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Short

Professor in Antibody engineering and Directed evolution at KTH Royal Institute of Technology Stockholm Sweden. His research and education focus on both the development of novel biologics as therapies as well as novel production methods for such. In particular the focus is on protein and cell line engineering approaches for novel curative gene therapies and their scalable bioproduction. His undergraduate training was in chemical engineering (Civilingenjör), biotechnology and computer science at KTH and University of Sydney (Australia). He returned to Sweden for his doctoral thesis, which detailed bioinformatical and combinatorial experimental methods for generation and characterization of antibodies, which was implemented in the Wallenberg funded Human Protein Atlas program (HPA). He is currently the director of GeneNova, an innovation milieu in precision health focused on innovating platforms aimed at reducing manufacturing cost of gene therapy 100-fold. In this program Johan has collected 9 interdisciplinary organizations spanning from traditional heavy industry Alfa Laval, automation company Biotage, neuroscientists and mathematicians to AstraZeneca and experts in drug development. Johan has been a member and co-PI of HPA aimed at cataloging all human proteins in different organs and disease conditions, since its beginning 2003. He has over 19000 citations and has published over 50 peer-reviewed papers in high quality journals including Nature methods, Nucleic Acids Research, Cell Reports and Science.

Positions

Professor, KTH, Dept. Protein Science – 2021 - Today

Director GeneNova center, aimed at developing production platforms for gene therapies (2021-2026)

Board member of DPAT Doctoral Program in preclinical and clinical Advanced Therapies education. Swedish Research council program, 2023-27

PI CellNova 2. Vinnova center for improved cell factories co-PI (2023-2024)

AdBIOPRO Vinnova competence center for advanced bioproduction), co-PI for Systems Biology (2023-2027)

Associate Professor, KTH Dept. Protein science – 2018-2021

Director AAVNova program (Vinnova) (2019-2021)

Director Wallenberg Center for Protein Research Bioprocess Development, (2016-2021)

Project leader Wallenberg Center for Protein Research secretome (2016-2019)

Director KTH site NNF foundation center f Biosustainability (2014-2019)

Project leader CellNova, Mammalian cell line engineering and bi-specifics (2018-2023)

Co-PI AdBIOPRO, PI of OMICS for Bioprocess Development (2017-2023)

Docenture KTH - Dept. Proteomics & Nanobiotechnolgy – 2016

Docent in Immunotechnology at KTH 2016

Assistant Professor, KTH Dept. Proteomics & Nanobiotechn. – 2015-2018

Project leader Wallenberg Center for Protein Research secretome (2016-2019)

Director Wallenberg Center for Protein Research BPD (2016-2019)

Co-director KTH NNF foundation center f Biosustainability, Project leader Biobrick (2011-2014)

Director Biosynergy, Alligator Bioscience AB, Lund — 2013-2014

Responsible for bio synergy program including AC101 anti-HER2 antibody for gastric cancer and Herceptin resistant breast cancer.

Researcher, KTH 2011-2014

Group leader Therapeutic antibodies and epitope mapping Human Protein Atlas.

Postdoc, Atlas Therapeutics AB / Abclon Inc, Stockholm / Seoul — 2010-2011

CSO and founder of Atlas Therapeutics in Stockholm

Co-founder of Abclon Inc in Seoul, South Korea

Postdoc, KTH, Proteomics — 2008 -2009

Development of ultra-high-density peptide arrays for epitope mapping

PhD, KTH, Molecular Biotechnology — 2004 -2008

Thesis: "Methods for generation and characterization of monospecific antibodies." (Supervisor M. Uhlén). Development of software and strategies for antigen design in HPA.

Commissions of trust

Sweden's young academy ([SUA](#)) – Elected member (2019-2024). Spokesperson on research policy (2022-23).

