

**CURRICULUM VITAE**  
**Professor Mehri Sanati SEX (F)**

**> Personal information**

**Name:** Mehri Sanati

**Born:** 26 March 1947 in Iran, double **nationality:** Swedish/Iranian, **Civil status:** Married

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**> Business address**

Ergonomics and Aerosol Technology, Design Sciences, Lund University, Faculty of Engineering, P.O. Box 118, SE-221 00 Lund, Sweden. (Avd. för *Ergonomi och aerosolteknologi*,

*Designvetenskaper, Lunds universitet/LTH*), tel: +46-(0)46-222 82 67, +46-(0)70-262 33 96.

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➤ **Research interests**

- Improvement of the catalytic properties in the gas sensors sensing layer (gate material) using aerosol technology

- Aerosol catalysis, in the catalysts production routes and investigation of the catalytic deactivation by exposure to aerosol particles as a deactivating model compounds in order to investigate the mechanism of catalytic decay

Coordinating an EC-project (FP6) concerning upgrading of product gas from gasification to hydrogen rich syngas.

Recently, Mehri Sanati has been granted and is co-ordinator for an EC- project (FP7) in the field of production of transport fuels from renewable sources. The project deals with production of vehicle fuel and improvement of cleaning devices in the productions routes. The performance of cleaning devices needs knowledge concerning measurement of aerosol particles at high temperature. The production routes are also involved of different catalytic processes that the catalysts are often deactivated physically by exposure to the emitted aerosol particle from biomass gasification. Optimization of cleaning devices and improvement of catalyst design in the production routes by understanding the catalytic deactivation by aerosol are important aspects of this EC-project.

**> Education and degrees**

- Master of Science in Chemical Engineering, July 1978, Lund University, Faculty of Engineering, Sweden (*Civilingenjör Teknisk Kemi, LTH*)
- **Technology Doctor** in Chemical Engineering, Process Chemistry, **1991-05-31**, Lund University/Technical Faculty, Chemical Engineering Dept., Lund, Sweden (*Tekn. dr. i kemiteknik, LU/LTH*) PhD thesis: 1991, Chemistry, dissertation title: TiO<sub>2</sub>(B) A catalyst support for vanadium oxide.
- **Associate professor Degree** (Swedish: oavlönad docent), Division of Chemical Engineering, The Swedish Royal Institute of Technology, (KTH), Stockholm, Sweden, 1999.

**> Present position**

**Professor** from 1 **September 2007**, my employment has been moved from Växjö University to Div of Ergonomics and Aerosol Technology, Lund University/LTH (*Befordrad professor*), and have a permanent position. At the present more than 70 % of my employment is within different research project and supervision of postgraduate students.

**> Previous positions (1978-2007)**

- Consulting task with Iranian Industry Ministry and UOP for establish of Linjer Alkyl Bensen plant for the production of detergents; 1978-1986
- Junior researcher (*forskarassistent*) at Lund University/LTH; 1991-1993
- Consulting assignment with Iranian mining Ministry and Mintek, Anglo American Corporation with South Africa, Bioleaching of refractory ores; 1993-1997
- Assistant professor at Poly Technique in Tehran; 1993-1997

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- Associated professor at KTH; 1997-1998
- *Befodrad* Professor at Växjö University, 1998-2007
- Professor at LTH/Lunds universitet
- **> PhD student supervisor**
- To summarize, I have been the main supervisor for 6 Swedish PhD students, leading to 3 PhD exams and 5 additional Licentiate exams. Michael Strand, Licentiate (2002) thesis and PhD thesis (2004); Lena Lillieblad, Licentiate thesis (2003); Katarina Rupa Gadd, PhD (2006) and Licentiate thesis (2003); Peter Bengtsson, Licentiate thesis (2004); Lotta Tranvik, Licentiate thesis (2006); Ann-Charlotte Larsson, PhD thesis (2007); and 3 additional PhD examination outside Sweden.
- I am presently main supervisor for 2 PhD students (Jessica Einval, Azahr Malk), and assistant supervisor for one PhD at LTH/Lund universitet.

### > Awards and External evaluations

Sanati have been honored at Växjö University “Tore Danielsson stipendiefond” for her technical achievement; 2000.

