



SIGMA XI NEWSLETTER

Iowa State University
January 2012

SIGMA XI DISTINGUISHED LECTURER

The Impact of Retrotransposons on Human Genome Evolution

Mark Batzer
Department of Biological Sciences
Louisiana State University

Thursday, March 8, 2012
8:00 p.m., Sun Room, Memorial Union

Their ability to move within genomes gives transposable elements an intrinsic propensity to affect genome evolution. Non-long terminal repeat (LTR) retrotransposons— including LINE-1, *Alu* and SVA elements — have proliferated over the past 65 million years of primate evolution and now account for approximately one-half of the human genome. The lecture will focus on this major class of elements and discuss the many ways that they affect the human genome: from generating insertion mutations and genomic instability to altering gene expression and contributing to genetic innovation. Increasingly detailed analyses of human and other primate genomes are revealing the scale and complexity of the past and current contributions of non-LTR retrotransposons to genomic change in the primate lineage.

Dr. Mark A. Batzer is currently an LSU System Boyd Professor and Dr. Mary Lou Applewhite Distinguished Professor, Department of Biological Sciences at Louisiana State University, Baton Rouge, Louisiana. Dr. Batzer's research interests focus on comparative genomics, mobile DNA, forensic genomics, and computational biology. Dr. Batzer's research has been funded by a variety of sources and he has published over 250 research articles. Dr. Batzer is an AAAS fellow and is active in numerous organizations, advisory boards and panels. Dr. Batzer currently serves as a member of the New York State Forensic DNA advisory board, an Executive Editor for Analytical Biochemistry, Academic Editor for PLoS ONE, and a member of the editorial boards for Mobile DNA, Investigative Genetics and the Repeated DNA Sequence Data Base. Dr. Batzer enjoys hiking, biking, fishing, travel, playing competitive softball and is an avid sports fan.

CALENDAR

January 2012: Forms for the nomination of Associate and Full Members, and for the promotion of current Associate Members, in either PDF or MS Word format, may be found at the Sigma Xi website, see www.sigmaxi.org/member/join/nom.shtml. Guidelines for the various categories of membership may be found at www.sigmaxi.org/member/join/qualification.html, and see further discussion below in this newsletter. Please type or print when filling out the nomination form. Nominations may be sent to Paul Sacks, Secretary-Treasurer of the ISU chapter by e-mail (psacks@iastate.edu) or by sending paper copies to Paul Sacks, 396 Carver Hall, Iowa State University, Ames, IA 50011. Please contact Paul Sacks by e-mail or by telephone at 515-294-8143 if you have any questions about the nomination procedures.

February 17, 2012: It is requested that nominations should be submitted, as described above, by this date for timely review by the Committee on Membership.

March 5, 2012: Invitations to membership will be sent to those whose nominations have been approved by the Committee on Membership.

March 8, 2012, 8:00PM: National Sigma Xi Lecturer Mark Batzer will deliver the lecture '*The Impact of Retrotransposons on Human Genome Evolution*' in the Sun Room of the Memorial Union. A reception will follow. See details on page 1 of this newsletter.

March 29, 2012: Deadline for receipt of acceptances from nominees for membership or promotion.

Mid-March, 2012: The Spring Newsletter will contain Initiation Banquet details, and information about a ballot for the election of members of the Executive, Membership and Nominating Committees. Let President Diane Birt or any other member of the Executive Committee have your suggestions for candidates (including yourself).

April 11, 2012: Deadline for receipt of ballots for election of committee members.

April 26, 2012: The Annual Initiation Banquet will be held in the Scheman Building, At this event, the initiates (who are the Chapter's guests at the banquet) formally become members of Sigma Xi, and the following awards are presented: the Zaffarano Prize for Graduate Student Research, the Karas Dissertation Award, and the Lester Earls Awards for Undergraduate Research Scholars. We start with a social hour at 5:30, followed by dinner and the necessary initiation formalities. The evening will conclude with an address by the retiring President, Diane Birt, at 8:00PM, *Diet, genes and microbes; complexities of colon cancer prevention*.

NOMINATIONS

This is the call for nominations for the promotion of Associate Members to Full Membership, and for the initiation of new Associate and Full Members. We urge you to recognize the achievements of colleagues, and of students who are well along in Ph.D. or M.S. programs, by nominating them for the appropriate membership level, or for promotion. Undergraduates may also be nominated, usually as an Associate Member, and will be designated as Undergraduate Research Scholars.

