

Jonathan E. Visick

Professor (2000 to present) and Chair
Dept. of Biology • North Central College • P. O. Box 3063 • Naperville, IL 60566
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Research experience and education:

Postdoctoral research, Dept. of Chemistry & Biochemistry, UCLA (1994-98)

Advisor: Dr. Steven Clarke

Research: *Effects of the L-isoaspartyl protein repair methyltransferase (PCM) on survival of stress and starvation by aging E. coli*

PhD (1991) and M.S. (1987) in Microbiology, University of Washington

Advisors: Dr. Helen R. Whiteley (deceased), Dr. James J. Champoux

Dissertation: *Role of a 20-kDa protein in the synthesis and stability of CytA, a mosquito-cidal toxin of Bacillus thuringiensis subsp. israelensis*

B.S. in Microbiology (chemistry minor), Brigham Young University (1984)

Undergraduate research: *Changes in bacterial isolates over a 40-year period*

Faculty positions:

HHMI Distinguished Visiting Scholar in Bioinformatics, Dept. of Biology, Lewis & Clark College (2010)

Visiting Assistant Professor, Dept. of Biology, St. Xavier University (1999-2000)

Visiting Assistant Professor, Dept. of Biology, North Central College (1998-99)

Visiting Assistant Professor, Dept. of Biology, Whitman College (1992-93)

Visiting Assistant Professor, Dept. of Biology, University of Puget Sound (1991-92)

Research Publications:

HICKS, W. M.*, M. J. KOTLAJICH*, AND J. E. VISICK. 2005. Recovery from long-term stationary phase and stress survival in *Escherichia coli* require the L-isoaspartyl protein carboxyl methyltransferase at alkaline pH. *Microbiol.* **151**:2151-2158.

VISICK, J. E., J. K. ICHIKAWA, AND S. CLARKE. 1998. Mutations in the *Escherichia coli* *surE* gene increase isoaspartyl accumulation in a strain lacking the *pcm* repair methyltransferase but suppress stress-survival phenotypes. *FEMS Microbiol. Letters* **167**:19-25.

VISICK, J. E., H. CAI, AND S. CLARKE. 1998. The L-isoaspartyl protein repair methyltransferase enhances survival of aging *Escherichia coli* subjected to secondary environmental stresses. *J. Bacteriol.* **180**:2623-2629.

VISICK, J. E., AND S. CLARKE. 1997. RpoS- and OxyR-independent induction of HPI catalase at stationary phase in *Escherichia coli* and identification of *rpoS* mutations in common laboratory strains. *J. Bacteriol.* **179**:4158-4163.

VISICK, J. E., AND S. CLARKE. 1995. Repair, refold, recycle: how bacteria can deal with spontaneous and environmental damage to proteins. *Mol. Microbiol.* **16**:835-845.

VISICK, J. E., AND H. R. WHITELEY. 1991. Effect of a 20-kilodalton protein from *Bacillus thuringiensis* subsp. *israelensis* on production of CytA by *Escherichia coli*. *J. Bacteriol.* **173**:1748-1756.

ADAMS, L. F., J. E. VISICK, AND H. R. WHITELEY. 1989. A 20-kilodalton protein is required for efficient production of the *Bacillus thuringiensis* subsp. *israelensis* 27-kilodalton crystal protein in *Escherichia coli*. *J. Bacteriol.* **171**:521-530.

* indicates undergraduate student collaborators

Research Presentations:

- AHN, J., AND J. E. VISICK. 2012. *Escherichia coli* deficient in an isoaspartyl protein repair enzyme increase the persister fraction by a *phoU*-dependent pathway. Poster presentation at the 112th General Meeting of the American Society for Microbiology, San Francisco, CA.
- HARRINGTON, S.*, AND J. E. VISICK. 2010. Labile protein aggregates in protein repair-deficient *E. coli* during recovery from stationary phase. Poster presentation at the 110th General Meeting of the American Society for Microbiology, San Diego, CA.
- CONNOLLY, C.*, AND J. E. VISICK. 2008. *Escherichia coli* deficient in isoaspartyl protein repair has elevated levels of unfolded protein. Poster presentation at the 108th General Meeting of the American Society for Microbiology, Boston, MA.
- VUJNIC, S.*, AND J. E. VISICK. 2004. Inability to repair isoaspartyl damage increases susceptibility of *E. coli* proteins to unfolding under oxidative stress. Poster presentation at the 104th annual General Meeting of the American Society for Microbiology, New Orleans, LA.
- HICKS, W.*, AND J. E. VISICK. 2002. High pH stress affects cell density and long-term survival of *E. coli* lacking the PCM protein-repair methyltransferase. Poster presentation at the 102nd General Meeting of the American Society for Microbiology, Salt Lake City, UT.
- VISICK, J. E., AND S. CLARKE. 1998. Protein repair in aging *Escherichia coli*. Poster presentation at the 98th General Meeting of the American Society for Microbiology, Atlanta, GA.
- VISICK, J. E., AND S. CLARKE. 1997. Effects of mutations in *pcm*, encoding the *Escherichia coli* protein-repair methyltransferase. Poster presentation at the 97th General Meeting of the American Society for Microbiology, Miami, FL.
- VISICK, J. E., AND S. CLARKE. 1997. Effects of a protein-repair methyltransferase on levels of RpoS and catalases in stationary-phase *E. coli*. Invited address and poster presentation at the 1997 Gordon Conference on Microbial Stress Responses, Holderness, NH.
- Undergraduate students have made seven additional presentations at the National Conference on Undergraduate Research, two at Biological Honor Society district conferences and one at the National Convention.*

Pedagogical Publications and Presentations:

- VISICK, J. E., S. D. JOHNSTON, A. DRIKS, AND N. L. PETERSON. 2010. Broader impacts: collaborative research in a capstone course. Poster presentation at the Council on Undergraduate Research national conference, Ogden, UT.
- ST. CLAIR, C., AND J. E. VISICK. 2010. *Exploring Bioinformatics: A Project-Based Approach*. Jones and Bartlett, Sudbury. (Textbook for undergraduate bioinformatics courses)
- VISICK, J. E. 2006. Compensation for summer research with undergraduates: issues and options. *CUR Quarterly* **26**:182-184.
- THOMAS, T.*, AND J. E. VISICK. 2004. Rapid detection of mycobacteria: a research collaboration with industry. Poster presentation at the Council on Undergraduate Research national conference, LaCrosse, WI.

Funding:

American Society for Microbiology Undergraduate Research Fellowship, 2009
Academic Research Enhancement Award (AREA, R15), National Institute on Aging, 2008-2011
Merck/AAAS Undergraduate Science Research Program grant, 2005-07
Council on Undergraduate Research summer undergraduate research fellowship, summer 2002
North Central College internal summer faculty development grants, summer 2001-2007
National Institutes of Health Postdoctoral Fellowship, 1995-98
National Science Foundation Graduate Fellowship, 1986-89

Undergraduate Research:

Total research students mentored since 2000: 51
Students who have graduated: 44
Continued to a PhD program in biological research: 12
Continued to another graduate program in science (MS or PhD): 5
Continued to an MD, DDS or DVM program: 10
Continued to professional school in another allied-health area: 4
Continued to a career in secondary education: 2

Professional Affiliations:

American Society for Microbiology
Council on Undergraduate Research

Awards:

North Central College Clarence F. Dissinger Award for teaching, 2004
North Central College Dissinger Prize for Faculty Scholarship, 2008