

CURRICULUM VITAE

PERSONAL

Name: Xiaowei Yang

Work Address: One Shields Avenue, TB 168. Davis, CA 95616

Telephone: (530)754-9472

Fax#: (530)754-6793

Email: xdyang@ucdavis.edu

URL: <http://xdyang.ucdavis.edu/>

Research Interests

My research focuses on the following topics. (1) Bayesian Strategies for Model Selection: Two alternative Bayesian model selection strategies were developed for generalized linear models, especially those with missing covariates: ITS (impute, then select) and SIAS (simultaneously impute and select). (2) Incomplete Longitudinal Data Analysis: Depending on the pathways between repeated measures and missingness patterns, three models strategies called Selection Modeling, Pattern-Mixture Modeling, and Shared-Parameters Modeling were developed to deal with Outcome-dependent, Pattern-dependent, or Parameter-dependent nonignorable missing values. (3) Functional Regression Analysis: For high dimensional data, e.g., curves or images, two groups of Functional Regression Analysis methods have been developed: one is based on the generalized F test in the original domain, and the other applies the Adaptive Neyman and Thresholding tests after Fourier or Wavelet transform. (4) Statistical computation and software development: My interest in statistical computation mainly involves MCMC methods in longitudinal and missing data modeling applications. Several JAVA/C++/R software packages have been developed for model selection, longitudinal and functional data analysis. (5) Data Mining and Knowledge Discovery: An EM-algorithm was developed to learn Naive Bayes Classifier from noisy biomedical data. 6. Collaborative Research: Clinical trials and epidemiological studies on drug dependence, mental disorder, and general public health problems.

EMPLOYMENT

August 1998–May 2002	UCLA–Health Service Research Center, Los Angeles, Graduate Student Researcher
June 2002–May 2003	Friends Research Institute, Los Angeles, Biostatistician
June 2003–September 2005	UCLA Neuropsychiatric Institute, Los Angeles, Senior Statistician
July 2002–September 2005	Bayessoft, Inc, Los Angeles, Senior Statistician
October 2005–Present	UCD–Dept of Public Health Sciences, Davis, Assistant Adjunct Professor

EDUCATION

1997–2002	University of California, Los Angeles, Los Angeles, PhD, Biostatistics (Thoms R. Belin)
1994–1997	Peking Union Medical College, Beijing, M.S., Biomedical Engineering (Chenduan Qu)
1988–1992	Nankai University, Tianjin, China, B.S., Mathematics

HONORS/AWARDS

2002	UCLA School of Public Health Ruth Richards Outstanding Student Award
1997–2001	UCLA graduate student scholarship

PUBLICATIONS

JOURNALS

1. 2005 Yang, X., Belin, T.R. and Boscardin, J. Imputation and Variable Selection in Linear Regression Models with Missing Covariates. *Biometrics*, 61: 498–506.

2. 2005 Yang, X. and Shoptaw, S. Assessing Missing Data Assumptions in Longitudinal Studies: An Example Using a Smoking Cessation Trial. *Drug and Alcohol Dependence*, 77(3), 213–25.
3. 2005 Yang, X. and Li, J. Selection Models with Augmented Gibbs Samplers for Continuous Repeated Measures with Nonignorable Dropout. *UCLA Statistics Electronic Publications*, Preprint 451.
4. 2005 Yang, X., Li, J., and Shoptaw, S. Multiple Partial Imputation for Longitudinal Data with Missing Values in Clinical Trials. *UCLA Statistics Electronic Publications*, Preprint 450.
5. 2005 Yang, X., Yang, Y., and Muntz, R.R. Augmented Naïve Bayes Classifier for Noisy and Incomplete Data Sets. 2006 Proceedings of The Joint Statistical Meetings.
6. 2005 Shoptaw, S., Reback, C.J., Peck, J.A., Yang, X., et al. Behavioral treatment approaches for methamphetamine dependence and HIV-related sexual risk behaviors among urban gay and bisexual men. *Drug and Alcohol Dependence*, 78, 125–134.
7. 2005 Peck, J.A., Reback, C.J., Yang, X., Rotheram-Fuller, E., Shoptaw, S. Sustained Reductions in Drug Use and Depression Symptoms from Treatment for Drug Abuse in Methamphetamine-Dependent Gay and Bisexual Men. *Journal of Urban Health* 82:100–108.
8. 2004 Shoptaw, S., Majewska, M.D., Wilkins, J., Twitchell, G., Yang, X., & Ling, W. Participants receiving dehydroepiandrosterone during treatment for cocaine dependence show high rates of cocaine use in a placebo-controlled pilot study. *Experimental and Clinical Psychopharmacology*, 12(2), 126–135.
9. 2003 Shoptaw, S., Yang, X., Rotheram-Fuller, E.J., Hsieh, Y-C.M., Kintaudi, P.C., Charuvastra, V.C., & Ling, W. Randomized Placebo-Controlled Trial of Baclofen for Cocaine Dependence: Preliminary Effects for Individuals with Chronic Patterns of Cocaine Use. *Journal of Clinical Psychiatry*, 64, 1440–1448.
10. 2002 Shoptaw, S., Rotheram-Fuller, E., Yang, X., Frosch, D., Nahom, D., Jarvik, M.E., Rawson, R. A., Ling, W. Smoking Cessation in Methadone Maintenance. *Addictions*, 97 (10), 1317–1328.
11. 2001 Kataoka, S.H., Zima, B.T., Dupre, D.A., Moreno, K.A., Yang, X., McCracken, J.T. Mental Health Problems and Services Use Among Female Juvenile Offenders: Their Relationship to Criminal History. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40:5, 549–555
12. 2000 Zima, B.T., Bussing, R., Yang, X., Belin, T.R. Help-Seeking Steps and Service Use for Children in Foster Care. *Journal of Behavioral Health Services & Research*, 27:3, 271–285.
13. 2000 Zima, B.T., Bussing, R., Freeman, S., Yang, X., Belin, T.R., and Forness, S. Behavior Problems, Academic Skill Delays and School Failure Among School-Aged Children in Foster Care: Their relationship to Placement Characteristics. *Journal of Child and Family Studies*, Vol. 9, No. 1, 87–103.

