

Melanie Ganz-Benjaminsen
Gæsteforsker
Datalogisk Institut
Postadresse:
Universitetsparken 5, 2100 København Ø
E-mail: Ganz@di.ku.dk
Web: <http://image.diku.dk/ganz/>



Kort præsentation

Jeg er forsker hos Neurobiologisk Forskningsenhed på Rigshospitalet, København, og har siden 1. september 2021 en stilling som lektor på Datalogisk Institut ved Københavns Universitet.

Mine forskningsinteresser inkluderer anvendelsen af billede processering og maskin læring på problemer indenfor medicinsk billede analyse.

Min NRU webpage: <https://nru.dk/index.php/staff-list/post-docs/62-melanie-ganz-benjaminsen>

Min personlige webpage: <https://sites.google.com/view/melanieganz/home>

Kvalifikationer

Medical Image Analysis, PhD Computer Science, University of Copenhagen

1 mar. 2008 → 27 maj 2011

Dimissionsdato: 27 maj 2011

Physics, Master of Science, Karlsruhe Institute of Technology

okt. 2002 → 21 sep. 2007

Dimissionsdato: 21 sep. 2007

Ansættelse

Postdoc

Datalogisk Institut

Københavns Universitet

København Ø, Danmark

1 nov. 2011 → 31 okt. 2013

Adjunkt

Datalogisk Institut

Københavns Universitet

København Ø, Danmark

9 nov. 2017 → 23 sep. 2020

Adjunkt

Image Analysis, Computational Modelling and Geometry

Københavns Universitet

København Ø

9 nov. 2017 → 1 okt. 2020

Adjunkt

Machine Learning

Københavns Universitet

København Ø

9 nov. 2017 → 14 sep. 2022

Researcher

Copenhagen University Hospital - Rigshospitalet

København, Danmark

1 maj 2017 → nu

Postdoctoral Fellow

Copenhagen University Hospital - Rigshospitalet
København, Danmark
1 jan. 2014 → 30 apr. 2017

Postdoctoral Research Fellow

Harvard Medical School
Boston, USA
1 nov. 2011 → 31 okt. 2013

Research and Development intern

Medicsight PLC
London, Storbritannien
1 maj 2011 → 1 sep. 2011

Publikationer

Centering inclusivity in the design of online conferences-An OHBM-Open Science perspective

Levitis, E., van Praag, C. D. G., Gau, R., Heunis, S., DuPre, E., Kiar, G., Bottenhorn, K. L., Glatard, T., Nikolaidis, A., Whitaker, K. J., Mancini, M., Niso, G., Afyouni, S., Alonso-Ortiz, E., Appelhoff, S., Arnatkeviciute, A., Atay, S. M., Auer, T., Baracchini, G., Bayer, J. M. M., Beauvais, M. J. S., Bijsterbosch, J. D., Bilgin, I. P., Bollmann, S., Bollmann, S., Botvinik-Nezer, R., Bright, M. G., Calhoun, V. D., Chen, X., Chopra, S., Chuan-Peng, H., Close, T. G., Cookson, S. L., Craddock, R. C., De La Vega, A., De Leener, B., Demeter, D. V., Di Maio, P., Dickie, E. W., Eickhoff, S. B., Esteban, O., Finc, K., Frigo, M., Ganesan, S., Ganz, Melanie, Garner, K. G., Garza-Villarreal, E. A., Gonzalez-Escamilla, G., Goswami, R., Griffiths, J. D., Grootswagers, T., Guay, S., Guest, O., Handwerker, D. A., Herholz, P., Heuer, K., Huijser, D. C., Iacovella, V., Joseph, M. J. E., Karakuzu, A., Keator, D. B., Kobeleva, X., Kumar, M., Laird, A. R., Larson-Prior, L. J., Lautarescu, A., Lazari, A., Legarreta, J. H., Lv, J., Mansour, L. S., Meunier, D., Moraczewski, D., Nandi, T., Nastase, S. A., Nau, M., Noble, S., Norgaard, M., Obungoloch, J., Oostenveld, R., Orchard, E. R., Pinho, A. L., Poldrack, R. A., Qiu, A., Raamana, P. R., Rokem, A., Rutherford, S., Sharan, M., Shaw, T. B., Syeda, W. T., Testerman, M. M., Toro, R., Valk, S. L., Van Den Bossche, S., Varoquaux, G., Váša, F., Veldsman, M., Vohryzek, J., Wagner, A. S., Walsh, R. J., White, T., Wong, F., Xie, X., Yan, C., Yang, Y., Yee, Y., Zanitti, G. E., Van Gulick, A. E., Duff, E. & Maumet, C., 20 aug. 2021, I: GigaScience. 10, 8

