WOUTER A.C. VAN AMSTERDAM, MD, PHD

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EDUCATION

University Medical Center Utrecht
Doctor of Philosophy *2017-2022*
Thesis title: *From survival prediction to treatment decision in lung cancer*
Advisors: Prof. Dr. Tim Leiner, Prof. Dr. Pim de Jong, University Medical Center Utrecht
Co-advisors: Joost Verhoeff, MD, PhD, University Medical Center Utrecht
Rajesh Ranganth, PhD, New York University
Alexandre Suerman Masterclass Program

Master of Science *2017-2020*
Epidemiology, track: medical statistics
Passed with distinction (cum laude)

Doctor of Medicine *2014-2017*
Honors program, Honors thesis: "Liver steatosis and pulmonary disease in lung cancer screening participants with and without chronic obstructive pulmonary disease"
Masters thesis: "Radiomic signature of early-stage lung cancer predicts progression-free survival and distant metastasis in lung cancer screening participants"

Bachelor of Medicine *2011-2014*
Honors program, Honors thesis: "The anatomy of renal nerves and renal denervation"

Utrecht University *2007-2010*
Bachelor of Physics and Astronomy

SELECTED PUBLICATIONS

Amsterdam WAC van, Verhoeff JJC, Harlianto NI, Bartholomeus GA, Puli AM, Jong PA de, Leiner T, Lindert ASR van, Eijkemans MJC, and Ranganath R. Individual treatment effect estimation in the presence of unobserved confounding using proxies: a cohort study in stage III non-small cell lung cancer. en. Scientific Reports 2022 Apr; 12. Number: 1 Publisher: Nature Publishing Group:5848. DOI: 10.1038/s41598-022-09775-9. Available from: https://www.nature.com/articles/s41598-022-09775-9 [Accessed on: 2022 Apr 12]

Amsterdam WAC van, Verhoeff JJC, Jong PA de, Leiner T, and Eijkemans MJC. Eliminating biasing signals in lung cancer images for prognosis predictions with deep learning. en. npj Digital Medicine 2019 Dec; 2. Number: 1 Publisher: Nature Publishing Group:1–6. DOI: 10.1038/s41746-019-0194-x. Available from: https://www.nature.com/articles/s41746-019-0194-x [Accessed on: 2020 Mar 23]

Amsterdam WAC van, Jong PA de, Suijkerbuijk KPM, Verhoeff JJC, Leiner T, and Ranganath R. Decision making in cancer: causal questions require causal answers. submitted 2022

Amsterdam WAC van and Ranganath R. Conditional average treatment effect estimation with treatment offset models. arXiv:2204.13975 [stat]. 2022 Apr. Available from: http://arxiv.org/abs/2204.13975 [Accessed on: 2022 Jun 29]

Amsterdam WAC van, Harlianto NI, Verhoeff JJC, Moeskops P, Jong PA de, and Leiner T. The Association between Muscle Quantity and Overall Survival Depends on Muscle Radiodensity: A Cohort Study in Non-Small-Cell Lung Cancer Patients. en. Journal of Personalized Medicine 2022 Jul; 12. Number: 7 Publisher: Multidisciplinary Digital Publishing Institute:1191. DOI: 10.3390/jpm12071191. Available from: https://www.mdpi.com/2075-4426/12/7/1191 [Accessed on: 2023 Jan 31]

Laar M van, Amsterdam WAC van, Lindert ASR van, Jong PA de, and Verhoeff JJC. Prognostic factors for overall survival of stage III non-small cell lung cancer patients on computed tomography: A systematic review and meta-analysis. en. Radiotherapy and Oncology 2020 Oct; 151:152–75. DOI: 10.1016/j.radonc.2020.07.030. Available from: http://www.sciencedirect.com/science/article/pii/S0167814020306745 [Accessed on: 2020 Dec 17]

