# Publication List

**Manuscripts under review/revision**

* Dechorgnat, J., Francis, KL., Dhugga, KS., Rafalski, A., Tyerman, SD. and **Kaiser, BN**. Contrasting maize inbreds highlight differences in strategies to root N acquisition and utilisation. Plant Physiology (under revision)
* Wen, Z., Dechorgnat, J., Dhugga, KS., Rafalski, K., Tyerman, SD., **Kaiser, BN**. Characterization of Maize Nitrate Transporters ZmNPF6.4 and ZmNPF6.6 Reveal a Key Residue of Substrate Affinity and Specificity. The Plant Cell (under revision)

**Scholarly book chapters**

1. Tyerman, S.D., Wignes, J.A. and Kaiser, B.N. 2016 Root Hydraulic and Aquaporin Responses to N Availability.
2. Tyerman S.D., Vandeleur R.K., Shelden M.C., Tilbrook J., Mayo G., Gilliham M., and **Kaiser B.N.** 2009. Water transport and aquaporins in grapevine. In Grapevine Molecular Physiology & Biotechnology K.A. Roubelakis-Angelakis Ed. Springer Publ., The Netherlands. 73-104.

**Refereed journal articles**

1. Foyer, C. H., H.-M. Lam, H. T. Nguyen, K. H. M. Siddique, R. K. Varshney, T. D. Colmer, W. Cowling, H. Bramley, T. A. Mori, J. M. Hodgson, J. W. Cooper, A. J. Miller, K. Kunert, J. Vorster, C. Cullis, J. A. Ozga, M. L. Wahlqvist, Y. Liang, H. Shou, K. Shi, J. Yu, N. Fodor, **B. N. Kaiser**, F.-L. Wong, B. Valliyodan and M. J. Considine (2016). "Neglecting legumes has compromised human health and sustainable food production." **Nature Plants** 2: 16112.
2. Plett D, Holtham L, Baumann U, Kalashyan E, Francis K, Enju A, Toubia J, Roessner U, Bacic A, Rafalski A, Dhugga KS, Tester M, Garnett T, **Kaiser B.N.** (2016). Nitrogen assimilation system in maize is regulated by developmental and tissue-specific mechanisms. **Plant Mol Biol**: 1-20
3. Barbour, M., **Kaiser, BN.** (2016). The response of mesophyll conductance to nitrogen and water availability differs between wheat genotypes. **Plant Science** doi:10.1016/j.plantsci.2016.03.012
4. Aleksandr, G., Chiasson, D., Ovchinnikova, E., **Kaiser, BN**., Bisseling, T. and Fedorova, EE. (2016). VAMP721a and VAMP721d are important for pectin dynamics and release of bacteria in soybean nodules. **New Phytologist**, 210 (3): 1011–21.
5. Plett, D., Baumann, U., Schreiber, A., Holtham, L., Kalashyan, E., Toubia, J., Rafalski, A., Beatty, M., Dhugga, K., Tester, M., Garnett, T., and **Kaiser, B.N.** (2016). Maize maintains growth in response to decreased nitrate supply through a highly dynamic and developmental stage-specific transcriptional response. **Plant Biotechnology Journal** 2016 Jan;14(1):342-53. doi: 10.1111/pbi.12388.
6. Garnett, T., Plett, D., Conn, V., Conn, S., Rabie, H., Rafalski, A., Dhugga, K., Tester, M., and **Kaiser, BN.** (2015). Variability in nitrogen uptake characteristics of maize genotypes in response to nitrogen supply. **Frontiers in Plant Science** Nov 9;6:936. doi: 10.3389/fpls.2015.00936.
7. Seifi, E., Guerin, J., **Kaiser, B.N.**, and Sedgley, M. (2015). Flowering and fruit set in olive: a review. **Iranian Journal of Plant Physiology**, Vol (5), No (2) 1263-1272.
8. Loveys, B.R., **Kaiser, B.N.**, McDonald, G., Kravchuk, O., Gilliham, M., Tyerman, S.D. and Able, A.J. (2014). The Development of Student Research Skills in Second Year Plant Biology. **International Journal of Innovation in Science and Mathematics Education**, 22(3): 15-25
9. Gavrin A., **Kaiser, B.N.**, Geiger, D., Tyerman, S.D., Wen, Z., Bisseling, T., Fedorova, E.E. (2014). Adjustment of host cells for accommodation of symbiotic bacteria: vacuole defunctionalization, HOPS suppression and TIP1g retargeting. **The Plant Cell:** 26 (9): 3809-3822
10. Chiasson, D.M., Loughlin, P.C., Mazurkiewicz, D., Mohammadidehcheshmeh, M., Fedorova, E., Okamoto, M., McLean, E., Glass, A.D.M., Smith, S.E., Bisseling, T., Tyerman, S.D., Day, D.A., and **Kaiser, B.N.** The soybean *SAT1* (*Symbiotic Ammonium Transporter 1*) encodes a bHLH transcription factor involved in nodule growth and NH4+ transport. (2014) **Proceedings of the National Academy of Sciences USA**: 111: 4814-4819.