Pretreatment qEEG biomarkers for predicting pharmacological treatment outcome in major depressive disorder: Independent validation from the NeuroPharm study

Ip, C. T., Olbrich, S., Ganz, Melanie, Ozenne, Brice Maxime Hugues, Köhler-Forsberg, K., Dam, V. H., Beniczky, S., Jørgensen, Martin Balslev, Frøkjær, Vibe Gedsø, Søgaard, B., Christensen, S. R. & Knudsen, Gitte Moos, aug. 2021, I: European Neuropsychopharmacology. 49, s. 101-112 12 s.

False positive rates in positron emission tomography (PET) voxelwise analyses

Ganz, Melanie, Nørgaard, M., Beliveau, V., Svarer, C., Knudsen, Gitte Moos & Greve, D. N., 1 jul. 2021, I: Journal of Cerebral Blood Flow and Metabolism. 41, 7, s. 1647-1657 11 s.

A high-resolution in vivo atlas of the human brain's benzodiazepine binding site of GABA_A receptors

Nørgaard, M., Beliveau, V., Ganz, Melanie, Svarer, C., Pinborg, Lars Hageman, Keller, S. H., Jensen, P. S., Greve, D. N. & Knudsen, Gitte Moos, 2021, I: NeuroImage. 232, 9 s., 117878.

NeuroPharm study: EEG wakefulness regulation as a biomarker in MDD

Ip, C. T., Ganz, Melanie, Dam, V. H., Ozenne, Brice Maxime Hugues, Rüesch, A., Köhler-Forsberg, K., Jørgensen, Martin Balslev, Frøkjær, Vibe Gedsø, Søgaard, B., Christensen, S. R., Knudsen, Gitte Moos & Olbrich, S., 2021, I: Journal of Psychiatric Research. 141, s. 57-65 9 s.

Reward processing in major depressive disorder and prediction of treatment response – Neuropharm study

Brandt, Ida Marie, Köhler-Forsberg, K., Ganz, Melanie, Ozenne, Brice Maxime Hugues, Jørgensen, Martin Balslev, Poulsen, A., Knudsen, Gitte Moos, Frøkjær, Vibe Gedsø & Fisher, P. M., 2021, I: European Neuropsychopharmacology. 44, s. 23-33 11 s.

Kan kunstig intelligens give fair forudsigelser?

Holm, Sune Hannibal, Ganz, Melanie & Feragen, Aasa, 29 nov. 2020, Videnskab.dk, ForskerZonen.

Algoritmer kopierer lægers fordomme om race og køn

Ganz, Melanie, Holm, Sune Hannibal & Feragen, Aasa, 4 jun. 2020, I: Dagbladet Politiken. s. 9 (sektion 2) 1 s.

Different preprocessing strategies lead to different conclusions: A [¹¹C]DASB-PET reproducibility study

Nørgaard, M., Ganz, Melanie, Svarer, C., Frokjaer, V. G., Greve, D. N., Strother, S. C. & Knudsen, Gitte Moos, 2020, I: Journal of Cerebral Blood Flow and Metabolism. 40, 9, s. 1902-191 10 s.

Guidelines for the content and format of PET brain data in publications and archives: A consensus paper

Knudsen, Gitte Moos, Ganz, Melanie, Appelhoff, S., Boellaard, R., Bormans, G., Carson, R. E., Catana, C., Doudet, D., Gee, A. D., Greve, D. N., Gunn, R. N., Halldin, C., Herscovitch, P., Huang, H., Keller, S. H., Lammertsma, A. A., Lanzenberger, R., Liow, J., Lohith, T. G., Lubberink, M., Lyoo, C. H., Mann, J. J., Matheson, G. J., Nichols, T. E., Nørgaard, M., Ogden, T., Parsey, R., Pike, V. W., Price, J., Rizzo, G., Rosa-Neto, P., Schain, M., Scott, P. J., Searle, G., Slifstein, M., Suhara, T., Talbot, P. S., Thomas, A., Veronese, M., Wong, D. F., Yaqub, M., Zanderigo, F., Zoghbi, S. & Innis, R. B., 2020, I: Journal of Cerebral Blood Flow and Metabolism. 40, 8, s. 1576-1585

