

# Xiaoyang Li

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## Work Experiences

7/2007–Present, **Assistant Professor**, Department of System Engineering, BeiHang University  
1/2005–12/2005, **Reliability Engineer** (Part Time), Organization Beijing Yuntong Forever Sci-Tech. Co. Ltd.

## Current Research Area

Accelerated test, statistical analysis, prediction technology, design of experiment

## Education

9/2002 –7/2007 Ph.D., Department of System engineering, BeiHang University  
9/1998 – 7/2002 Bachelor, Department of System engineering, BeiHang University

## Main Research Experiences

- ✓ 1/2010 – Present Leader, Accelerated Testing Technology Based on Performance Degradation
  - **Description:** Investigate the life prediction methods by using time series and artificial neural network based on accelerated performance degradation.
- ✓ 6/2009 - Present Vice leader, Design Analysis And Test Evaluation For Long-Life Electromechanical Product
  - **Description:** Be in charge of project proposal on test and evaluation for long-life mechanical-electrical product. This project has been approved.
- ✓ 1/2008 - Present Vice Leader, Life Prediction Technology Based on Performance Degradation
  - **Description:** Investigate the life prediction methods based on time series and artificial neural network.
- ✓ 1/2006 - Present Leading researcher, Reliability Enhancement Testing And Effective Environment Stress Screening;
  - **Description:** I investigate accelerated testing technology, including testing plan design, test conduction, data analysis. In this study, we utilize data fusion, stress-strength interference, stochastic process and some other theories. But some problems need to be solved.
- ✓ 1/2007 - 12/2008 Leading researcher, The Research on Accelerated Reliability Growth Testing (ARGT)
  - **Description:** I investigated the ARGT data analysis method based the NHPP and proportional hazard model.

## Teaching Experiences

1. Hosting a graduate course: *Accelerated Testing*
2. A teacher in charge of the undergraduate class 381401
3. Two undergraduate thesis projects
4. Assist Prof. Tongmin Jiang to supervise four master students, mainly including Wei Zhang, Shuzhen Li, and four Ph. D. candidates, mainly including Li Wang, Fuqiang Sun.

## Patents

1. **Xiaoyang Li**, Zhengzheng Ge, Tongmin Jiang, Optimal Design for Step-Stress Accelerated Degradation Testing, Application No. 201010033998.7, Jan. 12, 2010
2. **Xiaoyang Li**, Fuqiang Sun, Tongmin Jiang, A Life Prediction Method to Accelerated Degradation

Testing based on Fuzzy Theory, Application No. 200910093518.3, Sep. 25, 2009

3. Shuzhen Li, **Xiaoyang Li**, Tongmin Jiang, A Life Prediction Method to Accelerated Life Testing using Grey RBF Neural Networks, Application No. 200910087114.3, Jun. 16, 2009
4. Li Wang, **Xiaoyang Li**, Tongmin Jiang, A Reliability Prediction Method to Step-Stress Accelerated Degradation Testing using Time Series Analysis, Application No. 200910089137.8, Jul. 31, 2009

## English & IT Skills

English test: CET 6; Fluency in listening, speaking, writing and translating  
Master Matlab, Visual Basic and office.

## Honors

- Two times of science and technology achievement prize in Beihang University (2007, 2008)
- New Star of Young Teacher in Beihang University, honorary title (2007)