11. Vandeleur, R.K., Sullivan, W., Athman, A., Jordans, C., Gilliham, M., **Kaiser, B.N.**, Tyerman, S.D. (2014). Rapid shoot-to-root signalling regulates root hydraulic conductance via aquaporins. **Plant Cell and Environment** 37(2): 520-38
12. Abbaspour, N., **Kaiser, B.N.**, Tyerman, S.D. (2013). Root apoplastic transport and water relations cannot account for differences in Cl- transport and Cl-/NO3- interactions of two grapevine rootstocks differing in salt tolerance. **Acta Physiologiae Plantarum.** 1-12.
13. Mohammadi-Dehcheshmeh, M., Ebrahimie, E., Tyerman, S.D., **Kaiser, B.N.** (2013).. A novel method based on combination of semi-in vitro and in vivo conditions in Agrobacterium rhizogenes-mediated hairy root transformation of Glycine species. **Plant Cell Tissue Organ Culture** (DOI 10.1007/s11627-013-9575-z).
14. Abbaspour N, **Kaiser B.N.**, Tyerman S. D. (2013). Chloride transport and compartmentation within main and lateral roots of two grapevine rootstocks differing in salt tolerance. **Trees**: 1-9.
15. Garnett T., Conn, V., Plett, D., Conn, S., Zanghellini, J., Mackenzie, N., Enju, A., Francis, K., Holtham, L., Roessner, U., Broughton, B., Bacic, T., Shirley, N., Rafalski, A., Dhugga, K., Tester, M., and **Kaiser, B.N.** (2013). The response of the maize nitrate transport system to nitrogen demand and supply across the lifecycle. **New Phytologist** **198 (1):** 82-94.
16. Kotur, Z, Mackenzie, N., Ramesh, S., Tyerman, S.D., **Kaiser, B.N.**, Glass, A.D.M. (2012). Nitrate transport capacity of the Arabidopsis thaliana NRT2 family members and their interactions with AtNAR2.1. **New Phytologist** **194(3)**: 724-731.
17. Seifi, E., Guerin, J., **Kaiser, B.N.** Sedgley, M. (2012). Sexual compatibility of the olive cultivar ‘Kalamata’ assessed by paternity analysis. **Spanish Journal of Agricultural Research 10(3):** 731-740.
18. Gilliham, M., Dayod, M., Hocking, B., Xu, B., Conn, S. **Kaiser, B.N.** Leigh, R.A., Tyerman, S.D. (2011). Exploring the link between water movement and calcium storage in plant leaves. **Journal of Experimental Botany** **62(7)**: 2233-2250.
19. Seifi, E., Guerin, J., **Kaiser, B.N.**, Sedgley, M. (2011). Sexual Compatibility and Floral Biology of some Olive Cultivars. **New Zealand Journal of Crop and Horticultural Science** **39 (2)**: 141-151, ERA B.
20. Conn, S.J., Gilliham, M., Athman, A., Schreiber, A.W., Baumann, U., Moller, I., Cheng, N., Stancombe, M.A., Hirschi, K.D., Webb, A.A.R, Burton, R., **Kaiser, B.N.**, Tyerman, S.D., Leigh, R.A. (2011). Cell-Specific Vacuolar Calcium Storage Mediated by CAX1 Regulates Apoplastic Calcium Concentration, Gas Exchange, and Plant Productivity in Arabidopsis. **The Plant Cell** **23(1):** 240-257.
21. Conn, S., Conn, V., **Kaiser, B.N.**, Tyerman, S.D., Leigh, R.A., Gilliham, M. (2011). Arabidopsis magnesium transporters, MGT2/MRS2-1 and MGT3/MRS2-5, are important for magnesium partitioning within *Arabidopsis thaliana* mesophyll vacuoles. **New Phytologist** **190(3)**: 583-94.
