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Handledare för doktorandprogram, forskningskoordinator
Forskningsprogrammet för organism- och evolutionsbiologi
Plant Phenomics
Plant Production Sciences
Viikki Plant Science Centre (ViPS)
Doctoral Programme in Integrative Life Science
Doctoral Programme in Plant Sciences



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Anställning

forskningskoordinator

Forskningsprogrammet för organism- och evolutionsbiologi
Helsingfors universitet
Finland
1 jan. 2018 → present

Plant Phenomics

Helsingfors universitet
Finland
24 okt. 2011 → present

Plant Production Sciences

Helsingfors universitet
1 aug. 2011 → present

Viikki Plant Science Centre (ViPS)

Helsingfors universitet
1 jan. 2014 → present

Handledare för doktorandprogram

Doctoral Programme in Integrative Life Science
Helsingfors universitet
Finland
1 jan. 2021 → present

Handledare för doktorandprogram

Doctoral Programme in Plant Sciences
Helsingfors universitet
Helsinki, Finland
1 jan. 2014 → present

Forskningsoutput

Stepwise processing of *Chlorella sorokiniana* confers plant biostimulant that reduces mineral fertilizer requirements

Chovancek, E., Poque, S., Bayram, E., Borhan, E., Jokel, M., Rantanen, I. M., Haznedaroglu, B. Z., Himanen, K., Sirin, S. & Allahverdiyeva, Y., feb. 2025, I: Bioresource Technology. 418, 10 s., 131923.

The effect of ectomycorrhizal fungal exposure on nursery-raised *Pinus sylvestris* seedlings: plant transpiration under short-term drought, root morphology and plant biomass

de Quesada Alzamora, G. E., Xu, J., Salmon, Y., Lintunen, A., Poque, S., Himanen, K. & Heinonsalo, J., 3 apr. 2024, I: Tree Physiology. 44, 4, 13 s., tpae029.

The Combination of Low-Cost, Red-Green-Blue (RGB) Image Analysis and Machine Learning to Screen for Barley Plant Resistance to Net Blotch

Leiva, F., Dhakal, R., Himanen, K., Ortiz, R. & Chawade, A., apr. 2024, I: Plants. 13, 7, 12 s., 1039.

Ecological speciation in sympatric palms: 5. Evidence for pleiotropic speciation genes using gene knockout and high-throughput phenotyping

Coathup, M., Mouhu, K., Himanen, K., Turnbull, C. G. N. & Savolainen, V., 2024, I: Evolutionary Journal of the Linnean Society. 3, 1, 14 s.

Image-based time series analysis to establish differential disease progression for two *Fusarium* head blight pathogens in oat spikelets with variable resistance

Pavicic, M., Mouhu, K., Hautsalo, J., Jacobson, D., Jalli, M. & Himanen, K., 14 mars 2023, I: Frontiers in plant science. 14, 13 s.

Effects of poty-potexvirus synergism on growth, photosynthesis and metabolite status of *Nicotiana benthamiana*

Pollari, M., Sipari, N., Poque, S., Himanen, K. & Mäkinen, K., jan. 2023, I: Viruses (Basel). 15, 1, 24 s.

Tree architecture: A strigolactone-deficient mutant reveals a connection between branching order and auxin gradient along the tree stem

Su, C., Kokosza, A., Xie, X., Pěňčík, A., Zhang, Y., Raumonen, P., Shi, X., Muranen, S., Topcu, M. K., Immanen, J., Hagqvist, R., Safronov, O., Alonso-Serra, J., Eswaran, G., Venegas, M. P., Ljung, K., Ward, S., Mähönen, A. P., Himanen, K. & Salojärvi, J. och 6 andra, Fernie, A. R., Novák, O., Leyser, O., Pałubicki, W., Helariutta, Y. & Nieminen, K., 2023, I: Proceedings of the National Academy of Sciences of the United States of America. 120, 48, e2308587120.

Regulation of PaRBOH1-mediated ROS production in Norway spruce by Ca²⁺ binding and phosphorylation

Nickolov, K., Gauthier, A., Hashimoto, K., Laitinen, T., Väisänen, E., Paasela, T., Soliymani, R., Kurusu, T., Himanen, K., Blokhina, O., Fagerstedt, K., Jokipii-Lukkari, S., Tuominen, H., Haggman, H., Wingsle, G., Teeri, T. H., Kuchitsu, K. & Kärkönen, A., 13 okt. 2022, I: Frontiers in plant science. 13, 19 s., 978586.