GRANTS & AWARDS

Frits de Waard Penning, Epidemiology Master Utrecht 2020
"For the best and most original epidemiological research by a student in medicine or bimedical/health sciences"

Monetary Value: €500.-

Stichting Drie Lichten - Travel Grant 2019
Travel grant for visiting NYU during my PhD

Monetary Value: €5,000.-

Stichting Girard De Mielet van Coehoorn - Travel Grant 2019
Travel grant for visiting NYU during my PhD

Monetary Value: €1,250.-

ZonMW 2018
Good use of medicine grant (Goed Gebruik Geneesmiddelen)

Project: Predicting response of metastatic melanoma to immunotherapy using machine learning
My role in the application was to draft the initial application and to coordinate the collaborative writing and keep track of deadlines and tasks for the team of 10 applicants

Monetary Value: €550,000.-
Philips co-fund: €100,000.-

NVIDIA - GPU academic seeding program (2x) 2018
Graphics processing unit for deep learning experiments

· Monetary Value: €12,000.-

Alexandre Suerman Fellowship MD / PhD program 2017
PhD stipend and masterclass program

The Alexandre Suerman program is a training program for scientific talent from the University Medical Center Utrecht. Moreover, the program includes masterclasses which aim to develop the researcher in a broader perspective.

Monetary Value: €180,000.-

Bright Minds award of Utrecht University 2016
Pitch presenter at the "Dare to Cross-Over" event on "Diagnosing lung cancer with Radiomics"

· Monetary Value: €500.-

BBMRI-NL research grant 2015
Co-applicant for project 'Systems Radiology'

Monetary Value: €20,000.-

Student Research Congress - Delft the Netherlands 2014
Bachelor thesis selected for poster presentation

TALKS

University of Manchester 2023
Invited on-site seminar

Invited to present a seminar on "Treatment effect estimation in the presence of unobserved confounding using proxies: an observational cohort study of stage III non-small cell lung cancer patients"

Leiden University - Lorentz workshop on counterfactual prediction 2022
Invited talk at workshop

· Invited to present "Conditional average treatment effect estimation with treatment offset models", at this week long workshop with talks and a case study.

Machine Learning for Health Care Conference 2021
Poster presentation

· Treatment effect estimation in the presence of unobserved confounding using proxies: an observational cohort study of stage III non-small cell lung cancer patients

European Radiotherapy Congress (ESTRO) 2021
Poster presentation

· Treatment effect estimation in the presence of unobserved confounding using proxies: an observational cohort study of stage III non-small cell lung cancer patients

Dutch Association of Epidemiology yearly symposium 2020
Invited talk

· "Eliminating Biasing Signals in Lung Cancer Images for Prognosis Predictions with Deep Learning" led to an invited talk for the session on collider bias (cancelled due to COVID-19 restrictions)

AAAI - Why 2019
Oral abstract presentation

"Eliminating Biasing Signals in Lung Cancer Images for Prognosis Predictions with Deep Learning". Other speakers at this small-scale symposium were Judea Pearl, Yoshua Bengio, Thomas Dietterich, John Ionnidis and Elias Bereinboim

Probus Service Club 2018
Invited Seminar *Utrecht*

· "Big data in health care"

REVIEWING EXPERIENCE

Biostatistics; Machine Learning for Healthcare @NeuRIPS (2019, 2020, 2021, 2022); IEEE-access; Journal of Cardiovascular Magnetic Resonance; Netherlands Heart Journal; Oncologie; Journal of Thoracic Disease; Spurious correlations, Invariance and Stability workshop @ ICML 2022 (program committee); Translational Lung Cancer Research

RESEARCH EXPERIENCE

Babylon Health November 2021 - now
Senior Research Scientist *London, UK (remote)*

· Worked on several research projects with and without links to product development. Activities spanning bioststatistics (clinical trial design, sample size calculations), machine learning (predictive models), causal inference methods, internal scientific consulting, prototype product development.

