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教育背景

1982年9月－1985年6月：河南省百泉农业专科学校（现河南科技学院）农学系毕业

1989年9月－1992年6月：中国农业大学农学系，硕士研究生，获农学硕士学位

研究项目：小麦杂种优势利用研究

导师：黄铁城 教授，张爱民 教授

1992年9月－1995年6月：中国农业大学农学系，博士研究生，获农学博士学位

研究项目：小麦耐热性研究

导师：孙其信 教授，张树榛 教授

1996年1月－1997年9月：中国农业科学院作物品种资源研究所，博士后

研究项目：小麦分子标记育种

导师：董玉琛 院士 贾继增 研究员

工作经历

1985年7月～1989年8月

河南省农业科学院 芝麻研究中心

研究项目：芝麻种质资源收集、保存与鉴定；芝麻常规育种和杂种优势育种

1995年7月～1995年12月

北京市农林科学院 植物细胞工程实验室

研究项目：小麦细胞工程育种

1997年10月～1999年9月

日本（筑波）国立农业生物资源研究所 特别研究员

研究项目：作物遗传资源系统进化和生物多样性

1999年10月～2000年5月

日本国际农林水产业研究中心亚热带试验站（冲绳）特聘研究员

研究项目：分子标记与菜豆抗热性遗传改良

2000年6月～2001年8月

美国 肯德基大学农学系 博士后

University of Kentucky, Department of Agronomy /Tobacco and Health Research Institute

Lexington, Kentucky 40546, USA

研究项目：植物抗衰老基因的鉴定与克隆

2000年9月～2007年6月

美国 迈阿密大学植物系 研究员 (Research Scholar)

Miami University, Department of Botany

Oxford, Ohio 45056, USA

研究项目：(1) 植物 mRNA 表达的加工机制；(2) 植物抗病性的遗传工程改良

2007年7月～2011年12月

美国 弗吉尼亚联邦大学解剖与神经生物学系 博士后

Virginia Commonwealth University, Department of Anatomy and Neurobiology

Richmond, Virginia 23298, USA

研究项目：HIV 疾病的基因作用途径与调控

2012年1月～至今

美国 普渡大学药物化学与分子药理系 博士后研究助理

Purdue University, Department of Medicinal Chemistry and Molecular Pharmacology

West Lafayette, Indiana 47907, USA

研究项目：G 蛋白偶联受体 (G Protein Coupled Receptors) 介导的信号传导与药物筛选

荣誉与奖励

1987年：“豫芝一号芝麻新品种的选育与利用”获中华人民共和国农牧渔业部科技进步奖三等奖
(第八完成人)

1989年：“河南省作物品种资源数据库管理系统”获河南省农业科研系统科技成果贰等奖 (主要完成人)

1991年：中国农业大学优秀研究生

1991年：“七五”国家科技攻关“芝麻种质资源繁种和主要性状鉴定”荣誉证书

1994年：“芝麻种质营养品质研究”获河南省第二届青年自然科学优秀学术论文贰等奖

1994年：“芝麻种质资源收集保存及研究利用”获中华人民共和国农业部科学技术进步奖贰等奖
(第三完成人)

1996年：“芝麻种质资源收集保存及研究利用”获国家科学技术进步奖三等奖 (第三完成人)

1997年10月至1999年9月：获日本国政府“STA 特别研究员”奖励

核心期刊文章

1. 柳家荣, 郑永战, 徐如强 (1992) 芝麻种质营养品质分析及优质资源筛选. 中国油料(1): 24-26
2. 柳家荣, 郑永战, 徐如强 (1992) 芝麻种质营养品质研究. 华北农学报 7 (3): 110-116