Functional phenomics for improved climate resilience in Nordic agriculture

Himanen, K., Roitsch, T. G., Chawade, A., Jaakola, L., Nehe, A. & Alexandersson, E., 3 sep. 2022, I: Journal of Experimental Botany. 73, 15, s. 5111-5127 17 s.

Image-based methods to score fungal pathogen symptom progression and severity in excised *Arabidopsis* leaves

Pavicic, M., Overmyer, K., Rehman, A. U., Jones, P., Jacobson, D. & Himanen, K., jan. 2021, I: Plants (Basel). 10, 1, 14 s., 158.

Two chloroplast thioredoxin systems differentially modulate photosynthesis in *Arabidopsis* depending on light intensity and leaf age

Guinea Diaz, M., Nikkanen, L., Himanen, K., Toivola, J. & Rintamäki, E., nov. 2020, I: Plant Journal. 104, 3, 1365-1313X.

Korkean läpivirtauksen kasvien kuvantamislaitteisto National Plant Phenotyping Infrastructure (NaPPI)

Himanen, K., 8 jan. 2020.

Roles of endogenous glycinebetaine in plant abiotic stress responses

Mäkelä, P., Jokinen, K. & Himanen, K., 5 dec. 2019, *Osmoprotectant-mediated abiotic stress tolerance: Recent advances and future perspectives*. Hossain, M. A., Kumar, V., Burritt, D., Fujita, M. & Mäkelä, P. (red.). 1 red. Springer, s. 153-173

High throughput in vitro seed germination screen identified new ABA responsive RING-type ubiquitin E3 ligases in *Arabidopsis thaliana*

Pavicic, M., Wang, F., Mouhu, K. & Himanen, K., dec. 2019, I: *Plant Cell, Tissue and Organ Culture*. 139, 3, s. 563-575 13 s.

Histone 2B monoubiquitination complex integrates transcript elongation with RNA processing at circadian clock and flowering regulators

Woloszynska, M., Le Gall, S., Neyt, P., Boccardi, T. M., Grasser, M., Laengst, G., Aesaert, S., Coussens, G., Dhondt, S., Van De Slijke, E., Bruno, L., Fung-Uceda, J., Mas, P., Van Montagu, M., Inze, D., Himanen, K., De Jaeger, G., Grasser, K. D. & Van Lijsebettens, M., 16 apr. 2019, I: *Proceedings of the National Academy of Sciences of the United States of America*. 116, 16, s. 8060-8069 10 s.

Harnessing the versatile Ubiquitin signals to combat plant pathogens

Himanen, K., 2019.

A transnational and holistic breeding approach is needed for sustainable wheat production in the Baltic Sea region

Chawade, A., Armoniene, R., Berg, G., Brazauskas, G., Frostgard, G., Geleta, M., Gorash, A., Henriksson, T., Himanen, K., Ingver, A., Johansson, E., Jorgensen, L. N., Koppel, M., Koppel, R., Makela, P., Ortiz, R., Podyma, W., Roitsch, T., Ronis, A. & Svensson, J. T. och 2 andra, Vallenback, P. & Weih, M., dec. 2018, I: *Physiologia Plantarum*. 164, 4, s. 442-451 10 s.

Nordic research infrastructures for plant phenotyping

Alexandersson, E., Keinänen, M., Chawade, A. & Himanen, K., 2018, I: *Agricultural and Food Science*. 27, 1, s. 7-16 10 s.

Genome sequencing and population genomic analyses provide insights into the adaptive landscape of silver birch

Salojärvi, J., Smolander, O.-P., Nieminen, K., Rajaraman, S., Safronov, O., Safdari, P., Lamminmäki, A., Immanen, J., Lan, T., Tanskanen, J., Rastas, P., Amirousssefi, A., Jayaprakash, B., Kammonen, J. I., Hagqvist, R., Eswaran, G., Ahonen, V. H., Serra, J. A., Asiegbu, F. O. & Barajas-Lopez, J. D. D. och 65 andra, Blande, D., Blokhina, O., Blomster, T., Broholm, S., Brosche, M., Cui, F., Dardick, C., Ehonen, S. E., Elomaa, P., Escamez, S., Fagerstedt, K. V., Fujii, H., Gauthier, A., Gollan, P. J., Halimaa, P., Heino, P. I., Himanen, K., Hollender, C., Kangasjarvi, S., Kauppinen, L., Kelleher, C. T., Kontunen-Soppela, S., Koskinen, J. P., Kovalchuk, A., Karenlampi, S. O., Kärkönen, A. K., Lim, K.-J., Leppälä, J., Macpherson, L., Mikola, J., Mouhu, K., Mähönen, A. P., Niinemets, U., Oksanen, E., Overmyer, K., Palva, E. T., Pazouki, L., Pennanen, V., Puhakainen, T., Pocza, P., Possen, B. J. H. M., Punkkinen, M., Rahikainen, M. M., Rousi, M., Ruonala, R., van der Schoot, C., Shapiguzov, A., Sierla, M., Sipilä, T. P., Sutela, S., Teeri, T. H., Tervahauta, A. I., Vaattovaara, A., Vahala, J., Vetchinnikova, L., Welling, A., Wrzaczek, M., Xu, E., Paulin, L. G., Schulman, A. H., Lascoux, M., Albert, V. A., Auvinen, P., Helariutta, Y. & Kangasjarvi, J., 8 maj 2017, I: *Nature Genetics*. 49, 6, s. 904-912 12 s.

