

Elesandro Bornhofen, Ph.D.

Postdoctoral Researcher, QGG - Aarhus University

Ny Munkegade 116, 8000 Aarhus C, Denmark

🌐 <https://elesandrobornhofen.github.io> ✉ bornhofen@qgg.au.dk

📄 [elesandro-bornhofen](#) 📅 Last update: 1st December 2021



Career highlights & interests

Over 10 years' experience in practical applications and theoretical bases of plant genetics and breeding. A demonstrated track record of international working experiences, funding attraction, peer reviewed publications, and statistical learning applications to biological problems. Strong expertise in crop management and breeding for yield, quality, and stress tolerance, with a recent wheat cultivar release to the Brazilian market. Passionate about designing tomorrow's crops by leverage state-of-the-art tools for optimized breeding decisions. Additional interests include finance and equity markets.

Educational training

- 2015 – 2019 **Ph.D. in Genetics and Plant Breeding**
University of São Paulo, "Luiz de Queiroz" College of Agriculture, Piracicaba, São Paulo, Brazil.
Advisor: Dr. Natal A. Vello
Thesis: Genetic analysis reveals opportunities and obstacles of tolerance to the Asian soybean rust fungus.
- 2018 - **Ph.D. sandwich at University of Minnesota**
Advisor: Dr. Aaron J. Lorenz
Subject: Genomic selection on the soybean nested association mapping (NAM) populations / breeding for Asian soybean rust tolerance.
- 2018 – 2020 **MBA in Business Management**
University of São Paulo - USP/ESALQ
MBA thesis: Portfolio diversification and re-balancing: impacts on risk-return trade-off.
- 2016 – 2017 **MBA in Project Management**
University of São Paulo - USP/ESALQ
MBA thesis: Associations between global indices of risk management and agricultural development through multivariate analysis.
- 2013 – 2015 **M.Sc. Agronomy**
Federal University of Technology - UTFPR, Paraná, Brazil.
Advisor: Dr. Giovanni Benin
Dissertation: Evaluation of genetic and environmental effects on yield improvements, baking quality and stability of wheat.
- 2008 – 2012 **B.Sc. Agronomy**
Federal University of Technology - UTFPR, Paraná, Brazil.
- 2005 – 2007 **Agriculture and Livestock Technician**
State Center for Professional Education in the Southwest of Paraná - CEEP-Sudoeste, Paraná, Brazil

Employment History

- 2020 – pres. Postdoctoral Researcher¹ at Center for Quantitative Genetics and Genomics - QGG, Aarhus University, Denmark.
- 2019 – 2020 Half-year sabbatical period in San Diego, California, USA.
- 2017 – 2019 Doctorate Research Fellow, São Paulo Research Foundation² (FAPESP).
- 2016 – 2020 Academic Advisor - MBA at PECEGE Institute.
- 2018 Visiting Scholar at CFANS, University of Minnesota, Saint Paul Campus, Minnesota, USA.

¹Working with Dr. Luc Janss. (supervisor).

²Led the application of two prestigious grants.

Employment History (continued)

2015 – 2017	Doctorate Research Fellow, Coordination for the Improvement of Higher Education Personnel (CAPES).
2013 – 2015	Master's Degree Research Fellow, Coordination for the Improvement of Higher Education Personnel (CAPES).
2012	Research Intern at Tropical Melhoramento & Genética (TMG), Paraná state, Brazil.
2008 – 2012	Scientific Initiation Research Fellow, National Council for Scientific and Technological Development (CNPq).

Peer-reviewed publications (16 out of 23)

