**­Jordan Evan Krebs**

409 Lake St. Apt. C12, Ithaca, NY 14850

(717) 552 – 8933| juk398@psu.edu

**EDUCATION**

July 2016- **PENN STATE COLLEGE OF MEDICINE** Hershey, PA

Present MD/PhD Candidate, Incoming Class of 2016

Aug 2009- **LYCOMING COLLEGE** Williamsport, PA

May 2013 B.S. *Summa Cum Laude*; Biology Departmental Honors, GPA: 3.93

Majors: Chemistry and Biology (Cellular and Molecular Biology)

**HONORS AND AWARDS**

2016 NIAMS RetreatPoster Award

2016 NIH Post-baccalaureate Poster Day Award

2014 NIH Post-baccalaureate Poster Day Award

2013 Departmental Honors, Biology

2013 Bryon C. Brunstetter Science Award

2013 Service to Lycoming Award

2012-2013 Joanne and Arthur Haberberger Fellowship

2012 3rd place, Undergraduate Oral Presentations, 2012 ABASM meeting

2012 1st place, Poster Presentation, Biochemical Sciences Sections, 2012 UMBC Symp.

2012 Anne Spychala Student 1st Place Oral Presentation Award, 2012 PAS Meeting

2012 NASA Astrobiology Program travel award for Early Astrobiologist

2012 American Society for Microbiology (ASM) Research Capstone Program Award

2011-2012 National Institutes of Health (NIH) Undergraduate Scholars (UGSP) Scholarship

2011 Amgen Scholars Fellowship at the California Institute of Technology

2010 M. B. Rich Endowed Prize for academic excellence

**RESEARCH EXPERIENCE**

July 2018- **PENN STATE UNIVERSITY** State College, PA

Present Graduate student, Pugh Lab. Applying ChIP-exo to human health by designing

ChIP method to assay TF binding sites in tissues.

Jun 2013- **NATIONAL INSTITUTES OF HEALTH, NIAMS.** Bethesda, MD

July 2016;*Genomics and Immunity Section*

Jun 2012- Dr. Rafael Casellas. A post-doc and I designed a computational tool to rapidly

Aug 2012 design sgRNAs and developed a cell-culture procedure to target and confirm KOs or lethality of KOs in both ESCs and B-cells. Targeted mediator complex subunits and then studied gene expression in confirm homozygous KO cell lines.

Aug 2012- **LYCOMING COLLEGE**, *Chemistry Department*. Williamsport, PA

Dec 2012 Dr. Chriss McDonald. Examined the capability of different ratios of [SmI2] to

[ligands] complexes to reduce organofluroide and organochloride bonds.

Jun 2011- **NASA-JET PROPULSION LABORATORY/CALTECH** Pasadena, CA

Aug 2011 *Microbiology and Planetary Protection Group*

Dr. Kasthuri Venkateswaran. Studied *Bacillus horneckiae* spores with and without

extraneous layer under UV irradiation condition. Analyzed Phylochip G3 data from

novel Icelandic hot springs and helped prepare manuscript.

Jan 2010- **LYCOMING COLLEGE**, *Biology Department*. Williamsport, PA

May 2013 Dr. Jeffrey Newman. Studied a novel bacterial strain and compared to related strains.

Optimized the extraction and preparative HPLC purification of Flexirubin pigments. Designed a novel computational method to calculate the genomic similarity between microbial genomes based on orthologous sequences.

**PEER REVIEWED PUBLICATIONS**

Khattabi LE, Zhao H, Kalchschmidt J, Young N, Jung S, Blerkom PV, Kieffer-Kwon P, Kieffer-Kwon K, Park S, Wang X, **Krebs J**, Tripathi S, Sakabe N, Sobreira DR, Haung S, Rao SSP, Pruett N, Chauss D, Sadler E, Lopez A, Nobrega MA, Aiden EL, Asturias FJ, Casellas R. A Pliable Mediator Acts as a Functional Rather than an Architectural Bridge between Promoters and Enhancers. *Cell*. 178(5):1145-1158.

Juan AH, Wang S., Ko KD, Zare H, Tsai PF, Feng X, Vivanco KO, Ascoli AM, Gutierrez-Cruz G, **Krebs J**, Sidoli S, Knight AL, Pederson RA, Garcia BA, Casellas R, Zou J, Sartorelli V. Roles of H3K27me2 and H3K27me3 Examined during Fate Specification of Embryonic Stem Cells. *Cell Rep*. 17(5): 1369-1382.

