

Jeffrey D. Newman

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Department of Biology

Lycoming College

700 College Place

Williamsport PA 17701 USA

Education

December, 1992	Ph.D. (Molecular Biology)	Marquette University
	Thesis: <i>Rhizobium</i> Purine Metabolism and its Role in Infection of Legumes (Dale Noel)	
May, 1988	B.S. (Biology)	University of South Carolina

Professional Experience

07/2015 – present	Professor of Biology, Lycoming College
01/2018 – 12/2018	Visiting Professor/Fulbright Scholar, Univ. of the Free State, Bloemfontein South Africa
07/2011 – 06/2015	Associate Professor of Biology, Lycoming College
07/2007 – 07/2014	Biology Department Chair , Lycoming College
08/1995 – 06/2011	Assistant Professor of Biology, Lycoming College (tenured in 2001)
01/1993 – 08/1995	Postdoctoral Research Associate in the lab of Joe Chappell, University of Kentucky. Investigation of plant defense gene regulation.

Teaching Experience/Responsibilities

Lycoming College - Fall, 1995 – present. **Primary responsibility** all courses except Bio108 include Laboratory

- Bio 101, 102 - Principles of Biology I and II (non-majors)
- Bio 106 - Cells, Genes & Society (non-majors)
- **Bio 108 – Public Health (non-majors)**
- **Bio 110 - Introductory Biology I (majors)**
- NSCI 159 – Amazing Microbes (First Year Seminar)
- Bio 222W – Genetics
- **Bio 321W - Microbiology**
- Bio 432 – Genome Analysis
- Bio 435 - Cell Biology
- Bio 437 - Molecular Biology
- **Bio/Chem 444 - Biochemistry**
- Bio447 – Cell and Molecular Biology Research Methods

University of the Free State, Bloemfontein, South Africa - 2018

- **BOCB 6834** - Bioinformatics and Omics Sciences
- **MCBP 2626** - Microbial Evolution and Diversity

Pennsylvania College of Technology (Summer, 1997) - Bio 201 - Microbiology

Lexington County Community College (KY) (Fall, 1994) - Bio 103 – Principles of Biology (non-majors)

Grants, Honors and Awards

- 2018 **Fulbright Scholar** teaching/research grant (11 months) & Sabbatical: Microbial Genomics at University of the Free State, Bloemfontein, South Africa
- 2017 **\$5000 Lycoming College Professional Development Grant** : Microbial Genome Sequencing
- 2016 **\$2200** Lycoming College Institute for Energy and the Future - Sequencing plastic and styrofoam degrading organisms.
- 2014 **\$5000** PA Fish and Boat Commission to investigate smallmouth bass diseases
- 2013 **\$445,039 NSF RCN-UBE - GCAT-SEEK**: The genome consortium for active undergraduate research and teaching using next-generation sequencing. **Co-PI with Juniata College**
- 2013 **\$3550 Lycoming College Professional Development Grant**: Correlation of Genome Sequence and Phenotype Microarray Results in Novel Bacterial Species Identified by Microbiol Students.
- 2012 **NSF Research Collaboration Network Pilot Project** – sequencing of three bacterial genomes, valued at \$6000
- Fall 2010 **Sabbatical**: Analysis of Novel Bacterial Species
- 2010 **\$16,000 Research Grant** from Archaea Solutions Inc.to investigate microbial population in their “Arkea” product.
- 2009 **\$327,913 – National Science Foundation Major Research Instrumentation Grant**
Award # DBI-0960114 for Acquisition of Instrumentation for Novel Microbe Characterization by Undergraduate Researchers
- 2007 **\$3000 Research Grant** from SEDA-COG-Keystone Innovation Zone to investigate microbial community in a locally produced wastewater treatment sequencing batch reactor.
- Spring 2003 **Sabbatical**: Study of the Purine Biosynthetic Enzyme FGARAT.
- 2000 **Merck/AAAS Undergraduate Science Research Program Grant**, \$60,000 over 3 years, led by Holly Bendorf, total of 6 Biology & Chemistry Faculty
- 1999 **US Patent # 6,002,071**. Transcriptional Silencing Elements and their Binding Factors. With Joseph Chappell and Shaohui Yin.
- 1998 **ASM Faculty Travel Grant** to attend the ASM National Microbiology Education Conference
- 1996 **Lycoming College Professional Development Grant** :The Role of *purY* in Prokaryotic Purine Biosynthesis.
- 1992 **Pharmacia Award** for "Exceptional Achievement in Biological Research". Cash prize competitively awarded based on evaluation of a publication.
- 1990-1992 **Marquette University Fellowship** - a competitive award with recipients selected on the basis of short research proposals.
- 1990 **Charles O'Hara Scholarship** to attend the Advanced Course in Plant-Microbe Interactions at the Plant Biotechnology Center, University of Guelph, Canada.