In principle, nominations can be submitted any time of the year, but it has long been the practice of the ISU chapter to encourage the bulk of the nominations to be made around this time of the year, which may then be collectively evaluated by the Committee on Membership, usually around the end of February. This allows enough time for the process to be completed in time for the Sigma Xi banquet which takes place at the end of April. For this reason we request nominations to be submitted, if at all possible, by Friday February 17.

Guidelines for the various categories of membership may be found at www.sigmaxi.org/member/join/qualification.html. Criteria for initiation, for an undergraduate, is a GPA of 3.50 or better, and evidence of research potential by recognized involvement in a research project by at least part authorship of a research report, a presentation at a technical meeting or an actual reviewed research paper in which the student appears as one of the co-authors. A letter of recommendation from the faculty member in charge of the research is also useful. Both nominators and students (graduate or undergraduate) should be aware that membership in Sigma Xi can be listed on the student transcript as recognition of the student's research accomplishments.

Sigma Xi is the only national honorary society which has research experience as a condition for membership. However, Sigma Xi does not confine its interests solely to science- or technological-related research, but addresses issues of concern to many outside the immediate research community. Thus, Sigma Xi should have significant appeal not only to those directly involved in research, but also to those who are interested in solutions to science-related social, economic and/or educational problems - e.g., environmental issues, or the quality of science and mathematics education in the elementary and secondary schools. On a more personal level, each dues-paying member has a subscription to the *American Scientist* which carries articles covering a broad spectrum of topics.

The nomination form may be downloaded from www.sigmaxi.org/member/join/nom.shtml and filled out by hand or electronically and sent to the Secretary-Treasurer. Two nominators are required for a nomination; the Secretary- Treasurer will be happy to serve as a second nominator.

NOTES and ANNOUNCEMENTS

- The 2011 Annual Sigma Xi meeting took place in Raleigh, NC in November. Information about events and decisions from the meeting can be found at www.sigmaxi.org/meetings/annual/index.shtml
- One decision taken at the annual meeting, which may be of immediate relevance, amounts to a loosening of the requirements for Associate Membership in Sigma Xi. In past years the stated requirements for Associate Membership included the statement 'The individual is expected to later achieve the requirements for Full Membership'. The newly approved resolution states: 'In order to encourage all students who have done excellent research projects to continue in scientific research,

we recommend that they be recognized for their work by associate membership in Sigma Xi, even if it is not clear when or whether they would qualify for full membership.'

- National Sigma Xi dues will decrease from \$95 to \$90 for the next membership year, July 2012-June 2013. This is due in part to the *American Scientist* magazine moving to an electronic format, see more details below. The local dues assessment of \$11 for the ISU chapter will remain unchanged for next year.
 - The *American Scientist* subscription, which comes with your Sigma Xi membership, will be delivered in electronic format beginning with the July-August 2012 issue. There will be an option to continue to receive the magazine in print format for \$20 per year.
 - The national Sigma Xi organization had its first all-electronic election this year. Thomas Acker, president emeritus of Wheeling Jesuit University, is the new president-elect designate, who will therefore serve as president from July 2013 to June 2014. The current president-elect is Kelly Sullivan of Pacific Northwest National Laboratory. The ISU chapter of Sigma Xi will also move to electronic voting this year, with a paper ballot option.
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OFFICERS OF THE CHAPTER

COMMITTEE ON MEMBERSHIP

President	Diane Birt	Amy Bix	2009-12
President Elect	F. Chris Minion	Nick Christians	2009-12
President Emeritus	Steve Martin	Thomas Sauer	2010-13
Secretary-Treasurer	Paul Sacks	Curtis Struck	2010-13
		L Keith Woo	2011-14
		Susan Lamont	2011-14

Executive Committee

Diane Birt	2009-12
David White	2010-12
W. Sue Fairbanks	2010-13
F. Chris Minion	2010-13
Paul Sacks	2010-13
Lee Burras	2011-14
Maynard Hogberg	2011-14

**2011-12 NOMINATING COMMITTEE
(one-year terms)**

Philip Dixon John Lajoie
Judy Vance