

**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 Glen B. Legge		POSITION TITLE Assistant Professor	
eRA COMMONS USER NAME glegge			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
University of Cambridge Cambridge, UK (Advisor Alan Fersht, FRS)	Ph.D.	1993-1996	NMR and Structural Biology
University of Western Australia Perth, Australia	Honors	1992	Biochemistry
University of Western Australia Perth, Australia	B.Sc.	1984-1986	Chemistry

**A. Positions and Honors****Positions and Appointments:**

2003 – Present Houston Area Molecular Biophysics Program  
 2001 – Present Keck Faculty Member  
 2001 – Present Assistant Professor Biochemistry, University of Houston, Houston TX  
 1997 – 2001 Research Associate, The Scripps Research Institute, San Diego CA  
 (P.I.'s Peter Wright and Jane Dyson)  
 1990 – 1991 Industrial Chemist  
 1989 – 1990 Research Technician, Veterinary School, Murdoch University  
 1987 – 1988 Technician, Western Australia Department of Agriculture.

**Honors and Awards:**

2005 Invited Speaker, ASC Southwest Regional Meeting, Memphis TN  
 2005 Invited Speaker, Aalborg University, Denmark  
 2005 Invited Speaker, The Scripps Research Institute  
 2004 Invited Speaker Structural Biology Research Forum (UT-HSC)  
 2003 Invited Speaker, 5<sup>th</sup> Annual Biotechnology Symposium, Stephen F. Austin State University  
 2003 Organizer and Speaker, First University of Houston High Field NMR Symposium, Univ. of Houston  
 2000 – Present Protein Society  
 2000 Genentech Honorarium  
 1998 TSRI Society of Fellows Fall Symposium Travel Award  
 1997 – Present American Chemical Society  
 1995 – 1996 Raymond and Beverly Sackler studentship  
 1994 – 1996 Zeneca Award  
 1993 – 1996 Cambridge Commonwealth Trust Bursary  
 1993 – 1996 Overseas Research Scholarship  
 1993 – 1996 Herchel Smith Endowment  
 1993 – 1996 Legg Scholarship, Gonville and Caius College  
 1993 – Present Fellow of the Cambridge Commonwealth Society  
 1993 Poster Prize Biological Sciences Meeting, Perth Western Australia