Publications (* signifies undergraduate co-authors)

- 67 Whole Genome Shotgun & >100 single gene DNA sequences in GenBank Database
- Johnson TW, Schell L, Rosett A, LaFountain A, Frank H, **Newman JD**. (2018) *Metathermus centralius* gen. nov. sp. nov., isolated from a heated exhaust vent of an underground coal fire and reclassification of *Meiothermus silvanus* (Nobre et al., 1996) as *Metathermus silvanus* comb. nov. *Int. J. Syst. Evol. Microbiol.* In Revision.
- Bortniak VB, Pelletier DA, **Newman JD** (2019) *Chryseobacterium populi* sp. nov., isolated from the endosphere of *Populus deltoides*. *Int. J. Syst. Evol. Microbiol.* 69:356–362. <https://doi.org/10.1099/ijsem.0.003140>
- Matu A, Lum Nde A, Oosthuizen L, Hitzeroth A, Badenhorst M, Duba L, Gidaga M, Klinck J, Kriek I-M, Lekoma PJ, Nel L, dos Ramos SM, Rossouw J, Salomane N, Segone N, Serobe S, Tiyani T, Hugo CJ, **Newman JD**. (2019) Draft Genome Sequences of Seven *Chryseobacterium* Type Strains. *Microbiol Resource Announc* 8:e01518-18. <https://doi.org/10.1128/mra.01518-18>
- Wilson-Sayres MA, Hauser C, Sierk M, Robic S, Rosenwald AG, Smith TM, Triplett EW, Williams JJ, Dinsdale E, Morgan WR, Burnette III JM, Donovan SS, Drew JC, Elgin SCR, Fowlks ER, Galindo-Gonzalez S, Goodman AL, Grandgenett NF, Goller CC, Jungck JR, **Newman JD**, Pearson W, Ryder EF, Tosado-Acevedo R, Tapprich W, Tobin TC, Toro-Martínez A, Welch LR, Wright R, Barone L, Ebenbach D, McWilliams M, Olney KC, Pauley MA (2018) Bioinformatics core competencies for undergraduate life sciences education. *PLoS ONE* 13(6): e0196878. <https://doi.org/10.1371/journal.pone.0196878>
- Ivanov, YV, Linz, B, Register, KB, **Newman, JD**, Taylor, DL, Boschert, KR, Guyon, SL, Wilson, EF, Brinkac, LM, Sanka, R, Greco, SC, Klender, PM, Losada, L, Havill, ET. (2016) Identification and taxonomic characterization of *Bordetella pseudohinzii* sp. nov. isolated from laboratory-raised mice. *Int. J. Syst. Evol. Microbiol.* 66:5452-5459. <https://doi.org/10.1099/ijsem.0.001540>
- Stropko*, SJ, Pipes*, SE, and **Newman, JD**. (2014) Genome-based reclassification of *Bacillus cibi* as a latter heterotypic synonym of *Bacillus indicus* and emended description of *Bacillus indicus*. *Int. J. Syst. Evol. Microbiol.* 64:3804-3809. <https://doi.org/10.1099/ijms.0.068205-0>
- Buonaccorsi, V, Peterson, M, Lamendella, R, **Newman, J**, Trun, N, Tobin, T, Aguilar, A, Hunt, A, Praul, C, Grove, D, Roney, J, Roberts, W. (2014) Vision and Change through the Genome Consortium for Active Teaching Using Next-Generation Sequencing (GCAT-SEEK). *CBE Life Sci Educ*, 13:1-2.
- Kirk, KE, Hoffman, JA*, Smith, KA*, Strahan, BL*, Failor, KC*, Krebs, JE*, Gale, AN*, Do, TD*, Sontag, TC*, Batties, AM*, Mistszyn, K* and **Newman, JD**. (2013) *Chryseobacterium angstadtii* sp. nov., isolated from newt tank. *Int. J. Syst. Evol. Microbiol.* 63:4777-4783. <https://doi.org/10.1099/ijms.0.054478-0>
- Buonaccorsi, VP; Boyle, MD; Grove, D; Praul, C; Sakk, E; Stuart, A; Tobin, T; Hosler, J; Carney, SL; Engle, MJ; Overton, BE; **Newman, JD**; Pizzorno, M; Powell, JR; Trun, N. (2011) GCAT-SEEKquence: Genome Consortium for Active Teaching of Undergraduates through Increased Faculty Access to Next-Generation Sequencing Data. *CBE Life Sci Educ*, 10:342-5.
- **Newman, JD** (2011) Using LabPaq Kits to do Science Labs at Home. *J. Microbiol Biol Educ* 12:335.
- Strahan, BL*, Failor, KC*, Batties, AM*, Hayes, PS*, Cicconi, KM*, Mason, CT* and **Newman, JD**. (2011) *Chryseobacterium piperi* sp. nov., isolated from a freshwater creek. *Int. J. Syst. Evol. Microbiol.* 61:2162-2166. <https://doi.org/10.1099/ijms.0.027805-0>

