

CURRICULUM VITAE TAPIO SALMI

1 NAME

Tapio Olavi Salmi

2 BIRTH, NATIONALITY, RESIDENCE

Birth date and -place: 07.10.1957, Pargas, Finland

Nationality: Finnish

Residence: Turku/Åbo Finland



3 DEGREES AND COMPETENCES

1986 **D.Sc.**, Chemical Engineering, Åbo Akademi University (AAU) (www.abo.fi)

Doctoral thesis: *"Modelling and simulation of chemical reactions: a mechanistic point of view"* (accepted with honours)

Major subject: Chemical Reaction Engineering

1984 **Lic.Tech.**, Chemical Engineering, AAU

1980 **M.Sc.**, Chemical Engineering, AAU

1990 Title of Docent in Chemical Reaction Engineering, AAU, 1990

Competent for Full Professorships in General Chemical Technology (2nd ranking) (AAU, 1990), Industrial Chemistry (AAU, 1991), Chemical Reaction Engineering (1st ranking) (University of Lund, 1997), Chemical Reaction Engineering (1st ranking)(AAU, 1997)

4 OTHER EDUCATION

Courses in English language and Numerical methods in physics (University of Turku, in 1980's); courses in Essay writing at Oriveden Opisto (2002-2017)

5 LANGUAGE SKILLS

Language skills: Finnish and Swedish native (Finnish state Exam of complete skills in Finnish and Swedish), German (7 years at school), English (daily working language, studies at Turku University, *pro exercitio*), French (three years at school, a hobby), Danish (*autodidact*, post-doc research visit to Denmark) and Estonian (*autodidact*, part-time Estonian resident)

6 PRESENT EMPLOYMENT RELATIONSHIPS

2009-2013, 2019-2023

Academy Professor, appointed by Academy of Finland, highest scientific position in Finland

2000-2014 **Head of Laboratory**, Industrial Chemistry and Reaction Engineering,

1998- **Professor**, Chemical Reaction Engineering, AAU

7 PREVIOUS EMPLOYMENT RELATIONSHIPS

1998-1999 **Senior Scientist**, Academy of Finland

1991-1997 **Associate Professor**, Industrial Chemistry, AAU

1989-1991 **Associate Professor (acting)**, Industrial Chemistry, AAU

1987-1991 **Senior Assistant**, Industrial Chemistry, AAU

1984-1987 **Assistant**, Industrial Chemistry, AAU

1983-1985 **Teacher**, Mathematics, AAU

1983-1984 **Researcher**, Neste Oy Foundation

Research visits abroad

- Guest researcher, Institutet for kemiteknik, Danmarks tekniske højskole, Lyngby (at John Villadsen)
- Study visit to USA, Engelhard Laboratory, University of Houston, Texas A&M University, Shell Research Center (Houston)
- Guest researcher, Institute of Chemical Process Fundamentals, Czechoslovak Academy of Sciences (at P. Schneider)
- Study visit to USA och Canada, University of California, Davis; Northwestern University, Evanston, Queen's University, Kingston; University of Minnesota, Minneapolis
- Shorter research visits to France, Germany and Portugal

8 RESEARCH FUNDING AND RESEARCH LEADERSHIP

Project funding granted from 2003 onwards approximately 12 Million €.

Main funding (examples):

- "Continuous, intensified production of chemicals", funding from Academy of Finland (the research agency of Finland) for five years (1.1.2009-31.12.2013), approved full-cost model budget 1082k € (incl. 19% own funding).
- "Multiscale modelling of chemical processes" funding from Academy of Finland (the research agency of Finland) for four years (1.9.2010-31.8.2014), approved full-cost model budget 405k € (incl. 19% own funding). Collaboration project between two universities and VTT (State research centre of Finland).
- Other major projects and networks: Gold catalysis in microreactors (Academy of Finland) (ongoing, about 1000k €), POKE network for PhD students in Nordic-Baltic region (on-going, Finnish Cultural Foundation 200k €)