Genomic and phenomic screens for flower related RING type ubiquitin E3 ligases in *Arabidopsis*

Pavicic, M., Mouhu, K., Wang, F., Bilicka, M. M., Chovanček, E. & Himanen, K. I. H., 28 mars 2017, I: *Frontiers in plant science*. 8, 17 s., 416.

Haastattelututkimus molekyylibiotieteellisiltä aloilta valmistuneiden tohtoreiden kokemuksista koulutuksen ja työelämän vastaavuuksista.

Himanen, K. I. H., 2016, *Teaching in Life Sciences: Current practices and development*. Vol. 2. s. 33-51 19 s. (Teaching in Life Sciences: Current practices and development; vol. 2).

Didaktinen essee biotekniikan yliopisto-opetuksesta

Himanen, K. I. H., 22 dec. 2015, *Esseitä tieteenalakohtaisesta opetuksesta lukuvuosilta 2013-2015*. Lahtinen, A.-M. & Lindfors, B. (red.). Helsinki: Helsingin yliopisto, Yliopistopedagogiikan tutkimus- ja kehittämissyksikkö, s. 2-8 7 s.

Functional Analysis of the *Arabidopsis* TETRASPANIN Gene Family in Plant Growth and Development

Wang, F., Muto, A., Van de Velde, J., Neyt, P., Himanen, K., Vandepoele, K. & Van Lijsebettens, M., 2015, I: *Plant Physiology*.

Haastattelututkimus molekyylibiotieteellisiltä aloilta valmistuneiden tohtoreiden kokemuksista koulutuksen ja työelämän vastaavuuksista.

Himanen, K., 2015, I: Teaching in life sciences : current practices and development : reports from University pedagogy courses at Viikki Campus . 2, s. 33-51 19 s.

Kasvibiotekniikka täyttää tänä vuonna 30 vuotta (mutta ei juhli)

Himanen, K. & Pietiäinen, M. I., 9 jan. 2014, *maataloustieteen päivät*.

Histone H2B monoubiquitination is required to reach maximal transcript levels of circadian clock genes in Arabidopsis

Himanen, K., Woloszynska, M., Boccardi, T. M., Groeve, S. D., Nelissen, H., Bruno, L., Vuylsteke, M. & Lijsebettens, M. V., 2012, I: Plant Journal. 72, 2, s. 249-260 12 s.

Is HUB1 a hub for plant fitness?

Himanen, K., Boccardi, T. M., De Rycke, R., Odeny, O. P. & Van Lijsebettens, M., 2012, I: Plant Signalling & Behavior. 7, 12, s. 1537-1540 4 s.

Ectopic expression of PtaRHE1, encoding a poplar RING-H2 protein with E3 ligase activity, alters plant development and induces defence related response in tobacco

Bopopi, J. M., Vandeputte, O. M., Himanen, K., Mol, A., Vaessen, Q., El Jaziri, M. & Baucher, M., 2010, I: Journal of Experimental Botany. 61, s. 297-310

Plants having modified growth characteristics and a method for making the same

Himanen K., Boccardi TM., Reuzeau C., Van Lijsebettens, 2010, Patentnr wo/2010/012760

The transcript elongation factor FACT affects Arabidopsis vegetative and reproductive development and functionally interacts with HUB1/2.

Lolas, I. B., Himanen, K., Grønlund, J. T., Lynggaard, C., Houben, A., Melzer, M., Van Lijsebettens, M. & Grasser, K. D., 2010, I: Plant Journal. 61, 4, s. 686-697 12 s.

