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EDUCATION

- 2003 Ph.D. in Molecular and Cell Biology with Dr. Donald M. Gray
The University of Texas at Dallas, Richardson, TX
- 2000 M.S. in Molecular and Cell Biology with Dr. Donald M. Gray
The University of Texas at Dallas, Richardson, TX
- 1993 M.S. in Life Science with Dr. Shiaw-Der Yang
National Tsing Hua University, Hsinchu, Taiwan
- 1991 B.S. in Chemistry
National Tsing Hua University, Hsinchu, Taiwan

PROFESSIONAL SERVICE

- 2009- Assistant professor
Inst. of Molecular and Cellular Biology, National Taiwan University
- 2004-2009 Post-doctoral fellow with Dr. Ignacio Tinoco, Jr.
Dept. of Chemistry, Univ. of California at Berkeley, Berkeley, CA
- 2003-2004 Post-doctoral fellow with Dr. Donald M. Gray
Dept. of Mol. and Cell Biology, Univ. of Texas at Dallas, Richardson, TX
- 2000-2001 Teaching Assistant
Dept. of Mol. and Cell Biology, Univ. of Texas at Dallas, Richardson, TX
- 1999-2000 & 2001-2003 Research Assistant
Dept. of Mol. and Cell Biology, Univ. of Texas at Dallas, Richardson, TX
- 1995-1998 Full-time Research Assistant
Internal Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan
- 1991-1993 Research Assistant
Inst. of Life Science, National Tsing Hua University, Hsinchu, Taiwan

MILITARY SERVICE

- 1993-1995 Medical Staff
Chinese Army, Taiwan

MEMBERSHIP

- 2003-Present Biophysical Society

AWARDS

- 2002 The First Annual Harris Memorial Research Scholarship
Dept. of Mol. and Cell Biology, Univ. of Texas at Dallas, Richardson, TX
- 2000 Best Poster Presentation of the Fifth Annual Biology-Chemistry Graduate Symposium
Dept. of Mol. and Cell Biology, Univ. of Texas at Dallas, Richardson, TX

