
CURRICULUM VITAE: Dr James Taylor**CAREER SUMMARY**

James Taylor is the Senior Lecturer in Precision Farming at Newcastle University. He has worked in the field of Precision Agriculture since his undergraduate Honours dissertation in 1997. Dr Taylor's background is in agronomy, soil science and spatial statistics and he has extensively research the translation of new and emerging sensors and data structures in agricultural production systems. He has held several post-doctoral and research fellowships that have been strongly linked to industry and translational activities in Australia, New Zealand, Europe and North America in both arable crops and perennial horticultural systems. Dr Taylor heads the Crop and Soil Science Expertise Group and leads the NU-Farms Agri-systems Innovation Platform at Newcastle. He is a member of the Institute for Agri-Food Research and innovation and a local representative for the N8 Agri-Food program. He is currently active on 7 research grants, with funding from research councils, Innovate UK and the USDA. He is the Principal Investigator on three of these projects, managing 3 Post-doctoral Fellows, 2 KTP Associates, 2 PhD candidates and 2 crop technicians.

CONTACT DETAILS

Dr James A Taylor, Senior Lecturer Precision Farming, School of Agriculture, Food and Rural Development, Newcastle University, Cockle Park Farm, Ulgham, Morpeth NE61 3EB, Tel. no. +44 (0)7502 983 460; E-mail: james.taylor6@newcastle.ac.uk

EDUCATION:

1998: BScAgr. Hons I and University Medal in Agriculture (Soil Science) – The University of Sydney.
2004: PhD in Precision Viticulture, The University of Sydney.

EMPLOYMENT:

2014 - present: Senior Lecturer in Precision Farming, Newcastle University
2012 - 2014: National Grape and Wine Institute Endowed Research Fellow, Cornell University
2011: Research Fellow, Precision Agriculture Laboratory, The University of Sydney
2008 - 2010: Agropolis Foundation Post-doctoral Fellow, INRA/SupAgro Montpellier
2004 - 2008: Sesquicentenary Post-doctoral Fellow, The University of Sydney
2003 Research Assistant Lincoln Ventures Ltd.

ETERNAL APPOINTMENTS:

Steering Group Member BBSRC SARIC program (2017-
Editor and Organising Committee member - 2017 European Conference on Precision Agriculture to be held in Edinburgh (July 2017)
Guest Editor Precision Agriculture in China – Precision Agriculture Journal (currently open)
Associate Editor Agronomy Journal (Precision Agriculture) (2007-2014)
IT Specialist for the AUSVEG Information and Technology Development Advisory Group (2006-2008).
Organising Committee of 1st Global Workshop on Digital Soil Sensing and Mapping, Sydney, 2008
Branch Executive and Newsletter editor of the NSW Branch of the Australian Soil Science Society (2003-2007)

RESEARCH GRANT ACTIVITY: (Figures indicate University income not total award; PI unless otherwise noted. Only includes projects where I have been involved in the writing process).

- Monitoring and Modelling diffuse Nitrate pollution in the Fell Sandstone, NERC and Environmental Agency, £130,000, Partners - Northumbrian Water. (2017-2020) (Co-I)
- Precision Agriculture for Family-farms in China (PAFIC), STFC, £1,016,000, Partners – Fera Science Ltd, AgSpace Ltd, NERCITA (China), Beihang University (China). (2016-19) (Co-I)
- Adding Value to the Vietnamese Agri-food Sector, British Council, £65,000, University of Economics Ho Chi Minh City, (2016-17)
- Cloud-based data management tools for Precision Agriculture, KTP, £210,000, Partner – Precision Decisions Ltd. (2016-19)
- Precision Vineyard Management: Collecting and Interpreting Spatial Data for Variable Vineyard Management to Improve Production Efficiency and Product Quality, NIFA USDA SCRI, USD\$490,000, Partners – Cornell University UC Davis, Fresno State University, Carnegie Mellon University, E&J Gallo Ltd, National Grape and Wine Institute. (Co-I) (2016-2020)
- Tuberzone – Development of an innovative spatial crop model and decision support system for improved potato agronomy, BBSRC, £320 000, Partners - McCains, Grimme, SoilEssentials, JHI Ltd. (2015-18)
- Spatial cereal crop model service, KTP, £201 000, Partner – SoilEssentials. (2015-2018)
- Exploring the potential for precision nutrient management in China, STFC, £375,000, Partners – AgSpace Ltd, Cranfield University, NERCITA (China), Beijing Normal University, CASS, CAU. (2015-16) (Co-I)
- Exemplar Smart Farming at Newcastle, STFC, £24 188, No partners (2014-15) (Co-I)
- Non-invasive biomass estimation in coppice plantations, EPSRC, £14 100, No partners (2014-15)
- Development of a set of Precision Agriculture education and training modules for Australian graingrowers and grain industry personnel, GRDC, AU\$99,900, No Partners, (2010-11), (Co-I)
- Feasibility of Remote Sensing to Detect Psa Infected Vines or Vines at Risk of Psa Infection – 4 month project. Zespri Innovation Ltd., AU\$37,000, No partners (2012).
- Analysis and assessment of the spatial and temporal variability of the vine water status at a micro-regional scale from both a ground based measurement network and spatial data. Agropolis Foundation, France, €120,000, (2008-10)
- Spatial variation in Sweetcorn Production Horticulture Australia Ltd., AU\$50,000, No Partners (2007-8)
- Scoping study to assess the potential for Precision Agriculture in the Australian vegetable industry. Horticulture Australia Ltd. AU\$25,000, No partners (2007)

SELECTED RECENT PUBLICATIONS:

Articles/notes/communications in refereed journals:

Taylor, J.A., Link, K., Taft, T., Jakubowski, R., Joy, P., Martin, M., Hoffman, J., Jankowski, J. and Bates, T.R. (XXXX).