Sanati have been honored “The Swedish Association of Graduate Engineers concerning research on Environmental Science and Technology” 2006.

### > Post doc position in Sanati’s group since 1997

Dr Khashayar Badii, Tehran University was as a post doc and financing through Perstorp Formox 2002-2004; 2005- Dr. Doina Lutic, Faculty of de Chemistry, Department of Chemical Technology and Materials Chemistry, Al. I. Cuza” University of Iasi, Romania (gas sensor using particle technology, joint with Linköping University) and Dr. Ilham Kirm Tahiri, Department of Chemical Engineering, University Rovira I Virgili, Tarragona, Spain (shift-reaction); Dr Hussam Abdulhamid; from Chalmers (Catalyst improvement in shift reaction); Joint post doc with Linköping University (improvement of catalytic sensing material in Gas Sensor), University Rovira I Virgili, Tarragona, Spain; Dr Judith Cerdà Belmonte

### > Commissions

- 10 Invited speaker and about 20 other oral conference presentation
- Peer-review in international journals
- 1998-2004, member of board for Swedish Catalysis Society
- 2001- Member of teaching committee for research school (CECOST)
- 2000- Member of the department board.
- 2001-2004 Member of The Board of Faculty of Natural Science and Technology/VXU
- 2004-2007 Chairman of postgraduate studies for Bioenergy Technology at VXU
- 2005- Member of CAST (Consortium for Aerosol Science and technology at LTH)
- Served as a member of the examination board eleven times during the defence of PhD theses since 1997
- Served as Faculty Opponent three times during the defence of PhD and licensiate theses since 1997
- Serve as expert (*sakkunnig*) for professor position at Högskolan Halmstad
- Serve as expert (*sakkunnig*) for senior researcher in Energy Technology at Högskolan Halmstad

### > Teaching experience

- Program responsibility for “Energy Technology” for students at Växjö University.
- Teacher at several courses at Växjö University and elsewhere.

> **Dissemination and applications of research results**

- Participants in three research schools within aerosol research have an active contribution from the group in Växjö/LTH; Biofuels-Health-Environment (BHM) programme (<http://www.itm.su.se/bhm/>) and SPARC STRATEGIC PROGRAMME FOR AEROSOL RESEARCH AND COMPETENCE (<http://www.sp.se/sparc/>) and CECOST <http://www.cecst.lth.se/> the research school concerns strategically important high competence and fundamental research in the field of multiphase-system with combustion. The centre will act as a national gathering within the multiphase fluid system program.
- Entrepreneurial achievements; 2 patent: A CATALYST FOR CATALYTIC OXIDATION OF HYDROCARBONS, K. Badii, Mehri Sanati, Ola Augutsson, Neil Cruise, the Swedish Patent and Registration Office, 0203317-3, filing date 11/11-2002, WO 2004/043595 A1; collaboration with Perstorp Formox,
- The first author of two book chapters, and co-author of two another book chapters
- Industrial collaboration with Alstom Power concerning environmental catalyst for NOx abatement and improvement of cleaning device performance (ESP), in the both case, the aerosol technology was the main issue
- During 2004, an Integrated Project (European) has been granted to Växjö University. The project is in line with the established research activities of Sanati's group. The project coordinates from Växjö University; Mehri Sanati was coordinator until September 2004. Continuation of the FP6-CHRISGAS has been lead to a new EC funded project (~ 4 M€) with Lund University (Mehri Sanati) as coordinator (call identification: FP7 – ENERGY-2007-1-RTD; Proposal No 213628 – Acronym: GreenSyngas). The project has been stated in 2008, 10 partners' and allocated budget around 4 MEURO.