Hippocampal volume changes are linked to depressive symptoms independent of sex-steroid hormone manipulation: a pharmacological structural MRI study

Larsen, C. B., Ganz, Melanie, Henningsson, S., Pinborg, Anja & Frøkjær, Vibe Gedso, 2020, I: European Neuropsychopharmacology. 40, Suppl. 1, s. S159-S160 2 s.

Predicting Treatment Outcome in Major Depressive Disorder Using Serotonin 4 Receptor PET Brain Imaging, Functional MRI, Cognitive-, EEG-Based, and Peripheral Biomarkers: A NeuroPharm Open Label Clinical Trial Protocol

Köhler-Forsberg, K., Jørgensen, Anders, Dam, V. H., Stenbæk, Dea Siggaard, Fisher, P. M., Ip, C. T., Ganz, Melanie, Poulsen, Henrik Enghusen, Giraldi, Annamaria Giovanna Elena, Ozenne, Brice Maxime Hugues, Jørgensen, Martin Balslev, Knudsen, Gitte Moos & Frøkjær, Vibe Gedso, 2020, I: Frontiers in Psychiatry. 11, 15 s., 641.

The structure of the serotonin system: A PET imaging study

Beliveau, V., Ozenne, Brice Maxime Hugues, Strother, S., Greve, D. N., Svarer, C., Knudsen, Gitte Moos & Ganz, Melanie, 2020, I: NeuroImage. 205, 116240.

Cerebral serotonin transporter measurements with [¹¹C]DASB: A review on acquisition and preprocessing across 21 PET centres

Nørgaard, M., Ganz, Melanie, Svarer, C., Feng, L., Ichise, M., Lanzenberger, R., Lubberink, M., Parsey, R. V., Politis, M., Rabiner, E. A., Slifstein, M., Sossi, V., Suhara, T., Talbot, P. S., Turkheimer, F., Strother, S. C. & Knudsen, Gitte Moos, 2019, I: Journal of Cerebral Blood Flow and Metabolism. 39, 2, s. 210-222 13 s.

Multi-view Consensus CNN for 3D Facial Landmark Placement

Paulsen, R. R., Juhl, K. A., Haspang, T. M., Hansen, T., Ganz, Melanie & Einarsson, G., 2019, *Computer Vision – ACCV 2018: 14th Asian Conference on Computer Vision, Perth, Australia, December 2–6, 2018, Revised Selected Papers, Part I*. Springer, s. 706-719 (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), Bind 11361 LNCS).

Optimization of preprocessing strategies in Positron Emission Tomography (PET) neuroimaging: A [¹¹C]DASB PET study

Nørgaard, M., Ganz, Melanie, Svarer, C., Frokjaer, V. G., Greve, D. N., Strother, S. C. & Knudsen, Gitte Moos, 2019, I: NeuroImage. 199, s. 466-479 14 s.

Preprocessing, Prediction and Significance: Framework and Application to Brain Imaging

Nørgaard, M., Ozenne, Brice Maxime Hugues, Svarer, C., Frokjaer, V. G., Schain, M., Strother, S. C. & Ganz, Melanie, 2019, *Medical Image Computing and Computer Assisted Intervention – MICCAI 2019: 22nd International Conference, Shenzhen, China, October 13–17, 2019, Proceedings, Part IV*. Shen, D., Liu, T., Peters, T. M., Staib, L. H., Essert, C. & Zhou, S. (red.). Springer, Bind 11764. s. 196-204 9 s. (Lecture Notes in Computer Science, Bind 11767).

The structure of the serotonin system: a PET imaging study

Beliveau, V., Ozenne, Brice Maxime Hugues, Strother, S., Greve, D. N., Svarer, C., Knudsen, Gitte Moos & Ganz, Melanie, 2019, I: *Journal of Cerebral Blood Flow and Metabolism*. 39, s. 614-615 2 s.