- **Newman JD** (2000) Molecular Phylogeny in the Undergraduate Microbiology Laboratory. *Focus on Microbiology Education* 6(2):3-4.
- **Newman JD**, Chappell J. (1999) Isoprenoid biosynthesis in plants: carbon partitioning within the cytoplasmic pathway. *Crit Rev Biochem Mol Biol.* 34:95-106.
- **Newman JD**, Yin S, Chappell J. (1998) Characterization of the TAC Box, a cis-Element within an Elicitor-Inducible Sesquiterpene Cyclase Promoter. *Plant Journal* 6:1-12.
- Yin S, Mei L, **Newman JD**, Back K, Chappell J. (1997) Characterization of an elicitor and pathogen inducible tobacco sesquiterpene cyclase promoter. *Plant Physiology* 115:437-451.
- Torisky RS, Kovacs L, Adviushko SA, **Newman JD**, Hunt AG, Collins GB. (1997) Development of a binary vector system for plant transformation based on the supervirulent *Agrobacterium tumefaciens* strain Chry5. *Plant Cell Reports*, 17:102-108.
- **Newman JD**, Chappell J. (1997) Isoprenoid biosynthesis in plants: Carbon partitioning within the cytoplasmic pathway. in *Biochemistry and Function of Sterols*. Nes WD and Parish EJ eds. CRC Press, Boca Raton pp. 123-134.
- **Newman JD**, Rosovitz MJ*, Noel KD. (1995) Requirement for rhizobial production of 5-aminoimidazole-4-carboxamide ribonucleotide (AICAR) for infection of bean. *Molec. Plant-Microbe Interact.* 8:407-414.
- **Newman JD**, Diebold RJ, Schultz BW, Noel KD. (1994) Infection of soybean and pea nodules by *Rhizobium* spp. purine auxotrophs in the presence of 5-aminoimidazole-4-carboxamide riboside. *Journal of Bacteriology.* 176:3286-3294.
- **Newman JD**, Schultz BW*, Noel KD (1992) Dissection of nodule development by supplementation of *Rhizobium leguminosarum* biovar *phaseoli* purine auxotrophs with 5-aminoimidazole-4-carboxamide riboside. *Plant Physiology.* 99:401-408.

Professional Activities

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|-------------|---|
| April, 2018 | Presentation at Bergey's International Society for Microbial Systematics (BISMIS) in Johannesburg, S. Africa. Multiple Uses of Genome Sequences in Characterizing Novel Bacteria. |
| April, 2018 | Presentation at South African Society for Microbiology (SASM) in Johannesburg, S. Africa. Novel Microbes with Industrial Applications Discovered in an Undergraduate Laboratory. |
| Feb., 2018 | Invited Research Presentation at University of the Free State, Bloemfontein, South Africa. |
| Sept., 2017 | Invited Research Presentation at Messiah College |
| Sept., 2016 | Presentation at (BISMIS) in Pune India: Integration of Average Amino Acid Identity (AAI) and Percentage of Orthologous Genes (BBH) In a Single Phylogenomic Metric, The Reciprocal Orthology Score Average (ROSA). |
| Aug., 2016 | Invited Presentation at NIBLES conference (Network for Integrating Bioinformatics into Life Science Education). |
| June, 2016 | Invited Presentation at American Society for Microbiology (ASM) Microbe meeting, Boston: "A Framework for Publishing Novel Bacterial Species Discovered in the Undergraduate Microbiology Lab |
| Oct., 2015 | Presentation at Flavobacterium Conference, "Phylogenomics of the <i>Flavobacteriaceae</i> " |
| June, 2015 | Workshop Leader at 5-day HHMI & NSF funded Genome Consortium for Active Teaching (GCAT-SEEK) at Morgan State University. |

May, 2015 **Invited Presentations (2)** of Educational Use of Biolog Technology in Biolog Exhibit Booth at ASM General Meeting, New Orleans

March, 2015 **Invited Research Presentation** at Duquesne University

Nov., 2014 **Organizer and Workshop Leader** at 2-day Allegheny Branch of the American Society for Microbiology (ABASM) annual meeting at Lycoming College

Sept., 2014 **Invited Presentation at Lycoming College Board of Trustees Dinner.** "LycoMicro and Genomic Research"

June, 2014 **Organizer and Workshop Leader** at 5-day HHMI & NSF funded Genome Consortium for Active Teaching (GCAT-SEEK) at Lycoming College.

May, 2014 **Presentation of Allegheny Branch Activities** at American Society for Microbiology (ASM) Branch Officers Forum, Boston MA.

May, 2014 **Invited Presentations (2) of Educational Use of Biolog Technology** in Biolog Exhibit Booth at ASM General Meeting, Boston MA

May, 2014 **Invited Presentation of "Microbial Genome Sequencing and Analysis with GCAT-SEEK"** at ASM Conference for Undergraduate Educators (ASMCUE), Boston MA.

April, 2014 **Poster Presentation** of "Documenting Discoveries of Diversity in the Unknown Microbe Identification Lab" at NSF & HHMI funded Course-based Undergraduate Research Experience Meeting (CUREnet) at Cold Spring Harbor NY

June, 2013 **Workshop Leader** at 5-day HHMI & NSF funded Genome Consortium for Active Teaching (GCAT-SEEK) at Juniata College.

Nov., 2012 **Presentation** at meeting of Allegheny Branch of the American Society for Microbiology, "Bioinformatics in (Micro)Biology Education."

Jan., 2012 **Research Presentation** at to the Department of Plant Pathology, Penn State University, "Novel Bacterial Species Everywhere You Look."

Nov., 2011 **Presentation** at ABASM meeting, "Incorporating research into the curriculum:NextGen sequence data in the General Biology (Freshman!) and Molecular Biology laboratories.."

July, 2011 **Participant** in NSF Research Collaborative Network for Undergraduate Biology Education to provide undergraduates with access to Next Generation Sequencing Technology

Nov., 2010 **Research Presentation** at York College of Pennsylvania, "Novel Bacterial Species Everywhere You Look."

