MICHAEL ANTHONY TRAKSELIS

Curriculum Vitae

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PROFESSIONAL EXPERIENCE

2006 – present	Assistant Professor Chemistry, Department of Chemistry, University of Pittsburgh, Pittsburgh, PA, USA
2003 - 2006	Royal Society Postdoctoral Research Fellow, Hutchison MRC / University of Cambridge, Cambridge, UK
2002 - 2003	Postdoctoral Research Assistant, The Pennsylvania State University
1996-1998	Research Technician, Abbott Laboratories - Abbott Park, IL, USA
1994-1996	Research Assistant, University of Illinois

EDUCATION

1999-2002	Ph.D., Chemistry, Pennsylvania State University
1996	B.S., Chemistry, University of Illinois
1995	B.S., Psychology, University of Illinois

TEACHING EXPERIENCE

2007-2010	Chemical Biology – CHEM 1810, University of Pittsburgh
2007-2011	Instrumental Analysis – CHEM 1250, University of Pittsburgh,
2010	Molecular Machines – MSBMG 2515, University of Pittsburgh
2009-2010	Analytical Chemistry – CHEM 250, University of Pittsburgh
2007-2009	Biological Chemistry II – CHEM 2820, University of Pittsburgh
2007-2009	Eukaryotic Molecular Genetics – MSBMG 2520, University of Pittsburgh,
2008	Molecular Biophysics III: Biomolecular Interactions and Dynamics III – INTBP 2003, University of Pittsburgh
2006	Biochemistry Part II – Control of DNA Replication During S-phase, University of Cambridge
1998-1999	Teaching Assistant – Biological Section of Organic Chemistry Lab, Pennsylvania State University

HONORS and AWARDS

2011	American Cancer Society Research Scholar
2009	The Protein Society Finn Wold Travel Award
2003 - 2006	Royal Society USA Research Fellowship
2002	Alumni Association Research Award, Pennsylvania State University
2001 & 2002	Dalalian Graduate Fellowship in Organic Chemistry
2001	Harry and Catherine Dalalian Graduate Student Research Award
2001 - 2002	Homer F. Braddock Graduate Research Fellowship, Penn State University
2001	Biological Section Travel Award, American Chemical Society
1998	Nellie and Oscar L. Roberts Fellowship, Pennsylvania State University
1992-1996	Academic Deans List, University of Illinois

PEER REVIEWED PUBLICATIONS

1) **Trakselis, M.A.**, Alley, S.C., Abel-Santos, E., Benkovic, S.J. (2001) Creating a Dynamic Picture of the Sliding Clamp During T4 DNA Polymerase Holoenzyme Assembly Using Fluorescence Resonance Energy Transfer. *PNAS*, 98, 8368-8375.
2) Alley, S.C., **Trakselis, M.A.**, Mayer, M.U., Ishmael, F.T., Jones, A.D., Benkovic, S.J. (2001) Building a Replisome Solution Structure by Elucidation of Protein-Protein Interactions in the Bacteriophage T4 DNA Polymerase Holoenzyme. *J. Biol. Chem.,* 276, 39340-39349.
3) **Trakselis, M.A.**, Berdis, A.J., Benkovic, S.J. (2003) Examination of the Role of the Clamp-Loader and ATP Hydrolysis in the Formation of the Bacteriophage T4 Polymerase Holoenzyme. *J. Mol. Biol.,* 326, 435-451.
4) Ishmael, F.T. **Trakselis, M.A.**, and Benkovic, S.J. (2003) Protein-Protein Interactions in the Bacteriophage T4 Replisome: The Leading Strand Holoenzyme is Physically Linked to the Lagging Strand Holoenzyme and Primosome. *J. Biol. Chem.*, 278, 3145-3152.
5) Yang, J., **Trakselis, M.A.**, Roccasecca, R., and Benkovic, S.J. (2003) The Application of a Minicircle Substrate in the Study of the Coordinated T4 DNA Replication. *J. Biol. Chem.*, 278, 49828-49838.
6) **Trakselis, M.A.**, Roccasecca, R., Yang, J., Valentine, A., and Benkovic, S.J. (2003) Dissociative Properties of the Proteins within the Bacteriophage T4 Replisome. *J. Biol. Chem.,* 278, 49839-49849.
7) Yang, J., Zhuang, Z., Roccasecca, R., **Trakselis, M.A.**, and Benkovic, S.J. (2004) The Dynamic Processivity of the T4 Polymerase during Replication. *PNAS*, 101, 8289-8294.
8) Millar, D., **Trakselis, M.A.**, and Benkovic, S.J. (2004) The Trimeric Bacteriophage T4 Clamp is Open at One Interface in Solution. *Biochemistry,* 43, 12723-7.
9) Zhang, Z, Spiering, M.M., **Trakselis, M.A.**, Ishmael, F.T., Xi, J., Benkovic, S.J., and Hammes, G.G. (2005) Assembly of the Bacteriophage T4 Primosome: Single Molecule and Ensemble Studies. *PNAS,* 102, 3254-3259.
10) Norcum, M.T., Warrington, A., Spiering, M.M., Ishmael, F.T., **Trakselis, M.A.**, and Benkovic, S.J. (2005) Architecture of the Bacteriophage T4 Primosome: Electron Microscopy Studies of gp41 and gp61. *PNAS,* 102, 3623-3626.
11) McGeoch, A.T.*, **Trakselis, M.A.***, Laskey, R.A., and Bell, S.D. (2005) Organization of the Archaeal MCM Complex on DNA and Implications for a Helicase Mechanism. *Nat Struc. Mol. Biol.,* 12, 756-762. *Authors contributed equally towards this work.
12) Rothenberg, E., **Trakselis, M.A.**, Bell, S.D., and Ha, T. (2007) MCM forked substrate specificity involves dynamic interaction with the 5'-tail. *J. Biol. Chem.*, 282, 24229-34.
13) Mikheikin A.L., Lin, H-K., Mehti, P., Jen-Jacobson, L., and **Trakselis, M.A.** (2009) A trimeric DNA polymerase complex increases the native replication processivity. *Nuc. Acids Res.,* 37, 7194-205.
14) Zuo, Z., Rodgers, C., Mikheikin, A.L., and **Trakselis, M.A.** (2010) Characterization of a functional DnaG-type primase in Archaea: Implications for a dual primase system. *J. Mol. Biol,* 397, 664-676.
15) Zuo, Z, Lin, H-K, **Trakselis, M.A.** DNA Strand Annealing Activities of a B-family DNA Polymerase Mimics a Terminal Transferase, *Biochemistry,* 50, 5379-90.
16) Graham, B.W., Schauer, G.D., Leuba, S.H. and **Trakselis, M.A.** Steric Exclusion and Wrapping of the Excluded DNA Strand Occurs Along Discrete External Binding Paths During MCM Helicase Unwinding, *Nuc. Acids Res., in press.*