Pre-intervention test-retest reliability of EEG and ERP over four recording intervals

Ip, C., Ganz, Melanie, Ozenne, Brice Maxime Hugues, Sluth, L. B., Gram, M., Viardot, G., l'Hostis, P., Danjou, P., Knudsen, Gitte Moos & Christensen, S. R., 1 dec. 2018, I: *International Journal of Psychophysiology*. 134, s. 30-43

Comparing fully automated state-of-the-art cerebellum parcellation from magnetic resonance images

Carass, A., Cuzzocreo, J. L., Han, S., Hernandez-Castillo, C. R., Rasser, P. E., Ganz, Melanie, Beliveau, V., Dolz, J., Ben Ayed, I., Desrosiers, C., Thyreau, B., Romero, J. E., Coupé, P., Manjón, J. V., Fonov, V. S., Collins, D. L., Ying, S. H., Onyike, C. U., Crocetti, D., Landman, B. A., Mostofsky, S. H., Thompson, P. M. & Prince, J. L., 2018, I: *NeuroImage*. 183, s. 150-172 23 s.

The Impact of Preprocessing Pipeline Choice in Univariate and Multivariate Analyses of PET Data

Nørgaard, M., Greve, D. N., Svarer, C., Strother, S. C., Knudsen, Gitte Moos & Ganz, Melanie, 2018, *2018 International Workshop on Pattern Recognition in Neuroimaging, PRNI 2018*. IEEE, 4 s. 8423962

Brain Networks Implicated in Seasonal Affective Disorder: A Neuroimaging PET Study of the Serotonin Transporter

Nørgaard, M. A., Ganz, Melanie, Svarer, C., Fisher, P. M., Churchill, N. W., Beliveau, V., Grady, C. L., Strother, S. C. & Knudsen, Gitte Moos, 3 nov. 2017, I: *Frontiers in Neuroscience*. 11, 614

Cerebellar heterogeneity and its impact on PET data quantification of 5-HT receptor radioligands

Ganz, Melanie, Feng, L., Hansen, H. D., Beliveau, V., Svarer, C. & Knudsen, Gitte Moos, sep. 2017, I: *Journal of Cerebral Blood Flow and Metabolism*. 37, 9

Permutation tests for classification: Revisited

Ganz, Melanie & Konukoglu, E., 14 jul. 2017, *2017 International Workshop on Pattern Recognition in Neuroimaging, PRNI 2017*. Institute of Electrical and Electronics Engineers Inc.

A High-Resolution *In Vivo* Atlas of the Human Brain's Serotonin System

Beliveau, V., Ganz, Melanie, Feng, L., Ozenne, Brice Maxime Hugues, Højgaard, Liselotte, Fisher, P. M., Svarer, C., Greve, D. N. & Knudsen, Gitte Moos, 4 jan. 2017, I: *The Journal of Neuroscience*. 37, 1, s. 120-128 9 s.

Crowdsourcing for error detection in cortical surface delineations

Ganz, Melanie, Kondermann, D., Andrulis, J., Knudsen, Gitte Moos & Maier-Hein, L., jan. 2017, I: *International Journal of Computer Assisted Radiology and Surgery*. 12, 1, s. 161-166

BASELINE RELIABILITY OF EEG AND ERP IN A FOUR-WAY CROSSOVER STUDY IN HEALTHY SUBJECTS

Ip, C., Ganz, Melanie, Ozenne, Brice Maxime Hugues, Sluth, L., Gram, M., Viardot, G., l'Hostis, P., Danjou, P., Knudsen, G. & Christensen, S., 2017, s. S59. 1 s.

Brain Networks involved in Seasonal Affective Disorder: A Neuroimaging PET Study of 5-HTT Expression

Nørgaard, M. A., Svarer, C., Ganz, Melanie, McMahon, B., Fisher, P. M., Churchill, N. W., Beliveau, V., Grady, C. L., Strother, S. C. & Knudsen, Gitte Moos, 2017.

Permutations Tests for Binary Classification: Revisited

Ganz, Melanie & Konukoglu, E., 2017, (Accepted/In press) *Proceedings of the 2017 International Workshop on Pattern Recognition in Neuroimaging (PRNI)*.