CILVR - New York University April - June 2019
Visiting PhD researcher with Rajesh Ranganath, PhD *New York City*

· Worked on methodological aspects of my main PhD project: Treatment recommendations for lung cancer patients using deep learning and causal inference.

Artificial Intelligence in Medicine Lab - Harvard Medical School July - October 2016
Visiting Student Researcher with Hugo Aerts, PhD *Boston, Massachusetts*

· Predicting disease progression based on quantitative image features and machine learning

Radiology Department - University Medical Center Utrecht 2015 - 2016
Student researcher with Prof. Dr. T. Leiner and Prof. Dr. P.A. de Jong *Utrecht*

· The association between quantitative image features of the lung and liver and clinical lung disease

Anatomy Department - University Medical Center Utrecht 2011 - 2014
Undergraduate researcher with Prof. Dr. R.L.A.W. Bleys *Utrecht*

· Anatomy of nerves surrounding the renal artery

Physics of man - Utrecht University 2009 - 2010
Student researcher with Prof. Dr. R. van Ee *Utrecht*

· The effect of subliminal priming on spatial concentration

PROFESSIONAL ACTIVITIES

Babylon Health November 2021 - now
Senior Research Scientist *London, UK (remote)*

· Design product prototype that is currently in production. Worked from scientific first principles toward a collaboration-and-production ready codebase. Collaboration with epidemiologist, software engineers, data scientists, product designers.

TEACHING EXPERIENCE

University Medical Center of Utrecht 2017 - 2021
Supervision of student research project *Utrecht*

· Supervision of students in medicine, bio-medical sciences, artificial intelligence at bachelor and master level

Anatomy Department - University Medical Center of Utrecht 2013 - 2014
Teaching Assistant - several anatomy courses *Utrecht*

· Supervision of dissection and anatomical orientation

Capita Selecta 2013
Lecturer - extra-curricular exam training *Utrecht*

· Wrote the syllabus and gave exam training

OTHER ACTIVITIES

Dare to cross-over - Utrecht University 2017
Jury President

Symposium event showcasing multidisciplinary student research across Utrecht University

Graduate Think Tank 2017
Committee member

Student Think Tank on reform of graduate studies

Medical Masters Honors Program - University Medical Center Utrecht 2016
Organizing committee member

Lecture on "Medical Leadership"

Navigators Student Association 2010 - 2011
Full time board member *Utrecht*

· Treasurer

LANGUAGES

Dutch	Native
English	Speak fluently and write with high proficiency
German & French	Basic proficiency
R programming language	Fluently
Python programming language	Fluently, experience in PyTorch, Jax, Pyro, NumPyro

GENERAL INTERESTS

Science, medicine, machine learning, causal inference, bioinformatics, medical ethics, networking, music (Jazz guitar and classical piano)

OTHER PUBLICATIONS

Bastiaannet R, Roekel C van, Smits MLJ, Elias SG, **van Amsterdam, Wouter A. C.**, Doan D, Prince JF, Bruijnen RCG, Jong HWAM de, and Lam MGEH. First Evidence for a Dose–Response Relationship in Patients Treated with 166Ho Radioembolization: A Prospective Study. en. Journal of Nuclear Medicine 2020 Apr; 61. Publisher: Society of Nuclear Medicine Section: Radionuclide Therapy:608–12. DOI: 10.2967/jnumed.119.232751. Available from: https://jnm.snmjournals.org/content/61/4/608 [Accessed on: 2021 Jan 8]

van Amsterdam, Wouter A. C., Blankestijn PJ, Goldschmeding R, and Bleys RLAW. The morphological substrate for Renal Denervation: Nerve distribution patterns and parasympathetic nerves. A post-mortem histological study. Annals of Anatomy - Anatomischer Anzeiger 2016 Mar; 204. 00000:71–9. DOI: 10.1016/j.aanat.2015.11.004. Available from: http://www.sciencedirect.com/science/article/pii/S0940960215001466 [Accessed on: 2015 Dec 18]