Journal Articles

- 1 Benin, G., Milioli, A. S., Meira, D., ..., **Bornhofen, E.** & ... (2020). UTF 25 – Early bread wheat cultivar with white flour. *Crop Breeding and Applied Biotechnology*, 20. doi:10.1590/1984-70332020v20n4c67
- 2 Espolador, F. G., Yassue, R. M., Marosini, J. S., **Bornhofen, E.**, Barbosa, P. A. M., Souza, R. S. e. & Vello, N. A. (2020). Assessing tolerance to Asian soybean rust in soybean inbred lines from exotic and adapted crosses. *Euphytica*, 216. doi:10.1007/s10681-020-02597-8
- 3 Souza, R. S., Barbosa, P. A. M., Yassue, R. M., **Bornhofen, E.**, Espolador, F. G., Nazato, F. M. & Vello, N. A. (2020). Combining ability for the improvement of vegetable soybean. *Agronomy Journal*. doi:10.1002/agj2.20322
- 4 **Bornhofen, E.**, Ramires, T. G., Bergonci, T., Nakamura, L. R. & Righetto, A. J. (2019). Associations between global indices of risk management and agricultural development. *Agricultural Systems*, 173, 281–288. doi:10.1016/j.agsy.2019.03.006
- 5 **Bornhofen, E.**, Todeschine, M., Stoco, M., Madureira, A., Marchioro, V. S., Storck, L. & Benin, G. (2018). Wheat Yield Improvements in Brazil: Roles of Genetics and Environment. *Crop Science*, 58(3), 1082–1093. doi:10.2135/cropsci2017.06.0358
- 6 **Bornhofen, E.**, Benin, G., Storck, L., Marchioro, V. S., Meneguzzii, C., Miliolii, A. S. & Trevizani, D. M. (2017). Environmental effect on genetic gains and its impact on bread-making quality traits in Brazilian spring wheat. *Chilean journal of agricultural research*, 77(1), 27–34. doi:10.4067/S0718-58392017000100003
- 7 **Bornhofen, E.**, Benin, G., Storck, L., Woyann, L. G., Duarte, T., Stoco, M. G. & Marchioro, V. S. (2017). Statistical methods to study adaptability and stability of wheat genotypes. *Bragantia*, 76(1), 1–10. doi:10.1590/1678-4499.557
- 8 Storck, L., Benin, G., Marchioro, V. S., Silva, R. R., Woyann, L. G. & **Bornhofen, E.** (2016). Strategy for grouping wheat genotypes according to environmental responses in multi-location trials. *Australian Journal of Crop Science*, 10(4), 571–578. doi:10.21475/ajcs.2016.10.04.p7450x
- 9 Todeschini, M. H., Milioli, A. S., Trevizan, D. M., **Bornhofen, E.**, Finatto, T., Storck, L. & Benin, G. (2016). Nitrogen use efficiency in modern wheat cultivars. *Bragantia*, 75(3), 1–11. doi:10.1590/1678-4499.385
- 10 Silva, C. L., Benin, G., Rosa, A. C., Beche, E., **Bornhofen, E.** & Capelin, M. A. (2015). Monitoring levels of deoxynivalenol in wheat flour of Brazilian varieties. *Chilean Journal of Agricultural Research*, 75(1), 50–56. doi:10.4067/S0718-583920150001200007
- 11 Silva, C. L., **Bornhofen, E.**, Todeschini, M. H., Milioli, A. S., Trevizan, D. M. & Benin, G. (2015). Selecting wheat genotypes for yield and baking quality in multi-environment trials. *Ceres*, 62(4), 360–371. doi:10.1590/0034-737X201562040005
- 12 Lemes, C. S., Benin, G., **Bornhofen, E.**, Matheus, H. T., Dallo, S. C. & Scarparo, L. H. (2014). Characterization of Brazilian wheat cultivars in terms of nitrogen use efficiency. *Bragantia*, 73(2), 1–10. doi:10.1590/brag.2014.012

- 13 Silva, C. L., Benin, G., **Bornhofen, E.**, Beche, E., Todeschini, M. H. & Milioli, A. S. (2014). Nitrogen use efficiency is associated with chlorophyll content in Brazilian spring wheat. *Australian Journal of Crop Science*, 8(6), 957–964.
- 14 **Bornhofen, E.**, Benin, G., Matei, G., Silva, C. L., Beche, E., Pagliosa, E. S., ... Pinnow, C. (2013). Combining ability of wheat parents in two generations. *Semina: Ciências Agrárias*, 34(1), 3129–3140. doi:10.5433/1679-0359.2013v34n6Sup11p3129
- 15 Benin, G., **Bornhofen, E.**, Beche, E., Pagliosa, E. S., Silva, C. L. & Pinnow, C. (2012). Agronomic performance of wheat cultivars in response to nitrogen fertilization levels. *Acta Scientiarum. Agronomy*, 34(3), 275–283. doi:10.4025/actasciagron.v34i3.14468
- 16 Benin, G., Pinnow, C., da Silva, C. L., Pagliosa, E. S., Beche, E., **Bornhofen, E.**, ... Silva, R. R. (2012). Biplot analysis of spring wheat genotypes grown under differing management levels. *Bragantia*, 71(1), 28–36. doi:10.1590/S0006-87052012000100005

Conference Proceedings (4 out of 49)