A protocol to map vine size in commercial single high-wire trellis vineyards using ‘off-the-shelf’ proximal canopy sensing systems. *Catalyst (In Press)*

Yang, H., Yang, G., Gaulton, R., Zhao, C., Li, Z., **Taylor, J.**, Wicks, D., Minchella, A. and Chen E. 3“*In-season Biomass Estimation of Oilseed Rape (Brassica napus L.) Using Fully Polarimetric SAR Imagery.*” (*Submitted – Precision Agriculture Journal*)

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- Taylor, J.A.**, Sanchez, L., Sams, B., Haggerty, L., Jakubowski, R., Djafour, S. and Bates, T.R. (2016) Evaluation of a grape yield monitor for use mid-season and at harvest. *J. Int. des Sci. de la Vigne et du Vin*. 50(2), p57-63.
- Taylor, J.A.** and Bates, T.R. (2013) Temporal and Spatial Relationships in Pruning Mass of Concord Vines. *Aust. J. Grape Wine Res.* 19(3) p401-408.
- Acevedo-Opazo, C., Valdes-Gomex, H., **Taylor, J.A.**, Avalo, A., Verdugo, N., Araya, M., Jara, F. and Tisseyre, B. (2013) Assessment of an empirical spatial prediction model of vine water status for irrigation management in a grapevine field. *Agricultural Water Management* 124, p58-68. (doi:0.1016/j.agwat.2013.03.018).
- Guillaume, S., Charnomordic, B., Tisseyre, B. and **Taylor, J.** (2013) Soft computing-based decision support tools for spatial data. *International Journal of Computational Intelligence Systems*, 6(1) p18-33.
- Taylor, J.A.** Jacob, F., Galleguillos, M., Prevot, L., Guix-Hebard, N. and Lagacherie, P. (2013) The utility of remotely-sensed vegetative and terrain covariates at different spatial resolutions in modelling soil and watertable depth (for digital soil mapping). *Geoderma*, 193-94, p83-93.
- Whelan, B.M., **Taylor, J.A.** and McBratney, A.B. (2012) A 'small strip' approach to empirically determining management class yield response functions and calculating the potential financial 'net wastage' associated with whole-field uniform-rate fertiliser application. *Field Crops Research* 139, p47-56.
- Taylor, J.A.** and Whelan, B.M. (2011) Selection of ancillary data to derive production management units in sweetcorn (*Zea Mays* var. *rugosa*) using MANOVA and an information criterion. *Precis. Agric.* 12(4), p519-533.

Books/Chapters:

- Whelan, B.W. and **Taylor, J.A.** (2013) *Precision Agriculture for Grain Production Systems*. CSIRO Publishing, Dickson, ACT, Australia (8 Chapters; 208p) ISBN:9780643107472.
- Leinonen I, Chen, H and **Taylor J.A.** (2017) *Modelling Potato Growth*. In: *Achieving sustainable cultivation of potatoes Vol.2*. Ed. Dr Stuart Wale. Burleigh Dodds Science Publishing. (*In press*)

Refereed full length conference papers:

- Launspach, M., **Taylor, J.A.** and Wilson, J.M. (2017) Can temperatures from an online weather forecast service be suitable for modelling growth stages using a CERES-Wheat type phenology model? *Advances in Animal Biosciences: Precision Agriculture (ECPA) 2017*, 8(2) (*In press*)
- Shahar, Y., Blacker, C., Kavanagh, R., James, P. and **Taylor J.A.** (2017) Implementation of Ag Data Services for Precision Agriculture. *Advances in Animal Biosciences: Precision Agriculture (ECPA) 2017*, 8(2) (*In press*)
- Chen, H., Leinonen, I., Marshall, B. and **Taylor, J.A.** (2017) Conceptual Spatial Crop Modelling of Potato Production. *Advances in Animal Biosciences: Precision Agriculture (ECPA) 2017*, 8(2) (*In press*)
- Kendall, H., Naughton P., Clark, B. **Taylor, J.** Li, Z., Zhao, C., Yang, G., Chen, J. and Frewer, L.J. *Precision Agriculture in China: Exploring Awareness, Understanding, Attitudes and Perceptions of Agricultural Experts and End-Users in China*. *Advances in Animal Biosciences: Precision Agriculture (ECPA) 2017*, 8(2) (*In press*)
- Taylor, J.A.**, Nuske, S., Singh, S. Hoffman, J.S. and Bates, T.R. (2013). Temporal evolution of within-season vineyard canopy response from a proximal sensing system. *Precision Agriculture '13*. Proceedings of the 9th ECPA, Lleida, Spain, July 7-11, 2013. J.V. Stafford (ed.). Wageningen Academic Publishers.
- Taylor, J.A.**, Charnomodic, B., Guillaume, S., Tisseyre, B. and Whelan, B.M. (2013) A comparison of bivariate classification and segmentation approaches to delineating and interpreting grain yield-protein management units. In: *Precision Agriculture '13*. Proceedings of the 9th ECPA, Lleida, Spain, July 7-11, 2013. p483-490