

**ALEXANDRE M. ERKINE, Ph. D.**  
**Professor, Butler University, Pharmaceutical Sciences**

**Education**

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Postdoctoral Training	1994-1998 LSU Health Sciences Center, Shreveport, LA, USA
	1992-1993 University of Guelph, Guelph, Canada
	1990-1991 Free University of Amsterdam, Amsterdam, the Netherlands
Ph.D. (Biochemistry)	1987 Leningrad State University, St. Petersburg, Russia
B. S. / M.S.	1979 Leningrad State University, St. Petersburg, Russia

**Professional Appointments**

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Full Professor	2017-present
Department of Pharmaceutical Sciences, College of Pharmacy and Health Sciences, Butler University, Indianapolis, Indiana, USA	
Associate Professor ( <b>with tenure since 2013</b> )	2009-2017
Department of Pharmaceutical Sciences, College of Pharmacy and Health Sciences, Butler University, Indianapolis, Indiana, USA.	
Assistant Professor	2003-2009
Division of Basic Biomedical Sciences, USD Sanford School of Medicine, Vermillion, South Dakota, USA.	
Research Assistant Professor	1998-2003
Department of Biochemistry and Molecular Biology, LSUHSC-Shreveport, Louisiana, USA.	

**Teaching Experience**

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Butler University  
Rx 312 Clinical Biochemistry  
Rx 314 Pharmaceutical Biotechnology  
Rx785 Biopharmaceutical analysis  
Rx788. Rx631 BI401 Molecular Pharmacology/Molecular Biology  
Rx788 Molecular Pharmacology  
Sanford School of Medicine (USD)  
BIOC 520 Medical Biochemistry.  
MBG 572 Molecular Biology of the Gene  
CPHD 720 Foundations of Biochemistry and Molecular Biology

**Recent publications (peer reviewed and only those related to research at Butler 2009-2018, out of 32 total)**

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- D. Pincus, J. Anandhakumar, P. Thiru, M. J. Guertin, **A. M. Erkin**, D. S Gross. Genetic and Epigenetic Determinants Establish a Continuum of Hsf1 Occupancy and Activity Across the Yeast Genome. *Mol Biol Cell*. 2018 Oct 17; mbcE18060353. doi: 10.1091/mbc.E18-06-0353. [Epub ahead of print]
- **A. M. Erkin**. "Nonlinear" biochemistry of nucleosome detergents. *Trends in Biochem Sci*. 2018 Dec;43(12):951-959.
- C. N. Ravarani, T.Y. Erkin, G. De Baets, D. C. Dudman, **A. M. Erkin**, M. M. Babu. High-throughput discovery of functional disordered regions: investigation of transactivation domains. ***Mol Syst Biol***. 2018, **14**(5):e8190. doi: 10.15252/msb.20188190.
- T.Y. Erkin, **A. M. Erkin**. Nucleosome Distortion as a Possible Mechanism of Transcription Activation Domain Function. ***Epigenetics and Chromatin*** 2016, PMID: 27679670 PMCID: PMC5029090 DOI: 10.1186/s13072-016-0092-2.
- T.Y. Erkin, **A. M. Erkin**. ASF1 and the SWI/SNF complex interact functionally during nucleosome displacement, while FACT is required for nucleosome reassembly at yeast heat shock gene promoters during sustained stress. ***Cell Stress and Chaperones*** 2015, **20**(2):355-369.
- L. M. Smith, D. Bhattacharya, D.J. Williams, I. Dixon, N.R. Powell, T.Y. Erkin, **A.M. Erkin**. High-throughput screening system for inhibitors of human Heat Shock Factor 2. ***Cell Stress and Chaperones*** 2015, **20**(5):833-841.

- T. Y. Erkina, **A. M. Erkine**. Detection of transcriptional activators, co-activators and chromatin remodeling by chromatin immuno-precipitation coupled with real-time PCR. 2012 **Chapter in the book: Methods in Molecular Biology - Transcription regulation**. Vol.809, pp.279-289.
- T.Y. Erkina, Y. Zou, S. Freeling, V.I. Vorobyev, **A. M. Erkine**. Functional interplay between chromatin remodeling complexes SWI/SNF, ISWI, and RSC in regulation of yeast heat shock genes. 2010 **Nucleic Acids Res.** 38(5):1441-9.
- T Y. Liu, S. Ye and **A. M. Erkine**. Analysis of *Saccharomyces cerevisiae* genome for the distributions of stress-response elements potentially affecting gene expression by transcriptional interference. 2009 **In Silico Biology**, 9, 0030.
- T. Y. Erkina, M. V. Lavrova, **A. M. Erkine**. Alternative ways of stress regulation in cells of *S. cerevisiae*: transcription activators Msn2 and Msn4. 2009 **Cell and Tissue Biology** 51(2):121-129.