JOURNALS IN PRESS

1. 2006 Yang, X., Shen, Q., Xu, H., and Shoptaw, S. Functional Regression Analysis using an F Test for Longitudinal Data with Large Numbers of Repeated Measures. *Statistics in Medicine*.
2. 2006 Yang, X., Nie, K., Belin, T., Liu, J., and Shoptaw, S. Markov Transition Models for Binary Repeated Measures with Ignorable and Nonignorable Missing Values. *Statistical Methods in Medical Research*.

JOURNALS SUBMITTED

1. 2006 Yang, X., Nie, K., and Shoptaw, S. Functional Linear Regression Model after Fourier and Wavelet Transform for Longitudinal Data Analysis. Submitted to *Statistics in Medicine*.

2. 2006 Li, J., Yang, X., and Wu, Y. A Random–Effects Markov Transition Model for Poisson–distributed Repeated Measures with Nonignorable Missing Values. Submitted to Statistics in Medicine.

ABSTRACTS

1. 2005 Yang, X., Yang, Y., & Muntz, R.R. Augmented Naïve Bayes Classifier for Noisy and Incomplete Data Sets. The Joint Statistical Meetings, Minneapolis, Minnesota.
2. 2005 Li, J., Yang, X., & Wu, Y. A Random–Effects Markov Transition Model for Longitudinal Count Data with Nonignorable Missing Values. The Joint Statistical Meetings, Minneapolis, Minnesota.
3. 2005 Gang Liu, Yang, X., & Belin, TR. Bayesian Variable Selection for Logistic Regression Models in the Presence of Missing Values. The Joint Statistical Meetings, Minneapolis, Minnesota.
4. 2005 Yang, X., Liu, G., Zhang, Q., Belin, T., & Shoptaw, S. Strategies for Analyzing Longitudinal Data with Missing Values using MPI. The 67th Annual Scientific Meeting of the College on Problems of Drug Dependence, Orlando, Florida.
5. 2005 Li, J., Yang, X., Wu, Y., & Shoptaw, S. A Markov Transition Models for Longitudinal Count Data with Missing Values. The 67th Annual Scientific Meeting of the College on Problems of Drug Dependence, Orlando, Florida.
6. 2004 Yang, X., Nie, K., & Shoptaw, S. Markov Transition Models for Binary Repeated Measures with Nonignorable Missing Values. The Joint Statistical Meetings, Toronto, Canada.
7. 2004 Yang, X., Nie, K., & Shoptaw, S. Shared–Parameter Transition Models for Binary Repeated Measures with Nonignorable Missing Values. The 66th Annual Scientific Meeting of the College on Problems of Drug Dependence, San Juan, Puerto Rico.
8. 2003 Yang, X., Xu, H., & Duan, N. A case study on developing a statistical engine for evidence farming for clinical evidence. The Joint Statistical Meetings, San Francisco, CA.
9. 2003 Yang, X., Shoptaw, S., & Ling, W. Strategies in Analyzing Longitudinal Data with Missing Values. The 65th Annual Meeting of College on Problems of Drug Dependence. Miami, Florida.
10. 2002 Yang, X., Belin, TR, & Shoptaw, S. Variable Selection in Linear Regression Models for Incomplete Datasets. The Hawaii International Conference on Statistics and Related Fields, Oahu, Hawaii.
11. 2002 Yang, X. and Shoptaw, S. Multiple Partial Imputation for Incomplete Longitudinal Data. The Joint Statistical Meetings, New York.

