

CURRICULUM VITAE, 14.12.2018

1. Full name

Name: Paula Riitta Elomaa (née Saavola)
Gender: female
Orchid ID: 0000-0001-6512-0810

2. Date and place of birth, nationality, current residence

Date and place of birth: 28.12.1964, Pielisjärvi, Finland
Nationality: Finnish
Current residence: Aisatie 16 A, 01640 Vantaa, Finland
Family: 3 children (born 6/1991, 3/1993, 2/1999)
Contact information: paula.elomaa@helsinki.fi, tel: +358-400-922935
Web page: <https://www.helsinki.fi/en/researchgroups/asteraceae-developmental-biology-and-secondary-metabolism>

3. Education and degrees awarded

Title of Docent 04.04.2002, Docent in Plant Genetics, University of Helsinki, Department of Biosciences, Division of Genetics, Finland.
Ph.D. 29.11.1996, University of Helsinki, Finland
Ph.Lic. 02.03.1993, University of Oulu, Finland.
M.Sci. 25.05.1990, University of Oulu, Finland. Major subject: genetics.

4. Other education and training

Eberhard-Karls University, Tübingen, Germany 1988 (3 months), student exchange program
PCR Course 1990, University of Turku, Finland
Yeast Two-Hybrid Course 1995, Institute of Biotechnology, Helsinki, Finland
Basics in Bioinformatics 2000, CSC (Center for Scientific Computing), Espoo, Finland
GeneSpring Advanced Workshop 2002, CSC, Espoo, Finland.
DreamWeaver course, 2004, University of Helsinki (VOK), Finland.
Agilent, eArray Training Course 2009, Helsinki, Finland

5. Linguistic skills

Finnish mother tongue
English fluent, proficient user
Swedish good, independent user
German basic user

6. Current position

Professor in Horticulture, University of Helsinki, Department of Agricultural Sciences, from 1.3.2006 –
Responsible professor for Plant Biotechnology, University of Helsinki, Faculty of Agriculture and Forestry, 2011 –

7. Previous work experience

1990: Research assistant, Kemira Agro Oy, (10 months).
1991: Scientist, Kemira Agro Oy.
1992-1996: Doctoral student, Institute of Biotechnology, University of Helsinki.
1996-1997: Postdoctoral scientist, Institute of Biotechnology, University of Helsinki (9 months).
1997-2000: Postdoctoral scientist, Academy of Finland, Institute of Biotechnology, University of Helsinki.
2001-2002: Postdoctoral scientist, Institute of Biotechnology, University of Helsinki.
2002-2005: University lecturer, Horticulture, Department of Applied Biology, Faculty of Agriculture and Forestry, University of Helsinki.
2005-2006: Acting Professor in Horticulture, Department of Applied Biology, Faculty of Agriculture and Forestry, University of Helsinki.
Maternal leaves: 5/1991-12/1991; 02/1993-09/1993; 01/1999-11/1999.

8. Research funding, leadership and supervision

Major research funding:

1997-2000: Academy of Finland, postdoctoral scientist, project 41397 Regulation of flavonoid pathway in *Gerbera hybrida*; 594 500 FM (main applicant, PI)

2004-2006: Academy of Finland, project 104608 Molecular control of differentiation of ray and disc flowers in *Gerbera hybrida*, Asteraceae; 226 030 e (main applicant, PI)

2007-2010: Academy of Finland, project 115849 Regulation of flower symmetry in *Gerbera hybrida*, Asteraceae; 393 580 e (main applicant, PI)

2008: Nikolai and Ljudmila Borisoff Foundation, Development of DNA fingerprints for identification of *Malus* Mill. and *Syringa vulgaris* L. varieties; 15 000 e (main applicant, PI)

2009-2011: TEKES, 40167/09 Solid-state horticultural lighting system; 128 442 e (total budget 438 762 e) (consortium project in collaboration with Aalto University, responsible PI for the Helsinki University share of the project)

2011-2014 (extended until 31.12.2015): Academy of Finland, project 139092; Molecular network connected to flower type differentiation in *Gerbera hybrida*; 795 430 e (main applicant, PI)

2015: The Finnish Cultural Foundation; personal research grant, Foundations' Professor Pool, 27 000 e

2015-2017: Academy of Finland, mobility funding (287401, 310317); Revealing the ancestral functions of CYC/TB1-like TCP transcription factor genes in basal eudicots; 5 975 e + 2800 e (PI)

2016 -2017: Maiju and Yrjö Rikala Foundation, Automated phenotyping of berry development; 35 000 e + 13 000e (PI)