Supervisor of more than 50 doctoral theses during 1994-2017: Several theses have obtained national and international prizes and awards (J. Romanainen, L. P. Lindfors, S. Toppinen, J. Lehtonen, E. Toukoniitty, P. Mäki-Arvela, A. Bernas, D. Kubicka, H. Grenman, T. Kilpiö, M. Golets, T. Riittonen, S. Schmidt). Supervisor of 24 licentiate theses and about 70 master's theses. Currently supervisor of the following doctoral theses: Andrea Perez Nebreda, Steliana Aldea, Farhan Saleem, Nemenja Vucetic, Viktor Shumilov, Erfan Behraves, Adriana Freitas Aguilera, Ali Najarnezhadmashadi, Soudabeh Saeid, Leolincoln Correia da Silva, Ole Reinsdorf, Wander Pérez Sena, Cristina Pizzolitto, Ananias Medina

9 PEDAGOGIC MERITS AND EXPERIENCE

Teacher in chemical reaction engineering and industrial chemistry at AAU since 1981.

Teaching experience from abroad: teacher within the framework of Erasmus co-operation at INSA Université de Rouen, Università di Padova and National Technical university of Athens, Universidad Valladolid (typically intensive courses for post-docs)

Teacher of the following courses: Chemical reaction engineering (homogeneous reactors), non-ideal reactor systems (residence time distributions, flow patterns), Industrial reactors (mainly heterogeneous reactors), Computer-aided chemical reaction engineering (CACRE, postgraduate course), chemical kinetics (mainly postgraduate course). Author of about 10 pedagogic texts.

Main author of the textbook: Salmi, T., Warna, J., Mikkola, J-P., *Chemical Reaction Engineering and Reactor Technology*, 2010, 644 p., CRC Press, Florida (2nd Edition will appear in June 2019)

10 SCIENTIFIC ACKNOWLEDGES AND AWARDS, MEMBERSHIPS IN SCIENCE ACADEMIES

Magnus Ehrnrooth Prize for research in chemistry, 2011 (granted by *Societas Scientiarum Fennica – Finnish Society of Science and Letters*). This national prize is given every third year for excellent research in chemistry (17000 euro).

Congress Prize of the City Turku/Åbo, 2007 (for the EuropacatVIII conference, 1500 participants)

Chancellor's Prize of Åbo Akademi University for best research leader 2013
White rose knighthood, 1st class, granted by President of the Republic, 2009
Granted the Yellow Rose by Åbo Akademi University Student Union, 2013

The **PSE Model-Based Innovation Prize**, 2015

Honorary member of Czech Society of Chemical Engineering 2014-, honorary member of Finnish Catalysis society

Member of *Societas Scientiarum Fennica* (Finnish Society of Sciences and Letters) 2006-