May, 2010 **Participant** in National Science Foundation Introductory Biology Project Workshop, San Diego

Nov., 2006 **Workshop presenter:** Genomics & Bioinformatics Throughout the Curriculum at a WH Freeman Workshop entitled: "Improving Biology Education: Theory and Practice" in Orlando, FL

Mar., 2006 **Invited Research Presentation** at St. Joseph's University, "Evolution of the Purine Biosynthetic Enzyme. FGAR Amidotransferase"

May, 2002 **Workshop Presenter:** "Integrating Genomics Throughout the Curriculum, with an emphasis on Prokaryotes" at Genomic Education Workshop at ASM General meeting, Salt Lake City.

2000-2010 **Participation in Genome Consortium** for Active Teaching (GCAT) led by A. Malcolm Campbell, Davidson College. This project incorporates the use of cutting-edge "Gene Chips" into the undergraduate curriculum.

Dec., 2000 **Invited Conference Presentation** "*Investigational Bioinformatics to Support Core Laboratory Activities*" at American Society for Cell Biology Annual Meeting, San Francisco.

- Aug., 2000 **Workshop Participant** in Researchlink 2000 - a CUR program to incorporate research-based labs into the curriculum.
- April, 2000 **Workshop Presenter** “*Integration of Bioinformatics Across the Biology Curriculum*” at Benjamin Cummings Strategies for Success Workshop, Richland Community College, Dallas TX.
- Mar., 2000 **Workshop Presenter** “*Integration of Bioinformatics Across the Biology Curriculum*” at Wiley Publishers Celebrate Science Workshop, California State University, Fullerton.
- Dec., 1999 **Workshop Presenter** “*A Developmental Approach to Integrating Bioinformatics with Laboratory Experiments in Several Undergraduate Courses*” at American Society for Cell Biology Annual Meeting, Washington DC at an Education Workshop entitled, Genomics: How Do We Teach in the Middle of a Revolution?
- Nov., 1999 **Workshop Presenter** “*Integration of Bioinformatics Across the Biology Curriculum*” and “*Hands-on Analysis of 3-D Protein Structures*” at Strategies for Success Workshop, University of Hartford.
- Oct., 1998 **Homecoming (10 yrs!) Research Seminar** at the Univ. of South Carolina entitled “*The Purine Biosynthetic Enzyme FGAR Amidotransferase as a Potential Target for Antimicrobial Drugs.*”
- June, 1998 **Featured Speaker** in Computers in the Curriculum Program at Drew University: “*Application of Computer Technology to Facilitate Student Learning.*”
- May, 1998 **Workshop Presenter** “*Ribosomal RNA Gene Amplification and Sequencing to Identify Unknown Microbes*” at the ASM National Microbiology Education Conference, Atlanta.
- May, 1998 **Research Seminar** at Drexel University – “*FGAR Amidotransferase: A Purine Biosynthetic Enzyme with Potential as a Target for Antimicrobial Drugs.*”
- Nov., 1997 **Workshop Presenter** “*A World Wide Classroom: Using the Web as a Course Supplement*” at Benjamin Cummings Strategies for Success Workshop, West Chester University.

Professional Service

- 2000-present **Reviewer** of manuscripts for *International Journal of Systematic and Evolutionary Microbiology* (IJSEM), *Systematic and Applied Microbiology* (SAM), *Antonie van Leeuwenhoek* (AvL), *Journal of Microbiology and Biology Education* (JMBE), *Cell Biology Education – Life Science Education* (CBE-LSE), *Journal of Chemical Education* (JCE), *Molecular Biotechnology*, *FEMS Microbiol. Letters*, *Molecular Plant-Microbe Interactions* (MPMI).
- April 2016 **External Program Review** for Hood College
- Feb., 2014 **Chapter Review** for of W.H. Freeman Publishers, Berg/Tymoczko/Stryer *Biochemistry*
- Aug., 2013 **Chapter Review** for of W.H. Freeman Publishers, Cox/Doudna/O’Donnell’s *Molecular Biology*
- Mar., 2012 **External Reviewer** for St. Francis University Biology Department
- 2012-2013 **Reviewer** for Juniata College HHMI Genomics Leadership Grants
- 2012-2014 **Reviewer** for PA Academy of Sciences (PAS) Undergraduate Student Research Grant Applications
- 2010-2013 **Reviewer** for National Science Foundation Graduate Research Fellowship Program
- 2009-2014 **Reviewer** for ASM Summer Undergraduate Research Fellowship Applications
- June, 2010 **Reviewer** for National Science Foundation Major Research Instrumentation Program
- Jan., 2006 **Textbook Review**, “*Principles of Gene Manipulation and Genomics 7th Ed.*” Blackwell Publishing by Primrose & Twyman

Dec., 2005 **Textbook Review**, “Discovering Genomics, Proteomics & Bioinformatics” Benjamin Cummings by A. Malcolm Campbell & Laurie Heyer, Davidson College

2003-2005 **Reviewer** for National Science Foundation Graduate Research Fellowship Program

July, 2000 **Invited to write questions** for Biochemistry, Cell and Molecular Biology GRE Subject test.

July, 2000 **Consultant** with UW Parkside on Integration of Bioinformatics Across the Biology Curriculum.

