

**CURRICULUM VITAE**

**Dr. Patrick McTernan**

**Current Title***:* Postdoctoral Fellow, Department of Physiology

**Business Address:** Department of Physiology

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**Business email Address:** [pmcter@lsuhsc.edu](mailto:pmcter@lsuhsc.edu)

**Education:**

Bachelor of Science – Microbiology – Louisiana State University

August 2003 – December 2007

PHD – Biochemistry and Molecular Biology – University of Georgia

August 2008 – May 2015

Post-Doctoral Fellowship – Louisiana State University Health and Science Center

March 2019 - Present

**Academic, Professional, and Research Appointments:**

Nov 2006 – May 2008 Lab Technician – Louisiana State University

Aug 2008 – Aug 2015 Graduate Research Associate – University of Georgia

Aug 2015 – March 2019 Project Manager / Biology Consultant – IP Builders

March 2019 - present Postdoctoral Fellow / Lab Manager – LSUHSC

**Membership in Professional Organizations:**

July 2019 – present Research Society of Alcoholism (RSA) – Member

July 2019 – present American Physiological Society (APS) – Member

**TEACHING EXPERIENCE AND RESPONSIBILITIES**

**Formal Course Responsibilities**

Fall 2008 University of Georgia: Biol 1103L

Spring 2009 University of Georgia: Biol 1103L

Fall 2020 LSUHSC:HLSC 3140 Pathophysiology

* Hematopoietic Function I
* Hematopoietic Function II

Winter 2020 LSUHSC:HLSC 3140 Pathophysiology

* Hematopoietic Function I
* Hematopoietic Function II

Spring 2021 LSUHSC:HLSC 3140 Pathophysiology

* Hematopoietic Function I
* Hematopoietic Function II

## Undergraduate, Graduate, and Medical Students Trained:

Summer 2020 Isabella Welsh, Summer Research Intern

**Teaching Awards:**

OCT 2019 Teaching Certificate: Instructional and Assessment Strategies for

Physiology Teaching Excellence Workshop

**RESEARCH AND SCHOLARSHIP**

**Grants and Contracts:**

***ACTIVE:***

1. T32AA007577-20

NIH/NIAAA

*Biomedical Alcohol Research Training Program*

1. P60 AA009803-27

***PENDING***

1. R01 – “Chronic Alcohol Dysregulates T Cell Metabolic Programming, Differentiation, and Primes CD4 Target Cells to SIV/HIV Infection” (Currently generating data)

***NOT FUNDED* *(last three years)***

1. Submission of R01 “Secretome of adipocyte and immune cells during SIV/HIV infection” – Investigator – November 19
2. Submission of R01 “Inflammasome activation by opioids and HIV” – Investigator – January 2020