**Journal Publication**

- Shift catalysts in biomass generated synthesis gas; Kirm I, Brandin J, Sanati M; TOPICS IN CATALYSIS 45 (1-4): 31-37 AUG 2007
- Effect of fly ash and H<sub>2</sub>S on a Ni-based catalyst for the upgrading of a biomass-generated; Albertazzi, S., Basile, F., Brandin, J., Einvall, J., Fornasari, G., Hulteberg, C., Sanati, M., Trifiro, F., Vaccari, A.; BIOMASS & BIOENERGY 32 ( 4): 345-353 APR 2008
- Physical and chemical characterization of aerosol particles formed during the thermochemical conversion of wood pellets using a bubbling fluidized bed gasifier; Gustafsson E, Strand M, Sanati M; ENERGY & FUELS 21 (6) : 3660-3667 NOV-DEC 2007
- Investigation of reforming catalyst deactivation by exposure to fly ash from biomass gasification in laboratory scale; Einvall J, Albertazzi S, Hulteberg C, Malik A , Basile F, Larsson AC, Brandin J, Sanati, M; ENERGY & FUELS 21(5) : 2481-2488, SEP-OCT 2007
- Pt–Rh/MgAl(O) Catalyst for the Upgrading of Biomass-Generated Synthesis Gases; Albertazzi, S., Basile, F., Brandin, J., Einvall, J., Fornasari, G., Hulteberg, C., Sanati, M., Trifiro, F., Vaccari, A.; *Energy Fuels*, , 23 (1): 573–579, 2009
- Catalytic properties of oxide nanoparticles applied in gas sensors; Lutic D, Strand M, Lloyd-Spetz A, Buchholt K, Ieva E, Kall PO, Sanati M; TOPICS IN CATALYSIS 45 (1-4): 105-109 AUG 2007
- Physical and chemical characterisation of potassium deactivation of a SCR catalyst for biomass combustion; Larsson AC, Einvall J, Andersson A, Sanati M; TOPICS IN CATALYSIS 45 (1-4): 149-152 AUG 2007

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- Pilot-scale investigation of Pt/alumina catalysts deactivation by organosilicon in the total oxidation of hydrocarbons; Larsson AC, Rahmani M, Arnby K, Sohrabi M, Skoglundh M, Cruise N, Sanati M; TOPICS IN CATALYSIS 45 (1-4): 121-124 AUG 2007
- Deactivation of SCR catalysts by exposure to aerosol particles of potassium and zinc salts; Larsson AC, Einval J, Sanati M; AEROSOL SCIENCE AND TECHNOLOGY 41 (4): 369-379 APR 2007
- Bed material deposition in cyclones of wood fuel fired circulating fluidized beds (CFBs); Tranvik AC, Ohman M, Sanati M; ENERGY & FUELS 21 (1): 104-109 JAN-FEB 2007
- Growth kinetics and Pho84 phosphate transporter activity of *Saccharomyces cerevisiae* under phosphate-limited conditions Shokrollahzadeh S, Bonakdarpour B, Vahabzadeh F, Sanati M JOURNAL OF INDUSTRIAL MICROBIOLOGY & BIOTECHNOLOGY 34 (1): 17-25 JAN 2007
- Deactivation of Pt/wire-mesh and vanadia/monolith catalysts applied in selective catalytic reduction of NO<sub>x</sub> in flue gas; Sohrabi M, Moradi F, Sanati M; JOREAN JOURNAL OF CHEMICAL ENGINEERING; 24(4) 551-716, July 2007;
- Nanocrystalline ruthenium oxide and ruthenium in sensing applications - an experimental and theoretical study; Salomonsson A, Petoral RM, Uvdal K, Aulin C, Kall PO, Ojamae L, Strand M, Sanati M, Spetz AL ; JOURNAL OF NANOPARTICLE RESEARCH 8 (6): 899-910 DEC 2006
- Solid phase micro extraction fibers, calibration for use in biofilter applications; Rupar-Gadd K, Bagherpour MB, Holmstedt G, Welander U, Sanati M; BIOCHEMICAL ENGINEERING JOURNAL 31 (2): 107-112 SEP 1 2006
- Targeting by comparison with laboratory experiments the SCR catalyst deactivation process by potassium and zinc salts in a large-scale biomass combustion boiler; Larsson AC, Einval J, Andersson A, Sanati M; ENERGY & FUELS 20 (4): 1398-1405 JUL 19 2006
- Metal oxide nanoparticles as novel gate materials for field-effect gas sensors; Roy S, Salomonsson A, Spetz AL, Aulin C, Kall PO, Ojamae L, Strand M, Sanati M; MATERIALS AND MANUFACTURING PROCESSES 21 (3): 275-278 MAR-APR 2006
- Hygroscopic behavior of aerosol particles emitted from biomass fired grate boilers; Rissler J, Pagels J, Swietlicki E, Wierzbicka A, Strand M, Lillieblad L, Sanati M, Bohgard M; AEROSOL SCIENCE AND TECHNOLOGY 39 (10): 919-930 OCT 2005
- The technical feasibility of biomass gasification for hydrogen production; Albertazzi S, Basile E, Brandin J, Einval J, Hulteberg C, Fornasari G, Rosetti V, Sanati M, Trifiro E, Vaccari A; CATALYSIS TODAY 106 (1-4): 297-300 OCT 15 2005
- Effects of irrigation and water content of packings on alpha-pinene vapours biofiltration performance; Bagherpour MB, Nikazar M, Welander U, Bonakdarpour B, Sanati M; BIOCHEMICAL ENGINEERING JOURNAL 24 (3): 185-193 JUL 2005
- Nanoparticles for long-term stable, more selective MISiCFET gas sensors; Salomonsson A, Roy S, Aulin C, Cerda J, Kall PO, Ojamae L, Strand M, Sanati M, Spetz AL; SENSORS AND ACTUATORS B-CHEMICAL 107 (2): 831-838 JUN 29 2005
- Characterization of phosphate membrane transport in *Saccharomyces cerevisiae* CEN.PK113-5D under low-phosphate conditions using aerobic continuous culture; Shokrollahzadeh S, Vahabzadeh F, Bonakdarpour B, Sanati M, Persson BL;

