

Bo Xu, MD, PhD
Curriculum Vitae

Current position:

Assistant Professor of Genetics, Biochemistry and Molecular Biology

OFFICE ADDRESS:

Department of Genetics
Louisiana State University Health Sciences Center
533 Bolivar Street
New Orleans, LA 70112
Ph: (504) 568-2228
Fax: (504) 568-8500
Email: bxu@lsuhsc.edu

EDUCATION:

M.D.	1985- 1990	Norman Bethune University of Medical Sciences, Changchun, China, (Radiation Medicine)
M.S.	1992- 1995	Tianjin Medical University, Tianjin, China, (Radiation Oncology) Advisor: Prof. Tian-en Yang
Ph.D.	1995- 1998	Peking Union Medical College, Beijing, China, (Radiation Oncology) Advisor: Prof. Yin Weibo
Postdoctoral Training	1998- 2002	St Jude Children's Research Hospital, Memphis, TN Advisor: Michael B. Kastan MD, PhD

PROFESSIONAL APPOINTMENTS:

7/1990-7/1993 Clinical Fellow, Neuro-Oncology Laboratory and Department of
Radiation Oncology, Tianjin Medical University Hospital,
Tianjin 300052, China

- 8/1993-3/1995 Resident Physician/Chief Resident, Department of Radiation Oncology, Tianjin Medical University Hospital, Tianjin 300052, China
- 9/1995-9/1998 Chief Resident, Cancer Hospital, Peking Union Medical College and Chinese Academy of Medical Science, Beijing 100021, China
- 10/1998-8/2002 Postdoctoral Research Associate, Department of Hematology/Oncology, St. Jude Children's Research Hospital, Memphis, TN 38105
- 8/2002-Present Assistant Professor, Department of Genetics and Stanley S. Scott Cancer Center, Louisiana State University Health Sciences Center, New Orleans, LA 70112
- 10/2003-present Adjunct Assistant Professor, Department of Biochemistry and Molecular Biology, Louisiana State University Health Sciences Center, New Orleans, LA 70112

PROFESSIONAL SOCIETY MEMBERSHIPS:

Active member of *American Association for Cancer Research (AACR)*

Member of *American Society of Cell Biology (ASCB)*

Member of the *American Association for the Advancement of Science (AAAS)*

HONORS/AWARDS:

1. Department of Defense, Prostate Cancer Research Group, **New Investigator Award**, 2004-2007
2. AACR-AFLAC **Scholar-In-Training Award** , *American Association for Cancer Research*, San Francisco, April, 2002
3. **Aventis-Young Investigator Award**, *American Association for Cancer Research*; San Francisco, April ,2000
4. **Student of the Year** Graduate School of *Peking Union Medical College*, 1997
5. **Best Scientific Article Award** *Chinese Cancer Research Foundation(CCRF)*; Xi An, China, April, 1994

PUBLICATIONS:

Selected peer-reviewed publications in last five years (in chronological order).

(Publications selected from 35 peer-reviewed publications)

1. Kastan MB, Lim DS, Kim ST, **Xu B**, Canman C Multiple signaling pathways involving ATM *Cold Spring Harbor Symposia on Quantitative Biology Volume LXV*, Cold Spring Harbor Press, p.521-526,2000.
2. Lim DS, Kim ST, **Xu B** et al., Atm phosphorylates p95/nbs1 in an S-phase checkpoint pathway. *Nature* 404:613-617; 2000
3. **Xu B**, Kim ST and Kastan MB. Involvement of Brca1 in S-phase and G2-phase checkpoint after ionizing irradiation *Molecular and Cellular Biology* 21: 3445-3450; 2001
4. Kim ST, **Xu B** (Co-first-author) and Kastan MB Involvement of the Cohesin Protein, Smc1, in ATM- Dependent and -Independent Responses to DNA Damage *Genes & Development* 16: 560-570, 2002
5. **Xu B**, Kim St, Lim DS, Kastan MB Two Molecularly Distinct G2/M checkpoints Are Induced by Ionizing Irradiation *Molecular and Cellular Biology* 22 (4): 1049-1059;2002
6. Taniguchi T, Garcia-Higuera I, **Xu B**, Anderson P, Gregory R, Lane W, Kim S, Kastan MB, D'Andrea A Convergence of the Fanconi Anemia and Ataxia Telangiectasia Signaling Pathways. *Cell* 109: 459-472, 2002
7. **Xu B**, O'Donnell AH, Kim ST, Kastan MB Phosphorylation of Serine 1387 in Brca1 is Specifically Required for the Atm-Mediated S-phase Checkpoint After Ionizing Irradiation *Cancer Res.* Aug 15; 62(16):4588-91, 2002
8. Lee JH, **Xu B**, Lee CH et al. Distinct functions of NBS1 in ATM-dependent responses to DNA damage *Molecular Cancer Research* 1(9):674-81, 2003
9. Garg, R., Geng, C.-D., Miller, J. L., Callens, S., Tang, X., Appel, B., **Xu, B.*** Molecular Cloning and Characterization of the Catalytic Domain of Zebrafish Homologue of the Ataxia-Telangiectasia Mutated Gene. *Molecular Cancer Research* 2: 348-353, 2004. **Also featured the cover page of the issue.**