## B. Peer-reviewed publications

- Sen M., Dorfleutner A., Creath A.L., Agrawal S., Craft J., Ruf W., **Legge G.B.**: Structural Basis for Phosphorylation Regulated Adaptor Recruitment with the Tissue Factor Cytoplasmic Domain. (*In Preparation*)
- Reid J., Gu P., Gao X., Tran P., Shaw C., Zhou X., Havlak P., Steffen D., Garbino A., Hoang D., Weiss M., Fountain M., El-Daye J., **Legge G.B.**, Goodell M., Darlington G., Moore K., Lemischka I., Gordon J., Peterson L., Wheeler D., Yuan Y., Gibbs R.A., Miller J., Cooney A., Gunaratne P.H. (2006) Embryonic Stem Cell MicroRNA Candidates Uncovered from Early Tissue Progenitor Transcriptome. *Science* (submitted)
- Sen M., **Legge G.B.** (2006) Pactolus I-domain: Functional Switching of the Rossmann Fold. *Protein Science* (submitted)
- Wang, Y., Yang, J., McIntyre, B.W., Sen, M., **Legge, G.B.**, Molldrem, J.J., and Ma, Q. (2005) Conformational changes in the I-domain of mouse LFA-1 contribute to lymphocyte adhesion and proliferation. *J. Immunol.* (submitted)
- Craft, J.W. Jr. and **Legge, G.B.** (2005) An AMBER/DYANA/MOLMOL Phosphorylated Amino Acid Library Set and Incorporation into NMR Structure Calculations. *J. Biomol. NMR* **33**(1):15-24.
- Xia, Y. **Legge, G.B.**, Jun, K., Lee, H., and Gao, X. (2005) IP-COSY, Totally In-Phase 2D Correlation Spectroscopy *Mag. Reson. in Chem.* **43**:372-379.
- **Legge, G.B.**, Martinez-Yamout, M., Hamberly, D., Trinh, T., Lee, B.M., Dyson, H.J., Wright, P.E. (2004) ZZ-domain of CBP—an unusual Zinc Finger Fold in a Protein Interaction Module *J. Mol. Biol.* **343**:1081-1093.
- Shao, H., Xu, X., Mastrangelo, M.A., Jing, N., Cook, R.G., **Legge, G.B.**, Tweardy, D.J. (2004) Structural requirements for signal transducer and activator of transcription 3 binding to phosphotyrosine ligands containing the YXXQ motif. *J. Biol. Chem.* **279**(18):18967-73.
- **Legge, G.B.**, Morris, G.M., Saner, M., Takada, Y., Olson, A., Grynspan, F. (2002) A model for the  $\alpha$ L I-domain / ICAM-1 D1 interaction suggests subtle changes in loop orientation determine ligand specificity. *Prot. Struct. Funct. Gen.* **48**:151-160. (Faculty of 1000 Must Read F1000 factor 6.0)
- Duggan, B.M., **Legge, G.B.**, Dyson H.J., Wright, P.E. (2001) SANE (Structure Assisted NOE Evaluation): An automated model-based approach for NOE assignment using chemical shift, distance and NOE contribution filtering. *J. Biomol. NMR* **19**(4): 321-329.
- **Legge, G.B.**, Kriwacki, R.W., Chung, J., Hommel, U., Ramage, P., Dyson, H.J., Wright, P.E. (2000) NMR solution structure of the I-domain of human leukocyte function associated Antigen-1. *J. Mol. Biol.* **295**(5): 1251-1264.
- Kriwacki, R.W., **Legge, G.B.**, Chung, J., Hommel, U., Ramage, P., Dyson, H.J., Wright, P.E. Assignment of  $^1\text{H}$ ,  $^{13}\text{C}$  and  $^{15}\text{N}$  resonances of the I-domain of human leukocyte function associated antigen-1. (2000) *J. Biomol. NMR* **16**:271-272.
- Martinez-Yamout, M., **Legge, G.B.**, Zhang, O., Wright, P.E., Dyson, H.J. (2000) Solution Structure of the cysteine-rich domain of the *Escherichia coli* chaperone protein DnaJ. *J. Mol. Biol.* **300**(4):805-81.
- **Legge, G.B.**, Poget, S.F., Proctor, M.R., Freund, S.M.V., Bycroft, M. (2000) Assignment of  $^1\text{H}$ ,  $^{13}\text{C}$  and  $^{15}\text{N}$  resonances of the C-type lectin TC14 in the presence and absence of calcium. *J. Biomol. NMR* **18**(3): 283-284.
- Kallen, J., Wezenbach, K., Ramage, P., Kriwacki, R., **Legge, G.**, Cottens, S., Weitz-Schmidt, G., Hommel, U. (1999) Structural Basis for LFA-1 inhibition upon lovastatin binding to the CD11a I-domain. *J. Mol. Biol.* **292**(1): 1-9.
- Poget, S.F., **Legge, G.B.**, Proctor, M.P., Butler, J.G., Bycroft, M., Williams, R.L. (1999) The Structure of a tunicate C-type lectin from *Polyandrocarpa misakiensis* complexed with D-galactose. *J. Mol. Biol.* **290**: 867-879.
- **Legge, G.B.**, Branson, J.P., Attwood, P.V. (1996) The effects of acetyl CoA on the pre-steady state kinetics of the biotin-carboxylation reaction of pyruvate carboxylase. *Biochemistry* **35**:12, 3849-3856.

## C. Research Support

### Current Support:

**SR/NIH P01** (PI: Edginton, Co-PI: Legge)

06/01/04 – 05/31/09

Vascular Biology of Tissue Factor

Summary The major goal of this grant is to understand the molecular mechanisms of TF biology. Our laboratory is studying the molecular structure and function of the cytoplasmic domain of Tissue Factor in both its phosphorylated and unphosphorylated forms.

**AHA/Grant In Aid– National Center** (PI: Legge)

07/01/04 – 06/30/08

Studies of the LFA-1 I-domain Activation & Outside-In Signaling: Implications for Immunity Regulation & Drug Design

Summary: The major goal of this project is understand the molecular mechanisms of integrin activation, outside-in signaling and ligand binding. We are calculating the NMR structure of the activated (open) LFA-1 I-domain and exploring its interaction with ICAM-1 and small molecular inhibitors.

**The Robert A. Welch Foundation** (PI: Legge)

06/01/03 – 05/31/07

NMR Methods for Dynamics and Structure Determination of Protein-Ligand Complexes

Summary: The major goal of this project is to advance NMR studies of integrin I-domains.

**NASA/URC** (PI: Wilson, Subcontract PI: Briggs, Co-PI: Legge)

07/01/02 – 06/30/08

The NASA Research Center for Biotechnology and Environmental Health.

Summary: The overall goal of this project is to establish a new NASA Center at Texas Southern University with collaborations to UH. The Center will focus on issues related to microbial and toxicological management in enclosed microgravity environments. This Center also includes collaborations with scientists at the NASA Johnson Space Center.