GRANTS/CONTRACTS (COMPLETED)

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| 09/15/2003–
09/14/2005 | Grant# N44DA–3–5513, \$750,000, Principal Investigator, Multiple Imputation for Incomplete Longitudinal Data, National Institute on Drug Abuse.
Develop a software package to implement Selection, Pattern–Mixture, and Markov Transition models to analyze incomplete longitudinal data. |
| 07/15/2003–
07/14/2004 | Grant# R03 DA016721, \$60,000, Principal Investigator, Transitional Model for Incomplete Longitudinal Binary Data, National Institute on Drug Abuse.
Developing strategies with Markov Transition Models for binary repeated measures with missing data. |
| 06/17/2002–
12/17/2002 | Grant# N43DA–2–5513, \$99,663, Principal Investigator, Multiple Imputation for Incomplete Longitudinal Data, National Institute on Drug Abuse. |

Developing selection models for continuous longitudinal data with nonignorable outcome-dependent missing values.

09/01/2002–
08/31/2005 Grant# 1 P50 DA12755, Assistant Researcher, Los Angeles Addiction Center (Shoptaw, Steven, Principal Investigator), National Institute on Drug Abuse.

The major goals of this project are to implement an articulated clinical program of stimulant pharmacotherapy trials. These studies are oriented exclusively to treatment of cocaine and methamphetamine dependence.

10/01/2002–
08/31/2005 Grant# H-700024, Assistant Researcher, Coordinated Prevention Networks Shoptaw (Shoptaw, Steven, Principal Investigator), LA County Office of AIDS Programs and Policy.
Evaluation, Technical Assistance, and Coordination of Four Coordinated Human Immunodeficiency Virus (HIV), Sexually Transmitted Disease (STD), Tuberculosis (TB), Substance Abuse (SA) Prevention Networks in Los Angeles County

GRANTS/CONTRACTS (ACTIVE)

07/01/2005–
06/30/2008 Assistant Researcher, Residency Training in Primary Care (Henderson, Mark, Principal Investigator), HRSA.

This program was proposed to implement and evaluate an innovative pilot model of General Internal Medicine education to serve the medically underserved of Sacramento County.

09/29/2004–
05/31/2009 Grant# P50 DA 018185-01, \$5,927,407, Co-Investigator, UCLA Medication Development Unit for Stimulant Abuse (Shoptaw, Steven, Principal Investigator), National Institute on Drug Abuse.

This center project will conduct Phase 1 and Phase 2 evaluations of novel medications for treating methamphetamine abuse. Phase 1 trials will provide interaction safety data between the test agent and intravenous methamphetamine challenges in non-treatment seeking methamphetamine abusers. Phase 2 trials will conduct outpatient, placebo-controlled early efficacy and continuing safety studies of the medications evaluated in the Phase 1 and other activities at UCLA.

09/29/2004–
05/31/2009 Grant# P50 DA 018185-01, Co-Investigator, UCLA Medication Development Unit for Stimulant Abuse, National Institute on Drug Abuse.

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GRANTS/CONTRACTS (PENDING)

2005 Grant# R34-MH076029-01, \$450,000, Principal Investigator, Variable Selection for Generalized Linear Models with Missing Covariates, NIH/NIMH.

To develop MCMC-based Bayesian variable selection strategies and an R software package for Generalized Linear Models with missing covariates.

2006 Grant# R21-DA020665-01, \$300,000, Principal Investigator, Markov Transition Models for Longitudinal Data with Nonignorable Missing Values, NIH/NIDA.

A software package along with MCMC algorithms will be developed for binary, count, and continuous repeated measures seen in chronic diseases.

SOFTWARE DEVELOPMENT

(1) MPI: Multiple Partial Imputation for Continuous Longitudinal Data Analysis with Both Ignorable and Nonignorable Missing Values. (C++ and MS Visual Basic). (2) MTM: Random-Effects Markov Transition Models for Binary Repeated Measures with Informative Missing Values (JAVA). (3) BVS: Bayesian Variable Selection for Linear Regression Models and Generalized Linear

Models (C++, S-plus/R, and WinBUGS).

TEACHING

COURSES

2005: Winter	Biostatistical Consulting (UCLA-BIOSTAT 402B)
2006: Winter	Medical Statistics III (UC Davis MPM-404)

SERVICE

EDITORIAL BOARDS

2005–2006	A reviewer for the journal "Statistics in Medicine"
2004–2005	A reviewer for the journal "Substance Abuse Treatment, Prevention, and Policy"
2005–2006	UCLA Integrated Substance Abuse Programs Data and Safety Monitoring Board