22. Plett, D., Toubia, J., Garnett, T., Tester, M.A., **†Kaiser, B.N.**, Baumann, U. (2010). Dichotomy in the NRT gene families of dicots and grass species. **PLoS ONE 5(12):** e15289. doi:10.1371/journal.pone.0015289. **†**Corresponding Author
23. DeFalco, T.A., Chiasson, D., Munro, K., **Kaiser, B.N.**, Snedden, W.A. (2010). Biochemical characterization of the soybean calmodulin-binding receptor-like kinase GmCaMK1 and the CaMK family of plants. **Febs Letters 584(23)**: 4717-4724.
24. **Kaiser, B.N.**, Hrmova M. (2010). A Glimpse at Regulation of Nitrogen Homeostasis, **Structure** **21(5):** 641-651.
25. Garnett, T., Conn, V. and **Kaiser, B.N.** (2009). Root based approaches to improving nitrogen use efficiency in plants. **Plant Cell & Environment** **32:**1272-83.
26. Shelden, M.C., Howitt, S.M., **Kaiser, B.N.** and Tyerman, S.D. (2009). Identification and functional characterisation of aquaporins in the grapevine, *Vitis vinifera*. **Functional Plant Biology 36:** 1065-78.
27. Vandeleur, R.K., Mayo, G., Shelden, M.C., Gilliham, M., **Kaiser, B.N.** and Tyerman, S.D. (2009). The role of plasma membrane intrinsic protein aquaporins in water transport through roots: diurnal and drought stress responses reveal different strategies between isohydric and anisohydric cultivars of grapevine. **Plant Physiology 149:** 445-60.
28. Fitzpatrick, K.L., Tyerman, S.D. and **Kaiser, B.N.** (2008). Molybdate transport through the plant sulfate transporter SHST1. **FEBS Letters 582:**1508–13.
29. Franks, T.K., Yadollahi, A., Wirthensohn, M.G., Guerin, J.R., **Kaiser, B.N.**, Sedgley, M., Ford, C.M. (2008). A seed coat cyanohydrin glucosyltransferase is associated with bitterness in almond (*Prunus dulcis*) kernels. **Functional Plant Biology 35:**236–46.
30. Seifi, E., Guerin, J., **Kaiser, B.N.** and Sedgley, M. (2008). Inflorescence architecture of olive. **Scientia Horticulturae 116(3):**273-79.
31. Shelden, M., **Kaiser, B.N.**, and Tyerman, S. 2007. Identification and characterisation of aquaporins in the grapevine, *Vitis vinifera*. **Photosynthesis Research 91(2-3):**301
32. Ramesh, S., **Kaiser, B.N.**, Graham, C., Sedgely, M. (2006). Agrobacterium mediated transformation of *Prunus dulcis* cv. Ne Plus Ultra using positive and negative selection. **Plant Cell Reports 25:** 821-828.
33. Kumar, A., **Kaiser, B.N.**, Siddiqi, M.Y., and Glass, A.D.M. (2006). Functional characterisation of OsAMT1;1 over expression lines of rice, *Oryza sativa* (L). **Functional Plant Biology 33(4):** 339–346.
34. **Kaiser, B.N.**, Gridley, K., Ngaire-Bradey, J., Phillips, T., and Tyerman, S.D. (2005). The role of molybdenum in agricultural plant production. **Annals of Botany 96:** 745-754 4.
35. Gregory, D., Sedgley, M., Wirthensohn, M.G., Arús, P., **Kaiser, B.N.** and Collins, G.G. (2005). An integrated genetic linkage map for almond based on RAPD, ISSR, SSR and morphological markers. **Acta Hort. (ISHS) 694:** 67-72
36. **Kaiser, B.N.**, Moreau, S., Castelli, J. Thomson, R.M., Lambert, A., Bogliolo, S., Puppo, A. and Day. D.A. (2003). The soybean NRAMP homologue, GmDMT1, is a symbiotic divalent metal transporter capable of ferrous iron transport. **The Plant Journal 35:** 295-304.
37. **Kaiser, B.N.**, Rawat, S.R., Siddiqi, M.Y., Masle, J., and Glass A.D.M. (2002) Functional analysis of an Arabidopsis T-DNA “knockout” of the high-affinity NH4+ transporter AtAMT1;1. **Plant Physiology 130:** 1263-1275
38. Moreau, S., Thomson, R.M., **Kaiser, B.N.**, Trevaskis, B., Guerinot, M.L., Udvardi, M.K., Puppo, A., and Day. D.A. (2002) GmZIP1 encodes a symbiosis specific zinc transporter in soybean. **Journal of Biological Chemistry 277:** 4738-4746.
