BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed for Form Page 2.
Follow the sample format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME	POSITION TITLE
Li, Wilfred Wenfeng	Executive Director, NBCR

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
College of Saint Rose, Albany, NY	B.A.	8/1985 – 8/1989	Dept. of Biology
University of Southern California, Los Angeles, CA	Ph.D.	9/1989 – 11/1994	Dept. of Biochemistry & Molecular Biology
University of Southern California, Los Angeles, CA	Research Associate	12/1994 – 3/1996	Same as Above
University of California, San Diego, CA (UCSD)	Postdoctoral Fellow	4/1996 – 6/1999	Dept. of Pharmacology, Signal Transduction
San Diego Supercomputer Center, UCSD	Senior Fellow	7/1999 -	Bioinformatics

NOTE: The Biographical Sketch may not exceed four pages. Items A and B (together) may not exceed two of the four-page limit. Follow the formats and instructions on the attached sample.

A. Positions and Honors. List in chronological order previous positions, concluding with your present position. List any honors. Include present membership on any Federal Government public advisory committee.

Research and/or professional experience:

1987	Summer Intern, Dept of Pharmacology and Toxicology, Albany Medical College, Albany, NY
1988	Summer Intern, Department of Nuclear Medicine, Roswell Park Cancer Institute, Buffalo, NY
1989 - 1994	Graduate Researcher, with A.S. Lee, USC.
1995 - 1996	Research Associate, Biochemistry and Molecular Biology, with A.S. Lee, USC.
1996 - 1999	Postdoctoral Fellow, Signal Transduction, with M. Karin, UCSD.
1999 - 2004	Senior Fellow, Bioinformatics, with P.E. Bourne, UCSD.
2000 - 2002	Instructor of Biological Databases & Genome Analysis, UCSD Extension
2003 - 2004	EOL technical lead, with M.A. Miller
2003 -	PRAGMA technical lead, with P.W. Arzberger
2004 - 2005	Acting Project Manager, National Biomedical Computation Resource, with P.W. Arzberger, UCSD
2004 -	Senior Fellow, San Diego Supercomputer Center
2005 -	Executive Director, National Biomedical Computation Resource
2005 -	Adjunct Lecturer, School of Information Science and Technology, Osaka University, Japan
2006 -	co-lead, PRAGMA Biosciences Working Group
2007 -	co-investigator, group leader, NBCR
2007 -	co-PI, TATRC Avian Flu Grid Project
2008 -	Adjunct Professor, College of Computer Science and Technology, Jilin University, PRC

Selected Posters

1993	Gordon Mechanisms of Toxicity Conference, poster
1993	Gordon Molecular and Genetic Basis of Cell Proliferation Conference, poster
2001	Plant, Animal & Microbe Genomics, San Diego, poster
2006- 2007	NCRR Annual Principal Investigators' Meeting, poster PRAGMA 13 Poster Session

Selected Workshops and Conferences:

1998	Gordon Mechanism of Toxicity Conference, participant
1999	MSI Life Science Modeling with Insight II workshop, participant MSI Homology Based Protein Design workshop, participant
2000	Develop Database Applications with Java—Oracle Workshop, participant
2000	LJIS2000 Quantitative Challenges in the Postgenomic Era Symposium, participant

2000 NPACI Parallel Computing Workshop, participant
2001 ISMB 2001, Copenhagen, Denmark, participant
2003 IBM DB2 UDB Programming Using Java Workshop, participant
2006 CCGrid 2006, Singapore, presenter
2008 Bangkok International Conference on Avian Influenza, Bangkok, Thailand, co-presenter

Selected Presentations:

1996 The XIth International Symposium on Microsomes and Drug Oxidations, oral presentation
2002 Bioinformatics Institute, Singapore, oral presentation and workshop
2002 Bioinformatics 2002, Boston, oral presentation
2002 PRAGMA 2002, Seoul, Korea, oral presentation
2003 PRAGMA 2003, Japan, oral presentation
2003 University of Manchester, UK, oral presentation
2003 Global Grid Forum 7, Japan, oral presentation
2003 National Yang-Ming University, Taipei, oral presentation and workshop
2005 - 2007 Southeast Asia International Joint Research and Training Program, NCHC, Taiwan, keynote speaker
2007 EPA International Science Forum on Computational Toxicology, speaker
2008 Health Grid 2008, Speaker
2008 International Symposium on Real World Computational Informatics, Tsukuba University, keynote speaker