2017-2021: Academy of Finland, project 310318 Dynamics of inflorescence meristem patterning in Asteraceae; 491 262 e (main applicant, PI)

Supervision of post-doc researchers: Sari Tähtiharju (2007-2012), Anneke Rijpkema (2009-2011), Timo Hytönen (2009-2012), Suvi Broholm (2013-2015), Katriina Mouhu (2014, 2016-2018), Feng Wang (2018-)

Supervision of Ph.D. theses: Roosa Laitinen 2006, Timo Hytönen 2009, Suvi Broholm 2009, Xianbao Deng 2013, Katriina Mouhu 2014, Elli Koskela 2016, Marja Rantanen 2017. Ongoing: Satu Ruokolainen, Anna Nukari, Tero Tommila, Yafei Zhao, Teng Zhang, Sergei Suprun

Supervision of Ph.Lic. theses: Sirkka Malkki 2007

Supervision of M.Sc. theses: Eija Pöllänen 2000, Juha Immanen 2005, Hanna Help 2006, Pirjo Varvikko 2006, Xianbao Deng 2007, Inka Juntheikki-Palovaara 2008, Juha Karvonen 2008, Katri Molarius 2008, Siri Taalas 2008, Song Gao 2010, Yanbo Liu 2011, Yao Zhang 2011, Tuomo Karhunen 2012, Minna Mäkelä 2012, Donald Juarez Gamez 2012, Krista Kauste 2012, Yafei Zhao 2013, Stiina Kotiranta 2014, Teng Zhang 2015, Rohan Shiradhonkar (ongoing), Xiaobo Cai (ongoing).

Follow-up groups (doctoral programs):

Tiina Blomster, Anssi Vuorela, Diana Tulea, Juha Immanen, Luis Morales, Hany ElSayed, Venla Jokela, Oswalt Jimenez, Sari Siipola, Gagan Eswaran, Iris Sevilem, Neha Rai, Layla Höckerstedt, Craig Brelford, Juha Karvonen, Susanna Simovaara

9. Merits in teaching and pedagogical competence

Teaching experience:

Lecturer in several bachelor and master level courses at the Department of Agricultural Sciences, 2002 - Teacher in practical courses of horticulture and crop science, 2002 –

Teacher in a field course in agricultural sciences, 2009 -

Responsible teacher for final literature examinations in horticulture, 2006 -

Responsible professor in plant biotechnology specialization line at the faculty, 2011 –

Supervisor for BSc theses in horticulture, 2006 -

Supervisor for BSc theses in plant biotechnology, 2011 -

Teacher at IP-Erasmus program "Potentials of using biodiversity for achieving a sustainable horticulture", 2012 Hannover, Germany; 2013 Zagreb, Croatia; 2014 Prague, Czech Republic

Course in university pedagogy (5 credits), 2003 -2004, University of Helsinki, Finland

Production of teaching materials:

Course handouts for several courses (5) in horticulture, crop science and plant biotechnology, 2002 - present

Book chapter (Genomes and plant breeding, in Finnish) in a book required as compulsory reading for students applying to the studies in Plant Production Sciences, Univ. of Helsinki

10. Other academic merits

PhD thesis evaluation:

Shahid Aslam Siddiqui 2007, Tiina Blomster 2012, Nina Lehtimäki 2014, Laura Zoratti 2015, Niina Idänheimo 2015

Opponent in PhD dissertations:

Paulo Pinho 2008 (Aalto University, Finland), Renate Müller 2011 (University of Copenhagen, Denmark), Sam van Es 2018 (Wageningen University, The Netherlands)

Evaluation of academic competence:

Title of Docent: Anna-Maria Mattila (Univ. of Oulu, 2004), Jussi Joensuu (Univ. of Helsinki, 2009), Laura Jaakola (Univ. of Oulu, 2010), Michael Wrzaczek (Univ. of Helsinki, 2010), Anthony Bishopp (Univ. of Helsinki, 2011), Ari Pekka Mähönen (Univ. of Helsinki, 2015)

Assessments for professor/university lecturer positions: Kungliga Tekniska Högskolan, Sweden (2006, plant molecular biology), Swedish University of Agricultural Sciences (2008, professor in horticulture; 2016 assistant professor in urban horticulture; 2016 senior lecturer in plant developmental biology; 2017 professor in horticultural production systems), University of Copenhagen (2011, KU, Faculty of Life Sciences; associate professor in quality and biology of ornamental plants and professorship in floriculture and translational plant science; 2016 professor in horticultural science and biotechnology), MTT Agrifood Research (2014, professor in horticulture)