#### **Grant applications submitted or in preparation**

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1. **NSF** (submitted in February 2019) "Nonlinear biochemistry of transcriptional activation domains". Budget \$711,285

#### **Funded grants (federal grants highlighted)**

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- 2017 – active Butler Innovation award. \$27,000 "Integration of Bioinformatics in Pharmacology Classroom and Lab"
- 2014 – 2017 Butler Innovation award. \$35,000 "Bringing Next Generation DNA Sequencing to Next Generation of Butler Students"
- 2014 – 2015 Butler HAC award. \$12,000 "Function of transcription activators"
- **2012 – 2014 Research grant from National Institute of Health. \$61,300 "Selective Inhibitors of Human HSF2."**
- 2012 – 2013 HAC Faculty Research Grant, Butler University. \$6,500 "Development of the screening system for compounds affecting human HSF2".
- **2009 - 2013 Research grant from the National Science Foundation. \$480,000 "Investigation of chromatin remodeling mechanisms at the promoters of heat shock genes".**
- **2002 - 2007 Research grant from the National Science Foundation. \$420,000 "Function of Activation Domains in Gene-Specific Transcription Factors."**
- 2010 - 2011 HAC Faculty Research Grant, Butler University. \$13,000. "Creation of genetic constructs and setting up conditions for chemical library screens looking for compounds affecting HSF function."
- 2007 - 2009 Intramural research grant from Sanford School of Medicine \$6,500.
- 2006 - 2008 Research award from USD BRIN. \$25,000. "Regulation of human heat shock genes including influence of HSP90 inhibitors."
- 2005 - 2006 Research award from USD BRIN. \$25,000. "Investigation of chromatin remodeling mechanisms at the promoters of heat shock genes."
- 2004 - 2005 Research award from USD BRIN for \$30,000. "Identification of transcriptional co-activators involved in the displacement of nucleosomes at heat shock gene promoters."
- 2002 - 2003 Research grant from W.P. Stiles Trust Fund for Biomedical Research of North Louisiana. \$25,000. "Mechanisms by which Gene-Specific Activators Stimulate Transcription."

#### **Invited Oral Presentations**

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- February, 2019 Purdue University "Gene activation by nucleosome detergents: function of intrinsically disordered protein regions", Lafayette, Indiana, USA.
- November, 2018 Indiana University Purdue University, Indianapolis "Nonlinear Biochemistry of nucleosome detergents", Indiana, USA
- January, 2011 Keystone Symposia on Molecular and Cellular Biology "Histone Code: Fact or Fiction?" Utah, USA

- September, 2008 Jacques Monod Conference “Heat Shock Factors at crossroads between stress, epigenetics and development” Roscoff, France.
- December, 2003 25th International West Coast Chromatin and Chromosomes Conference. Pacific Grove, California.
- January, 2003 Department of Biochemistry, University of Indiana, Muncie, Indiana
- January, 2003 Department of Biochemistry, North Dakota State University, Grand Forks, North Dakota.
- February, 2002 Barbara Ann Karmanos Cancer Institute, Detroit, Michigan.
- March, 2001 Department of Biochemistry, Louisiana State University, Baton Rouge, Louisiana.

## **Service**

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### Department and College levels

Pharmaceutical Sciences Graduate Committee	2009 - present
Professional Standards Committee	2017 - present
Faculty Search committee (chair) – two new faculty hired	2014 - 2015
Department chair search committee – Pharmaceutical Sciences	2010 - 2011
Assessment for Excellence Committee, Butler University	2011 – 2014
COPHS Curriculum Committee, Butler University	2011 – 2014

### University level

Holcomb Awards Committee, Butler University	2010 – 2017
Institutional Biosafety committee.	2014 - 2016
Butler Innovation Fund review panel	2014
Butler University Faculty Senate	2010 – 2012

### National Level

NSF grant application review panel “Genetic Mechanisms”	2010 - 2012
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