

Curriculum vitae – Melissa Hamner Magerøy

PERSONAL INFORMATION

Name: Magerøy, Melissa Hamner

Date of birth: 01.11.1984

Sex: Female

Nationality: United States

ORCID: 0000-0001-7801-1007

URL for personal websites:

<https://www.nibio.no/en/employees/melissa-mageroy>

<https://publons.com/researcher/1003529/melissa-mageroy/>

<https://app.cristin.no/persons/show.jsf?id=782844>

<https://twitter.com/SpruceDefender>



From an early age, I have been curious about how and why things work the way they do. I also found plants fascinating as they contribute so much to our lives: food, oxygen, shelter, medicines. I am particularly interested in plant secondary metabolism and how these metabolites contribute to plant and human health. During my PhD at the University of Florida I worked on characterizing the biosynthesis pathways of molecules that contribute to tomato flavor. I then moved to the University of British Columbia where I began researching spruce defense against insect pest and the biosynthesis of defense compounds. After receiving a Young Researcher Talent grant from the Norwegian Research Council, I moved to Norway to study the molecular mechanism of spruce defense priming. I am currently a researcher at the Norwegian Institute for Bioeconomy Research.

EDUCATION

2011 PhD: 11.11.2011

Plant Molecular and Cellular Biology, University of Florida, USA

2007 Bachelors of Science: 15.05.2007

Major: Biology; Minors: Chemistry and Spanish, Trinity University, USA

CURRENT AND PREVIOUS POSITIONS

2016-present Researcher, Forest Health, Norwegian Institute for Bioeconomy Research

2012-2016 Post-doctoral fellow

Michael Smith Laboratories, University of British Columbia, Canada

2007-2011 Graduate Research Assistant

Plant Molecular and Cellular Biology, University of Florida, USA

2006-2007 Undergraduate Independent Research, Trinity University, USA

FELLOWSHIPS, AWARDS AND PRIZES

2021 Research project for renewal, Norwegian Research Council, 12 000 kNOK

2019 NordGen Forest Scholarship for master student, 15 kNOK

2017 Borregaard Research Fund, 35 kNOK

2016-2019 Young Researcher Talent Grant, FRIPRO, Norwegian Research Council, 7000 kNOK

2015 Post-doctoral Travel Grant, Faculty of Science, University of British Columbia

2009 Best student presentation, Plant Molecular and Cellular Biology, University of Florida, USA

2007-2011 Alumni Fellowship, Plant Molecular and Cellular Biology, University of Florida, USA
2006 Summer Undergraduate Research Fellowship, American Society of Plant Biology, USA
2003-2007 President's Scholarship, Trinity University, USA

SUPERVISION OF GRADUATE STUDENTS AND RESEARCH FELLOWS

2020-2021 Ngan Bao Huynh, co-supervisor, Norwegian University of Life Science
2019-2020 4 master's students, co-supervisor, Norwegian University of Life Science
2018-2019 Konrad Skåravik Bryhn, MS, co-supervisor, Forestry, Norwegian University of Life Sciences
2017-2018 Thomas Olufsen Skrautvol, MS, co-supervisor, Forestry, Norwegian University of Life Sciences (winner of best Master's thesis in Forestry 2018)
2016-2020 Samuel Wilkinson, PhD, co-supervisor, Animal & Plant Sciences, University of Sheffield (PhD project funded by FRIPRO Project code: 249920 to MHM)
2014- 2015 1 PhD and 4 master's students, mentor, Genome Science and Technology Graduate Program, University of British Columbia, Canada
2009-2011 3 undergraduate Research Students, mentor, Plant Molecular and Cellular Biology, University of Florida, USA

TEACHING ACTIVITIES

2014 Guest Lecturer-Forest Ecology, University of the Fraser Valley, Canada
2005-2006 Teaching Assistant-Cellular and Molecular biology; Organismal Biology, Trinity University, USA

PROJECT MANAGEMENT EXPERIENCE

2016-2019 Project manager, EpiSpruce, FRIPRO Project code: 249920

COMMISSIONS OF TRUST

2014- 2016 Scientific Advisory Board, A Rocha: Environmental Stewardship, Canada

MEMBERSHIPS OF ACADEMIES / SCIENTIFIC SOCIETIES

2016-present Scandinavian Plant Physiology Society
2016-present European Plant Science Organisation