May, 2000 **Chapter Review** for *Introduction to Genetics* by Pierce (WH Freeman).

Nov., 1998 **Chapter Review** for 4th edition (2000) of *Molecular Cell Biology* textbook by Lodish *et al.*, (WH Freeman).

Jan., 1998 **Grant Proposal Review Panel** - National Science Foundation Instrumentation and Lab Improvement Program (NSF-ILI).

Professional Affiliations

- National Association of Advisors for Health Care Professions (NAAHP)
- Bergey’s International Society for Microbial Systematics (BISMIS)
- American Society for Microbiology (ASM)
- Allegheny Branch of the American Society for Microbiology (ABASM)
- Council for Undergraduate Research (CUR)
- Pennsylvania Academy of Sciences (PAS)

Local/College Service Activities

2015-present Promotion and Tenure Committee

2015-2017 Long Range Planning Committee

2014-2017 **Chair** Health Professions Advisory Committee (HPAC)

2014-2016 Institutional Review Board (IRB) (chair 2015)

2012 Presenter @ Science Festival at Pennsylvania College of Technology

2011-2017 Faculty Mentor [Michael Darough (Art); Doug Hines (Chem); Gordon Steenbergen (Phil)]

2010-2015 Faculty Representative to Trustee Development Committee

2010-2012 Presenter @ High School Biology Teacher Workshop

2009-2015 Institutional Animal Care and Use Committee (IACUC)

2008-2012 Teacher Education Committee

2007-2014 **Chair** of Biology Department

2006-2007 Bower League Basketball Coach

2005-2010 Schick Elementary School Activity Day Planning Committee

2005-2009 Loyalsock Little League **Board** (League Information Officer) & Team Manager

2005-2007 Montoursville AYSO Soccer Coach

2005-2008 Curriculum Development Committee

2004-2005 **Faculty Secretary**

Spring 2003 Organized Lycoming College Symposium on the Human Genome

2000-2005 Individual Studies Committee (chair from 2002-2005)

1999-2004: **Board member** of Williamsport Municipal Water and Sanitary Authorities.

1999-2000: Co-chair and author of report for Technology Task Force of Middle States Accreditation Review.

- Sept., 1999: Presentation for Lycoming College Symposium on Evolution, "A Typical Biologist's View of Evolution: Overwhelming Evidence."
- Jan., 1998: Presentation for Williamsport Lions Club, "Atherosclerosis: Causes, Effects, Treatments and Prevention."
- 1996-present: Safety Committee, Biology Department Chemical Hygiene Officer.
- 1996-2000: Academic Computing Committee (Secretary 97-98).

Honors Projects Mentored

- Andisiwe Matu '18 Characterization of *Chryseobacterium* sp. BLS98 sp. nov. and related genomes.
- Devin Frantz '18 Isolating a species of bacteria capable of degrading an unusual carbon source.
- Jacob Miller '17 Characterization of *Flavobacterium falloni* sp. nov and Examination of the Cross Reactivity of Antibodies against strain JRM to other novel *Flavobacterium* strains and Genetically Similar Organisms.
- Kirsten Fischer '16 Genomic Characterization of Two Novel Flavobacteria.
- Andrew Gale '15 Validation of Reciprocal Orthology Score Average (ROSA) Through Comparison With Other Genomic Metrics and Traditional Phenotypic Methods
- Thomas Sontag '14 Assembly and Annotation of the *Chryseobacterium haifense* genome
- Jordan E. Krebs '13 Purification of Flexirubin Pigments from *Chryseobacterium*
- Timothy Hostelley '13 Assembly and Annotation of the *Kaistella koreensis* Genome
- Kevin C. Failor '11 Characterization of *Flavobacteriaceae* using Multi Locus Sequence Typing
- Damian Mariano '10 Characterization of a Potentially Novel *Yersinia* Species, *Yersinia novum* MAC.
- Brittane Strahan '09 Analysis of the continually Diversifying Microbial Community in a Wastewater Sequencing Batch Reactor
- Jessica Bennett '08 Isolation, Cloning and Phylogenetic Analysis of Formylglycinamide Ribonucleotide Amidotransferase.
- Tyler Marcinko '08 Identification and Characterization of *Sejongia lycomia* JJC, a Unique Isolate from Loyalsock Creek.
- Kellie Cicconi '07 *Acinetobacter piperi* MAG sp. nov., isolated from Loyalsock Creek, Williamsport PA.
- Erica Walsh '05 Cloning and Expression of a cDNA for a Human Purine Biosynthetic Enzyme
- Marla Yates '03 Expression and Purification of *Homo sapiens* FGAR Amidotransferase.
- Jennifer Kinne '03 Expression and Purification of the *purQ* gene of *Staphylococcus aureus*.
- Jennifer Leader '02 The Cloning, Overexpression and Purification of the Human FGAR Amidotransferase Protein.
- Breann Wolfe '02 Amplification, Cloning and Expression of the *purQ* gene of *Staphylococcus aureus*.
- Christina Boob '01 The Expression and Purification of the *Staphylococcus aureus* PurS protein by the IMPACT T7 system.
- Deanne Greene '00 Amplification, Cloning and Expression of the *purQ* gene of *Staphylococcus aureus* and an evolutionary study of the multi-subunit form of the FGAR amidotransferase enzyme using bioinformatics.
- John Mazzullo '00 The Synthesis of FGAR (N-Formylglycinamide Ribonucleotide) and the Isolation and Amplification of the Human FGAR Amidotransferase cDNA.
- Mark McClelland '99 Mutagenesis and Expression of Mammalian Clotting Factor IX