Selected Program Committees:

2004 PRAGMA 8
2004 ISMB 2004
2005 4th European Conference on Computational Biology/ISMB 2005
2005 PRAGMA 9
2005 BioGrid 06
2008 Grid 2008
2008 PRAGMA 15
2009 PRAGMA 16

Journal Reviewers:

2003 - Bioinformatics
2004 - New Generation computing
2008 - Future Generation Computer Systems
2008- Data & Knowledge Engineering
2009- Cluster Computing
2009- Carbohydrate Research
2009- Letters in Drug Design & Discovery-Online

Honors, Prizes, Society Memberships:

1988 Alpha Chi Chapter, Delta Epsilon Sigma, National Scholastic Honor Society
1985 -1989 College of Saint Rose Scholarship
1989 College of Saint Rose Dean's List
1989 Magna cum Laude
1989 Associate Member, State University of New York at Albany Chapter, Sigma Xi, the Scientific Research Society
1988 -1989 Who's Who among Students in American Universities & Colleges
1989 CSR Division of Natural Science Recognition of Outstanding Scholarship Award
1989 -1990 California Foundation for Biomedical Research Scholarship
1994 Harry J. Deuel, Jr. Award for Outstanding Graduates of the Department of Biochemistry and Molecular Biology
1994 USC School of Medicine Poster Competition 1st Prize
1993 -1994 K. Norris Cancer Center--Heidelberger Predoctoral Scholarship
1997 - 1999 Tobacco Related Disease Research Program Fellowship, UCSD
2000 American Association for the Advancement of Science
2007 IEEE Engineering in Medicine and Biology Society
2008 - IEEE Computer Society
2008 - Biophysical Society

B. Selected peer-reviewed publications (in chronological order). Do not include publications submitted or in preparation.

