

Andrew R. Gehrke

andrewgehrke.weebly.com

Curriculum Vitae

Current Address

The University of Chicago, Shubin Lab
Department of Organismal Biology and Anatomy
1025 E 57th Street, Culver 106, 60637

Cell: (508) 397-1255
Lab: (773) 834-4774
agehrke@uchicago.edu

EDUCATION

- 2010-Current **The University of Chicago**
Ph.D Candidate, *expected fall 2015*
Department of Organismal Biology and Anatomy
- 2008-2010 **Harvard University (Cambridge, MA)**
Master of Liberal Arts in Extension Studies
Concentration in Biology, September 2010
- 2001-2005 **Boston University (Boston, MA)**
B.A. Philosophy, May 2005

LABORATORY EXPERIENCE

- 2010-Present **Graduate Student, Ph.D Candidate**
The University of Chicago Dept. of Organismal Biology and Anatomy
Laboratory of Prof. Neil Shubin
Gene regulation, genomics, evolution and development of fins and limbs
- 2008-2010 **Graduate Student, ALM Program**
Harvard University Dept. of Organismal and Evolutionary Biology
Laboratory of Prof. Arkhat Abzhanov
Developmental genetics, craniofacial evolution and development.
- 2005-2008 **Technical Research Assistant**
Brigham and Women's Hospital/Harvard Medical School
Laboratory of Prof. Martha L. Bulyk
Functional genomics, identification of transcription factor binding sites and *cis*-regulatory elements.

PUBLICATIONS

2015

Pieretti J*, **Gehrke AR***, Schneider I*, Adachi N, Nakamura T and Shubin NH. (2015) Organogenesis in deep time: a question in genomics, development and paleontology. *PNAS*. *In press*

*These authors contributed equally to this work

2014

Gehrke AR, Schneider I, de la Calle-Mustienes E, Tena JJ, Gomez-Marin C, Chandran M, Nakamura T, Braasch I, Postlewait JH, Gomez-Skarmeta JL, and Shubin NH. (2014) Deep conservation of wrist and digit enhancers in fish. *PNAS*. Dec 22.

Press for “*Deep conservation of wrist and digit enhancers in fish*”:

NPR interview: <http://www.npr.org/2014/12/26/373210966/do-fish-have-fingers>

Washington post: <http://www.washingtonpost.com/news/speaking-of-science/wp/2014/12/31/researchers-find-the-ancient-genetic-link-between-fish-fins-and-animal-hands/>

University of Chicago: <http://www.uchospitals.edu/news/2014/20141222-autopod.html>

2011

Schneider I, Aneas I, **Gehrke AR**, Dahn RD, Nobrega MA, and Shubin NH. (2011) Appendage expression driven by the Hoxd Global Control Region is an ancient gnathostome feature. *PNAS*. July 15, 2011.

Helfer A, Nusinow DA, Chow BY, **Gehrke AR**, Bulyk ML, Kay SA. (2011) LUX ARRHYTHMO encodes a nighttime repressor of circadian gene expression in the Arabidopsis core clock. *Curr Biol*. 2011 Jan 25;21(2): 126-33

2010

Santos MA, Turinsky AL, Ong S, Tsai J, Berger MF, Badis G, Talukder S, **Gehrke AR**, Bulyk ML, Hughes TR, and Wodak SJ (2010). Objective sequence-based subfamily classification of mouse homeodomains reflect their in vitro DNA-binding preferences. *Nucleic Acids Res*. Dec 1; 38(22):7927-42

Wei GH, Badis G, Berger MF, Kivioja T, Palin K, Enge M, Bonke M, Jolma A, Varjosalo M, **Gehrke AR**, Yan J, Talukder S, Turunen M, Taipale M, Stunnenberg GH, Ukkonen E, Hughes TR, Bulyk ML, and Taipale J (2010). Genome-wide analysis of ETS-family DNA-binding in vitro and in vivo. *EMBO J*. Jul 7;29(13):2147-60

2009

Badis G*, Berger MF*, Philippakis AA*, Talukder S*, **Gehrke AR***, Jaeger SA*, Chan ET*, Metzler G, Vedenko A, Chen X, Kuznetsov H, Wang CF, Coburn D, Newburger DE, Morris Q, Hughes TR, Bulyk ML. (2009) Diversity and complexity in DNA recognition by transcription factors. *Science*. Jun 26;324(5935):1720-3.

* designates co-1st authors

Lesch BJ, **Gehrke AR**, Bulyk ML, Bargmann CI. (2009) Transcriptional regulation and stabilization of left-right neuronal identity in *C. elegans*. *Genes Dev*. Feb 1;23(3):345-58.

Alleyne TM, Peña-Castillo L, Badis G, Talukder S, Berger MF, **Gehrke AR**, Philippakis AA, Bulyk ML, Morris QD, Hughes TR. (2009) Predicting the binding preference of transcription factors to individual DNA k-mers. *Bioinformatics*. Apr 15;25(8):1012-8.

2008

Berger MF*, Badis G*, **Gehrke AR***, Talukder S*, Philippakis AA, Peña-Castillo L, Alleyne TM, Mnaimneh S, Botvinnik OB, Chan ET, Khalid F, Zhang W, Newburger D, Jaeger SA, Morris QD, Bulyk ML, Hughes TR. (2008) Variation in homeodomain DNA binding revealed by high-resolution analysis of sequence preferences. *Cell*. Jun 27;133(7):1266-76.

* designates co-1st authors

De Silva EK, **Gehrke AR**, Olszewski K, León I, Chahal JS, Bulyk ML, Llinás M. (2008) Specific DNA-binding by apicomplexan AP2 transcription factors. *PNAS*. Jun 17;105(24):8393-8.

FUNDING/AWARDS

NSF Doctoral Dissertation Improvement Grant # 1311436. “The regulatory landscape of *Hox* expression and evolution in fish fins”

2014 Society for Developmental Biology student poster honorable mention

2014 Society for Developmental Biology travel award

2014 University of Chicago Darwin retreat, best student talk

PRESENTATIONS

Talk: “Ancient origins of the *HoxD* appendage regulatory system”. Society for

Integrative and Comparative Biology, 2014.

Poster: “*Deep conservation of autopod enhancers in a non-teleost bony fish*”. Society for Developmental Biology, 2014.

Poster: “*Determination of mouse transcription factor DNA binding specificities using a compact, universal protein binding microarray*” ORFeome meeting: Orfeomes and Systems (October 2006) Boston MA.