Matthew Georgy '98 Site Directed Mutagenesis of Green Fluorescent Protein
Jonathan Cook '97 DNA sequencing and analysis of *Rhizobium* Purine Biosynthetic Genes
Kevin Ferguson '97 DNA sequencing and analysis of *Rhizobium* Purine Biosynthetic Genes

Conference Posters & Presentations with/by students

Sept., 2016 Presentation at Bergey's International Society for Microbial Systematics (BISMIS) in **Pune India:**

- Carson, EA, Snyder DM, Newman, JD. Novel *Sphingobacteriaceae* Related to *Pedobacter agri* Isolated From a Freshwater Creek.
- Frantz DC, Clayton J, Krebs, JE, Newman, JD. Reinstatement of the Genus *Kaistella* and Proposal of the Family, *Chryseobacteriaceae*.
- Jacobs, KT, Newman JD. Genomic And Phenotypic Characterization Of *Epilithonimonas diehli* sp. nov. From a Freshwater Creek.
- Miller JR, Smith AT, Newman JD, Two Novel *Flavobacteriaceae* Related To *Flavobacterium hydatis* and *Flavobacterium hibernum* Isolated From a Freshwater Creek.
- Wilson VM, Marianelli NL, Newman JD. Novel *Flavobacteriaceae* Isolated From a Freshwater Creek.

June 2016 American Society for Microbiology (ASM) – General Meeting, Boston.

- Fischer KF, Newman JD - Genomic Analysis and Classification of *Flavobacterium gabrieli* KJJ.
- Frantz DC, Clayton J, Krebs, JE, Newman, JD. Reinstatement of the Genus *Kaistella*

May, 2015 American Society for Microbiology (ASM) – General Meeting, New Orleans LA.

- Anderson BM, Newman JD - The Identification of a Novel *Pedobacter* Species.
- Stropko SJ, Pipes SE, Newman JD - Characterization of Novel *Bacillus* Species and Reclassification of *Bacillus cibi* as Later Heterotypic Synonym of *Bacillus indicus*.
- Miller JR, Smith AK, Newman JD - Genomic and Phenotypic Analysis of Two Novel *Flavobacterium* Isolates from a Freshwater Creek.
- Pipes SE, Newman JD - Genome Analysis of Largemouth Bass Virus Isolates from Smallmouth Bass.
- Giraldo M, Morrissette H, Newman JD - Identification and Analysis of Bacteria Isolated from Smallmouth Bass Lesions.
- Gale AN, Newman JD - Reclassification within the Genus *Flavobacterium*.

May, 2014 American Society for Microbiology (ASM) – General Meeting, Boston, MA.

- Andrew Gale, Jordan Krebs, Eileen Peluso, Jeff Newman - Integration of Average Amino Acid Identity (AAI) and Percentage of Orthologous Genes in a Single Phylogenomic Metric, the Reciprocal Orthology Score Average (ROSA).
- Samantha Stropko & Jeff Newman, Identification and Characterization of *Lycobacillus colbertis* SJS
- Victoria Bortniak & Jeff Newman, Characterization of *Chryseobacterium populense* sp. nov.
- Tom Sontag & Jeff Newman, *Chryseobacterium haifense*: A Genomic Report
- Ashley Gimbel & Jeff Newman, Classification and Identification of *Flavobacterium douthatii* ABG sp. nov.
- Kyle Swovick & Jeff Newman, *Flavobacterium succinicans*: A Genomic Report.

Nov., 2013 Allegheny Branch of the American Society for Microbiology (ABASM) Meeting – St Vincent College

- **Andrew Gale**, Jordan Krebs, Eileen Peluso, Jeff Newman - Integration of Average Amino Acid Identity (AAI) and Percentage of Orthologous Genes in a Single Phylogenomic Metric, the Reciprocal Orthology Score Average (ROSA). **Won 1st place for presentation**
- **Samantha Stropko** & Jeff Newman, Identification and Characterization of *Lycobacillus colbertis* SJS gen. nov, sp. nov. **Won 1st place for presentation**

Oct., 2013 University of Maryland Baltimore County (UMBC) Undergraduate Research Conference

- **Andrew Gale**, Jordan Krebs, Eileen Peluso, Jeff Newman - Integration of Average Amino Acid Identity (AAI) and Percentage of Orthologous Genes in a Single Phylogenomic Metric, the Reciprocal Orthology Score Average (ROSA).
- **Samantha Stropko** & Jeff Newman, Identification and Characterization of *Lycobacillus colbertis* SJS gen. nov, sp. nov. **Won 1st place for presentation**
- **Victoria Bortniak** & Jeff Newman, Characterization of *Chryseobacterium populense* sp. nov.