1. Alexandre, S. **Li, W. W.** and A. S. Lee. (1992). A human HMG2 cDNA with a novel 3'-untranslated region. **Nucleic Acids Research.** *20(23): 6413*.
2. **Li, W. W.**, S. Alexandre, X. Cao, and A. S. Lee. (1993). Transactivation of the GRP78 promoter by Ca2+-depletion: a comparative analysis of the kinetics of induction by calcium ionophore A23187 and ER Ca2+-ATPase inhibitor thapsigargin. **Journal of Biological Chemistry.** *268:* 12003-12009.
3. **Li, W. W.**, L. Sistonen, R. I. Morimoto, and A. S. Lee. (1994). Stress induction of the mammalian GRP78/BiP protein gene: in vivo genomic footprinting and identification of p70CORE from human nuclear extract as a DNA-binding component specific to the stress regulatory element. **Molecular and Cellular Biology.** *14:* 5533-5546.
4. Cavigelli, M., **Li, W. W.**, A. Lin, B. Su, K. Yoshioka, and M. Karin. (1996) The Tumor Promoter Arsenite Stimulates AP-1 Activity by Inhibiting a JNK Phosphatase. **EMBO Journal.** *15:* 6269-6279.
5. Roy, B., **Li, W. W.**, and A. S. Lee. (1996) Calcium-sensitive transcriptional activation of the proximal CCAAT regulatory element of the grp78/BiP promoter by the human nuclear factor CBF/NF-Y. **Journal of Biological Chemistry.** *271:* 28995-29002.
6. **Li, W. W.**, Y. Hsiung, Y. Zhou, B. Roy and A. S. Lee. (1997) The human nuclear factor YY1 binds to and activates the stress-inducible core element of the mammalian GRP78/BiP promoter. **Molecular and Cellular Biology.** *17:* 54-60.
7. **Li, W. W.**, Y. Hsiung, V. Wong, K. Galvin, Y. Zhou, Y. Shi and A. S. Lee. (1997) Suppression of the stress-induction mediated by the grp78 core promoter element by dbpA and dbpB (YB-1) cold shock domain proteins. **Molecular and Cellular Biology.** *17:* 61-68.
8. B. V. B., Reddy, **Li, W. W.,** I. N. Shindyalov, and P. E. Bourne. (2000). Conserved Key Amino Acid Positions (CKAAPs) Derived from the Analysis of Common Substructures in Proteins. **Proteins: Structure, Function and Genetics.** *42:*148-163.
9. **Li, W. W.**, B. V. B. Reddy, I. N. Shindyalov, and P. E. Bourne. (2001). CKAAPs DB: A Conserved Key Amino Acid Positions Database. **Nucleic Acids Research,** *29:*329-331.
10. **Li, W.W.**, B.V.B. Reddy, John G. Tate, I.N. Shindyalov, and P.E. Bourne. (2002). CKAAPs DB: a conserved key amino acid positions database. **Nucleic Acids Research.**, 30: 409-411.
11. B.V.B. Reddy, **Li, W. W.**, and P. E. Bourne (2002). Conserved Key Amino Acid Positions Used to Morph Protein Folds. **Biopolymers.** 64(3):139-145.
12. **Li, W.W.**, G.B. Quinn, N.N. Alexandrov, P.E. Bourne, and I.N. Shindyalov. (2003). A Comparative Proteomics Resource: Proteins of *Arabidopsis thaliana*. **Genome Biology**. 4: R51.
13. **Li, W.W. ,** R.W. Byrnes, J. Hayes, A. Birnbaum, V.M. Reyes, A. Shahab, C. Mosley, D. Pekurovsky, G.B. Quinn, I.N. Shindyalov, H. Casanova, L. Ang, F. Berman, P.W. Arzberger, M. A. Miller, and P.E. Bourne. (2004). The Encyclopedia of Life Project: Grid Software and Deployment. **New Generation Computing**. *22: 127-136.*
14. Bourne, P.E., C.K.J. Allerston, W. Krebs, **Li, W.W.,** I.N. Shindyalov, A. Godzik, I. Friedberg, T. Liu, D. Wild, S. Hwang, Z. Ghahramani, L. Chen, and J. Westbrook. (2004). The Status of Structural Genomics Defined Through the Analysis of Current Targets and Structures. pp375-386. In **Pacific Symposium on Biocomputing.** Altman et al, eds. World Scientific, New Jersey.
15. Birnbaum, A., J. Hayes, **Li, W. W.**, M. A. Miller, P.W. Arzberger, P. E. Bourne, & H. Casanova. (2004). Grid Workflow Software for High-Throughput Proteome Annotation Pipeline. **Lecture Notes in Computer Science.** 3370: 68-81
16. Shahab, A., D. Chuon, T. Suzumura, **Li, W. W.**, R. W. Byrnes, K. Tanaka, L. Ang, S. Matsuoka, P. E. Bourne, M. A. Miller, & P. W. Arzberger. (2004). Grid Portal Interface for Interactive Use and Monitoring of High-Throughput Proteome Annotation. **Lecture Notes in Computer Science.** 3370: 53-67.
17. Web Services-based Data Integration for Life Science Computations. (2005) Sriram Krishnan, Brent Stearn, Karan Bhatia, Jerry Greenberg, **Li, W.W.** Peter Arzberger, and Kim Baldridge. **SDSC Technical Report** TR-2005-2,
18. Wei, X, **Li, W. W.**, O. Tatebe, G. Xu, H. Liang & J. Ju. (2005). Implementing data aware scheduling in Gfarm using LSFTM scheduler plugin mechanism. **Proceedings of the 2005 International Conference on Grid Computing and Applications (GCA'05).** Las Vegas: 3-10.
19. **Li, W.W.,** C.L. Yeo, O. Tatebe, K. Jeong, S. Hwang, S. Date, J. Kwak, S. Sekiguchi, L. Ang and P. W. Arzberger. (2005). Proteome Analysis using iGAP in Gfarm. **Proceedings of the 2nd Life Sciences Grid Workshop.** Singapore. In press.
20. X. Wei, **Li, W.W.**, O. Tatebe, G. Xu, L. Hu, and J. Ju, "Integrating Local Job Scheduler - LSF™ with Gfarm™," **Lecture Notes In Computer Science**, vol. 3758, pp. 197, 2005.