PUBLICATIONS

1. Qu, X., **Wen, J.-D.**, Lancaster, L., Noller, H. F., Bustamante, C., Tinoco, I., Jr. The ribosome uses two active mechanisms to unwind mRNA during translation. *Submitted* (2011).
2. Tinoco, I., Jr. and **Wen, J.-D.** Simulation and analysis of single-ribosome translation. *Phys. Biol.* **6**, 025006 (2009).
3. **Wen, J.-D.**, Lancaster, L., Hodges, C., Zeri, A., Yoshimura, S., Noller, H. F., Bustamante, C. & Tinoco, I., Jr. Following translation by single ribosomes one codon at a time. *Nature* **452**, 598-603 (2008) (cover-featured article).
4. Gray, D. M., **Wen, J.-D.**, Gray, C. W., Repges, R., Repges, C., Raabe, G. & Fleischhauer, J. Measured and calculated CD Spectra of G-quartets stacked with the same or opposite polarities. *Chirality* **20**, 431-440 (2008).
5. Chen, G., **Wen, J.-D.** & Tinoco, I., Jr. Single-molecule mechanical unfolding and folding of a pseudoknot in human telomerase RNA. *RNA* **13**, 2175-2188 (2007).
6. **Wen, J.-D.**, Manosas, M., Li, P. T., Smith, S. B., Bustamante, C., Ritort, F. & Tinoco, I., Jr. Force unfolding kinetics of RNA using optical tweezers. I. Effects of experimental variables on measured results. *Biophys. J.* **92**, 2996-3009 (2007).
7. Manosas, M., **Wen, J.-D.**, Li, P. T., Smith, S. B., Bustamante, C., Tinoco, I., Jr. & Ritort, F. Force unfolding kinetics of RNA using optical tweezers. II. Modeling experiments. *Biophys. J.* **92**, 3010-3021 (2007).
8. **Wen, J.-D.** & Gray, D. M. Selection of genomic sequences that bind tightly to Ff gene 5 protein: primer-free genomic SELEX. *Nucleic Acids Res.* **32**, e182 (2004).
9. **Wen, J.-D.** & Gray, D. M. Ff gene 5 single-stranded DNA-binding protein assembles on nucleotides constrained by a DNA hairpin. *Biochemistry* **43**, 2622-2634 (2004).
10. Gray, D. M., Gray, C. W., Mou, T.-C. & **Wen, J.-D.** CD of single-stranded, double-stranded, and G-quartet nucleic acids in complexes with a single-stranded DNA-binding protein. *Enantiomer* **7**, 49-58 (2002).
11. **Wen, J.-D.** & Gray, D. M. The Ff gene 5 single-stranded DNA-binding protein binds to the transiently folded form of an intramolecular G-quadruplex. *Biochemistry* **41**, 11438-11448 (2002).
12. **Wen, J.-D.**, Gray, C. W. & Gray, D. M. SELEX selection of high-affinity oligonucleotides for bacteriophage Ff gene 5 protein. *Biochemistry* **40**, 9300-9310 (2001).
13. Shin, S.-J., Lai, F.-J., **Wen, J.-D.**, Hsiao, P.-J., Hsieh, M.-C., Tzeng, T.-F., Chen, H.-C., Guh, J.-Y. & Tsai, J.-H. Neuronal and endothelial nitric oxide synthase expression in outer medulla of streptozotocin-induced diabetic rat kidney. *Diabetologia* **43**, 649-659 (2000).
14. Hashem, G. M., **Wen, J.-D.**, Do, Q. & Gray, D. M. Evidence from CD spectra and melting temperatures for stable Hoogsteen-paired oligomer duplexes derived from DNA and hybrid triplexes. *Nucleic Acids Res.* **27**, 3371-3379 (1999).
15. Shin, S.-J., Lai, F.-J., **Wen, J.-D.**, Lin, S.-R., Hsieh, M.-C., Hsiao, P.-J. & Tsai, J.-H. Increased nitric oxide synthase mRNA expression in the renal medulla of water-deprived rats. *Kidney Int.* **56**, 2191-2202 (1999).

16. Lee, S.-C., Kuan, C.-Y., **Wen, Z.-D.** & Yang, S.-D. The naturally occurring PKC inhibitor sphingosine and tumor promoter phorbol ester potentially induce tyrosine phosphorylation/activation of oncogenic proline-directed protein kinase FA/GSK-3 α in a common signalling pathway. *J. Protein Chem.* **17**, 15-27 (1998).
17. Shin, S.-J., **Wen, J.-D.**, Chen, I.-H., Lai, F.-J., Hsieh, M.-C., Hsieh, T.-J., Tan, M.-S. & Tsai, J.-H. Increased renal ANP synthesis, but decreased or unchanged cardiac ANP synthesis in water-deprived and salt-restricted rats. *Kidney Int.* **54**, 1617-1625 (1998).
18. Shin, S.-J., **Wen, J.-D.**, Lee, Y.-J., Chen, I.-H. & Tsai, J.-H. Increased C-type natriuretic peptide mRNA expression in the kidney of diabetic rats. *J. Endocrinol.* **158**, 35-42 (1998).
19. Yang, S.-D., Yu, J.-S. & **Wen, Z.-D.** Tumor promoter phorbol ester reversibly modulates tyrosine dephosphorylation/inactivation of protein kinase FA/GSK-3 α in A431 cells. *J. Cell Biochem.* **56**, 550-558 (1994).