May, 2013 American Society for Microbiology (ASM) – General Meeting, Denver CO

- **Jordan Krebs** – Oral presentation – Biolog Exhibitor Booth (**invited**)- Student Perspectives on the Use of Biolog GenIII Plates in Undergraduate Research and a General Microbiology Course.
- **Jordan Krebs** – Poster presentation - Purification of Flexirubin Pigments from *Chryseobacterium*.
- **Andrew Gale** - Poster presentation - Average-Nucleotide Identity Protein-coding (ANI_{pc}): Novel Genomic-Based Method to Differentiate Bacterial Species.
- **Dillon Snyder** – Poster presentation (by Andrew Gale & Jordan Krebs) - A Novel *Pedobacter* Species Isolated from a Freshwater Creek

April, 2013 Pennsylvania Academy of Sciences (PAS) Annual Meeting, University of Pittsburgh, Bradford

- **Jordan Krebs** – Oral presentation - Purification of Flexirubin Pigments from *Chryseobacterium*.
- **Thomas Sontag** - Oral presentation – The Assembly and Annotation of the *Chryseobacterium haifense* Genome.
- **Andrew Gale** - Poster presentation - Average-Nucleotide Identity Protein-coding (ANI_{pc}): Novel Genomic-Based Method to Differentiate Bacterial Species.
- **Dillon Snyder** – Poster presentation (by Andrew Gale & Jordan Krebs) - A Novel *Pedobacter* Species Isolated from a Freshwater Creek.

Mar., 2013 16th Annual Environmental Chemistry and Microbiology Student Symposium – Penn State Univ.

- **Jordan Krebs** – Poster presentation - Purification of Flexirubin Pigments from *Chryseobacterium*.
- **Andrew Gale** - Poster presentation - Average-Nucleotide Identity Protein-coding (ANI_{pc}): Novel Genomic-Based Method to Differentiate Bacterial Species.

Nov., 2012 Allegheny Branch of the American Society for Microbiology (ABASM) Meeting – Penn State University

- **Jordan Krebs** – Oral presentation - Purification and Molecular Structure Determination of Flexirubin Pigments from *Chryseobacterium*.
- **Shayn Collins**– Identification and Characterization of a Potentially Novel Genus within the *Enterobacteriaceae*
- Timothy Hostalley, Tom Sontag, Jordan Krebs, **Jeff Newman** – Assembly and Annotation Strategies for Three Microbial Genomes Sequenced Through the Genome Consortium for Active Teaching – NextGen

Sequencing Group (GCAT-Seek).

- Oct., 2012 University of Maryland Baltimore County (UMBC) Undergraduate Research Conference
- **Jessica Hoffman** - Characterization of *Epilithonimonas* sp. FH-1. from a Freshwater Creek.
 - **Timothy Hostelley** - Sequencing, Assembling, and Annotating the *Kaistella koreensis* Genome.
 - **Thomas Sontag** - *De Novo* Assembly of the *Chryseobacterium haifense* Genome .
 - **Jordan Krebs** - Purification And Molecular Structure Determination Of Flexirubins From *Chryseobacteria*.
- Mar., 2012 Pennsylvania Academy of Sciences (PAS) Annual Meeting, Cedar Crest College
- **Genome Sequencing of *Lycomia zaccaria* gen. nov sp.nov., *Chryseobacterium haifense*, and *Kaistella koreensis* and Comparison to Two Closely Related Genomes.** Jordan Krebs, Tom Sontag, Jeffrey Newman. Jordan won **first prize** for his oral presentation.
- Nov., 2011 Allegheny Branch of the American Society for Microbiology (ABASM) Meeting – St. Aloysius College
- **Description of a new Genus within the Flavobacteriaceae.** Jordan E. Krebs, and Jeffrey D. Newman.
- May, 2011 American Society for Microbiology (ASM) Annual Meeting, New Orleans, LA:
- **Characterization of Novel Bacterial Species Identified by Undergraduate Students in a General Microbiology Course.** Kristen Collins, Jordan Krebs, Karen Kirk, Katherine Smith, Trisha Duncan, KC Failor, Jeff Newman.
 - **Multilocus Sequence Analysis in the Genus *Chryseobacterium*.** KC Failor, Jeff Newman.
- Nov., 2010 Allegheny Branch of the American Society for Microbiology (ABASM) Meeting – Lock Haven University
- **Polyphasic Characterization of *Comamonas franzi*, a novel species from the Loyalsock Creek .** [Kristen Collins](#), Jeffrey D. Newman
 - **Molecular and Phenotypic Characteristics of a Novel Species and Related Type Strains Suggest a Reorganization within the Genus *Chryseobacterium*.** Jordan E. Krebs, K. C. Failor, Tyler M. Marcinko, and Jeffrey D. Newman.
 - **Characterization of the Flavobacteriaceae using Multilocus Sequence Typing** KC Failor, Jeffrey D. Newman.
- May, 2010 American Society for Microbiology (ASM) Annual Meeting, San Diego, CA:
- **Analysis of Two Potentially Novel *Yersinia* Species from Pennsylvania Creeks** Damian K. Mariano, Alicia M. Schueck, K.C. Failor, Jeffrey D. Newman
- May, 2010 ASM Conference for Undergraduate Educators (ASMCUE), San Diego, CA:
- **The Effect of Hands-On Experience with Microbial Identification Technologies on Student Understanding of These Methodologies.** Jeffrey D. Newman,
- Nov., 2009 American Society for Microbiology (ASM) – Allegheny Branch Meeting – Juniata College

- **A Survey of Culturable Microbial Diversity from the Lycoming Creek.**
Kristen Collins, Allison Batties, Tyler Hoffman, Jeffrey D. Newman
- **Phenotypic Characteristics of Microbes from a Freshwater Creek.**
Tyler Hoffman, Kristen Collins, and Jeffrey D. Newman

May, 2009 American Society for Microbiology (ASM) Annual Meeting, Philadelphia, PA.