- 1 Bornhofen, E. & Vello, N. A. (2019). Tolerance to rust-induced stress: A comprehensive study on the benefits and constraints to soybean breeding. In *Proceedings of the crops2019 conference*, Huntsville, Alabama, USA. 🌐 <http://goo.gl/pfdUfm>
- 2 Bornhofen, E., Lorenz, A. & Vello, N. A. (2018). Unraveling the potential use of tolerance as a defense strategy against asian soybean rust. In *Proceedings of the 17th biennial conference on the molecular and cellular biology of the soybean*, Athens, Georgia, USA. 🌐 <http://goo.gl/pfdUfm>
- 3 Bornhofen, E., Vello, N. A., Espolador, F. G., Yassue, R. M. & Nekatschalow, M. C. (2017). Assessing soybean rust tolerance and the impacts on seed traits. In *Proceedings of the 9th brazilian plant breeding congress*, Foz do Iguaçu, Paraná, BR. 🌐 <https://goo.gl/hWrfY2>
- 4 Bornhofen, E., Vello, N. A., Espolador, F. G., Yassue, R. M. & Souza, R. S. (2017). Exploring soybean traits through multivariate analysis in contrasting rust environments. In *Proceedings of the 2nd latin-american conference on plant phenotyping and phenomics for plant breeding*, São Carlos, São Paulo, BR. 🌐 <https://goo.gl/2fy3va>

Books and Chapters

- 1 *Vegetable Soybean*. (2017). Piracicaba, São Paulo, Brazil: Library and documentation division, University of São Paulo, ESALQ/USP. 🌐 <https://goo.gl/iFi5VK>

Intellectual property

Crop variety UTF 25 - Protected wheat cultivar [Minister of Agriculture, process: 21806.000111/2019] developed at the Federal University of Technology - Paraná | shorturl.at/ilQ17.

Skills

Languages	Portuguese:	● ● ● ● ●
	English:	● ● ● ● ●
	Spanish:	● ● ● ● ●
	Danish:	● ● ● ● ●
Coding	R, L ^A T _E X, Python (familiar), Shell, Markdown.	
Softwares	ASreml, DMU package, Microsoft 365 products, Photoshop, RStudio.	
Misc.	Expertise in data visualization, statistical learning (w/ big data), academic research, teaching, training, entrepreneurial, project management, business management, and strong creative thinking.	

Miscellaneous Experience

Awards and Achievements

- 2018 Certification of Achievement (second prize), Graduate student poster competition, presented at the 17th Biennial Conference on the Molecular and Cellular Biology of the Soybean, August 26-29th, Athens, Georgia, USA.
Research Internship Abroad (BEPE - FAPESP), process number 2017/24266-0 (grant).
- 2017 Doctorate Fellowship (FAPESP) process number 2017/11235-0 (grant).
- 2015 Ranked 1st in the admission process for Ph.D. in Genetics and Plant Breeding at ESALQ, University of São Paulo, (2nd semester, 2015)
- 2014 Approved for the position of agronomist/extensionist at EMATER-PR, process number 148/2014, resolution number 13274 (public sector).

Membership & Leadership

- 2021 – pres. Eucarpia, European Association for Research on Plant Breeding.
- 2019 – pres. Brazilian Society of Plant Breeding.
- 2017 – 2019 Gvenck member (and co-founder), Genetics and Plant Breeding Group “Prof. Roland Vencovsky”.
- 2014 – 2015 Graduate Students Representative at Federal University of Technology, Graduate Program in Agronomy.

Science communication

- 2019 – pres. Terra Ciência, an Instagram page to communicate agricultural sciences, with emphasis on plant breeding.

Courses (3 out of 20)

- 2017 Introduction to Bayesian Inference (16h), Department of Statistics, University of São Paulo, ESAL/USP, Piracicaba, São Paulo.
- 2016 Mixed models and variance components (120h), Department of Statistics, University of São Paulo, ESALQ/USP, Piracicaba, São Paulo.
- 2013 Techniques for a better public speaking (21h), National Service for Commercial Training - Senac, Pato Branco, Paraná.

International Events (8 out of 13)

- 2019 Brazilian Congress of Plant Breeding, Águas de Lindóia, São Paulo, BRA.
CROPS2019: Improving agriculture through genomics, Huntsville, Alabama, USA.
- 2018 2nd International Meeting on Plant Breeding (*organizing committee*), Piracicaba, São Paulo, BRA.
SOY2018 Conference: 17th Biennial Conference on the Molecular and Cellular Biology of the Soybean, Athens, Georgia, USA.
New Frontiers in Genetic Evaluation, Corteva headquarters, Johnston, Iowa, USA.
University of Minnesota Plant Sciences Symposium - From markers to markets, Saint Paul, Minnesota, USA.
- 2017 II LAPHB - Second Latin-American Conference on Plant Phenotyping and Phenomics for Plant Breeding, Embrapa Instrumentation, São Carlos, São Paulo, BRA.
9th Brazilian Congress of Plant Breeding, Foz do Iguaçu, Paraná, BRA.

References

Available upon request.