Memberships in the assessment committees for university lecturer and professor positions at the Univ. of Helsinki: Univ. lecturers in horticulture and crop physiology (2006), professor in applied biochemistry and molecular biology (2008), professor in food safety (2009-2010), tenure track position in biophysics of plant metabolism (2010-2011), univ. lecturer in interactions between the forests and the atmosphere (2011), professor in interactions between the forests and the atmosphere (2011-2012), tenure track in molecular and translational plant science (2012), professor in interactions between the forests and the atmosphere (2016-2017)

Chair in the assessment committees at the Univ. of Helsinki: univ. lecturer in plant pathology (fungal diseases of arable, horticultural and wild plants, 2012)

Reviewer for grant applications: National Science Foundation (USA), Slovenian Research Agency, The Research Council of Norway, The technology foundation STW (The Netherlands), University of Helsinki (postdoctoral and three year research grants), The Netherlands Organisation for Scientific Research (NWO), Austrian Science Fund, BARD USA-Israel Bidirectional Agricultural Research and Developmental Fund, French National Research Agency ANR (France), The Swedish Research Council Formas (Sweden), German Academic Exchange Service (DAAD), Finnish Cultural Foundation

Editorial duties: Agricultural and Food Science, 2005-2007, 2008-2010 (editorial board member), Horticulture Research, 2017- (associate editor)

Referee in scientific journals: Archives of Biochemistry and Biophysics, Annals of Applied Biology, BMC Evolutionary Biology, BMC Genomics, BMC Plant Biology, Botany, Computational Biology and Chemistry, Frontiers in Plant Science, Gene, Genetica, Horticulture Research, Journal of Agricultural Science, Journal of Experimental Botany, Journal of Plant Physiology, Molecular Biology Reports, Molecular Plant Pathology, Nature Communications, Nature Plants, New Phytologist, Physiologia Plantarum, Planta, Plant Biology, Plant Direct, Plant Physiology and Biochemistry, Plant & Cell Physiology, Plant Physiology, Scientific Reports, TAG (Theoretical and Applied Genetics), Tree Genetics and Genomes

Membership in scientific societies: International Society of Horticultural Sciences (ISHS), Societas Genetica Fennica, Societas Biochemica, Biophysica et Microbiologica Fenniae (BIOBIO Society, Finland), Scientific Agricultural Society of Finland (Suomen Maataloustieteellinen seura), Scandinavian Plant Physiology Society (SPPS), European Society for Evolutionary Developmental Biology (EED), American Society of Plant Biologists (ASPB),

Invited lectures abroad: 6 presentations

Member in the organizing committees:

Member of the organizing committee, 10th Finnish Plant Science Days (13.-15.5.2013, Helsinki)

Member of the organizing committee, Maataloustieteiden päivät / Science Days of the Scientific Agricultural Society (2010, 2012, 2014, 2016, 2018)

Member of the organizing committee, VIPs/DPPS Autumn Symposium, Current Challenges in Plant Developmental Biology (10.-11.12.2018, Helsinki)

Administrative responsibilities:

The Nicaragua-Finland Agrobiotechnology Program (NIFAPRO), member of the supervisory board, steering committee and technical committee, 5.9.2007-31.12.2012

Board member of the Finnish Doctoral Programme in Plant Science, 2008 - 2013

Director of Viikki Plant Science Centre, 2014-2017, 2018-2021

Vice director of the Doctoral Programme in Plant Science (DPPS, Univ. of Helsinki), 2014-2017

Director of the Doctoral Programme in Plant Science (DPPS, Univ. of Helsinki), 2018-2021

Member of the directorate of Viikki Science Library, 2006.

Member of the advisory board of Viikki Campus Library, 2010 -.

Member of the faculty board, Faculty of Agric. and Forestry, Univ. of Helsinki, 2018-2021 (vice member 2014-2017).

Member of the Department Board, Department of Applied Biology, 2007-2009, 2014-2017.

Member of the committee for Research and Postgraduate Education, Faculty of Agric. and Forestry, Univ. of Helsinki, 2007-2010; vice member 2012-2014, 2014-2018.

Vice member of the advisory board for studies (opintoasiaintoimikunta), Faculty of Agric. and Forestry, Univ. of Helsinki, 2010-2014, 2014-2018.

Chairperson of the steering committee for major studies in Biology of Plant Production at the Faculty of Agric. and Forestry, Univ. of Helsinki, 2005-2011.