39. Udvardi, M., Bruxelles, G., Day, D.A., Freund, S., Greil, F., **Kaiser, B.N.**, Laver, D., Panter, S., Simon, U., Thomson, R., and Trevaskis, B. (2002). Molecular Biology of the Peribacteroid Membrane. Nitrogen Fixation: From Molecules to Crop Productivity. Current Plant Science and Biotechnology in Agriculture Volume 38, 2000, pp 365-366.
40. Glass, A.D.M., Britto, D.T., **Kaiser, B.N.**, Kinghorn, J.R., Kronzucker, H.J., Kumar, A., Okamoto, M., Rawat, S., Siddiqi, M.Y., Unkles, S.E., and Vidmar, J. (2002). The regulation of nitrate and ammonium transport systems in plants. **Journal of Experimental Botany 53:** 1-10
41. Day, D.A., **Kaiser, B.N.**, Thomson, R., Udvardi, M.K., Moreau, S. and Puppo, A. (2001). Nutrient transport across symbiotic membranes from legume nodules. **Australian Journal of Plant Physiology 28:** 667-674
42. Glass, A.D.M., Brito, D.T., **Kaiser, B.N.**, Kronzucker, H.J., Kumar, A., Okamato, M., Rawat, S.R., Siddiqi, Y., Salim, S.M., Vidmar, J., and Zhuo, D. (2001). Nitrogen transport in plants, with an emphasis on the regulation of fluxes to match plant demand. **J. Plant Nutr. Soil Sci 164:** 199-207
43. **Kaiser BN** (1999) Ammonium Transport Across Symbiotic Membranes of Soybean Nodules. Australian National University
44. Day, D.A., Whitehead, L.F., **Kaiser, B.N.**, Udvardi, M.K., Mouritzen, P., Rosendahl., L. (1998). Ammonium transport from the bacteroid to the plant. **Current Plant Science And Biotechnology In Agriculture 31:** 449-452
45. **Kaiser, B.N.**, Finnegan, P.M., Tyerman, S.D., Whitehead, L.F., Bergersen, F.J., Day, D.A. and Udvardi, M.K. (1998). Characterisation of an ammonium transport protein from the peribacteroid membrane of soybean nodules. **Science 281:**1202-1206
46. Shelp, B.J., **Kaiser, B.N.** and Deschene, A.M. (1998). Registration of five near-isogenic Juneau pea lines with altered nodulation and nitrate reductase deficiency. **Crop Science 38(2):** 554
47. Campbell, H., DePauw, R.M., Deschesne, A.M., Eizenga, G.C., Faris, D.G., Fernandez, M.R., **Kaiser, B.N.**, Knox, R.E., Kumar, R.V., Pedersen, J.F., Phillips, T.D., Rai, K., Rao, A.S., Reddy, L.J., Saxena, K.B., Shelp, B.J., Singh, L., Thomas, L.B., Townley-Smith, T.F., Toy, J.J. (1998). Genetic stocks: 13 fescue; 1 legumes, other (pigeonpea); 1 millet, pearl; 5 pea; 2 sundangrass; 4 wheat. **Crop Science 38 (2):** 554-557.
48. Day, D.A., Whitehead, L.F., **Kaiser, B.N.**, Udvardi, M.K., Mouritzen, P., Rosendahl, L. (1998). **Current Plant Science and Biotechnology in Agriculture 31:** 449-452.
49. **Kaiser, B.N.**, Layzell, D.B. and Shelp, B.J. (1997). Role of oxygen limitation and nitrate metabolism in the nitrate inhibition of nitrogen fixation by pea, **Physiologia Plantarum** **101:** 45-50
50. **Kaiser B.N.**, Day DA, Finnegan PM, Tyerman SD, Whitehead LF, Udardi MK (1997) Identification of a novel NH4+ transporter from soybean root nodules. **Plant Physiology 114**: 41
51. **Science UoGDoH, Kaiser BN** (1994) The Impact of Nitrate on Nitrogen Fixation and Nitrate Assimilation in a Near-isogenic Nitrate Reductase-deficient Pea Mutant. (Thesis)
52. **Kaiser, B.N.**, Thumfort, P., Layzell, D.B. and Shelp, B.J. (1994) Oxygen limitation of N2 fixation in various legume symbioses, **Can. J. Plant. Sci 74:** 853-855
53. Patent 2008904951 (2008) – Cation channel activity. Carter S., **Kaiser B.N.**, Okamoto, M, Plett, D, Tester M.A., Tyerman S.D.