Overexpression of the Arabidopsis Anaphase Promoting Complex subunit CDC27a increases growth rate and organ size

Rojas, C. A., Eloy, N. B., de Freitas Lima, M., Rodrigues, R. L., Franco, L. O., Himanen, K., Beemster, G. T. S., Hemerly, A. S. & Ferreira, P. C. G., 2009, I: Plant Molecular Biology. 71

Genetic and epigenetic control of leaf size and shape

Himanen, K., Dino Adem, G. & Van Lijsebettens, M., 2007, I: International journal of plant developmental biology.

Impact of core histone modifications on transcriptional regulation and plant growth

Nelissen, H., Boccardi, T. M., Himanen, K. & Van Lijsebettens, M., 2007, I: Critical Reviews in Plant Sciences. 26, s. 243-263

Novel Plant-specific cyclin-dependent kinase inhibitors induced by biotic and abiotic stresses

Peres, A., Churchman, M. L., Hariharan, S., Himanen, K., Verkest, A., Vandepoele, K., Magyar, Z., Hatzfeld, Y., Van Der Schueren, E., Beemster, G. T. S., Frankard, V., Larkin, J. C., Inze, D. & De Veylder, L., 2007, I: Journal of Biological Chemistry. 282, 35, s. 25588-96 10 s.

The Arabidopsis thaliana homolog of yeast BRE1 has a function in cell cycle regulation during early leaf and root growth.

Fleury, D., Himanen, K., Cnops, G., Nelissen, H., Boccardi, T. M., Maere, S., Beemster, G. T. S., Neyt, P., Anami, S., Robles, P., Micol, J. L., Inze, D. & Van Lijsebettens, M., 2007, I: Plant Cell.

Auxin regulation of cell cycle and its role during lateral root initiation.

Vanneste S., Maes L., De Smet I., Himanen K., Naudts M., Inzé D., Beeckman T. , 2005, I: Physiologia Plantarum.

Transcript profiling of early lateral root initiation.

Himanen K., Vuylsteke M., Vanneste S., Vercruysse S., Boucheron E., Alard P., Chriqui D., Van Montagu M., Inzé D., Beeckman T., 2004, I: Proceedings of the National Academy of Sciences of the United States of America. 6

The Arabidopsis locus RCB mediates upstream regulation of mitotic gene expression.

Himanen K., Reuzeau C., Beeckman T., Melzer S., Gorben L. and Inzé D. , 2003, I: Plant Physiology. 133, s. 1862-1872

Auxin-mediated cell cycle regulation during early lateral root development

Himanen K., Boucheron E., Vanneste S., De Almeida Engler J., Inzé D. and Beeckman T., 2002, I: Plant Cell. 14, s. 2339-51

Expression of cell cycle regulatory genes and morphological alterations in response to salt stress in Arabidopsis thaliana

Burssens S., Himanen K., Van De Cotte B., Beeckman T., Van Montagu M., Inzé D. & Verbruggen N. , 2000, I: Planta.

Projekt**FusNaPPI: Automated imaging for Oat breeding for Fusarium resistance**

Himanen, K. (Deltagare) & Pavicic, M. (Deltagare)

BalticWheat: Baltic Wheat Network Swedish Institute

Himanen, K. (Deltagare), Chawade, A. (Projektledare), Brazauskas, G. (Deltagare) & Koppel, M. (Deltagare)
01/10/2017 → ...

Constitutive Photomorphogenesis1 target protein characterization

Himanen, K. (Projektledare)
01/08/2011 → ...

EMPHASIS: EMPHASIS

Himanen, K. (Annan) & Keinänen, M. (Annan)
01/03/2017 → ...

EMPHASIS: ESFRI

Himanen, K. (Annan)
01/11/2017 → ...

EPPN2020: European Plant Phenotyping Network2020

Himanen, K. (Deltagare)
01/05/2017 → ...

Functional characterization of AIP2 ubiquitin E3 ligase in plant pathogen interactions

Pavicic, M. (Projektledare) & Himanen, K. (Principal Investigator)
01/10/2013 → 30/09/2017

Genokaura - genomic selection for Fusarium head blight resistant oat cultivars/ genomivalinnalla puhahomeen kestäviä kauralajikkeita

Himanen, K. (Deltagare), Mouhu, K. (Projektledare), Hautsalo, J. (Deltagare) & Jalli, M. (Projektledare)

Grain Legume WG

Himanen, K. (Projektledare)
Nordgen Nordiskt Genresurscenter
01/09/2024 → 31/12/2024

Identification and functional characterization of Flower specific Ubiquitin Proteasome System.