3. 柳家荣, 郑永战, 徐如强 (1993) 芝麻的耐涝性与基因型及根系活力的关系。华北农学报 8 (3): 82-86
4. 王继华, 孙其信, 徐如强 (1993) K型不育系恢复系筛选及花粉败育机理比较研究。北京农业大学学报 19 (增刊): 91-97
5. 徐如强, 黄铁城, 张爱民 (1993) “BAU-2”诱导普通小麦雄性不育的研究 I. 化学杀雄效果。北京农业大学学报 19 (增刊): 1-8
6. 徐如强, 黄铁城, 张爱民 (1993) “BAU-2”诱导普通小麦雄性不育的研究 I. 化学杀雄技术。北京农业大学学报 19 (增刊): 9-18
7. 徐如强, 黄铁城, 张爱民 (1993) “BAU-2”诱导普通小麦雄性不育的研究 I. 化学杀雄机制。北京农业大学学报 19 (增刊): 19-24
8. 孙其信, 高立峰, 徐如强 (1994) 异源细胞质对小麦耐热性的遗传影响。北京农业大学学报 20(4): 361-367
9. 徐如强, 孙其信, 张树榛 (1996) 小麦耐热性的杂种优势表现。北京农业科学 14 (1): 15-17
10. 徐如强, 孙其信, 张树榛 (1996) 小麦耐热性的配合力分析。中国农学通报 12(3): 1-3
11. 徐如强, 孙其信, 张树榛 (1996) 不同耐热性小麦品种的籽粒灌浆特性及其对高温反应的初步研究。中国农学通报 12(6): 7-10
12. 徐如强, 孙其信, 张树榛 (1996) 普通小麦品种 Hope 细胞膜热稳定性基因的染色体定位。遗传 Hereditas (Beijing) (4): 1-3
13. 徐如强, 孙其信, 张树榛 (1997) 春小麦耐热性的筛选方法与指标。华北农学报 12 (3): 22-29
14. 徐如强, 孙其信, 张树榛 (1997) 小麦光合作用与耐热性的关系初探。作物品种资源 (1): 28-29, 46
15. 徐如强, 孙其信, 张树榛 (1998) 小麦耐热性研究现状与展望 (综述)。中国农业大学学报 3(3): 110-123
16. 徐如强, 孙其信, 张树榛 (1998) 不同冬小麦品种对高温胁迫反应的研究。中国农业大学学报 3(1): 99-104
17. 徐如强, 孙其信, 张树榛 (1998) 小麦细胞膜热稳定性的配合力与杂种优势分析。作物学报 24(1): 55-60
18. Potokina, E., Tomooka, N., Vaughan, D.A., Alexandrova, T. and Xu, R. (1999) Phylogeny of *Vicia* subgenus *Vicia* (Fabaceae) based on analysis of RAPD's and RFLP of PCR-amplified chloroplast genes. *Genetic Resources and Crop Evolution* 46: 149-161
19. Xu, R., Tomooka, N. and Vaughan, D.A. (2000) AFLP markers for characterizing the azuki bean complex. *Crop Science* 40: 808-815 (cover photograph)
20. Xu, R., Tomooka, N., Vaughan, D.A. and Doi, K. (2000) The *Vigna angularis* complex: Genetic variation and relationships revealed by RAPD analysis, and their implications for *in situ* conservation and domestication. *Genetic Resources and Crop Evolution* 47: 123-134
21. Tomooka, N., Vaughan, D.A., Xu, R., Kashiwaba, K. and Kaga, A. (2001) Japanese native *Vigna* genetic resources. *Jpn Agr Res Q* 35 (1): 1-9
22. Xu, R. and Li., Q. (2003) A RING-H2 zinc finger protein RIE is essential for seed development in Arabidopsis. *Plant Molecular Biology* 53: 37-50 (cover photograph)
23. Xu, R., Ye, X.F. and Li., Q. (2004) *AtCPSF73-II* encoding a homologue of the 73 kDa subunit of CPSF is critical for early embryo development. *Gene* 324: 35-45
24. Delaney, K.J., Xu, R., Zhang, J.X., Li, Q.Q., Yun, K.Y., Falcone, D.L. and Hunt, A.G. (2006) Calmodulin interacts with and regulates the RNA-binding activity of an Arabidopsis polyadenylation factor subunit. *Plant Physiology* 140: 1507-1521