OTHER PUBLICATIONS

1. 溫進德，解開遺傳密碼的解碼者—核糖體，於「化學」第六十八卷，第四期，第 293 – 301 頁，中國化學會 (2010)。

MEETING ORAL PRESENTATION

1. The 19th Symposium on Recent Advances in Cellular and Molecular Biology (at The Splendor, Kaohsiung). Feb. 10 – 12, 2011. Study of Ribosomal Frameshifting One Molecule at a Time.
2. Kanagawa University-National Taiwan University Symposium (at National Taiwan University). Dec. 24, 2010. Single-Molecule Study of Ribosomal Frameshifting.
3. The 11th Frontier Science Symposium. Nanjing, China (at Nanjing University). Nov. 14 – 15, 2010. Single-Molecule Study of Ribosomal Frameshifting.
4. The 10th Annual Symposium of the Taiwan Bioinformatics and Systems Biology Society. Hsinchu, Taiwan (at National Tsing Hua University). Nov. 4 – 6, 2010. Single-Molecule Study of Ribosomal Frameshifting.
5. RNA Symposium 2010. Tainan, Taiwan (at National Cheng Kung University). Feb. 8 – 9, 2010. Single-Molecule Study of Ribosomal Frameshifting during Translation.
6. The 10th AEARU Workshop on Molecular Biology and Biotechnology. Taipei, Taiwan. Nov. 11 – 13, 2009. Single-Molecule Study of Programmed Ribosomal Frameshifting.
7. Bay Area RNA Club. San Francisco, CA. 2009. Single-Molecule Study of Programmed Ribosomal Frameshifting.
8. The 52nd Biophysical Society Meeting. Long Beach, CA. Feb. 2 – 6, 2008. Translation by Single Ribosomes One Codon at a Time.
9. Bay Area RNA Club. San Francisco, CA. 2007. Following Translation by Single Ribosomes One Codon at a Time.

MEETING POSTER PRESENTATION

1. **Wen, J.-D.**, Lancaster, L., Noller, H., Bustamante, C., Tinoco, I., Jr. (2010). Single-Molecule Study of Programmed Ribosomal Frameshifting. (The 54th Biophysical Society Meeting, Feb. 20 – 24, San Francisco, California).
2. **Wen, J.-D.**, Lancaster, L., Hodges, C., Noller, H., Bustamante, C., Tinoco, I., Jr. (2007). Translation by Single Ribosomes One Codon at a Time. (Ribosomes: Form & Function, North Flamouth, MA).
3. **Wen, J.-D.**, Manosas, M., Li, P. T. X., Smith, S. B., Bustamante, C., Ritort, F., Tinoco, I., Jr. (2007). Experimental Effects on Force Unfolding Kinetics of RNA Using Optical Tweezers. (The 51st Biophysical Society Meeting, Baltimore, Maryland).
4. **Wen, J.-D.**, Li, P. T. X., Smith, S. B., Bustamante, C., and Tinoco, I., Jr. (2006). Effect of Handle Lengths on Measured Thermodynamics for Mechanical Unfolding of Single RNA Hairpins. (The 50th Biophysical Society Meeting, Salt Lake City, Utah).
5. **Wen, J.-D.** and Gray, D. M. (2003). Preferential Binding of Ff g5p to a DNA Hairpin Structure. (The 47th Biophysical Society Meeting, San Antonio, TX) *Biophys. J.* 84:365A-366.
6. Gray, D. M. and **Wen, J.-D.** (2002). Preferential Binding of Ff g5p to a G-quadruplex Structure in the Presence of Sodium Ion. (The 46th Biophysical Society Meeting, San Francisco, CA) *Biophys. J.* 82:120A-120A.
7. **Wen, J.-D.** and Gray, D. M. (2001). CD Evidence That Ff g5p Selectivelyh Binds to the Structured Form of a G-rich DNA Oligomer in the Presence of Sodium Ion. (The 12th Conversation in Biomolecular Stereodynamics, Albany, NY) *J. Biomol. Struct. Dyn.* 18:935-935.
8. **Wen, J.-D.**, Gray, C. W., and Gray, D. M. (2000). SELEX Selection of DNA with High Affinity for Ff Gene 5 Protein. (The 44th Biophysical Society Meeting, New Orleans, LA) *Biophys. J.* 78:301A-301A.