Himanen, K. (Projektledare)

01/09/2011 → 31/08/2016

Della: Image-based phenotyping of dwarfing Bzh spring turnip rape

Niemelä, T. (Projektledare), Pavicic, M. (Deltagare) & Himanen, K. (Projektledare)

IPPN: International Plant Phenotyping Network

Himanen, K. (Deltagare)

01/03/2016 → ...

Kuantamistekn. ratkaisuja kasvihuonetuo

Himanen, K. (Projektledare), Del Cioppo, G. (deltagare), Din, G. N. U. (deltagare) & Poque, S. (deltagare)

Luonnonvarakeskus Sisäiset palvelut

01/01/2023 → 31/03/2026

NaPPI: NaPPI-Kansallinen Kasvi Fenotyyppaus Infrastruktuuri

Palva, E. T. (Deltagare), Asiegbu, F. (Deltagare), Elomaa, P. (Deltagare), Fagerstedt, K. (Projektledare), Helariutta, Y. (Deltagare), Himanen, K. (Principal Investigator), Hytönen, T. (Deltagare), Kangasjärvi, J. (Deltagare), Mäkelä, P. (Deltagare), Schulman, A. (Deltagare), Sims-Huopaniemi, K. (Deltagare), Stoddard, F. (Deltagare), Teeri, T. (Deltagare), Valkonen, J. (Deltagare), Oksanen, E. (Deltagare), Keinänen, M. (Deltagare), Dumont, J. (Deltagare), Hauta-Kasari, M. (Deltagare), Hiltunen, J. (Deltagare), Karjalainen, P. (Deltagare), Aro, E.-M. (Deltagare) & Häggman, H. (Deltagare)

Unknown funder

01/12/2013 → ...

New omics biomarkers for disease resistant and drought tolerant potatoes

Himanen, K. (Deltagare), Mouhu, K. (Projektledare) & Alexandersson, E. (Projektledare)

NJK Resilient northern crops network

Himanen, K. (Deltagare)

01/06/2020 → 31/12/2022

NordPlant: NordForsk University Hub

Himanen, K. (Projektledare), Alexandersson, E. (Projektledare), Chawade, A. (Deltagare), Jaakola, L. (Deltagare) & Christensen, S. (Deltagare)

01/02/2018 → 31/01/2024

Nordforsk/ Upscaling crop performance

Himanen, K. (Projektledare), AL-Ogaidi, S. S. S. (deltagare), Del Cioppo, G. (deltagare), Din, G. N. U. (deltagare) & Poque, S. (deltagare)

NordForsk

01/01/2023 → 31/12/2026

NordPlant – A Climate and Plant Phenomics Hub for Sustainable Agriculture and Forest Production in Future Nordic Climates

Alexandersson, E. (Projektledare), Himanen, K. (Deltagare), Roitsch, T. G. (Deltagare) & Jaakola, L. (Deltagare)

ViPS: Viikki Plant Science Centre

Elomaa, P. (Projektledare), Aphalo, P. (Principal Investigator), Asiegbu, F. (Principal Investigator), Bäck, J. (Principal Investigator), Berninger, F. (Principal Investigator), Brosche, M. (Principal Investigator), Fagerstedt, K. (Principal Investigator), Hänninen, H. (Principal Investigator), Heinonsalo, J. (Principal Investigator), Helariutta, Y. (Principal Investigator), Himanen, K. (Principal Investigator), Hölttä, T. (Principal Investigator), Hytönen, T. (Principal Investigator), Hyvönen, J. (Principal Investigator), Kangasjärvi, J. (Principal Investigator), Kärkönen, A. (Principal Investigator), Korpelainen, H. (Principal Investigator), Laine, A.-L. (Principal Investigator), Mähönen, A. P. (Principal Investigator), Mäkelä, A. (Principal Investigator), Mäkinen, K. (Principal Investigator), Ojala, A. (Principal Investigator), Overmyer, K. (Principal Investigator), Palonen, P. (Principal Investigator), Palva, E. T. (Principal Investigator), Pihlatie, M. (Principal Investigator), Pirhonen, M. (Principal Investigator), Porcar-Castell, A. (Principal Investigator), Pumpanen, J. (Principal Investigator), Rikkinen, J. (Principal Investigator), Robson, T. M. (Principal Investigator), Salojärvi, J. (Principal Investigator), Schulman, A. (Principal Investigator), Stoddard, F. (Principal Investigator), Teeri, T. (Principal Investigator), Valkonen, J. (Principal Investigator), Vesala, T. (Principal Investigator), Wrzaczek, M. (Principal Investigator) & Sims-

Huopaniemi, K. (Annan)
01/01/2015 → ...