**Refereed conference papers**

1. Conn, S, Gilliham, M., Tyerman, S., K**aiser, B.N.**, Leigh, R. 2009. Calcium compartmentation in arabidopsis mesophyll cells, a mechanism to regulate apoplastic calcium, photosynthetic rates and growth, involves low-affinity, high-capacity Ca2+/H+ antiporters. Proceedings of the International Plant Nutrition Colloquium XVI
2. **Kaiser, B.N.**, Loughlin, P.C., Chiasson, D.M., Day, D.A., Fedorova, E., McLean, E., Mazurkiewicz, D., Mohammadidehcheshmeh, M., Glass, A.D.M. and Tyerman, S.D. 2009. SAT1 is a symbiosome membrane BHLH transcription factor involved in soybean nodule development and nitrogen fixation. In Proceedings of the 15th Australian Nitrogen Fixation Conference, M. Dilworth and L. Brau (eds), Margaret River, Western Australia pp31.
3. Chiasson, D.M., and **Kaiser, B.N.** 2009. The role of MtSAT1 and MtSAT2, two BHLH transcription factors, during nodulation in *Medicago truncatula*. In Proceedings of the 15th Australian Nitrogen Fixation Conference, M. Dilworth and L. Brau (eds), Margaret River, Western Australia pp 32.
4. Loughlin, P.C., Day, D.A., Tyerman, S.D., Fedorova, E. and **Kaiser, B.N.** 2008. Soybean nitrogen fixation is dependent on the activity of the novel peribacteroid membrane-bound transcription factor, GmSAT1. In Proceedings of the 8th European Nitrogen Fixation Conference, M.De Cook and D. Vereecke (eds), Gent Belgium. pp 237.
5. Garnett, T., Conn, V., Conn, S., Dhugga, K., Rafalski, A., Tester, M., Tingey, S., and **Kaiser, B. N.** 2007. Changes in expression of root nitrogen transporters over the lifecycle of dwarf maize. In Nitrogen 2007: an International Symposium on Nitrogen Nutrition in Plants, Forde, B.J (ed); papers submitted by contributors to the Nitrogen 2007 Symposium, held at Lancaster University, 27-31 July 2007
6. Carter, S., Ramesh, S., Loughlin, P., Tester, M., and **Kaiser, B.N.** 2007. The influx and efflux properties of the Arabidopsis high affinity ammonium transporters AtAMT 1;4 and AtAMT 1;5. In Nitrogen 2007: an International Symposium on Nitrogen Nutrition in Plants, Forde, B.J (ed) ; papers submitted by contributors to the Nitrogen 2007 Symposium, held at Lancaster University, 27-31 July 2007
7. Tavassolian I, Sedgley M, **Kaiser BN**, Wirthensohn M, Ford C (2006) The construction of an almond linkage map using morphological and microsatellite markers on'Nonpariel'x'Lauranne'population. International Rosaceae Genomics Conference (3rd: 2006: Napier, New Zealand)
8. Tyerman S.D., **Kaiser B.N.**, Coleman R., Shelden M.C., Tilbrook J. 2005. Investigating the hydraulics of grape vines: from the genes for the pores to the physiology of the pipes. In Blair, R.J., Williams, P.J., and Pretorius, I.S. (eds) Proceedings of the twelfth Australian wine industry technical conference; 24-29 July 2004; Melbourne, VIC pp. 179-181.
9. **Kaiser B.N.** 2005. The grapevine nutriome initiative - molecular approaches towards identifying sustainable grapevine nutrient use. In Blair, R.J., Williams, P.J., and Pretorius, I.S. (eds) Proceedings of the twelfth Australian wine industry technical conference; 24-29 July 2004; Melbourne, VIC pp. 182-183.
10. Gridley K.L., Tyerman S.D., **Kasier B.N.** (2005) The grapevine nutriome initiative - molecular approaches towards identifying sustainable grapevine nutrient use. In Blair, R.J., Williams, P.J., and Pretorius, I.S. (eds) Proceedings of the twelfth Australian wine industry technical conference; 24-29 July 2004; Melbourne, VIC pp. 264.
11. Sedgley M, Wirthensohn M, Arús P, Gregory D, **Kaiser BN**, Collins G (2004) An Integrated Genetic Linkage Map for Almond Based on RAPD, ISSR, SSR and Morphological Markers. International Symposium on Harnessing the Potential of Horticulture in the Asian-Pacific Region 694**:** 67-72
12. Thomson, R., **Kaiser, B.N.**, Moreau, S., Puppo, A., Finnegan, P.M., Day, D.A. (2002) Cation transport in soybean root nodules. Nitrogen Fixation: From Molecules to Crop Productivity. Current Plant Science and Biotechnology in Agriculture Volume 38, 2000, p 342.