INVITED REVIEWS

1) **Trakselis, M.A.**, Mayer, M.U., Ishmael, F.T., Roccasecca R., and Benkovic, S.J. (2001) Use of Small Molecules to Determine Dynamic Protein-Protein Interactions in the Multi-Protein Bacteriophage T4 Replication Complex. *TIBS*, 26, 566-572.
2) **Trakselis, M.A.** and Benkovic, S.J. (2001) Intricacies in ATP Dependent Clamp Loading: Variations Across Replication Systems. *Structure*, 9, 999-1004.
3) **Trakselis, M.A.** and Bell, S.D. (2004) Loader of the Rings. *Nature*, 249, 798-799.
4) Zhang, Z., Spiering, M.M., Berdis, A.J., **Trakselis, M.A.**, and Benkovic, S.J. (2004) 'Screw-cap' Clamp Loader Proteins that Thread. *Nat. Struc. Mol. Biol.* 11, 580-581.
5) **Trakselis, M.A.**, Alley, S.C., and Ishmael, F.T. (2005) Identification of Protein-Protein Interactions Using Novel Crosslinking Reagents. *Bioconjugate Techniques,* 16, 741-750. (Cover)

INVITED PRESNETATIONS

Nucleic Acids Gordon Research Conference. Bristol, RI, USA, 2002
Genetics and Molecular Mechanisms of the Archaea, Darwin College, Cambridge, UK, 2005
2nd Annual Cambridge Replication Club Meeting, Darwin College, Cambridge, UK, 2005
Brooklyn College CUNY, Dept. of Biochemistry, New York, NY, USA, 2005
University of Pittsburgh, Dept. of Chemistry, Pittsburgh, PA, USA, 2005
U. of Texas Med. Branch, Dept. of Biochemistry and Molecular Biology, Galveston, TX, USA, 2005
Washington University St. Louis, Depts. of Chemistry and Biology, St. Louis, MO, USA, 2005
University of Birmingham, Department of Chemistry, Birmingham, UK, 2005
SUNY Upstate Med. Univ., Dept. of Biochemistry and Molecular Biology, Syracuse, NY, USA, 2006
University of Rochester, Dept. of Chemistry, Rochester, NY, USA, 2006
Virginia Tech University, Dept. of Biochemistry, Blacksburg, VA, USA, 2006
University of Minnesota, Dept. of Pharmacology, Minneapolis, MN, USA, 2006
Johns Hopkins University, Dept. of Molecular Biology and Genetics, Baltimore, MD, USA, 2006
Science 2006, Pittsburgh, PA, USA, 2006
Pittsburgh Chromatin Club, Pittsburgh, PA, USA, 2006
University of Maryland, Dept. of Chemistry and Biochemistry, College Park, MD, USA, 2007
Mentoring for the Future. NIH/NIGMS Workshop for New Investigators. Dallas, TX, USA, 2007
University of Pittsburgh, Dept. of Biology, PA, USA, 2007
Pittsburgh ACS-SA Chapter, Pittsburgh, PA, USA, 2007
Indiana University of Pennsylvania, Indiana, PA, USA, 2008
FASEB Nucleic Acids Enzymes, Saxtons River, VT, USA, 2008
Clarion University, Clarion, PA, USA, 2008
Bethany College, Bethany, WV, USA, 2009
Gordon Research Conference – Nucleic Acids, Biddeford ME, USA, 2009
The 23rd Annual Symposium of the Protein Society, Boston, MA, USA, 2009
FASEB Nucleic Acids Enzymes, Saxtons River, VT, USA, 2010
Nucleic Acids Gordon Conference, Biddeford, ME, USA, 2011

PROFESSIONAL AFFILIATIONS

1996 – Present American Chemical Society (ACS)
1998 – Present American Association for the Advancement of Science (AAAS)
2006 – Present University of Pittsburgh Peterson Institute of NanoScience and Engineering
2007 – Present University of Pittsburgh – Medical Scientist Training Program
2008 – Present American Society of Biochemistry and Molecular Biology
2009 – Present The Protein Society