MAJOR COLLABORATIONS

Jurriaan Ton, Epigenetic mechanisms of Norway spruce defense priming, Animal & Plant Sciences, University of Sheffield. Project partner in FRIPRO Project code: 249920

CAREER BREAKS

07.07.2017 – 01.01.2018 100% Maternity leave
01.01.2018 – 01.06.2018 40% Maternity leave
07.08.2020 – 31.01.2021 100% Maternity leave
01.02.2021 – 15.07.2021 37% Maternity leave

TRACK RECORD

Publications

Published: 18 Accepted: 0 Submitted: 1 Scopus h-index: 11

- Wilkinson SW, Muench A, Wilson R, Hooshmand K, Henderson M, Moffat E, Stassen J, Sánchez AL, Fomsgaard I, Krokene P, Magerøy M, Ton J. (under review) Long-lasting memory of jasmonic acid-dependent immunity requires DNA demethylation and ARGONAUTE1. *Nature plant*.
- Wilkinson SW, Vivian-Smith A, Krokene P, and **Mageroy MH**. (2021). The microRNA response associated with methyl jasmonate-induced resistance in Norway spruce bark. *Plant Gene* 27, 100301. (Scopus citations excluding self citations:0)
- Nybakken L, Fløistad IS, **Magerøy M**, Lomsdal M, Strålberg S, Krokene P, and Asplund J. (2021). Constitutive and inducible chemical defences in nursery-grown and naturally regenerated Norway spruce (*Picea abies*) plants. *For. Ecol. Manage.* 491, 119180. (0)
- De Kesel J, Conrath U, Flors V, Luna E, **Mageroy MH**, Mauch-Mani B, Pastor V, Pozo MJ, Pieterse CMJ, Ton J, and Kyndt T. (2021) The induced resistance lexicon: do's and don'ts. *Trends in Plant Science*. 26, 685-691. (3)
- Mageroy MH**, Wilkinson SW, Tengs T, Cross H, Almvik M, Pétriacq P, Vivian-Smith A, Zhao T, Fossdal CG and Krokene P. (2020). Molecular underpinnings of methyl jasmonate-induced resistance in Norway spruce. *Plant Cell and Environment*. 43, 1827–1843. (3)
- Mageroy MH**, Christiansen E, Langström B, Borg-Karlson A-K, Solheim H, Björklund N, Schmidt A, Fossdal CG and Krokene P. (2020) Priming of inducible defenses protects Norway spruce against tree-killing bark beetles. *Plant Cell and Environment*, 43, 420-430. (10)
- Wilkinson SW, **Mageroy MH**, Sánchez AL, Smith LM, Furci L, Cotton TEA, Krokene P and Ton J. (2019) Surviving in a hostile world : plant strategies to resist pests and diseases. *Annual Review of Phytopathology*, 57. (17)
- Parent GJ, Méndez-Espinoza C, Giguère, I, **Mageroy MH**, Charest M, Bauce E, Bohlmann J, and MacKay JJ. (2019) Hydroxyacetophenone defenses in white spruce against spruce budworm. *Evolutionary Applications*. 13, 62–75. (3)
- Annacondia ML, **Mageroy MH**, and Martinez G. (2018) Stress response regulation by epigenetic mechanisms: changing of the guards. *Physiologia plantarum*. 162, 239-250. (22)
- Parent GJ, Giguère I, **Mageroy MH**, Bohlmann J and MacKay JJ. (2018) Evolution of the Biosynthesis of Two Hydroxyacetophenones in Plants. *Plant Cell and Environment*, 41, 620–629. (8)
- Mageroy MH**, Jancsik S, Yuen MMS, Fischer M, Paetz C, Schneider B, MacKay JJ, and Bohlmann J (2017) A conifer UDP-sugar dependent glycosyltransferase contributes to acetophenone metabolism and defense against insects. *Plant Physiology* 175, 641-651. (7)
- Mageroy MH**, Lachance D, Jancsik S, Parent GJ, Séguin A, MacKay JJ, and Bohlmann J (2017) *In vivo* function of *Pgβglu-1* in the release of acetophenones in white spruce. *PeerJ*, 5, e3535. (1)
- Mageroy MH**, Parent GJ, Germanos G, Giguère I, Delvas N, Maaroufi H, Bauce É, Bohlmann J, MacKay JJ (2015) Expression of the beta-glucosidase gene *Pgβglu-1* underpins natural resistance of white spruce against spruce budworm. *Plant Journal*, 81, 68-80. (24)
- Goulet C, **Mageroy MH**, Lam N, Floystad A, Tieman DM, Klee HJ (2012) The role of an esterase in flavor volatile variation within the tomato clade. *Proceedings of the National Academy of Science*, 109, 19009-19014. (44)
- Wang Y, Maruhnich SA, **Mageroy MH**, Justice JR, Folta KM (2012) Phototropin 1 and cryptochrome action in response to green light in combination with other wavelengths. *Planta*, 237, 225-237. (23)
- Tieman D, Bliss P, McIntyre LM, Blandon-Ubeda A, Bies D, Odabasi AZ, Rodríguez GR, van der Knaap E, Taylor MG, Goulet C, **Mageroy MH**, Snyder CJ, Colquhoun T, Moskowicz H, Clark DG, Sims C, Bartoshuk L, Klee HJ (2012) The chemical interactions underlying tomato flavor preferences. *Current Biology*, 22, 1035-1039. (164)
- Mageroy MH**, Floystad A, Tieman DM, and Klee HJ (2011) A *Solanum lycopersicum* catechol-O-methyltransferase involved in synthesis of the flavor molecule guaiacol. *Plant Journal*, 69, 1043–1051. (53)

