

# Amber Janece Howerton

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*Professional:*  
Nevada State College  
Assistant Professor of Chemistry  
Associate Department Chair, Physical  
and Life Sciences (PaLS)

1300 Nevada State Drive  
Henderson, NV 89002  
702-992-2642  
[Amber.Howerton@nsc.edu](mailto:Amber.Howerton@nsc.edu)

## Education

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- 2008-2012      **Ph.D. in Chemistry specific focus: Organic chemistry and Biochemistry**  
University of Nevada, Las Vegas (UNLV), Las Vegas, Nevada  
Graduate advisor: Ernesto Abel-Santos, Ph.D.
- Mapping interactions between bile salt analogs and *Clostridium difficile* spores.
  - Prevention of *C. difficile* infection in the mouse model using a novel bile salt analog, CamSA.
- 1996-2001      **B.S. Biology (Honors)**  
University of Central Oklahoma (UCO), Edmond, OK
- 1999              **Summer Science Program, Chemistry**  
Yale University, New Haven, CT

## Professional Experience and Appointments

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- 07/2019 – Present      **Associate Department Chair**; Department of Physical and Life Sciences, Nevada State College, Henderson, NV
- 08/2014 -- Present      **Assistant Professor of Chemistry**  
Nevada State College, Henderson, NV
- 06/2013 -- 07/2014      **Post-doctoral Scholar**  
University of Nevada, Las Vegas – Department of Chemistry
- 08/2008 -- 08/2014      **Part-time instructor** (Chemistry and Biology courses)  
Nevada State College, University of Nevada, Las Vegas, College of Southern Nevada \*Note: 08/2008 to 08/2012 teaching experience at UNLV only
- 11/2004 -- 01/2006      **Project Manager/Research Associate III**  
Therametics, LLC – Supervisor Dr. Bryan Fuller  
\*Note: Cutanix evolved into Therametics
- 12/2001 -- 11/2004      **Research Associate II**  
Cutanix, LLC - Dr. Bryan Fuller

05/2000 -- 12/2001 **Research Associate I**

Oklahoma Medical Research Foundation – Supervisor Dr. Cai Zhang

### *Teaching/Mentoring Experience*

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#### *Mentoring:*

2015 - present

Student Awards directly related to mentoring undergraduate research:

**2019 – NSF EPSCoR** -- 1 student research award

**2018 – NASA Space Grant** -- 1 student research award

**REU at UNLV** -- 1 student research award

**2017 – NSF EPSCoR** – 3 students received research award

**NASA Space Grant** – 1 student research award

**NSHE Regent's Scholar award** – Nominated a research student for this award and she was awarded \$5000

**2016 – NSF EPSCoR** – 1 student research award

**2015 - NSF EPSCoR** – 2 students received research award

**UNLV Research Symposium** – Student researcher won 2<sup>nd</sup> place in the poster competition under my mentorship

Several mentored students have been accepted to graduate schools and professional programs

#### *Professional Training related to Teaching:*

June 2019

**AR-CURE Synthetic Biology** – NSF EPSCoR funding for faculty training in bioinformatics – Ouachita Baptist University, Arkadelphia, AR

July 2018

**Bioinformatics: Train the Trainer T3 Workshop** – NIH INBRE funding for faculty training in bioinformatics – held at MDI laboratories in Bar Harbor, Maine sponsored by University of New Hampshire

#### *Teaching:*

2012 -- Present

**Nevada State College, Henderson, NV**

Biochemistry I (Chem 474), Biochemistry II (Chem 475), Molecular Biology (Biol 405), Medical Biochemistry (Chem 456), Introduction to Chemistry for Health Sciences (Chem 112/108), Introduction to Chemical Pharmacology & Toxicology (Chem 212), Medicinal Chemistry (Chem 380), Scientific Ethics (Chem 205/Biol 205), Biochemistry Lab (Chem 472), General Microbiology (Biol 251), Cell processes (Biol 209), Chemistry I for Health Sciences with Lab (Chem 110), Chemistry II for Health Sciences with Lab (Chem 111)

**Course Coordinator for Chem 112/108**

## Service

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Aug 2017-present **Faculty Senate Curriculum Committee Chair** (serving 3<sup>rd</sup> term)

Aug 2016-present **Faculty Senator** – Serving 2<sup>nd</sup> 2 year term (consecutive)

Fall 2015-present **Chem 112/108 Course Coordinator**

Jan 2016 - 2018 **ACS – SW NV chapter –Alternate Counselor**

Nov 2015/16/17/18 **Host** the ACS Poster presentations at NSC

## Honors, Awards, Patent

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2019 Emerson Outstanding Service Award for service to American Chemical Society local Southern Nevada chapter

2018 Recognition by NSF EPSCoR as Trailblazer mentor – Nevada STEM Mentor Network – Personal video interview with 2 students to be posted to the Mentor Network website

2017 NSC Teaching Excellence Award

## Publications

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Bieser, K. & **Howerton, A.** (co-1<sup>st</sup> authors & corresponding), Sevigny, J., Heath, N., Horning, D., Miranda, K., Vinci, S., and D. Thomas. Toxigenic *Clostridioides difficile* isolated from domestic canine feces. Manuscript in review PLoSOne (submitted 6/7/19).

