TATIANA
FRACISCHINELLI RITTL

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EDUCATION

Ph.D. | Soil Quality Department, Wageningen University, The Netherlands
2011-2015. Tittle of thesis: Challenging the claims on the potential of biochar to mitigate climate change.
Master | Soil Science Department, São Paulo University, Brazil, with internship at Guelph University, Canada
2009-2011. Tittle of dissertation: Subsidies for delimitation and territorial planning of the buffer zone of Alto Ribeira Tourist State Park.
Bachelor | Environmental Management, São Paulo University, Brazil
2005-2008. In-depth courses: Soil Genesis, Soil Biogeochemistry, Mineral Organic Matter Interactions, Remote Sensing, Geographic Information System.

WORK EXPERIENCE

2019- present - Researcher - Norwegian Centre for Organic Agriculture, Norway
2019-2020 - Researcher - Norwegian University of Life Sciences, Norway
2017-2018 - Researcher - Institute of Meteorology and Climate Research, Germany
2015-2018 - Postdoctoral Researcher - São Paulo University, Brazil
2008-2009 - Environmental Science Teacher- Technical State School, Brazil

PROJECTS EXPERIENCE IN NORSØK PER THEME

- **AGRICULTURE.** Project leader**:** Mermold, SoilEffects. Work package leader**:** Cropdrive. Task leader: Hakket Bedre, Tingvollgård. Participant: Struvite.
- **ENVIRONMENT.** Work package leader**:** FIMO. Task leader: Capture. Participant**:** ResidueGas, K-BEP, God-Karbon, NetSH, Ozone**.**
- **FOOD.** Project leader**:** Charcoat.

SKILLS AND QUALIFICATIONS

- Project and time management
- Data management
- Languages: English, Norwegian, Portuguese, Spanish
- Dissemination activities
- Project acquisition
- Analytical method development

PUBLICATIONS

- **From NORSØK projects:**

Papers published in peer-reviewed journals:

1. Abalos, D., **Rittl, T.F**., Recous, S., Thiébeau, P., Topp, C.F.E., van Groeningen, K.J., Butterbach-Bahl, K., Thorman, R.E., Smith, K.E., Ahuja, I., Olesen, J.E., Bleken, M.A., Rees, R.M., & Hansen, S. (2022). Predicting field N_2O emissions from crop residues based on their biochemical composition: a meta-analytical approach. Science of the Total Environment, 812,152532.
2. Bleken, M.A. & **Rittl, T.F**. (2022). Soil pH-increase strongly mitigated N_2O emissions from ploughing of grass and clover swards in autumn: a winter field study. Science of the Total Environment, 828, -11.
3. Bleken, M. A.; **Rittl, T.**; Karki, S. and Nadeem, S. (2022). Data of biomass and N in grass and clover roots, stubbles, and herbage and associated N_2O and CO_2 emissions, inclusive soil air composition, following autumn ploughing –A field study. Data in Brief, 43, 108352.
4. Bleken, M.A., **Rittl, T.**, Nadeem, S.N. & Hansen, S. (2022). Roots and other residues from leys with or without red clover: Quality and effects on N_2O emission factors in a partly frozen soil following autumn ploughing. Science of the Total Environment, 831, -14.
5. Abalos, D; Recous, S.; Butterbach-Bahl, K.; Notaris, C.; **Rittl, T. F.**; Topp, C F E; Søren, P.O.; Hansen, S.; Bleken, M.A.; Rees, R M and Olesen, J.E. (2022). A review and meta-analysis of mitigation measures for nitrous oxide emissions from crop residues. Science of the Total Environment, 828, -12.

Rittl, T.F.; Grønmyr, F.; Bakken I; Løes, A-K. Effects of organic amendments and cover crop on soil characteristics and potato yields and quality. Acta Agriculture Scandinavica, Section B – Soil & Plant Science (under review).
Rittl, T.F.; Pommeresche, R.; Johansen, A.; Steinshamn, H.; Riley, H.; Løes, A-K. Anaerobic digestion of dairy cattle slurry – long-term effects on crop yields and chemical soil characteristics. European Journal of Agronomy (under review).

Scientific reports:

1. **Rittl, T.**; Grønmyr, F.; Bakken, I. and Løes, A-K. (2022). Effect of soil organic matter management on soil characteristics, potato yield and potato disease in an intensive potato growing system (MERMOLD). NORSØK Report, no. 10, Vol 7. NORSØK, Tingvoll.
2. Løes, A-K.; Grønmyr, F.; Pommeresche, R.; **Rittl, T.** and Stensrud, A. F. (2022) Algae fibre for soil improvement (FIMO). NORSØK Report, no. 8, vol 7. NORSØK, Tingvol
3. Rittl, T.; Bakken, I.; Grønmyr, F.; Heltolf, P.; Stewart, L.; Husby, A.; Fløystad, K. and Løes, A-K. (2021). Biochar coating potential to suppress storage diseases in carrots and potatoes (CHARCOAT). NORSØK Report, no. 12, vol 6. Norwegian institute for organic agriculture.
4. Hansen, S.; Pommeresche, R.; Bysveen, K.; Grønmyr, F.; **Rittl, T**. and Bleken, M. A. (2021). Karbon til bondens beste. [Carbon for benefit of the farmer.] NORSØK Rapport, no. 11, Vol 6. Norwegian Centre for Organic Agriculture, Tingvoll.
5. Wibe, A.; **Rittl, T.**; Løes, A-K.; Bakken, I. and Karlsen, B. (2021) Ozonholdig vann mot tørråte i potet. NORSØK Rapport, no. 5, vol 6. NORSØK, Tingvoll.
6. Wibe, A.; Pommeresche, R.; **Rittl, T.** and Båtnes, M. (2021) Jordliv i bringebær- og jordbærfelt. Effekter av driftsform innen bringebærproduksjon og ozonbehandling av jordbærplanter. [Soil life in raspberry and strawberry fields. Effects of mangement practice in raspberry production and ozone treatment of a strawberry field.] NORSØK Rapport, no. 16, vol 6. NORSØK, Tingvoll, Norway.