- IRANIAN JOURNAL OF CHEMISTRY & CHEMICAL ENGINEERING-  
INTERNATIONAL ENGLISH EDITION 24 (1): 41-51 SPR 2005
- Particle emissions from district heating units operating on three commonly used biofuels; Wierzbicka A, Lillieblad L, Pagels J, Strand M, Gudmundsson A, Gharibi A, Swietlicki E, Sanati M, Bohgard M; *ATMOSPHERIC ENVIRONMENT* 39 (1): 139-150 JAN 2005
  - Partial catalytic hydrogenation of diolefins formed during PACOL process (Paraffin conversion to olefin) to monoolefins; Sohrabi M, Sanati M, Kaghazchi T, Massah A; *AFINIDAD* 61 (512): 328-333 JUL-AUG 2004
  - The release of terpenes during storage of biomass; Rupar K, Sanati M *BIOMASS & BIOENERGY* 28 (1): 29-34 2005
  - Characterization of Pt/-gamma-Al<sub>2</sub>O<sub>3</sub> catalysts deactivated by hexamethyldisiloxane; Arnby K, Rahmani M, Sanati M, Cruise N, Carlsson AA, Skoglundh M; *APPLIED CATALYSIS B-ENVIRONMENTAL* 54 (1): 1-7 NOV 30 2004
  - Evaluation of hydrocarbon emissions from heart- and sapwood of Scots pine using a laboratory-scale wood drier; Bengtsson P, Sanati M; *HOLZFORSCHUNG* 58 (6): 660-665 2004
  - Laboratory and field test of a sampling method for characterization of combustion aerosols at high temperatures; Strand M, Bohgard M, Swietlicki E, Gharibi A, Sanati M; *AEROSOL SCIENCE AND TECHNOLOGY* 38 (8): 757-765 2004
  - Boiler operation influence on the emissions of submicrometer-sized particles and polycyclic aromatic hydrocarbons from biomass-fired grate boilers; Lillieblad L, Szpila A, Strand M, Pagels J, Rupar-Gadd K, Gudmundsson A, Swietlicki E, Bohgard M, Sanati M; *ENERGY & FUELS* 18 (2): 410-417 MAR-APR 2004
  - The release of organic compounds during biomass drying depends upon the feedstock and/or altering drying heating medium; Rupar K, Sanati M; *BIOMASS & BIOENERGY* 25 (6): 615-622 2003
  - Analysis of phosphate uptake kinetics in chemostat culture of *Saccharomyces cerevisiae*; Shokrollahzadeh S, Bonakdarpour B, Vahabzadeh F, Sanati M, Persson BL; *YEAST* 20: S244-S244 Suppl. 1, JUL 2003
  - Deactivation of oxidation and SCR catalysts used in flue gas cleaning by exposure to aerosols of high- and low melting point salts, potassium salts and zinc chloride; Moradi F, Brandin J, Sohrabi M, Faghihi M, Sanati M; *APPLIED CATALYSIS B-ENVIRONMENTAL* 46 (1): 65-76 OCT 31 2003
  - Characteristics of aerosol particles formed during grate combustion of moist forest residue; Pagels J, Strand M, Rissler J, Szpila A, Gudmundsson A, Bohgard M, Lillieblad L, Sanati M, Swietlicki E; *JOURNAL OF AEROSOL SCIENCE* 34 (8): 1043-1059 AUG 2003
  - Physical and Chemical Characterisation of Aerosol Particles Formed during the Thermochemical Conversion of Wood Pellets using a Bubbling Fluidized Bed Gasifier; Gustafsson E, Strand M, Sanati M; in press, *Energy & Fuel*, 2007
  - Investigation of Reforming Catalyst Deactivation by Exposure to Fly Ash from Biomass Gasification in Laboratory Scale" Author(s):Einval J, Albertazzi S, Hultberg C, Basile F, Larsson AC, Brandin J, Malika A, Sanati M, in press, *Energy & Fuel*, 2007
  - Effect of fly ash and H<sub>2</sub>S on a Ni-based catalyst for the upgrading gas, Albertazzi S, Einval J, Hultberg C, Basile F, Brandin J, Sanati M, accepted in *Biomass & Bioenergy*
  - Characterization of Flue Gas Particles and Particle Separation Efficiency a Commercially Operated Biomass Fired Boiler; Strand M, Pagels J, Szpila A,