**Krebs JE\***, Vaishampayan P\*, Probst A\*, Tom L, Marteinsson VT, Andersen GL, Venkateswaran K (2014). Microbial Community Structures of novel Icelandic Hot Spring Systems Revealed by PhyloChip G3 Analysis. *Astrobiology* 14(3): 229-240.

Kirk KE, Hoffman JA, Smith KA, Strahan BL, Failor KC, **Krebs JE**, Gale AN, Do TD, Sontag TC, Batties AM, Mistiszyn K, Newman JD (2013). *Chryseobacterium angstadti* sp. nov., isolated from a newt tank. Submitted to*Int. J. Syst. Evol. Microbiol.* 63(12): 4777-4738.

McDonald CE, Ramsey JR, Sampsell DG, Anderson LA, **Krebs JE,** Smith SN (2013). Dipyrrolidinomethylamino phosphoric triamide (DPMPA) as an Activator for samarium diioide-mediated reduction of alkyl and aryl halides. *Tetrahedron* 69: 2947-2953.

**NON-PEER REVIEWED PUBLICATIONS**

**Krebs, J** (2014). CRISPR Design Tool and Protocol. fig**share**. <http://dx.doi.org/10.6084/m9.figshare.1117899>.

**Krebs JE** (2013). “*The Roller Coaster of Undergraduate Research*”. *CUR Quarterly*. Council on Undergraduate Research. 33(3): 12.

**PROFESSIONAL MEETINGS ATTENDED**

2019Chromatin and Epigenetic Regulation of Transcription, 38th Summer Symposium in

Molecular Biology. PSU. July 30-Aug. 2, 2019

Mech. of Eukaryotic Transcription. Cold Spring Harbor Labs. Aug. 27-31, 2019.

2011 Amgen Scholars U.S. Symposium, University of California. Los Angeles, CA.

2010 Moravian College Undergraduate Math Student Conference Moravian College,

Bethlehem, PA.

**PRESENTATIONS**

**Oral Presentations**

**2021 Krebs, J**. “High**-**resolution mapping of transcription factor binding sites in human

tissue”. CEGR Mega meeting. Virtual. March 3, 2021.

**2020 Krebs, E**. “Nuclease-ChIP-exo”. CEGR Mega meeting. Feb. 4, 2020.

**2019 Krebs, J**. “Prepping chromatin from solid organs and blood”. CEGR Meg

a meeting. April 16, 2019.

**2014- Krebs J**, Casellas R. “Genome Editing via CRISPR: background and hands on

**2016**  exercise”. “Engineering with CRISPR, TALENs, and ZFNs” FAES Class at NIH.

Bethesda, MD. Feb. 6, 2015, Nov. 6, 2015, Feb. 5, 2016, June 24, 2016.

**Krebs J**, Casellas R. “A Bioinformatics Tool to Design Efficient sgRNAs”. “Engineering with CRISPR, TALENs, and ZFNs” FAES Class at NIH. Bethesda, MD. July 25, 2014, Feb. 3, 2015, Nov. 3 2015, Feb. 2, 2016, & June 21, 2016

**2013 Krebs** J, Newman J. “Perspectives on the use of GENIII Plates in Undergraduate

Research”. Biolog Inc. Speaker; 2013 American Society for Microbiology (ASM) General Meeting. Denver Convention Center, Denver, CO. May 18-21, 2013.

**Krebs J**, Newman J. “*Purification of Flexirubin Pigments from Chryseobacterium*”. Honor’s thesis presented to Honor’s Committee in partial completion of Biology Departmental Honors. April 23, 2013.

**Krebs J**, Gale A, Newman J. “*Purification of Flexirubin Pigments from Chryseobacterium*”. 2013 Pennsylvania Academy of Sciences (PAS) Annual Meeting. University of Pittsburgh-Bradford, Bradford, PA. April 5-7, 2013.

**2012 Krebs J**, Newman J. “Purification and Molecular Structure Determination of Flexirubin

Pigments of *Chryseobacterium*”. 2012 Allegheny Branch American Society of Microbiology (ABASM) Meeting. Penn State University, State College, PA. Nov. 9-10, 2012.