Vermis - to exclude or not exclude? Defining a proper reference region for PET modelling of the serotonin system

Ganz, Melanie, Hansen, H. D., Beliveau, V., Feng, L., Svarer, C. & Knudsen, Gitte Moos, 28 jun. 2015.

High-resolution surface and volume-based *in vivo* atlas of the serotonin system in the healthy brain

Beliveau, V., Ganz, Melanie, Svarer, C., Knudsen, Gitte Moos & Greve, D. N., 18 jun. 2015.

Estimation of Regional Seasonal Variations in SERT-levels using the FreeSurfer PET pipeline: a reproducibility study
Nørgaard, M., Ganz, Melanie, Svarer, C., Beliveau, V., Fisher, P. M. D., McMahon, B., Greve, D. N., Strother, S. C. & Knudsen, Gitte Moos, 2015, *Proceedings of the MICCAI workshop on Computational Methods for Molecular Imaging 2015*.

Relevant feature set estimation with a knock-out strategy and random forests
Ganz, Melanie, Greve, D. N., Fischl, B. & Konukoglu, E., 2015, *NeuroImage*. 122

Serotonin 2A receptor agonist binding in the human brain with [11C]Cimbi-36: test-retest reproducibility and comparison with [18F]altanserin
Ettrup, A., Svarer, C., McMahon, B., da Cunha-Bang, S., Lehel, S., Møller, K., Dyssegaard, A., Ganz, Melanie, Beliveau, V., Jørgensen, L. M., Gillings, N. & Knudsen, Gitte Moos, 2015.

Approximate false positive rate control in selection frequency for random forest
Konukoglu, E. & Ganz, Melanie, 2014, *arXiv.org*.

An improved optimization method for the relevance voxel machine
Ganz, Melanie, Sabuncu, M. R. & Van Leemput, K., 2013, *Machine Learning in Medical Imaging: 4th International Workshop, MLMI 2013, Held in Conjunction with MICCAI 2013, Nagoya, Japan, September 22, 2013. Proceedings*. Wu, G., Zhang, D., Shen, D., Yan, P., Suzuki, K. & Wang, F. (red.). Springer, s. 147-154 8 s. (Lecture notes in computer science, Bind 8184).

On feature relevance in image-based prediction models: an empirical study
Konukoglu, E., Ganz, Melanie, Van Leemput, K. & Sabuncu, M. R., 2013, *Machine Learning in Medical Imaging: 4th International Workshop, MLMI 2013, Held in Conjunction with MICCAI 2013, Nagoya, Japan, September 22, 2013. Proceedings*. Wu, G., Zhang, D., Shen, D., Yan, P., Suzuki, K. & Wang, F. (red.). Springer Publishing Company, s. 171-178 8 s. (Lecture notes in computer science, Bind 8184).

The improved relevance voxel machine
Ganz, Melanie, Sabuncu, M. & Leemput, K. V., 2013, Technical University of Denmark. 19 s. (DTU Compute Technical Report, Bind 2013-10).

Automatic Segmentation of Polyps in Colonoscopic Narrow-Band Imaging Data
Ganz, Melanie, Yang, X. & Slabaugh, G., aug. 2012, *IEEE Transactions on Biomedical Engineering*. 59, 8, s. 2144 - 2151

A Bayesian framework for automated cardiovascular risk scoring on standard lumbar radiographs
Petersen, P. K., Ganz, Melanie, Mysling, P., Nielsen, Mads, Erleben, L. L., Crimi, A. & Brandt, S. S., 2012, *IEEE Transactions on Medical Imaging*. 31, 3, s. 663-676 14 s.

Distribution, size, and shape of abdominal aortic calcified deposits and their relationship to mortality in postmenopausal women
Ganz, Melanie, de Bruijne, Marleen, Dam, E. B., Pettersen, P., Karsdal, M. A., Christiansen, C. & Nielsen, Mads, 2012, *International Journal of Biomedical Imaging*. 2012, 8 s., 459286.

Abdominal aortic calcification quantified by the Morphological Atherosclerotic Calcification Distribution (MACD) index is associated with features of the metabolic syndrome
Barascuk, N., Ganz, Melanie, Nielsen, Mads, Register, T. C., Rasmussen, L. M., A. Karsdal, M. & Christiansen, C., 2011, *BMC Cardiovascular Disorders*. 11, 9 s., 11.

