and mitochondrial DNA in chronic disease, health and aging. *Diabetes* 2013; 62(3):672-8  [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/23431006)
2. \* **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](http://www.scirp.org/journal/PaperDownload.aspx?paperID=40605)
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2. **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](http://www.ncbi.nlm.nih.gov/pubmed/22031602)

**2011**

1. **Picard M**, Taivassalo T, Gouspillou G, Hepple RT. Mitochondria: Isolation, structure and function. *J Physiol (London)* 2011; 589(18):4413-21   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/21708903)
2. \* **Picard M**. Pathways to aging: The mitochondrion at the intersection of biological and psychosocial sciences. *J Aging Res* 2011; 814096:1-11   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/21961065)
3. Juster RP, Bizik G, **Picard M**, Arsenault-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](http://www.ncbi.nlm.nih.gov/pubmed/21756430)
4. \* **Picard M,** Sabiston C, McNamara JK. The need for a transdisciplinary, global health framework. *J Alt Complement Med* 2011; 17(2):179-84   [PubMed](http://www.ncbi.nlm.nih.gov/pubmed/21309708)

**Manuscripts Under Review:**

1. \* Sturm G, Karan KR, MonzelAS, SanthanamBS, TaivassaloT, BrisC, DuplagaSA, CrossM, TowheedA, Higgins-ChenA, McManusMJ, CardenasA, LinJ, EpelES, RahmanS, VissingV, GrassiB, LevineM, HorvathS, HallerRG, LanaersG, WallaceDC, TavazoieS, ProcaccioV, KaufmanBA, SeifertEL, HiranoH, **PicardM**. OxPhos dysfunction causes hypermetabolism and reduces lifespan in cells and in patients with mitochondrial diseases.
Preprint: <https://www.biorxiv.org/content/10.1101/2021.11.29.470428v2>
2. \* Rosenberg A, Saggar M, Rogu P, Mosharov EV, 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>
3. \* Bobba-AlvesN, SturmG, LinJ, WareSA, KaranKR, MonzelA, BrisC, ProcaccioV, LenaersG, Higgins-ChenA, LevineM,HorvathS, SanthanamBS, KaufmanBA, HiranoM, EpelES, **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>

**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, Neufer PD, Molina AJA,
Ferrucci L, Picard M. Sex differences in human mitochondria are heterogenous. Oral presentation at the American Psychosomatic Society conference, Long Beach CA. (March 2022)
4. \* Bobba-AlvesN, SturmG, LinJ, WareSA, KaranKR, MonzelA, BrisC, ProcaccioV, LenaersG, Higgins-ChenA, LevineM,HorvathS, SanthanamBS, KaufmanBA, HiranoM, EpelES, 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, Saggar 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, RenJ, MosharovEV, SturmG, OgdenRT, Patel P, SoniRK, LacefieldC, 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. \* FaitgJ, LacefiedC, DaveyT, WhiteK, LawsR, KosmidiS, ReeveAK, KandelE, VincentAE, **PicardM**. 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, SaggarM, RoguP, SandiC, DumitriuD, AnackerC, **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 mutli-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 cancelation.
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 cancelation.
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, TrumpffC, EngelstadK, Gabriel SturmG, McGillMA, KaranKR, RosalesXQ, AndersonZ, ClarkJ, TeplerS, TaleonV, WangJ, ManlyJ, MartinezM, MedinaV, FortuneJ, LiuG, LauriolaV, ElderDJ, OgdenT, Thiebaut de SchottenM, ShapiroP, McEwenBS, SloanRP, WagerTD, HiranoM, PicardM. 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. \* TrumpffC, MarslandAL, MartinJL, CarrollJE, Sturm G, GuZ, 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. \* TrumpffC, MarslandAL, MartinJL, CarrollJE, Sturm G, GuZ, 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. \* TrumpffC, MarslandAL, MartinJL, CarrollJE, Sturm G, GuZ, 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, Grunewald 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**, 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)
58. **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)
59. **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)
60. **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)
61. **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)
62. \* **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, Duchen 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,* 3*rd* edition, Hoboken, NJ: Wiley (2016)

**Thesis:**

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

**Media Coverage Highlighting Our Research:**

*Energy, mitochondria, and health*

* **“Energy, and How to Get It”** – [The New Yorker](https://www.newyorker.com/magazine/2021/11/08/energy-and-how-to-get-it) 11/2021