**Krebs J**, Sontag T, Newman J. “Genome Sequencing of *Lycomia zaccaria gen. nov. sp. nov.*, *Chryseobacterium haifense*, and *Kaistella koreensis* and Comparison to Two Closely Related Genomes”. 2012 PAS Annual Meeting. Cedar Crest College, Allentown, PA. March 30-April 1, 2012.

**2011 Krebs J**, Newman J. “Characterization Of a Novel Genus Within the Family

*Flavobacteriaceae*”. 2011 ABASM Meeting. Mount Aloysius College, Cresson, PA. Nov. 4-

5, 2011.

**Poster Presentations**

**2019 Krebs,** J, Lai, WKM, Pugh F. “Optimizing chromatin fragmentation for mammalian ChIP-exo”. 2019 PSU MCIBS and Pathobiology retreat. Boalsburg, PA. Aug. 20, 2019. 2019 CEGR retreat. Boalsburg, PA. Oct. 12, 2019.

**2018 Krebs,** J, Lai, WKM, Pugh F. “Application of ChIP-exo in human health”. 2018 CEGR retreat. Boalsburg, PA. Oct. 20, 2018.

**2016 Krebs J,** Kieffer-Kwon P, Tripathi S, Jung S, Kieffer-kwon KR, Khattabi L, Casellas R. “The Systematic Knock-Out of Mediator Complex Subunits”. 2016 NIAMS Poster Day. Bethesda, MD. April 29, 2016; 2016 Post-bac Poster Day. Bethesda, MD. April 20, 2016.

**2015 Krebs, J**, Kieffer-Kwon P, Casellas R. “The Systematic Knock-Out of Mediator

Complex Subunits”. 2015 Post-bac Poster Day. Bethesda, MD. April 30, 2015.

**2014 Krebs J**, Kieffer-Kwon P, Nelson S, Casellas R. “High-throughput production of custom

designed nucleases”. 2014 NIH Post-bac Poster Day. Bethesda, MD. May 1, 2014.

**2013 Krebs J**, Gale A\*, Sontag T, Keyser V, Newman J. “Average-Nucleotide Identity Bi-

Directional Best Hit (ANIBBH): Novel Genomic-Based Method to Differentiate Bacterial Species”. 2013 ASM General Meeting. Denver, CO. May 18-21, 2013.

**Krebs J**, Gale A, Newman J. “*Purification of Flexirubin Pigments from Chryseobacterium*”. 2013 ASM General Meeting. Denver, CO. May 18-21, 2013.

**Krebs** **J**, Gale A, Newman J. “*Purification of Flexirubin Pigments from Chryseobacterium*”. 16th Annual Environmental Chemistry and Microbiology Student Symposium. Penn State University, State College, PA. March 15-16, 2013.

**Krebs J**, Gale A\*, Sontag T, Keyser V, Newman J. “Average-Nucleotide Identity Bi-Directional Best Hit (ANIBBH): Novel Genomic-Based Method to Differentiate Bacterial Species”. Poster presented at 16th Annual Environmental Chemistry and Microbiology Student Symposium. Penn State University, State College, PA. March 15-16, 2013.

**Krebs J**, Gale A\*, Sontag T, Keyser V, Newman J. “Average-Nucleotide Identity Bi-Directional Best Hit (ANIBBH): Novel Genomic-Based Method to Differentiate Bacterial Species”. 2013 PAS Annual Meeting. University of Pittsburgh-Bradford, Bradford, PA. April 5-7, 2013.

**2012 Krebs** **J**, Sampsell D, McDonald C, Newman J. “Purification and Molecular Structure

Determination of Flexirubins from *Chryseobacteria*”. 2012 Undergraduate Research

Symposium in the Chemical and Biological Sciences, UMBC. University of Maryland,

Baltimore County, Baltimore, MD. Oct. 22, 2012.

**2012 Krebs JE**, Qian J, Kieffer-Kwon K, Casellas R. “Genome Editing via TALEN zinc

finger nucleases”. 2012 Summer Research Program Poster Day, NIH. Bethesda, MD.

Aug. 8, 2012.