21. D. Abramson, A. Lynch, H. Takemaya, Y. Tanimura, S. Date, H. Nakamura, S. Hwang, K. Jeong, H.-c. Lee, P. W. Arzberger, K. Baldridge, **Li, W. W.**, and T. Molina, "Deploying Scientific Applications to the PRAGMA Grid testbed: Strategies and Lessons," Singapore, CCGrid 2006.
22. P. J. Hunter, **Li, W. W.**, A. D. McCulloch, and D. Noble, "Multi-scale Modeling Standards, Tools, Databases for the Physiome Project," **Computer**, (39) 48-54, 2006.
23. X. Wei, Z. Ding, **Li, W. W.**, O. Tatebe, J. Jiang, L. Hu, and P. W. Arzberger, "GDIA: A Scalable Grid Infrastructure for Data Intensive Applications," presented at IEEE International Conference on Hybrid Information Technology, ICHIT 2006, Cheju Island, Korea, 2006.
24. Z. Ding, Y. Luo, X. Wei, C. Misleh, **Li, W. W.**, P. W. Arzberger, and O. Tatebe, "My WorkSphere: Integrative Work Environment for Grid-unaware Biomedical Researchers and Applications," presented at Supercomputing Conference 2006, SC06, 2nd Grid Computing Environment Workshop, Tampa, Florida, 2006.
25. T. L. Bailey, N. Williams, C. Misleh, and **Li, W. W.**, "MEME: Discovering and analyzing DNA and protein sequence motifs," **Nucleic Acids Res**, 34: W369-373, 2006.
26. **Li, W. W.**, S. Krishnan, K. Mueller, K. Ichikawa, S. Date, S. Dallakyan, M. F. Sanner, C. Misleh, Z. Ding, X. Wei, O. Tatebe, and P. W. Arzberger, "Building Cyberinfrastructure for Bioinformatics Using Service Oriented Architecture," presented at the 6th IEEE International Symposium on Cluster Computing & the Grid, Singapore, 2006.
27. **Li, W. W.**, N. A. Baker, K. Baldridge, J. A. McCammon, M. H. Ellisman, A. Gupta, M. J. Holst, A. D. McCulloch, A. Michailova, P. Papadopoulos, A. Olson, M. Sanner, and P. W. Arzberger, "National Biomedical Computation Resource (NBCR): Developing End-to-End Cyberinfrastructure for Multiscale Modeling in Biomedical Research " **CTWatch Quarterly**, 2006.
28. S. Krishnan, B. Stearn, K. Bhatia, K. K. Baldridge, **Li, W. W.**, and P. W. Arzberger, "Opal: Simple Web Services Wrappers for Scientific Applications," presented at International Conference of Web Services, Chicago, USA, 2006.
29. Z. Ding, Y. Luo, D. Ma, P. W. Arzberger, **Li, W. W.**, and X. Wei. "Customized Plug-in Modules in Metascheduler Community Scheduler Framework 4 (CSF4) for Life Sciences Applications". **New Generation Computing**. 2007. In Press.
30. K. Ichikawa, S. Date, S. Krishnan, **Li, W. W.**, H. Nakamura and S. Shimojo. "Opal OP: an Extensible Grid-Enabling Wrapping Approach for Legacy Applications". The 3rd International Workshop on Grid Computing and Applications, Grid Asia 2007, Singapore, Proceedings.