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- Gudmundsson A, Swietlicki E, Bohgard M, and Sanati M; ENERGY & FUELS, 16, 1499-1506, 2002
- Study of the bed fouling problems in a biomass fired commercial CFB boiler; Tranvik, A.E., Sanati, M, Zethraeus, B, Lyberg, M; *American Society of Mechanical Engineers, Fuels and Combustion Technologies Division (Publication) FACT*, v 23-1, 1999, p 267-273
  - Kinetic Study On Propane Ammoxidation to Acrylonitrile over a V-Sb/TiO<sub>2</sub>(B) Catalyst; Sanati M, Akbari R, Masseti S, and Trifiro F; CATALYSIS TODAY, 42, 325-332, 1998.
  - Desulfurisation of Tabas Coal by Thiobacillus ferrooxidans; M. Tabatabae, A.R. Shahverdi, M. Oliazadeh, and M. Sanati, Mineral Engineering, 1996, 9(9), 1001.
  - Surface area and porosity, Haber J, Baiker A, Nobbenhuis M, Kiwi J, Thampi R, Gratzel M, Lucarelli L, Albers P, Seibold K, Baerns M, Majunke F, Delarco M, Martin C, Rives V, Garcin E, Surantin R, Volta JC, Vanommen JG, Deboer M, Vandillen AJ, Geus JW, Sloczynski J, Andersson A, Andersson LT, Sanati M, Svensson B, Rebenstorf B, Wallenberg R, CATALYSIS TODAY 20 (1): 11-16 MAY 30 1994
  - Surface characterization and reactivity in ammoxidation reactions of vanadium antimonite catalysts; Andersson A, Andersson SLT, Genti G, Grasseli RK, Sanati M, Trifiro F; APPLIED CATALYSIS A-GENERAL 113 (1): 43-57 JUN 9 1994
  - Catalytic and spectroscopic studies of vanadium oxide supported on group-IVB metal-oxides for oxidation of toluene; Huuhtanen J, Sanati M, Andersson A, Andersson SLT; APPLIED CATALYSIS A-GENERAL 97 (2): 197-221 APR 23 1993
  - Zirconia-supported vanadium-oxide catalysts for ammoxidation and oxidation of toluene- A characterization and activity study; Sanati M, Andersson A, Wallenberg LR; and Rebenstorf B; APPLIED CATALYSIS A-GENERAL 106 (1): 51-72 NOV 26 1993
  - Drift study of the oxidation and the ammoxidation of toluene over a TiO<sub>2</sub> (B)-supported vanadia catalyst; Sanati M, Andersson A; JOURNAL OF MOLECULAR CATALYSIS 81 (1): 51-62 APR 22 1993
  - A study of spreading of vanadia on titania polymorphs using mechanical mixture; Sanati M, Andersson A, Wallenberg LR; STUDIES IN SURFACE SCIENCE AND CATALYSIS 75: 1755-1758 Part B, 1993
  - Direct propane ammoxidation to acrylonitrile – kinetics and nature of active phase, Andersson A, Andersson SLT, Genti G, Grasseli RK, Sanati M, Trifiro F, Sinev M, Haber J, Suresh DD, Krylov OV, Borders E, Portela MF, Villa PL; STUDIES IN SURFACE SCIENCE AND CATALYSIS 75: 691-705 Part A, 1993
  - EPR studies of the coverage effects in TiO<sub>2</sub> (B)-supported vanadia catalysts for toluene ammoxidation; Jensen S, Tu Y, Palmier MJ, Sanati M, Andersson A; JOURNAL OF CATALYSIS 138 (1): 79-89 NOV 1992
  - Structure-Activity Relationships in the Oxidation of Alkylaromatics over Metal Oxides; Andersson A, Hansen S, Sanati M; SURFACE SCIENCE AND CATALYSIS 67, 34, 1991
  - Kinetics and Mechanisms in the Ammoxidation of Toluene over a TiO<sub>2</sub> (B)-supported Vanadium Oxide Monolayer Catalyst. 2. Combustion Reactions; Sanati M, Andersson A, INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH 30 (2): 320-326 FEB 1991
  - Kinetic and mechanisms in the ammoxidation of toluene over a TiO<sub>2</sub>(B)-supported vanadium-oxide monolayer catalyst; Sanati M, Andersson A; INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH 30 (2): 312-320 FEB 1991