Chair of steering committee for major studies in Biotechnology, Faculty of Agric. and Forestry, Univ. of Helsinki, 2011-2013.

Vice member in the Helsinki University Collegium, 1.3.2010 – 28.2.2014, 1.3.2014 -28.2.2018

Chairperson in Viikki campus development group in plant biology (Viikki Plant Science Center), 2013

Helsinki University representative (vice member) at Finnish Plant Variety Board 1.11.2013-31.10.2016, 15.11.2016-15.11.2019

Board member in MSc Programmes in Agricultural Sciences and Plant Biology 1.1.2017-31.12.2020

11. Scientific and societal impact of research

Publication record: Peer reviewed, international journals: 48; Conference proceedings: 5; Books, book chapters and reviews: 11; Other: 12

Total number of citations (14.12.2018): 1887 (Web of Science), 3062 (Google Scholar)

H-index (14.12.2018): Web of Science 24, Google Scholar 30

Ten most important publications

Zhao Y, Pfannebecker K, Dommes AB, Hidalgo O, Becker A, **Elomaa P**: Evolutionary diversification of CYC/TB1-like TCP homologs and their recruitment for the control of branching and floral morphology in Papaveraceae (basal eudicots). *New Phytologist* 220, 317-331 (2018).

Zhang T, Zhao Y, Juntheikki I, Mouhu K, Broholm SK, Rijpkema AS, Kins L, Lan T, Albert VA, Teeri TH, **Elomaa P**: Dissecting functions of SEPALLATA-like MADS box genes in patterning of the pseudanthial inflorescence of *Gerbera hybrida*. *New Phytologist* (2017)

Zhao Y, Zhang T, Broholm SK, Tähtiharju S, Mouhu K, Albert VA, Teeri TH, **Elomaa P**: Evolutionary co-option of floral meristem identity genes for patterning of the flower-like Asteraceae inflorescence. *Plant Physiology* 172: 284-296 (2016)

Juntheikki-Palovaara I, Tähtiharju S, Lan T, Broholm SK, Rijpkema AS, Ruonala R, Kale L, Albert VA, Teeri TH, **Elomaa P**: Functional diversification of duplicated CYC2 clade genes in regulation of inflorescence development in *Gerbera hybrida* (Asteraceae). *The Plant Journal* 79: 783-796 (2014).

Koskela EA, Mouhu K, Albani MC, Kurokura T, Rantanen M, Sargent DJ, Battey NH, Coupland G, **Elomaa P**, Hytönen T: Mutation in TERMINAL FLOWER1 reverses the photoperiodic requirement for flowering in the wild strawberry, *Fragaria vesca*. *Plant Physiology* 159: 1043-1054 (2012).

Tähtiharju S, Rijpkema A, Broholm S, Teeri TH, Albert VA, **Elomaa P**: Evolution and diversification of the CYC/TB1 gene family in Asteraceae – a comparative study in gerbera (Mutisieae) and sunflower (Heliantheae). *Molecular Biology and Evolution* 29: 1155-1166 (2012).

Broholm SK, Tähtiharju S, Laitinen RAE, Albert VA, Teeri TH, **Elomaa P**: A TCP domain transcription factor controls flower type specification along the radial axis of the *Gerbera* (Asteraceae) inflorescence. *Proc. Natl. Acad. Sci. USA* 105: 9117-9122 (2008).

Laitinen RAE, Immanen J, Auvinen P, Rudd S, Alatalo E, Paulin L, Ainasoja M, Kotilainen M, Koskela S, Teeri TH, **Elomaa P**: Analysis of the floral transcriptome uncovers new regulators of organ determination and gene families related to flower organ differentiation in *Gerbera hybrida* (Asteraceae). *Genome Research* 15: 475-486 (2005).

Uimari A, Kotilainen M, **Elomaa P**, Yu D, Albert VA, Teeri TH: Integration of reproductive meristem fates by a SEPALLATA-like MADS box gene. *Proc. Natl. Acad. Sci. USA* 101: 15817-15822 (2004).

Elomaa P, Honkanen J, Puska R, Seppänen P, Helariutta Y, Mehto M, Kotilainen M, Nevalainen L, Teeri TH: *Agrobacterium*-mediated transfer of antisense chalcone synthase cDNA to *Gerbera hybrida* inhibits flower pigmentation. *Bio/Technology* 11:508-511 (1993).

Merits related to distribution of research results and data

Appr. 17 000 *Gerbera* EST sequences are publicly available in gene bank (Laitinen et al., 2005)