Mageroy MH, Kowalik EH, Folta KM, and Shinkle J. (2010) Evidence of physiological phototropin1 (phot1) action in response to UV-C illumination. *Plant signaling and behavior*, 5, 1204-1210. (9)

Jeanguenin L, Lara-Núñez A, Pribat A, **Mageroy MH**, Gregory JF, Rice KC, de Crécy-Lagard V and Hanson AD (2010) Moonlighting glutamate formiminotransferases: can functionally replace 5-formyltetrahydrofolate cycloligase. *Journal of Biological Chemistry*, 285, 41557-41566. (18)

Popular sciences publications

2020 **Mageroy MH** & Krokene P. (2020) A battle in the forest: spruce castles and bark beetle attacks. *Frontiers for Young Minds*.

2018 News article: Dagens Næringsliv, Fra gift til vaksine mot juletrebillen, Mandag 24. desember

2014 Press Release: EurekaAlert!, < http://www.eurekaalert.org/pub_releases/2014-11/ul-rdn112114.php>

Granted patent

Mageroy MH, Tieman DM, and Klee HJ (2013) Tomato catechol-O-methyltransferase sequences and methods of use. US patent WO2013043666. Tomato catechol-O-

Invited presentations

2018 Invited Talk: Forest Health Symposium, Norway

2017 Invited Talk: Norwegian Plant Biology Conference 2017, Norway

2017 Invited speaker: Swedish University of Agricultural Sciences Uppsala: Epigenetics workshop, Sweden

2017 Invited Talk: University of Sheffield, Animal and Plant Sciences Department seminar, England

2016 Invited Talk: Norwegian Plant Biology Conference 2016 Norway

2015 Invited Keynote Talk: International Society of Chemical Ecology 2015, Sweden

2014 Invited Talk: Banff Conference on Plant Metabolism, Canada

2014 Invited Talk: Forest Genetics Council Interior Technical Advisory Committee Meeting, Canada

2013 Invited Talk: Gordon Research Conference, Plant Metabolic Engineering, USA

Referee/Editorial

Canadian Journal of Forest Research; eLife; Forest Pathology; New Phytologist; Plant Cell & Environment; Plant Journal; Plant Physiology; Plant Gene; Plant and Soil
Frontiers in Plant Science (Review Editor Plant Metabolism and Chemodiversity)
Frontiers for Young Minds (Associate Editor)