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- Vanadium catalysts on anatase, rutile, and TiO<sub>2</sub>(B) for the ammoxidation of toluene-an ESR and high-resolution electron microscopy characterization; Sanati M, Wallenberg LR, Andersson A, Jensen S, Tu Y; JOURNAL OF CATALYSIS 132 (1): 128-144 NOV 1991
- Ammoxidation of toluene over TiO<sub>2</sub>(B)-supported vanadium-oxide catalysts; Sanati M, Andersson A; JOURNAL OF MOLECULAR CATALYSIS 59 (2): 233-255, 1990
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- Vanadium-Oxide on TiO<sub>2</sub> (B) – A HREM study of catalysis by support interaction; Wallenberg LR, Andersson A, Sanati M; ULTRAMICROSCOPY 34 (1-2): 33-40 NOV 1990
- A high resolution electron microscopy investigation of TiO<sub>2</sub> (B)-supported Vanadium Oxide catalysts; Wallenberg LR, Sanati M, Andersson A; JOURNAL OF CATALYSIS 126 (1): 246-260 NOV 1990
- Structure-activity-relationships in the oxidation of alkylaromatics over metal-oxides; Andersson A, Hansen S, Sanati M; ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY 199: 10-PETR Part 2, APR 22 1990

## Patent

A CATALYST FOR CATALYTIC OXIDATION OF HYDROCARBONS, K. Badii, Mehri Sanati, Ola Augutsson, Neil Cruise, the Swedish Patent and Registration Office, 0203317-3, filing date 11/11-2002, WO 2004/043595 A1

PCT/SE2008/050215 Method and arrangement for detecting particles, Doina Lutic, Anita Lloyd Spetz, Mehri Sanati, Jaco Visser, Peter Jozsa, patent filed by Volvo CC (2008)

## Chapter of Books

Volume 14-**Catalysis**, 1999, Catalytic Oligomerization  
M. Sanati, C. Hörmell, and S. Järås, pp. 237-288, SPECIALIST PERIODICAL REPORTS, Royal Society of Chemistry.

Volume 16-**Catalysis**, 2001, Catalytic Hydrogenation  
M. Sanati, B. Harrysson, M. Faghihi, B. Gevert, and S. Järås, (Catalysis, pp. 1-38), SPECIALIST PERIODICAL REPORTS, Royal Society of Chemistry.