Automated Detection and Analysis of Calcified Deposits and Their Relation to Cardiovascular Diseases
Ganz, Melanie, 2011

Distribution, size, and shape of abdominal aortic calcified deposits and their relationship to mortality in postmenopausal women

Nielsen, Mads, Ganz, Melanie, de Bruijne, Marleen, Dam, E., Karsdal, M. & Christiansen, C., 2011. 1 s.

Distribution, size, shape, growth potential and extent of abdominal aortic calcified deposits predict mortality in postmenopausal women

Nielsen, Mads, Ganz, Melanie, Lauze, Francois Bernard, Pettersen, P. C., de Bruijne, Marleen, Clarkson, T. B., Dam, E. B., Christiansen, C. & Karsdal, M. A., 2010, I: BMC Cardiovascular Disorders. 10, 10 s., 56.

Growth patterns of abdominal atherosclerotic calcified deposits from lumbar lateral X-rays

Erleben, L. L., Ganz, Melanie, Barascuk, N., Dam, E. B. & Nielsen, Mads, 2010, I: International Journal of Cardiovascular Imaging. 26, 7, s. 751-761 11 s.

MACD - an imaging marker for cardiovascular disease

Ganz, Melanie, de Bruijne, Marleen & Nielsen, Mads, 2010, *Medical Imaging 2010: computer-aided diagnosis*. Karssemeijer, N. & Summers, R. M. (red.). SPIE - International Society for Optical Engineering, 9 s. 76240

Patch-based generative shape model and MDL model selection for statistical analysis of archipelagos

Ganz, Melanie, Nielsen, Mads & Brandt, S., 2010, *Machine Learning in Medical Imaging: First International Workshop, MLMI 2010, Held in Conjunction with MICCAI 2010, Beijing, China, September 20, 2010. Proceedings*. Wang, F., Yan, P., Suzuki, K. & Shen, D. (red.). Springer, s. 34-41 8 s. (Lecture notes in computer science, Bind 6357).

BMD PREDICTION OF DEATH IS ENCAPSULATED BY THE MORPHOLOGICAL ATHEROSCLEROSIS CALCIFICATION DISTRIBUTION (MACD) INDEX

Ganz, Melanie, Nielsen, Mads, Karsdal, M. & Christiansen, C., 2009, I: Bone. suppl. 2, s. S265 1 s.

Dense Iterative Contextual Pixel Classification using Kriging

Ganz, Melanie, Loog, M., Brandt, S. & Nielsen, Mads, 2009, *IEEE Computer Society Conference on Computer Vision and Pattern Recognition Workshops, 2009. CVPR Workshops 2009*. . s. 87-93 7 s.

Growth analysis of individual abdominal atherosclerotic calcified deposits

Larsen, L. L., Ganz, Melanie & Nielsen, Mads, 2009. 1 s.

Automated Quantification of the Morphological Atherosclerotic Calcification Distribution on X-Rays Is a Strong Predictor of Mortality in Postmenopausal Women

Christiansen, C., Karsdal, M., Lauze, Francois Bernard, Dam, E., Ganz, Melanie, de Bruijne, Marleen, Sørensen, M., Barascuk, N. & Nielsen, Mads, 2008, I: Arteriosclerosis, Thrombosis, and Vascular Biology. 6, s. e48-e48 1 s.

Growth Pattern of Atherosclerotic Calcifications

Larsen, L. L., Ganz, Melanie, Dam, E., Dandu, N. & Nielsen, Mads, 2008, *CVII '08: Second International Workshop on Computer vision for intracardiac and intravascular imaging, held in New York, USA, September 10, 2008 in conjunction with the 11th MICCAI conference*. Sabancı Üniversitesi. 34956 Tuzla, Istanbul, s. 63-70

Morphological Atherosclerosis Calcification Distribution (MACD) Index is a Strong Predictor of Cardio-Vascular Death and Include Predictive Power of BMD

Christiansen, C., Karsdal, M., Ganz, Melanie, Dam, E. & Nielsen, Mads, 2008. 1 s.

Superior assessment of CVD death by MACD index compared with the framingham score is highly associated with predisposition to diabetes

Soltyskiska, E., Barascuk, N., Ganz, Melanie, Nielsen, Mads, Karsdal, M. & Christiansen, C., 2008. 1 s.