25. Balasubrahmanyam*, A., **Xu*, R. (*co-first author)**, Dattaroy, T., Li, B.C., Bass, W.T., Li, Q.Q. and Hunt, A. G. (2006) Disease resistance in plants that carry a feedback-regulated yeast poly(A) binding protein gene. *Plant Molecular Biology* 61: 383-397
26. **Xu, R.**, Zhao, H., Dinkins, R.D., Chen, X.W., Carberry, G. and Li., Q.Q. (2006) The 73 kD subunit of cleavage and polyadenylation specificity factor (CPSF) complex affect reproductive development in Arabidopsis. *Plant Molecular Biology* 61: 799-815
27. **Xu, R.** and Li., Q.Q. (2008) Streamline cloning of genes into binary vectors in Agrobacterium via the Gateway® TOPO vector system. *Plant Methods* 4:4 doi:10.1186/1746-4811-4-4
28. Xing, D.H., Zhao, H.W., **Xu, R.**, Li, Q.Q. (2008) Arabidopsis PCFS4, a homologue of yeast polyadenylation factor Pcf11p, regulates FCA alternative processing and promotes flowering time. *The Plant Journal* 54: 899-910
29. Hunt, A.G., **Xu, R.**, Addepalli, B., Rao, S., Forbes, K.P., Meeks, L.R., Xing, D.H., Mo, M., Zhao, H.W., Bandyopadhyay, A., Dampanaboina, L., Marion A., Von Lancken, C., and Li, Q.Q. (2008) Arabidopsis mRNA polyadenylation machinery: comprehensive analysis of protein-protein interactions and gene expression profiling. *BMC Genomics* 9: 220-234
30. Zhang, J., Addepalli, B., Yun, K.Y., Hunt, A.G., **Xu, R.**, Rao, S., Li, Q.Q., Falcone, D.L. (2008) A polyadenylation factor subunit implicated in regulating oxidative signaling in *Arabidopsis thaliana*. *PLoS ONE* 3(6): e2410.doi:10.1371/journal.pone.0002410
31. Bruce-Keller, A.J., Turchan-Cholewo, J., Smart, E.J., Geurin, T., Chauhan, A., Reid, R., **Xu, R.**, Nath, A., Knapp, P.E., Hauser, K.F. (2008) Morphine causes rapid increases in glial activation and neuronal injury in the striatum of inducible HIV-1 tat transgenic mice. *Glia* 56: 1414-1427
32. Duncan, M.J., Bruce-Keller, A.J., Conner, C., Knapp, P.E., **Xu, R.**, Nath, A., Hauser, K.F. (2008) Effects of chronic expression of the HIV-induced protein, transactivator of transcription (Tat), on circadian activity rhythms in mice with or without morphine. *Am J Physiol Regul Integr Comp Physiol* 295: R1680-R1687
33. Fitting, S., **Xu, R.**, Bull, C., Buch, S.K., El-Hage, N., Nath, A., Knapp, P. E., Hauser, K. F. (2010) Interactive co-morbidity between opioid drugs of abuse and HIV-1 Tat: Inflammation and disruptions in endogenous opioid signaling accelerate neuronal injury in the striatum. *Am J Pathol* 177(3): 1397-1410
34. Dever*, S.M., **Xu*, R. (*co-first author)**, Fitting, S., Knapp, P.E., Hauser, K.F. (2012) Differential expression and HIV-1 regulation of μ opioid receptor splice variants across central nervous system cell types. *J Neurovirol* 18(3): 181-190 (cover photograph)
35. Fitting, S., Scoggins, K.L., **Xu, R.**, Dever, S.M., Knapp, P. E., Dewey, W.L., Hauser, K.F. (2012) Morphine efficacy is altered in conditional HIV-1 Tat transgenic mice. *Eur J Pharmacol* 689: 96-103
36. Liu, M., **Xu, R.**, Merrill, C., Hunt, A.G., Li, Q.Q. (2012) Integration of developmental and hormonal signals via a polyadenylation factor in plants. (submitted to *Science*)
37. **Xu*, R.**, Dever*, S.M., Hauser, K.F., Knapp, P.E. (2012) RNA packaging into HIV particles: fluorescent labeling for visualization of HIV entry. (manuscript)
38. **Xu, R.**, Hauser, K.F., Knapp, P.E. (2012) HIV-1 Tat and gp120 stimulate cleavage of endonuclease G. (manuscript)