- **Isolation and Characterization Of Four Novel *Flavobacteriaceae*.**
Brittane L. Strahan*, Allison M. Batties*, Jeffrey D. Newman

Oct., 2008 University of Maryland Baltimore County (UMBC) Undergraduate Research Conference

- **Isolation and Characterization of 4 Novel Bacterial Species.**
Brittane L Strahan* and Jeffrey D. Newman

May, 2008 American Society for Microbiology (ASM) Annual Meeting, Boston, MA.

- **Analysis of the Microbial Community in a Wastewater Sequencing Batch Reactor at Two Time Points Using Both Culture Dependent and Independent Methods.**
Brittane Strahan*, Jessica Bennett, Allison Batties, Kristen Collins and Jeffrey Newman,
- **Identification and Characterization of *Sejongia lycomia* sp. nov., a Unique Isolate from Loyalsock Creek.** Tyler M. Marcinko and Jeffrey D. Newman

Oct., 2007 University of Maryland Baltimore County (UMBC) Undergraduate Research Conference

- **Evolution of the Purine Biosynthetic Enzyme, Formylglycinamide Ribonucleotide Amidotransferase (FGARAT).** Allison Batties*, Jessica Bennett, and Jeffrey Newman
- **Analysis of the Microbial Community in a Wastewater Sequencing Batch Reactor.**
Brittane Strahan and Jeffrey D. Newman

May, 2007 American Society for Microbiology (ASM) Annual Meeting, Toronto, ON, Canada

- **Analysis of the Microbial Community in a Wastewater Sequencing Batch Reactor.**
Brittane Miller and Jeffrey D. Newman.
- **Identification of a Novel Heterodimeric Form of the Purine Biosynthetic Enzyme, Formylglycinamide Ribonucleotide Amidotransferase (FGARAT).**
Elizabeth Sehi, Jessica Bennett, Allison Batties and Jeffrey D. Newman*
- **Initial Characterization of Novel Bacterial Species from the Loyalsock Creek in North Central Pennsylvania.** Kellie M. Cicconi, Justin W. Martin, Patrick Hayes and Jeffrey D. Newman

May, 2007 ASM Conference for Undergraduate Educators (ASMCUE), Buffalo, NY:

- **Creek Sediments as a Rich Source of BioSafety Level-1 Organisms for Use as Unknowns in an Undergraduate Microbiology Laboratory.** Jeffrey D. Newman.

April, 2007 PA Academy of Science Annual Meeting - Oral Presentation

- **Identification and Characterization of *Acinetobacter piperi* MAG.**

Kellie M. Cicconi and Jeffrey D. Newman

April 2005 PA Academy of Science Annual Meeting - Poster

- **Investigation of a Previously Uncultured Pseudomonad.** Will Tumbush & Jeff Newman

Oral Presentations

- **Evolutionary Analysis of Formylglycinamide Ribonucleotide Aminotransferase.** Elizabeth Sehi & Jeff Newman
- **The Cloning and Expression of *Staphylococcus aureus* purD.**
Andrew Lutzkanin and Jeffrey Newman
- **Cloning and Expression of a cDNA for a Human Purine Biosynthetic Enzyme**
Erica Walsh and Jeffrey Newman

April 2004 Sigma Xi Annual Undergraduate Research Conference, St Joseph's Univ., Philadelphia Posters

- **The Cloning and Expression of *Staphylococcus aureus* purD.**
Andrew Lutzkanin and Jeffrey Newman
- **Evolutionary Analysis of the Purine Biosynthetic Enzyme, FGAR Amidotransferase**
Elizabeth K. Sehi and Jeffrey D. Newman
- **Cloning and Expression of a cDNA for a Human Purine Biosynthetic Enzyme**
Erica Walsh and Jeffrey Newman

April 2003 PA Academy of Science Annual Meeting

- **Expression and Purification of *Staphylococcus aureus* PurS.** Erica Walsh

June, 2000 Council for Undergraduate Research National Conference, Wooster, OH Posters

- **Cloning and Expression of *Staph. aureus* Genes for Antimicrobial Development.** Jeffrey D Newman, Christina Boob, Deanne Greene, Lori Schultz, David Wilson
- **Bioinformatics in Undergraduate Research and Required Courses.** Jeffrey Newman

April, 1999 PA Academy of Science Annual Meeting

- Mutagenesis And Expression Of Mammalian Clotting Factor IX. Mark McClelland*, Jeff Newman, and Katherine High
- Amplification And Cloning Of The *Escherichia coli* FGAR Amidotransferase Gene Into An Expression Vector. Laura Singer* and Jeffrey Newman
- Amplification, Cloning, And Expression Of The *Staphylococcus aureus* purY Gene. Lori Schultz* and Jeffrey Newman
- PCR Amplification Of *Rhizobium* Purine Biosynthetic Genes And Cloning Into An Expression Vector. Rachel M. Lawton*, Kimberly A. Mistszyn and Jeffrey D. Newman