**Howerton, A.**, Seymour, C.O., Murugapiran, S.K., Liao, Z., Phan, J.R., Estrada, A., Wagner, A. J., Mefferd, C.C., Hedlund, B.P., & E. Abel-Santos. **Sept 2018**. Effect of the synthetic bile salt analog CamSA on the hamster model of *Clostridium difficile* infection. *Antimicrob Agents Chemother.* 62(10): pii: e02251-17.

Yamashita, T., Arnab, S., Sevigny, J.L., Ennis, N., Saroja, C., Yamashita, T., Thomas, W.K., Thomas, D., Alam, M., Alroobi, R.M., Atkinson, E.C., Baer, N., Bieser, K., Blouin, N., Brogan, L.J., Chen, J., Edgington, N.P., George, O.L., Heda, G.D., **Howerton, A.**, Luek, J., Mazzer, P., Miller, K., Moore, D.P., Page, S.T., Roe, J.L., Shuman, K.E., Townsend, K. and Lou, T. **2018**. *Streptomyces* sp. SDr-06, whole genome shotgun sequencing project. GenBank: Accession No. NZ\_QOLA000000000.1. National Center for Biotechnology Information NCBI.

URL: [https://www.ncbi.nlm.nih.gov/nucleotide/NZ\\_QOLA000000000.1](https://www.ncbi.nlm.nih.gov/nucleotide/NZ_QOLA000000000.1)

Weatherspoon-Griffin, N., Picker, M.A., Pew, K.L., Park H.S., Ginete, D., Karney, M.M., Usufzy, P., Castellanos, M.I., Duhart, J.C., Harrison, D.J., Socea J.N., Karabachev, A.D., Hensley, C.T., **Howerton, A.J.**, Ojeda-Daulo, R., Inmak, J.A., and H.J. Wing. **Jun 2018**. Insights into transcriptional silencing and anti-silencing in *Shigella flexneri*: a detailed

molecular analysis of the *icsP* virulence locus. *Mol Microbiol.* 108(5): 505-518.

Abel-Santos, E. & **A. Howerton**, January 9, **2018**. Reducing Risk of Contracting *Clostridium difficile* Associated Disease. Pat. US 9,862,744 B2. Publication # US 20160009753 A1.

Abel-Santos, E. & **A. Howerton**, July 14, **2015**. Reducing Risk of Contracting *Clostridium difficile* Associated Disease. Pat. US 9,079,935. Publication # US 20140045808 A1.

**Howerton, A.**, Patra, M. and Abel-Santos, E. 2013. Fate of ingested *C.difficile* spores in mice. PLoSOne 8(8):e72620.

**Howerton, A.**, Patra, M. and Abel-Santos, E. 2013. A new strategy for the prevention of *Clostridium difficile* infection. *J Infect Dis* 207(10):1498-1504.

This article was chosen for editorial commentary:

Armstrong, G.D. et al. 2013. A potential new tool for managing *C. difficile* infection. *J Infect Dis* 207(10):1484-1486.

This article was chosen for F1000Prime, Oct. 2013.

**Howerton, A.**, Ramirez, N. and Abel-Santos, E. **2011**. Mapping interactions between germinants and *Clostridium difficile* spores. *J. Bacteriology.* 193(1):274:282.

Dodatko, T., Akoachere, M., Muehlbauer, S.M., Helfrich, F., **Howerton, A.**, Ross, C., Wysocki, V., Brojatsch, J. and Abel-Santos, E. **2009**. *Bacillus cereus* spores release alanine that synergizes with inosine to promote germination. PLoS ONE 4(7):e6398.

Batista, J., **Howerton, A.** and Jensen, P. **2007**. Bioregeneration of perchlorate/nitrate-contaminated ion-exchange resins. Battelle Press – 9<sup>th</sup> International In Situ and On-Site Bioremediation Symposium 2. 1358-1364.

Fuller, B., Smith, D., **Howerton, A.** and Kern, D. **2006**. Anti-inflammatory effects of CoQ10 and colorless carotenoids. *Journal of Cosmetic Dermatology* 5(1):30-38.