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

* **“Going Grey? Relax. Those Silver Strands Could Disappear”** –[Columbia Magazine](https://magazine.columbia.edu/article/spot-few-grey-hairs-relax-and-they-could-disappear)10/2021
* **“It’s Easy to Avoid Going Gray. Just Stress Less.”** – [Wall Street Journal](https://www.wsj.com/articles/its-easy-to-avoid-going-gray-juststress-less-11625155293) 07/2021
* “**New research on how to reverse gray hair**” – [PBS News Hour](https://www.pbs.org/newshour/nation/5-stories-a-selfie-from-chinas-mars-rover-new-research-on-how-to-reverse-gray-hair-and-other-stories-you-missed) 07/2021
* **“Aging May Not Be a Linear Process, Study on Reversible Stress-Induced Graying Suggests”** – [GENews](https://www.genengnews.com/news/aging-may-not-be-a-linear-process-study-on-reversible-stress-induced-graying-suggests/) 07/2021
* **“Gray Hair Can Return to Its Original Color—and Stress Is Involved, of Course”** – [Scientific](https://www.scientificamerican.com/article/gray-hair-can-return-to-its-original-color-mdash-and-stress-is-involved-of-course/) American06/2021
* **“It’s True: Stress Does Turn Hair Gray (And It’s Reversible)”** –[Columbia News](https://www.cuimc.columbia.edu/news/its-true-stress-does-turn-hair-gray-and-its-reversible)06/2021
* **Other outlets**: [Daily Mail](https://www.dailymail.co.uk/sciencetech/article-9716267/Stress-does-turn-hair-gray-reversible-scientists-say.html), [Globe and Mail](https://www.theglobeandmail.com/canada/article-the-pandemic-aged-you-but-you-can-still-reverse-the-effects/), [New York Post](https://nypost.com/2021/06/24/gray-hair-is-caused-by-stress-and-is-reversible-study/), [Philly Voice](https://www.phillyvoice.com/prevent-gray-hair-stress-reverse-aging-process/), [Yahoo News](https://news.yahoo.com/reverse-grey-hair-study-finds-160110161.html), [Sci Tech Daily](https://scitechdaily.com/its-true-stress-does-turn-hair-gray-but-its-reversible/), [ScienceDaily](https://www.sciencedaily.com/releases/2021/06/210622154339.htm), [New Scientist](https://www.newscientist.com/article/2244772-grey-hairs-sometimes-regain-their-colour-when-we-feel-less-stressed/), [International Business Times](https://www.ibtimes.com/stress-related-hair-graying-naturally-reversible-finds-study-2987098), [Insider.com](https://www.insider.com/gray-hair-can-be-reversed-by-reducing-stress-study-suggests-2021-6), [Healthing.ca](https://www.healthing.ca/wellness/aging/grey-hair-from-stress-can-be-reversed-study-says), [Pledge Times](https://pledgetimes.com/gray-hair-the-cause-is-stress-but-it-is-reversible/), [Business Insider](https://www.dailymail.co.uk/sciencetech/article-9716267/Stress-does-turn-hair-gray-reversible-scientists-say.html)
* **Radio coverage**: [BYU radio](https://www.byuradio.org/925befef-c59c-4f14-8f8c-f55f745b63ff), [Radio Canada-Bien Entendu](https://ici.radio-canada.ca/ohdio/premiere/emissions/bien-entendu/episodes/546630/rattrapage-du-mercredi-7-juillet-2021), [ABC](https://www.abc.net.au/radio/melbourne/programs/drive/), [RNZ](https://www.rnz.co.nz/national/programmes/sunday/20210725), BBC Radio World Show, BBC Mundo
* **TV coverage**: [NBC Today show](https://www.today.com/health/stress-turns-hair-gray-it-s-reversible-study-finds-today-t224667), [CTV News](https://www.ctvnews.ca/health/stress-can-turn-hair-grey-and-it-might-be-reversible-new-study-finds-1.5487581), [7NEWS Perth](https://twitter.com/7NewsPerth/status/1416359528006787073),
* **Podcasts:** [eLife](https://elifesciences.org/podcast/episode76#409)

*Mitochondria and mental health*

* **“A Glimpse at the Mind-Body Connection Under the Microscope”** – [FABBS](https://fabbs.org/2021/10/eca-2021-abmr-martin-picard/) 10/2021
* **“Could mitochondria be the key to a healthy brain?”** – [Knowable](https://knowablemagazine.org/article/mind/2021/could-mitochondria-be-key-healthy-brain) 06/2021
* **“Mitochondria May Hold Keys to Anxiety and Mental Health”** – [Quanta Magazine](https://www.quantamagazine.org/mitochondria-may-hold-keys-to-anxiety-and-mental-health-20200810/) 08/2020

*The sociality of mitochondria*

* **“‘Social’ Mitochondria, Whispering Between Cells, Influence Health”** – [Quanta Magazine](https://www.quantamagazine.org/social-mitochondria-whispering-between-cells-influence-health-20210706/) 07/2021
* **“The idea that inanimate objects have consciousness, gains steam in science communities”** – [Salon](https://www.msn.com/en-us/news/technology/panpsychism-the-idea-that-inanimate-objects-have-consciousness-gains-steam-in-science-communities/ar-AAMuwMV?ocid=msedgntp)07/2021

*Psychological stress and mitochondrial genome release in the blood*

* ***“Brain’s Dumped DNA May Lead to Stress, Depression”*** – [Scientific American](https://www.scientificamerican.com/article/brain-rsquo-s-dumped-dna-may-lead-to-stress-depression/)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  09/2017
psychosocial stress, and susceptibility. Research Triangle Park, NC.
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 – Festchrift 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. 9thMcGill 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](https://www.youtube.com/watch?v=Mhl58gCCVQw) 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”. Passadena, 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 05/2017
and Behavioral Neurosciences. Detroit, MI.
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 04/2022
Health Sciences. New York, NY.
2. Yale-Columbia Psychiatry Annual Retreat 03/2022
3. Columbia University, University Seminar (USEM) on the Future of Aging, *with Linda Freed*. (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. Eat Move Think [Podcast](https://twitter.com/medcanlivewell/status/1543976013373349890). 07/2022
2. Mind & Matter [Podcast](https://youtu.be/LrIAxhmoY7k). 05/2022
3. The Energy Blueprint [Podcast](https://www.theenergyblueprint.com/dr-martin-picard-on-how-stress-affects-your-body/). 07/2019
4. The human upgrade [Podcast](https://podcasts.apple.com/us/podcast/understanding-the-behaviour-of-mitochondria/id451295014?i=1000429413768). 02/2019
5. Wagner College, Annual Kaufman-Repage Lecture. New York, NY. 10/2018
6. Public lecture, University of Amsterdam. Amsterdam, Netherlands. 06/2018
7. Public lecture, The Nathaniel Wharton Fund, The Lottos Club. New York, NY. 05/2018