31. Amaro, R. E.; Minh, D. D.; Cheng, L. S.; Lindstrom, W. M., Jr.; Olson, A. J.; Lin, J. H.; **Li, W. W**.; McCammon, J. A. Remarkable loop flexibility in avian influenza N1 and its implications for antiviral drug design. **J Am Chem Soc** 2007**,** 129, 7764-5.
32. Clementi, L.; Ding, Z.; Krishnan, S.; Wei, X.; Arzberger, P. W.; **Li, W. W**. In Providing dynamic virtualized access to grid resources via the web 2.0 paradigm, Grid Computing Environment 2007 (GCE 07), Reno, Nevada, 2007; Reno, Nevada, 2007.
33. Ding, Z.; Wei, X.; **Li, W. W.** In VJM-A Deadlock Free Resource CO-allocation Model for Cross Domain Parallel Jobs HPC Asia, Seoul, Korea, 2007; Seoul, Korea, 2007; pp 31-37.
34. Ichikawa, K.; Date, S.; Krishnan, S.; **Li, W. W.**; Nakata, K.; Yonezawa, Y.; Nakamura, H.; Shimojo, S. In OPAL OP: An Extensible Grid-Enabling Wrapping Tool For Legacy Applications, 3rd International Workshop on Grid Computing & Applications (GCA2007), Singapore, 2007; Singapore, 2007.
35. Cheng, L. S.; Amaro, R. E.; Xu, D.; **Li, W. W.**; Arzberger, P. W.; McCammon, J. A. Ensemble-based Docking Reveals Potential Antiviral Compounds Against Avian Influenza. **J Med Chem** 2008, 51: 3878-94.
36. Clementi, L., Krishnan, S., Goodman, W., **Li, W.W.**, Arzberger, P.W., Guillaume, V., Sanner, M. Services oriented architecture for managing workflows of avian flu grid. IEEE eScience 2008, Indianapolis, IN, 2008.
37. Lu, S.; Michailova, A.; Cheng, Y.; Yu, Z.; Kaiser, T. H.; **Li, W. W.**; Banks, R. E.; Holst, M.; McCammon, J. A.; Hoshijima, M.; McCulloch, A. D. Multi-Scale Modeling of Ventricular Myocytes: Contributions of structural and functional heterogeneities to excitation-contraction coupling in the normal and failing rodent heart. **IEEE Engineering in Medicine and Biology** 2009, 45-57.
38. Krishnan, S.; Clementi, L.; Ding, Z.; **Li, W. W.** Leveraging the Power of the Grid with Opal: A Guide to Biomedical Application Developers and Users. In **Handbook of Research on Computational Grid Technologies for Life Sciences, Biomedicine and Healthcare**, Cannataro, M., Ed. Milan, 2009. ISBN: 978-1-60566-374-6.
39. Ding, Z.; Wei, X.; Tatebe, O.; Papadopoulos, P. M.; Arzberger, P. W.; **Li, W. W.** Cyberinfrastructure for Biomedical Applications: Metascheduling as Essential Component for Pervasive Computing. In **Cyberinfrastructure Technologies and Applications**, Cao, J., Ed. Nova Science: 2009. **I**SBN**:** 978-1-60692-063-3.
40. Xu, D., I. Newhouse, H. Pao, R. E. Amaro, Warwick, P., J. A. McCammon, **Li**, **W. W.** and P. W. Arzberger**.** 2009. Distinct Glycan Topology for Avian and Human Sialo-Pentasaccharide Receptor Analogues upon Binding Different Hemagglutinins: A Molecular Dynamics Perspective. **J Mol Biol:** 387(2), 465-91.