7. Rittl, T., Krogstad, T., Eikås, S., Saltnes, T., Sørensen, G., Glestad, H. E., Løes, AK. (2019) Effects of struvite application on soil and plants: a short-term field study. NORSØK report, no. Vol. 4 No. 10 2019. Norwegian Centre for Organic Agriculture (NORSØK), Tingvoll, Norway.

Presentations in 2022:

1. Rittl, T. Organisk materiale i jord brukt til intensiv potetdyrking. Klimafagdag for landbruket. Gjermundnes videregående skole, 26 September 2022.
2. Rittl, T. Organic amendments and cover crop effects on soil organic matter and disease suppression in potatoes. 8th International Symposium on Soil Organic Matter, Seoul, South Korea, 26-30 June 2022.
3. Rittl, T. Carbon for benefit of the farmer. 8th International Symposium on Soil Organic Matter, Seoul, South Korea, 26-30 June 2022.
4. Rittl, T. Long-term effects of slurry and anaerobically digested slurry on soil organic matter. 8th International Symposium on Soil Organic Matter, Seoul, South Korea, 26-30 June 2022.

- **From previous works:**

Papers published in peer-reviewed journals:

1. Rittl, T.F., Oliverira, D.M.S., Canisares, L.P., Sagrilo, E., Butterbach-Bahl, K., Dannenmann, M., & Cerri, C. E. P. (2021). High application rates of biochar to mitigate N2O emissions from a N-fertilized tropical soil under warming conditions. Frontiers in environmental Science 8:611873.
2. Rittl, T. F., Canisares, L., Sagrilo, E., Butterbach-Bahl, K., Dannenmann, M., & Cerri, C. E. P. (2020). Temperature sensitivity of soil organic matter decomposition varies with biochar application and soil type. Pedosphere, 30, 336–342.
3. Bezerra, J., Turnhout, E., Vasquez, I. M., **Rittl, T. F.**, Arts, B., & Kuyper, T. W. (2019). The promises of the Amazonian soil: shifts in discourses of Terra Preta and biochar. Journal of Environmental Policy and Planning, 21, 623–635.
4. Fungo, B., Chen, Z., Butterbach-Bahl, K., Lehmannn, J., Saiz, G., Braojos, V., Kolar, A., **Rittl, T.F.** … Dannenmann, M. (2019). Nitrogen turnover and N2O/N2 ratio of three contrasting tropical soils amended with biochar. Geoderma, 348, 12–20.
5. Schellekens, J., Vidal-Torrado, P., Silva, C. A., Domingues, R. R., Justi, M., Buurman, P., **Rittl, T.** … Trugilho, P. F. (2018). Molecular characterization of biochar from five Brazilian agricultural residues obtained at different charring temperatures. Journal of Analytical and Applied Pyrolysis, 130, 249–255.
6.. Rittl, T. F., Butterbach-Bahl, K., Basile, C. M., Pereira, L. A., Alms, V., Dannenmann, M., Cerri, C. E. P. (2018). Greenhouse gas emissions from soil amended with agricultural residue biochars: Effects of feedstock type, production temperature and soil moisture. Biomass and Bioenergy, 117, 1–9.
7. Rittl, T. F., Oliveira, D., & Cerri, C. E. P. (2017). Soil carbon stock changes under different land uses in the Amazon. Geoderma Regional, 10, 138–143.
8. Rittl, T. F., Novotny, E. H., Balieiro, F. C., Hoffland, E., Alves, B. J. R., & Kuyper, T. W. (2015). Negative priming of native soil organic carbon mineralization by oilseed biochars of contrasting quality. European Journal of Soil Science, 66, 714–721.
9. Rittl, T. F., Arts, B., & Kuyper, T. W. (2015). Biochar: An emerging policy arrangement in Brazil? Environmental Science & Policy, 51, 45–55.
10. Sagrilo, E., **Rittl, T. F.**, Hoffland, E., Alves, B. J. R., Mehl, H. U., & Kuyper, T. W. (2015). Rapid decomposition of traditionally produced biochar in an Oxisol under savannah in Northeastern Brazil. Geoderma Regional, 6, 1–6.

11. Cerqueira, W. V., **Rittl, T. F.**, Novotny, E. H., & Pereira Netto, A. D. (2015). High throughput pyrogenic carbon (biochar) characterisation and quantification by liquid chromatography. Analytical Methods, 7, 8190–8196.
12. Branco de Freitas Maia, C., Novotny, E., **Rittl, T.**, & Bermingham Hayes, M. (2013). Soil Organic Matter: Chemical and Physical Characteristics and Analytical Methods. A Review. Current Organic Chemistry, 17, 2985–2990.
13. Rittl, T., Cooper, M., Heck, R. J., & Ballester, M. V. R. (2013). Object-Based method outperforms per-pixel method for land cover classification in a protected area of the Brazilian Atlantic rainforest region. Pedosphere, 23, 290–297.