Volume 17 –Catalysis, 2004, Deactivation of Oxidation Catalysts for VOC Abatement by Si and P Compounds, Mohammad Rahmani, Khashayar Badii, Mostafa Faghihi, Mehri Sanati, Neil Cruise, Ola Augustsson, and James J. Spivey, (Catalysis, pp.210-257), SPECIALIST PERIODICAL REPORTS, Royal Society of Chemistry.

Synthesis, Properties and Applications of Oxide Nanomaterials, Editors: José A. Rodriguez and Marcos Fernández-García, Co-author, Chapter 15: Gas sensors (Doina Lutic, M. Sanati and Anita Lloyd Spetz), y John Wiley & Sons, Inc, 2007, pp 411-450.

Structure – activity – relationships in the oxidation of alkylaromatics over metal – oxides; A. Andersson, S Hansen, M Sanati, -ACTIVITY AND SELECTIVITY RELATIONSHIPS IN

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HETEROGENEOUS CATALYSIS Book Series: STUDIES IN SURFACE SCIENCE AND CATALYSIS Volume: 67 Pages: 43-55 Published: 1991; editors GRASSELLI RK; SLEIGHT AW

Direct propane ammoxidation to acrylonitrile – kinetics and nature of the active phase; ANDERSSON A, ANDERSSON SLT, CENTI G, GRASSELLI RK, SANATI M, TRIFIRO F, SINEV M, HABER J, SURESH DD, GRASSELLI RK, KRYLOV OV, BORDES E, PORTELA MF, VILLA PL NEW FRONTIERS IN CATALYSIS, PTS A-C **Book Series: STUDIES IN SURFACE SCIENCE AND CATALYSIS** Volume: 75 Pages: 691-705 Published: 1993; editors Guzzi L; Solymosi F; Tetenyi P

### Conference paper:

1. Hygroscopic behaviour of fluegas particles emitted from a 1.5 MW biomass fired boiler; Rissler J, Szpila A, Lillieblad L, Strand M, Pagels J, Swietlicki E, Bohgard M, Sanati M, European Aerosol conference 2003, 31 August-5 September, Faculty of Medicine, Universidad Complutense de Madrid, ECA 2003, Madrid, Spain, T5P4.6, page 11. Journal of Aerosol Science, Volume 1, 2003, 143, ISSN 0021-8502.
2. Particle emission from biomass fired grate boilers, Lillieblad L, Szpila A, Strand M, Pagels J, Gudmundsson A, Bohgard M, Swietlicki E, Sanati M, European Aerosol conference 2003, 31 August-5 September, Faculty of Medicine, Universidad Complutense de Madrid, ECA 2003, Madrid, Spain, Journal of Aerosol Science, Volume 1, 2003, 127, ISSN 0021-8502
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4. Removal of hydrophobic and hydrophilic volatile organic compounds from contaminated air streams by biofiltration, Bagherpour MB, Nikazar M, Sanati M, Bonakdarpour B, in proceeding of 4<sup>th</sup> EUROPEAN CONGRESS OF CHEMICAL ENGINEERING; Granada Spain, 21-25 September 2003, ISBN 84-88233-26-4, in "Proceeding of the 4<sup>th</sup> European Congress of Chemical Engineering, topic 4.2-10, printed in Journal Chemical & Engineering Technology (J. Wiley)
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9. Effect of water content of packings on the removal efficiency and performance of biofilters treating hydrophobic compounds with emphasis on alpha-pinen; Bagherpour MB, Nikazar N, Sanati M, 16th INTERNATIONAL CONGRESS OF CHEMICAL AND PROCESS ENGINEERING Chisa, 22-26 August 2004, Prague - Czech Republic
10. Parameters affecting performance of biofilters treating Hydrophobic and Hydrophilic Volatile Organic Compounds from contaminated air stream; Bagherpour MB, Nikazar M, Bonakdarpour B, Sanati M, 16th INTERNATIONAL CONGRESS OF CHEMICAL AND PROCESS ENGINEERING, 22-26 August 2004, Prague - Czech Republic, Ser. No. 669, Topic 11.
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