41. Krishnan, S.; Clementi, L.; Ren, J.; Papadopoulos, P.; Li, W. W. *Design and evaluation of Opal 2: toolkit for scientific software as a service*, Int. Workshop on Cloud Services. Proceedings of ICWS 2009, Los Angeles, 2009.
42. Wei, X.; Ding, Z.; Yuan, Y.; Li, W. W., VJM: a novel grid resource co-allocation model for parallel jobs. *Int j grid distributed computing* **2009,** 1, (2), 1-12.
43. Bailey, T. L.; Boden, M.; Buske, F. A.; Frith, M.; Grant, C. E.; Clementi, L.; Ren, J.; Li, W. W.; Noble, W. S., MEME Suite: tools for motif discovery and searching. *Nucleic Acids Res* **2009**, In Press.

C. Research Support. List selected ongoing or completed (during the last three years) research projects (federal and non-federal support). Begin with the projects that are most relevant to the research proposed in this application. Briefly indicate the overall goals of the projects and your role (e.g. PI, Co-Investigator, Consultant) in the research project. **Do not list award amounts or percent effort in projects.**

Current:

P 41 RR08605 (Arzberger) 05/01/2009-04/30/2014
NIH
National Biomedical Computation Resource
The key aim of this resource is to provide transparent access *to the new and emerging grid infrastructure* that will deliver integrated compute, data, physical, experimental, and human resources to biomedical scientists investigating a wide range of medically important problems spanning scales of biological organization from small molecule drug design and comparative genomics to diagnostic brain imaging and cardiovascular disease.
Role: Executive Director, co-PI

0314015 (Arzberger) 09/15/2006 – 09/14/2011
NSF/CISE
Pacific Rim Application and Grid Middleware Assembly
The major goals of this project are to develop/enable specific scientific applications for grid computing via collaborations, workshops and grid infrastructure support. Specifically, (1) participation in face-to-face meetings, (2) coordination and expansion of cooperative activities to include more institutes and countries, (3) supporting the development of grid infrastructure and middleware in the region, and (4) building collaborations via focused grid and application infrastructure and demonstration projects.
Role: Biosciences Working Group co-lead.

CAMERA (Smarr) 12/15/05 – 12/14/12
Moore Foundation
Community Cyberinfrastructure for Advanced Ecology Research and Analysis
The major goals for the project are : 1. Underpin growth in marine microbial ecology information by *providing a rich, distinctive data resource of core genomic and metagenomic information*. 2. Enhance the value of the data resource and create new knowledge by *designing and deploying tools* to provide easy access to the data to enable powerful cross-analysis of the data from communities of microbes, and new ways of visualizing and interacting with the data in the context of native environments. 3. Support new analyses of, and demand for, the data resource by *establishing a state-of-the-art computational and collaborative environment* with unprecedented high-performance networking access that can be scaled to the needs of the community. 4. Build a community of researchers by developing a *center for environmental metagenomics* to focus activities on research, community outreach and training, user support, and scientific leadership.
Role: Group Co-Leader

Previous:

P 41 RR08605 (Arzberger) 05/01/2004-04/30/2009
NIH
National Biomedical Computation Resource
The key aim of this resource is to provide transparent access *to the new and emerging grid infrastructure* that will deliver integrated compute, data, physical, experimental, and human resources to biomedical scientists investigating a wide range of medically important problems spanning scales of biological organization from small molecule drug design and comparative genomics to diagnostic brain imaging and cardiovascular disease.
Role: Executive Director

W81XWH-07-2-0014 (Arzberger and Li) 01/18/2007-01/17/2009

TATRC
Avian Flu Grid
This project aims to use the grid and high performance computing infrastructure to develop the international collaborative environment in the fight against the pandemic threat of Avian flu and other emerging infectious diseases.
Role: co-PI.

1 P01 GM063208 (Bourne) 04/01/02 - 3/31/07
NIGMS
Tools and Data Resources in Support of Structural Genomics
The major goals for this project are : (i) facilitate structure genomics by guiding target selection towards new folds and/or biological function (ii) provide functional annotation to newly determined structures of unknown function (iii) provide a comprehensive database of comparative (homology) models.
Role: Senior Fellow.

ASC 9619020 (Berman) 10/01/1997 – 09/30/2004
NSF/CISE
National Partnership for Advanced Computational Infrastructure
The major goal for this project is the implementation of infrastructure for the San Diego Supercomputer Center for enabling national academic research.
Role: Program Analyst.

5 P41 RR04050-10S1 (Ellisman) 04/01/99 – 3/31/2003
NCRR
Microstructure Image-Based Collaboratory
The major goals for this project are: (i) to design a collaboratory for biological image analysis to address the needs remote telemicroscopists and users of synchrotrons working in macromolecular crystallography (ii) to implement and deploy the image-driven collaboratory (iii) to continually evaluate the image-driven collaboratory in order to refine the design and assess its benefits to biomedical researchers and National Research Resources.
Role: Program Analyst.