著作与会议文集

1. 徐如强 (1993) 耐热性的生理, 遗传与育种。张福锁主编, 《环境胁迫与植物育种》第 138-176 页, 农业出版社。
2. Sun, Q.X. and **Xu, R.** 1996. Genetics of heat tolerance in wheat (*T. aestivum*). In: Proceedings of the 2nd International Crop Science Congress, November 17-23, New Dehli, India
3. Sun, Q.X., **Xu, R.**, Cheng, X.Y. and Zhang, S.Z. 1998. Heat tolerance in wheat and its genetic control. In: Annual Wheat Newsletter Vol. 44: 102. Kansas State University, Manhattan, KS, USA
4. Vaughan D.A., Tomooka N., Kaga A., Shcherban A., **Xu R.**, Jinno Y., Doi K. and Kashiwaba K. 2000. Population analyses using different molecular techniques to determine strategies for in-situ conservation – examples from the genera *Glycine*, *Oryza* and *Vigna*. In: K. Oono, K. Komatsuda and D.A. Vaughan (Eds.), *Integration of biodiversity and genome technology for crop improvement*. NIAR, Tsukuba, Japan, pp.69-72
5. Vaughan D.A., Tomooka N., **Xu R.**, Doi K., Kashiwaba and K. Kaga A., 2000. The *Vigna angularis* complex in Japan. In: Proceedings of the 7th MAFF International Workshop on Genetic Resources - Wild Legumes. NIAR, Tsukuba, Japan, pp.159-176

国际基因库注册 (www.ncbi.nlm.nih.gov)

1. **Xu, R.** and Li, Q.Q. (2002) AY140902---*Arabidopsis thaliana* CPSF 160 kD subunit
2. **Xu, R.** and Li, Q.Q. (2002) AY140901---*Arabidopsis thaliana* CPSF 30 kD subunit
3. **Xu, R.** and Li, Q.Q. (2002) AY140900---*Arabidopsis thaliana* CPSF 73 kD subunit
4. **Xu, R.** and Li, Q.Q. (2002) AY168924---*Arabidopsis thaliana* RES (*RIE1*)
5. **Xu, R.** and Li, Q.Q. (2002) AY168923---*Arabidopsis thaliana* FEG (*AtCPSF73-II*)

学术会议与受邀报告

1. **Xu, R.**, Sun, Q.X. and Gao, L.F.: Diallel analysis of heat tolerance in wheat (*T. aestivum* L.), published in “*Agronomy Abstracts*”, p111. Presented at *The Annual Meeting of Agronomy Society of America, Nov.18-19, 1994, Madison, Wisconsin, USA*
2. Potokina, E., Tomooka, N., Bulyntsev, S., **Xu, R.** and Vaughan, D.A.: Genetic diversity of *Vicia faba* L. based on RAPD analysis. Presented at *The XV Eucarpia congress “Genetics and breeding for crop quality resistance”, September, 20-25th, 1998, Viterbo, Italy*
3. Doi, K., Tomooka, N., Vaughan, D.A., **Xu, R.** and Kashiwaba, K.: Phylogeny of *Vigna* subgenus *Ceratotropis* based on ITS. Presented at *The Autumn Meeting of the Plant Science Society of Japan, 1999, Japan*
4. Vaughan, D.A., Potokina, E., Tomooka, N. and **Xu, R.**: Population diversity in the *Vicia sativa* aggregate in the flora of the former USSR. Presented at *The Autumn Meeting of the Breeding Society of Japan, 1999, Japan*
5. Vaughan, D.A., Potokina, E., Tomooka, N., **Xu, R.**, Doi, K. and Kashiwaba, K.: Relationships in *Vicia* (Fabaceae) based on RAPDs and RFLP of PCR-amplified chloroplast genes analyses. Published in “*Japanese Journal of Crop Science*”, 1999, 68 (Extra issue 1): 188-189, presented at *The 20th Meeting of Crop Science Society of Japan, April, 2-3, 1999, Japan*
6. **Xu, R.**, Tomooka, N., Vaughan, D.A. and Doi, K.: RAPD analysis of genetic variation and relationships in *Vigna angularis* complex. Published in “*Japanese Journal of Crop Science*”,