**Krebs** **JE**, Schrader M, Vaishampayan P, Rabbow E, Rettberg P,Venkateswaran K.

“Assessment of *Bacillus horneckiae* spore survival under simulated space ISS

conditions”. 2012 ASM General Meeting. San Francisco Convention Center, San

Francisco, CA. June 16-19, 2012.

**Krebs** **JE**, Schrader M, Vaishampayan P, Rabbow E, Rettberg P,Venkateswaran K. “Astrobiological Significance of Exosporium-forming spores for UV resistance”. 2012 Astrobiology Science Conference (ABSCISON). Georgia Institute of Technology, Atlanta, GA. April 15-20, 2012.

**2011** **Krebs JE**, Vaishampayan P, Venkateswaran K. “Role of Extraneous layer of Bacillus horneckiae spores in Enhanced UV Resistance”. 2011 Undergraduate Research Symposium in the Chemical and Biological Sciences, UMBC. University of Maryland, Baltimore County, Baltimore, MD. Oct. 22, 2011.

Collins K, **Krebs** **J**, Kirk K, Smith K, Duncan T, Failor KC, Newman J. “Characterization of Novel Bacterial Species Identified by Undergraduate Students in a General Microbiology Course”. 2011 ASM Annual Meeting.New Orleans Convention Center, New Orleans, LA. May 21-24, 2011.

**2010 Krebs JE**, Failor KC, Marcinko TM, and Newman JD. “Molecular and Phenotypic

Characteristics of a Novel Species and Related Type Strains Suggest a Reorganization within

the Genus C*hryseobacterium”.* 2010 ABASM Meeting. Lock Haven University, Clearfield Campus, Clearfield, PA. Nov. 5-6, 2010

**EMPLOYMENT EXPERIENCE**

2013-16 **National Institutes of Health** / **NIAMS** Bethesda, MD

Post-bac in the Casellas lab.

Aug 2010- **Lycoming College**,Academic Resource CenterWilliamsport, PA

Apr 2013 Tutor in general and organic chemistry.

Jan 2010- **Lycoming College**, Biology DepartmentWilliamsport, PA

Apr 2013 Microbiology lab assistant

Setting-up equipment, chemicals and tools for microbiology experiments, troubleshooting student problems and maintaining equipment.

June 2009- **Lampire Biological Laboratories** Everett, PA

Apr 2011 Everett Bioprocessing Facility

Intern. Production and purification of monoclonal and polyclonal antibodies.

**PROFESSIONAL SOCIETIES**

2012 Alpha Epsilon Delta – Pre-Health Honor Society

2012 Beta Beta Beta – Biology Honor Society

2012 Gamma Sigma Epsilon – Chemistry Honor Society

2012 Phi Kappa Phi Honor Society – Interdisciplinary Undergraduate Honor Society

2011 American Society for Microbiology (ASM)

**LEADERSHIP**

2012 – 2013 President, Beta Beta Beta (Biology Honor Society)

2012 – 2013 Secretary, Gamma Sigma Epsilon (Chemistry Honor Society)

2010 – 2011 Lycoming College United Campus Ministry Search Leader

2010 – 2013 Lycoming College United Campus Ministry Leader

2008 – 2009 Junior Director HOBY Community Leadership Workshop (CLeW)

Founder and President SWPA HOBY Alumni Association

**COMMITTEE EXPERIENCE**

2013 – 2018 Seminar Board, Audio & Visual and Program, and Fundraising committee

Central PA Hugh O’ Brian Youth Leadership (HOBY) Seminar

2012 Audio & Visual and Program, and Fundraising committee

Central PA Hugh O’ Brian Youth Leadership (HOBY) Seminar

2008 – 2009 HOBY Central PA Seminar Alumni Advisory Board

**SERVICE AND ACTIVITIES**

2018 – 2021 Vice-Chair of Program, Central PA Hugh O’Brian Youth Leadership

2017 – 2018 Assistant to Vice-Chair of Program, Central PA Hugh O’Brian Youth Leadership

2015 – 2 016 Paparazzi Director, Central PA Hugh O’Brian Youth Leadership Seminar

2009 – 2010 Lycoming College Community Service Scholar

2009 – 2010 Study Buddies Tutor

2008 – 2015 Alumni Volunteer, Central PA Hugh O’ Brian Youth Leadership (HOBY)