10. Garg, R., Callens, S., Lim, D.-S., Canman, C. E., Kastan, M. B., **Xu, B***. Chromatin Association of Rad17 Is Required for an Ataxia Telangiectasia and Rad-Related Kinase-Mediated S-Phase Checkpoint in Response to Low-Dose Ultraviolet Radiation. *Molecular Cancer Research* 2: 362-369, 2004.
11. **Xu B***, Kastan MB. Analyzing cell cycle checkpoints after ionizing radiation. *Methods Mol Biol.*; 281: 283-92, 2004
12. Arlt, M. F., **Xu, B.**, Durkin, S. G., Casper, A. M., Kastan, M. B., Glover, T. W. BRCA1 Is Required for Common-Fragile-Site Stability via Its G2/M Checkpoint Function. *Mol. Cell. Biol.* 24: 6701-6709, 2004.
13. Wakeman TP, Kim WJ, Callens S, Chiu A, Brown KD, **Xu B***. The ATM-SMC1 Pathway is Essential for Activation of the Chromium [VI]-induced S-Phase Checkpoint. *Mutation Research*, 554(1-2):241-51, 2004
14. Stephen L. Gasior, Timothy Wakeman, **Bo Xu**, Prescott L. Deininger. The human LINE-1 Retrotransposon Creates DNA DSBs. Under revision with *Nature Genetics*
15. Timothy Wakeman, Renu Garg, and **Bo Xu***, ATR regulates Cr-induced S-phase checkpoint through dissociation from Rad17, submitted
16. Timothy Wakeman and **Bo Xu***. Tetravalent Chromium is the ultimate intermediate that is responsible for Cr-induced mutagenesis. Submitted to *PNAS*
17. Jessie Tang and **Bo Xu***. Global Histone H3 phosphorylation and apoptosis induced by inhibition of Protein Phosphatase One (PP1) is regulated by the mismatch repair protein MLH1, manuscript in preparation
18. Vinodh Kurella, Toria Obey, Timothy Wakeman, **Bo Xu***. Exposure to Nickel induces DNA double strand breaks and replication blockage, manuscript in preparation
19. Timothy Wake, Dorota Wyczechowska, and **Bo Xu***. Involvement of the p38 MAP kinase in chromium-induced growth arrest and apoptosis. Invited paper for **Molecular Cellular and Biochemistry**.

***: corresponding author**

MEETING ABSTRACTS AND PRESENTATION (IN LAST FIVE YEARS)

1. Timothy Wakeman and **Bo Xu***. Carcinogenicity of the chromium intermediates To be presented in the 96th Annual meeting of **American Association for Cancer Research**, Anaheim, CA, April 2005
2. Jessie Tang and **Bo Xu***. Involvement of Protein Phosphatase One in dephosphorylation of Histone H3 and DNA damage response. To be presented in the 96th Annual meeting of **American Association for Cancer Research**, Anaheim, CA, April 2005
3. Vinodh Kurella, Toria Obey, Timothy Wakeman, **Bo Xu***. Exposure to Nickel induces DNA double strand breaks and replication blockage, To be presented in the 96th Annual meeting of **American Association for Cancer Research**, Anaheim, CA, April 2005
4. Shannon Callens and **Bo Xu***. Targeting ATM-SMC1 pathway: a novel approach to developing radiosensitizers for prostate cancer Presented in the **Prostate Cancer Symposium**, February 17-19, Orlando, Florida 2005
5. **Bo Xu***. Development of fusion peptides that can interfere with ATM-mediated DNA damage pathways and increase tumor radiosensitivity. **The 3rd International Symposium on Targeted Anticancer Therapies**. March 3 to 5, 2005, Amsterdam, the Netherlands.
6. Xiaoli Cui, Shannon Callens, and **Bo Xu***. A small interfering peptide can interfere with ATM-mediated DNA damage pathways and increase tumor radiosensitivity. To be presented in the **Era of Hope 2005**, Philadelphia, PA , June 11, 2005
7. Jessie Tang, Annie Szeto, and **Bo Xu***. The role of protein phosphatase 1 on regulation of histone H3 phosphorylation. Presented in the 44th Annual Meeting of the **American Society for Cell Biology**, Washington, DC, 2004. **Also received pre-doctoral travel award.**
8. **Bo Xu*** Molecular Determinants of Cr-induced S-phase checkpoint. The 3rd Conference on **Molecular Mechanisms of Metal toxicity and Carcinogenesis**, organized by **NIOSH/CDC Morgantown , WV, 2004**