- 1999, 68 (Extra issue 1): 190-191, presented at *The 207th Meeting of Crop Science Society of Japan, April, 2-3, 1999, Japan*
7. **Xu, R.**, Tomooka, N., Vaughan, D.A. and Doi, K. and Kashiwaba, K.: AFLP analysis of the azuki bean (*Vigna angularis*) complex in Japan. Presented at *The Autumn Meeting of the Breeding Society of Japan, 1999, Japan*
 8. Vaughan, D.A., Vvedenskaya, I., Tomooka, N., Doi, K., Kashiwaba, K., **Xu, R.** and Kaga, A.: Genetic diversity of *Panicum miliacearum* based on RAPD analysis. Published in "*Breeding Research*", 2000, 2 (Extra issue 1), p243, presented at *The Annual Meeting of the Breeding Society of Japan, 2000, Japan*
 9. Li., Q., **Xu, R.** and Ye, X.F.: Functional characterization of Arabidopsis polyadenylation factor CPSF. Presented at *The 7th annual meeting of the RNA society, May 28-June 2, 2002, Madison, Wisconsin, USA*
 10. **Xu, R.**, Addepalli, B., Ye, X.F., Hunt, A.G. and Li., Q.: Controlled expression of elicitor and elicitor-like genes conferring broad spectrum pathogen resistance in plants. Invited talk and presented at *The annual meeting of the American Society of Plant Biologists, Aug.3-7, 2002, Denver, Colorado, USA*
 11. Li., Q., **Xu, R.** and Ye, X.F.: Functional studies of Arabidopsis homologous genes of cleavage and polyadenylation specificity factor, presented at *The annual meeting of American Society of Plant Biologists, Aug.3-7, 2002, Denver, Colorado, USA*
 12. **Xu, R.** and Li., Q.: Arabidopsis homologs of the cleavage & polyadenylation specificity factor. Presented at *The 14th international conference on Arabidopsis research, June 20-24, 2003, Madison, Wisconsin, USA*
 13. Liang, X.Y., Ye, X.F., **Xu, R.** and Li, Q.Q.: Pre-mRNA splicing of genes in a TMV vector. Presented at *The annual meeting of American Society of Plant Biologists, July 16-20, 2005, Seattle, Washington, USA*
 14. **Xu, R.**, Zhao, H.W., Dinkins, R.D., Chen, X.W. and Li, Q.Q.: Arabidopsis cleavage and polyadenylation specificity factor (CPSF) complex and the critical role of 73 kD subunits in development. Presented at *The annual meeting of American Society of Plant Biologists, July 16-20, 2005, Seattle, Washington, USA*
 15. **Xu, R.**, Zhao, H., Hunt, A. and Li, Q.Q.: Developmental effects of cleavage and polyadenylation specificity factor in Arabidopsis. Presented at *The 2006 Rustbelt RNA Meeting, Oct.20-21, 2006, Mt. Sterling, Ohio, USA*
 16. Hunt, A., Zhang, J., Addepalli, B., Yun, K.Y., Artiushin, I., Rao, S., **Xu, R.**, Li, Q.Q. and Falcone, D.: The Arabidopsis polyadenylation factor subunit CPSF30 is implicated in responses to oxidative stress. Presented at *The Botany & Plant Biology Joint Congress, July 7-11, 2007, Chicago, Illinois, USA*
 17. **Xu, R.**, Hauser, K.F. and Knapp, P.E.: Altered expression of μ -, δ - and κ -opioid receptor in the brain tissues of inducible HIV-1 Tat transgenic mice. Presented at *The 25th Annual Daniel T. Watts Research Symposium, Oct. 28-30, 2008, Richmond, Virginia, USA*
 18. **Xu, R.**: Insights into plant mRNA polyadenylation: housekeeping vs. regulatory Functions. Invited talk at *Institute of Tropical Bioscience and Biotechnology, Chinese Academy of Tropical Agricultural Sciences (CATAS), Haikou, China, July 15, 2009*
 19. Li, Q.Q., Liu, M., **Xu, R.**, and Hunt, A.: Calmodulin signalling and mRNA alternative polyadenylation: the developmental connection. Presented at *The 21st International Conference on Arabidopsis Research, June 6-10, 2010, Yokohama, Japan*

20. **Xu, R.:** Mechanisms and Applications of mRNA Processing in Plants. Invited talk at *Henan Academy of Agricultural Sciences, Zhengzhou, China*, July 7, 2010
21. **Xu, R.:** CNS vulnerability to HIV infection and drugs of abuse. Invited talk at *Purdue University, West Lafayette, Indiana, USA*, Nov. 30, 2011