Royal academy of Sciences, Kungliga Vetenskapsakademien (KVA) - elected member for the research policy committee (2022-24)

Board member of [Sällskapet riksdagsledamöter och forskare \(RIFO\)](#) 2022-2024

Live commentator of Nobel Prize in Chemistry at national television SVT (2019-2023)

Education

KTH Stockholm, M.Sc Chemical engineering (Civ.ing) 1998-2003

University of Sydney, Sydney, M.Sc exchange Bioinformatics / Bioprocess 2002

Stockholm University, Computer science, Business economy courses 1999-2001

Awards and honors

Royal Swedish Academy of Engineering Sciences (IVA) Kungl. Ingenjörns Akademien IVA:s top 100-innovation projects, GeneNova 2023

Life science Star Award 2021, "Sharing is caring award, for industry academia efforts")

SwedenBIO

iGEM Stockholm Life time award, SGEM 2021, For founding and hosting of iGEM

Stockholm as a student team in the global competition in synthetic biology iGEM (2015-)

Scientific advisor

Assignments as expert.

Scientific advisor Abclon ltd, Seoul, Korea 2010-present.

Scientific advisor Enginzyne AB, Solna, 2019-present.

Scientific advisor Mabtech AB, Nacka, 2023-present.

Student supervision

8 PhD students completed, 6 as main supervisor 2 as co-supervisor. Currently main supervisor for 6 PhD students.

ENTREPRENEURIAL ACTIVITIES

Co-founder Strike Pharma AB, Uppsala Sweden 2021-
CEO, founder Labrock AB, Stockholm 2012-today
Co-founder/shareholder Atlas Therapeutics AB, Stockholm, 2010-2013
Co-founder/shareholder Abclon Ltd, Seoul, South Korea, 2010-
Co-founder/shareholder Atlas Intressenter AB, 2006-2022
Member of YAA, Young Achievers Australia, 2002
Founder Netdesign Åkersberga HB, 1997-2012

Research output

45 lectures as plenary or invited lecturer during 2010-2023 in the fields of antibody engineering, bioscience, synthetic biology and bioproduction. More than 50 peer-reviewed articles in high quality journals including Nature methods, Nucleic Acids Research, Cell Reports and Science, and over 19000 citations, i-index 41, H-index 25. 4 patent applications and 5 current spinout companies in relation to research activities.

FUNDING

2023 WADA 500k USD, "Anti gene doping" 2024-2026
2023 NBIS VR/KAW Long-term bioinformatics support 1 year project
2022 - Biotage Vector and ligand project 7.5mSEK total 5 year
2022 - AstraZeneca BPD project III 1.5mUSD total 5 year
2021 - GeneNova Innovation milieu in precision health 114 MSEK 5 year (Vinnova) director
2019 – STINT 405kSEK, International research interchange for comprehensive profiling of ginseng varieties based on the composition-activity relationship covering ginsenosides and polysaccharides. Sweden Korea call. (co-applicant with Yves Hsieh)
2019 – KTH Digitalization platform 2 years (co-applicant with Veronique Chotteau) 300kSEK/year
2019 – AstraZeneca BPD project II 900 kUSD 3 years (main applicant).
2019 - Vinnova AAVNova 10mSEK 3 year (main applicant) 26 MSEK tot budget
2018 – Vinnova CellNova 2400 kSEK / year 6 years
2017 – Vinnova Adbiopro, 850 kSEK /year 8.5 MSEK
2017 – SSF Systems biology of Eukaryal Protein Secretory Pathway, 12M SEK
2016-2019 Wallenberg foundation WCPR BPD project 4 MSEK/year
2016 -2019 AstraZeneca MedImmune 6MSEK/year WCPR BPD project
2015 – Vinnova Forska&Väx. Discovery of novel immunotherapy protein targets using Illumina sequencing, human protein atlas and functional T-cell assays. 680kkr collaboration Alligator Bioscience
2015 – KTH startup grant 750kSEK/year 4 years (main applicant) as part of assistant professorship
2011 – 2019: NovoNordisk foundation center for biosustainability. Group leader for section of biobrick cloning and later section for CHO Cell factory section and director for Stockholm site. Budget of 1.5MSEK /year.
2011 – 2017: Vinnova Excellence center ProNova. Project leader for one project related to epitope mapping of structural eptiopes. Responsible for a budget of 850kkr/year.