9. Renu Garg, Jessie Tang, Bruce Appel and **Bo Xu***. A zebrafish model of Ataxia Telangiectasia. The **Zebrafish 2004 Conference**, Madison WV, 2004
10. Wakeman JP, Kim WJ, Callens S, Chiu A, Brown KD, and **Bo Xu***. Exposure to hexavalent chromium activates an ATM and ATR-dependent S-phase checkpoint Presented in **Mini-Symposia** , 95th Annual meeting of **American Association for Cancer Research**, Orlando, FL, March 2004
11. Renu Garg, Shannon Callens, Dae-Sik Lim, Christine E. Canman, Michael B. Kastan and **Bo Xu***. The Rad 17-Atr-Smc1 pathway is essential for ultraviolet radiation induced S-phase arrest. Presented in the 95th annual meeting of **American Association for Cancer Research**, Orlando, FL, March 2004
12. Timothy P. Wakeman, Arthur Chiu, and **Bo Xu***. An ATM-dependent pathway is essential for activation of cell cycle checkpoints in response to chromium exposure. 43rd Annual Meeting of the **American Society for Cell Biology**, San Francisco, CA, 2003.
13. **Xu B**, Kim ST ,Lim DS, Kastan MB Two Molecularly Distinct G2/M checkpoints Are Induced by Ionizing Irradiation Presented in a **Mini-Symposia** , **93rd Annual meeting of American Association for Cancer Research**, San Francisco CA, April 2002 – **Award winning presentation.**
14. **Xu B**, O'Donnell A, Kim ST, Kastan MB The Breast Cancer Susceptibility Gene Product 1, Brca1, functions as a cell cycle checkpoint protein. Presented in a **poster session in 93rd Annual meeting of American Association for Cancer Research**, San Francisco CA, April 2002.
15. **Xu B**, Kastan MB Dominant negative effects of altered Atm constructs. Presented in **Mini Symposia, 91st Annual meeting of American Association for Cancer Research**, San Francisco CA, April 2000-**Award wining presentation.**

***: corresponding author**

INVITED SPEECHES:

- A. "Ataxia Telangiectasia Mutated protein and cell cycle checkpoints" Monthly Genetics Meeting, CHILDREN'S HOSPITAL, 200 Henry Clay Avenue, New Orleans, LA Jan 24, 2003.

- B. "ATM kinase and DNA damage response" Tulane Cancer Center Seminar Series March 27, 2003
- C. "ATM Kinase and DNA Damage Response", SEMINARS IN INVESTIGATIVE MEDICINE, North Shore-LIJ Research Institute, Manhasset, NY 11030, May 6, 2003.
- D. "Mechanisms of Cellular Response To DNA Damage" Biochemistry and Molecular Biology Seminar Series, LSUHSC, August 29, 2003
- E. "The ATM kinase and DNA damage-induced Cell Cycle Checkpoints", LSU/Tulane Joint Gene Therapy Seminar, September 9, 2004
- F. "Molecular Determinants of Cr-induced S-phase checkpoint. The 3rd Conference on Molecular Mechanisms of Metal toxicity and Carcinogenesis, NIOSH/CDC Morgantown, WV, September 12, 2004
- G. "DNA damage response and human genetic diseases", Tulane Human Genetics Program, September 28, 2004
- H. "The role of ATM in DNA damage response and aging", The National Institute of Aging Workshop, September 30, 2004
- I. "The mechanisms of the human G2/M Cell Cycle Checkpoints", LSU/Tulane Joint Cancer Center Seminar, December 16, 2004

ADVISING/SUPERVISING RESPONSIBILITIES:

Postdoctoral fellows:

Renu Garg PhD

Dorota Wyczechowska PhD

Research Associates:

Xiaoli Cui MD, PhD

Shannon Callens

Jason Manning

Graduate students:

1. Timothy Wakeman, 2003-present, as dissertation advisor

Awards: Stanley S. Scott Cancer Center Graduate Student Scholar

CAGNO student award

19th Annual Research Day Poster presentation award

NIOSH ERC Pilot Projects Research Training Program Award (\$10,000)

2. Xi Jessie Tang, 2004-present, as dissertation advisor

Awards: Student Travel Award to the 44TH ANNUAL MEETING of American Society of Cell Biology

3. Srirangan Sampath, 2004 to present, rotating student advisor
4. Vinodh Kurella, 2004- present, rotating student advisor

Dillon Beardsley, committee member
Daniel Stewart, committee member

Undergraduate students:

Toria Obey
Annie Szeto
Niah Shanks
Christi Hahn
Kimberly Bridgewater

TEACHING:

Biochem 240: Molecular Biology: Cell signaling and Gene expression, DNA damage and repair