Member of Finnish Academy of Sciences, 2012-

11 OTHER SCIENTIFIC POSITIONS AND SCIENTIFIC ACHIEVEMENTS

- **Referee** (approx. 360 times) for various international journals in chemical engineering and catalysis (e.g. Chem. Engng Sci, Ind. Eng. Chem. Res., J. Catal., Catal. Today, Chem. Engng Proc.)
- **Evaluator of research projects and programmes** in Switzerland, Portugal, Netherlands and Czech Republic
- **Evaluator of docentships and professorships** in Finland and Sweden (A. Vuori, T. Koiranen, M. Louhi-Kultanen, A. Laari, P. Koukkari, K. Engvall (KTH, Sweden), Toni Kinnunen, Pekka Simell, Tenure-track professor (KTH))
- Reviewer and opponent more than 20 doctoral theses in Finland and abroad (Riitta Keiski, Pekka Oinas, Satu Sundqvist, Claudio Botar-Jid, Tanja Kolli, Lennart Andersson, G.K. Gandhi, Katja Lappalainen, Carla Pereira, Ilkka Malinen, Anders Theilgaard Madsen, Myankkumar Shah, Ernesto Altman, Fatimeh Ebrahimi, Stefan Haase, Ricardo Abejon Elias, Irene Huerta, Robert Langsch, Ana Obradovic, Farsad Lali, Kaisa Lamminpää, Jun Liu, Gerd Hilpmann, Bashra Darif, Anne Müller-Hanzlik, Francesco Vidal Vazquez)
- Jury member in the evaluation of the habilitation of Dr Carine Julcour-Lebique (Toulouse) and Dr Sébastien Leveneur (Rouen)
- Scientific committee member, CHISA2008, ECCE2010, CAMURE&ISMR 2011, CHISA 2012, CHISA 2014, ISCRE2012, ISCRE2014, CAMURE&ISMR 2014, ESCRE2015, ECCE10-2015, CHISA2016, CAMURE&ISMR 2017, ISCRE2018
- **Organizer of the largest event in catalysis in Europe, EUROPACATVIII (2007), more than 1500 participants**
- Board member of Tekniska Föreningen i Finland 2006-2008
- Board member of Raisio Research Foundation, 2005-
- Member of advisory and scientific boards of numerous conferences (e.g. Nordic Symposium on Catalysis, International Congress on Catalysis, Dynamics in catalytic systems (CHISA 2012-2018), World congress in chemical engineering 2005, Catalysis and multiphase reactors (2011, 2017, 2020), International Symposium on Chemical Reaction Engineering (ISCRE) 2012, 2014, 2018, 2020)
- Finnish Catalysis Society, Board member 1991-95, 1999-2002, 2013-2016 (chairman 93-95, 99-02)
- Member of Nordic Board of Catalysis 1992-02, Chairman 96-98
- Member in the working party of European Federation of Chemical Engineering, 'Chemical Reaction Engineering', 1996-, and 'High Pressure Applications' 2015-
- Member in the working party of European Federation of Chemical Engineering, 'Chemical Engineering in the Applications of Catalysis', 1991-95
- Member of Scientific Board of the Institute of Chemical Process Fundamentals, Czech Academy of Sciences, 2004-

- Steering group member of Helmholtz-Allianz for Energy-efficient three-phase reactor systems 2012-2015
- TU Delft Process Technology Institute (DPTI) – Member of International Programme Committee 2012-

2007-2014	Chairman, National Committee for Selection of Students to Technical Universities and Faculties in Finland
2000-2015	Head of Laboratory, Industrial Chemistry and Reaction Engineering, AAU
2000-2011	Board member, Johan Gadolin Process Chemistry Centre, AAU, National Centre of Excellence (Academy of Finland)
2003-2009	Board member, University board, AAU
2003-2005	Dean, Faculty of Chemical Engineering, AAU
1989-2005	Faculty member, Faculty of Chemical Engineering, AAU (1989-1990, 1992-1993, 1996-1998, 2000-2005)

Invited and plenary lectures

Plenary and invited lectures in the following conferences: Catalysis in Multiphase Reactors (Toulouse and Qingdao), CHISA (Prague), Croatian Conference on Chemistry and Chemical Engineering (Split), Dutch Conference on Catalysis and Chemical Engineering (Nordwijkerhout), Slovak conference on Chemical Engineering (Vysoke Tatry), ERA-Chemistry – Chemistry under extreme conditions (Roscoff, France), Eesti Keemiapäevad, European Congress on Chemical Engineering (ECCE)

12 SCIENTIFIC AND SOCIETAL IMPACT OF OWN RESEARCH

Articles

No. of publications: around 570 journal articles (peer review), h-index: 56 (March 2019)

Books: Author of four textbooks and several book chapters

Conference abstracts: Around 600 conference abstracts

Patents: Co-inventor of four patents

Popular articles and books

Tens of popular articles in Swedish and Finnish about science, science policy, science history and societal issues; Co-author of an essay collection 'On the other hand' (in Finnish). Active blog writer (AAU Researcher's blog)