**Journal Publications:**

**Refereed**

**Published**

1. Callegan R.P, Nobre M.F, **McTernan P.M**, Battista J.R, Gonzalez R.F, McKay C.P, da Costa M.S, Rainey F.A. Description of Four Novel Psychrophilic, ioning radiation sensitive species of the genus Deinococcus from alpine environments. [Int J Syst Evol Microbiol.](javascript:AL_get(this,%20'jour',%20'Int%20J%20Syst%20Evol%20Microbiol.');) 2008 May;58(Pt 5):1252-8
2. Sun, J., Hopkins, R. C., Jenney Jr, F. E., **McTernan, P. M**., and Adams, M. W. (2010) Heterologous expression and maturation of an NADP-dependent [NiFe]-hydrogenase: a key enzyme in biofuel production. PloS one **5**, e10526
3. Hopkins, R. C., Sun, J., Jenney Jr, F. E., Chandrayan, S. K., **McTernan, P. M**., and Adams, M. W. (2011) Homologous expression of a subcomplex of Pyrococcus furiosus hydrogenase that interacts with pyruvate ferredoxin oxidoreductase. PloS one **6**, e26569
4. Chandrayan, S. K., **McTernan, P. M.**, Hopkins, R. C., Sun, J., Jenney, F. E., and Adams, M. W. (2012) Engineering hyperthermophilic archaeon Pyrococcus furiosus to overproduce its cytoplasmic [NiFe]-hydrogenase. Journal of Biological Chemistry **287**, 3257-3264
5. Hawkins, A. S., **McTernan, P. M**., Lian, H., Kelly, R. M., and Adams, M. W. (2013) Biological conversion of carbon dioxide and hydrogen into liquid fuels and industrial chemicals. Current opinion in biotechnology **24**, 376-384
6. Esteves, A. M., Chandrayan, S. K., **McTernan, P. M**., Borges, N., Adams, M. W., and Santos, H. (2014) Mannosylglycerate and Di-myo-Inositol Phosphate have Interchangeable Roles during Adaptation of Pyrococcus furiosus to Heat Stress. Applied and environmental microbiology, **80**, 4226-4233
7. **McTernan, P. M**., Chandrayan, S. K., Wu, C.-H., Vaccaro, B. J., Lancaster, W. A., Yang, Q., Fu, D., Hura, G. L., Tainer, J. A., and Adams, M. W. (2014) Intact Functional Fourteen-Subunit Respiratory Membrane Bound [NiFe]-Hydrogenase Complex of the Hyperthermophilic Archaeon Pyrococcus furiosus. Journal of Biological Chemistry **289**, 19364-72
8. **McTernan, P. M**., Chandrayan, S. K., Wu, C.-H., Vaccaro, B. J., Lancaster, W. A., and Adams, M. W. (2014) Engineering the respiratory membrane-bound hydrogenase of the hyperthermophilic archaeon Pyrococcus furiosus and characterization of the catalytically active cytoplasmic subcomplex. Protein Expression Design Selection **28**, 1-8
9. Chandrayan, S. K., Wu, C.-H., **McTernan, P. M**., and Adams, M. W. (2015) High yield purification of a tagged cytoplasmic [NiFe]-hydrogenase and a catalytically-active nickel-free intermediate form. Protein expression and purification 107, 90-94
10. Greene, B. G., Wu, C.-H., **McTernan, P. M**., Adams, M. W. W., and Dyer B. R. (2015) Proton-Coupled Electron Transfer Dynamics in the Catalytic Mechanism of a [Ni-Fe]- Hydrogenase. Journal of the American Chemical Society 137(13), 4558-4566
11. Wu, C.-H., **McTernan, P. M**., Walter, M. E., and Adams, M. W. W. (2015) Production and Application of a Soluble Hydrogenase from Pyrococcus furiosus. Archaea, 2015, 912582. <http://doi.org/10.1155/2015/912582>
12. **McTernan PM**, Katz PS, Porretta C, Welsh DA, Siggins RW. A Novel FACS-Based Workflow for Simultaneous Assessment of RedOx Status, Cellular Phenotype, and Mitochondrial Genome Stability. BioChem. 2021; 1(1):1-18. https://doi.org/10.3390/biochem1010001

**Non-refereed**

1. **McTernan, P. M.** (2015) Genetic Engineering and Purification of the Hydrogenases from the Hyperthermophilic Archaeon Pyrococcus furiosus (Doctoral Dissertation). University of Georgia. GALILEO database

## Peer-Reviewed Abstracts (poster presentation):

1. **McTernan, P. M.**, Chandrayan S. K., Hopkins, R., C., Sun J., Jenney, F., E., Jr., and Adams M. W. (2011) Recombinant Expression and Characterization of the Hydrogenases from the Hyperthermophilic Archaeon Pyrococcus furiosus. Extremophiles Symposium, University of Georgia, Athens, GA
2. **McTernan, P.M**., Siggins, R.W., Simon L., and Molina, P.E., ALCOHOL PROMOTES DIFFERENTIATION OF CD4 T CELLS TO PROINFLAMMATORY TH1 CELLS. Research Society of Alcoholism conference. 2021. Virtual meeting

## Conference Participation:

**1.)** Oral presenter. *Alcohol and Ovariectomy Dysregulate CD4+ T cell Activation and HIV Co-receptor Expression.* Experimental Biology Conference 2021, virtual meeting

**Revised: November 2019**