## Selected Publications (over 20 publications)

1. **Xiaoyang Li**, Tongmin Jiang, Fuqiang Sun, Jing Ma, "Constant Stress ADT For Superluminescent Diode And Parameter Sensitivity Analysis", *Eksploatacja I Niezawodność - Maintenance and Reliability*, Vol. 46 No. 2, 2010, pp. 21 -26
2. **Xiaoyang Li**, Tongmin Jiang, "Optimal Design for Step-Stress Accelerated Degradation Testing with Competing Failure Modes", *Proceedings Annual Reliability and Maintainability Symposium*, 2009, pp. 64 -68
3. **Xiaoyang Li**, Tongmin Jiang, Ma Jing, Lu Rongcui, "State Tree Analysis of FOG Based On Drift Brownian Motion", *The proceeding of 8<sup>th</sup> international conference on reliability, maintainability and safety*, 2009, pp. 1322-1326
4. Shuzhen Li, **Xiaoyang Li**, Tongmin Jiang, "Life and Reliability Forecasting of the CSADT using Support Vector Machines", *56<sup>th</sup> Annual Reliability and Maintainability Symposium*, 2010
5. Li Wang, **Xiaoyang Li**, Tongmin Jiang, Bo Wan, "Step-Stress ADT Data Estimation Based On Time Series Method", *56<sup>th</sup> Annual Reliability and Maintainability Symposium*, 2010
6. Shuzhen Li, **Xiaoyang Li**, Tongmin Jiang, "A Prediction Method of Life and Reliability for CSALT using Grey RBF Neural Networks", *The IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)*, Hong Kong, Dec. 8~11, 2009: 699 - 703
7. Li Wang, **Xiaoyang Li**, Tongmin Jiang, Bo Wan, "SLD Constant-Stress ADT Data Analysis based on Time Series Method", *The proceeding of 8<sup>th</sup> international conference on reliability, maintainability and safety*, 2009, pp.1313-1317
8. Fuqiang Sun, **Xiaoyang Li**, Tongmin Jiang, Wei Zhang, "A Multi-Axis Vibration Fixture Based on Electromagnetic Shaker". *The proceeding of 8<sup>th</sup> international conference on reliability, maintainability and safety*, 2009, pp.1183-1186
9. Wei Zhang, Tongmin Jiang, **Xiaoyang Li**. "Life-prediction of the CSADT Based on BP Algorithm of ANN", *Proceedings Annual Reliability and Maintainability Symposium*, 2009, pp. 59-63
10. **Li, xiaoyang**, Jiang, Tongmin, "Storage Life and Reliability Evaluation of Microwave Electronic Product by Step Stress Accelerated degradation testing", *Journal of Beijing University of aeronautics and aeronautics* (EI index). Vol. 34 No. 10, 2008, pp. 1135-1138
11. **Li, xiaoyang**, Jiang, Tongmin, "Quantitative Evaluation of Accelerated Stress Testing Based on SSI". *Journal of Beijing University of aeronautics and aeronautics* (EI index). Vol. 34 No. 11, 2008, pp.1298-1302
12. **Xiaoyang Li**, Tongmin, Jiang, Jing Ma, Shuying Chen, "Constant Stress ADT for Superluminescent Diode and Statistical Analysis". *Proceeding of International conference on risk and reliability management*, 2008, pp.703-706

13. Wei Zhang, **Xiaoyang Li**, Tongmin JIANG. "Life-prediction of the Multi-Stress Accelerated Life Testing Based on BP Algorithm of Artificial Neutral Network", *Chinese Journal of Aeronautics*(EI index), Vol. 30, No. 9, 2009, pp. 1691-1696
14. **Li, xiaoyang**, Jiang, Tongmin, Li, Meijun. "Statistical analysis of accelerated life testing of repairable product". *Journal of Beijing University of aeronautics and aeronautics* (EI index) Vol. 33 No. 4, 2007, pp. 459-462, 499
15. **Li, xiaoyang**, Jiang, Tongmin. "A review of multiple-Stress models in accelerated life testing", *System engineering and electrical technology* (EI index). Vol. 29 No. 5, 2007, pp. 828-831
16. **Li, xiaoyang**, Jiang, Tongmin. "Life and reliability estimation of satellite assemblies based on accelerated degradation model". *Chinese Journal of Aeronautics* (EI index). Vol. 28 No. 210, 2007, pp. S100-103
17. **Li, xiaoyang**, Jiang, Tongmin, Xiao, Lianghua. "The Development algorithm of Single Sampling Inspection Plan of Pass-Fail Experiment". *Journal of Beijing University of aeronautics and aeronautics* (EI index). Vol. 31 No. 8, 2005, pp. 904-907.