In The Name of God

Mohsen Nosrati

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Personal Particulars

Name	**Mohsen Nosrati**
Date of Birth	**20/11/1970**
Place of Birth	**Tehran, Iran**
Nationality	**Iranian**
Language	**English**
E - Mail	**mnosrati20@modares.ac.ir**
Tel / Fax	**(00 98 21) 82884372 / 8800 50 40**

Educations

Ph.D.	Biochemical Engineering (Environmental Biotechnology) Indian Institute of Technology, Delhi (IIT,D) New Delhi, 2000 to 2004.
M. Tech.	Chemical Engineering (Thermo-Kinetics)

Tarbiat Modares University

Tehran, Iran, 1995 to 1997.

B. Tech. Chemical Engineering (Oil Industries)

Sharif University of Technology
Tehran, Iran, 1991 to 1995.

Positions

Since 2004 Professor, Biotechnology Group

Department of Chemical Engineering,

Tarbiat Modares University

Tehran, Iran.

1997 to 2001 Fuel Engineer and Designer

Agricultural Center of Research, Tehran, Iran.

1995 to 1997 Oil Engineer, Petrochemical Commercial Company (PCC)

ehran, Iran.

Academic Experiences

Since 2004 Professor, Biotechnology Group

Department of Chemical Engineering,

Tarbiat Modares University

Tehran, Iran.

Publications

T. Amani, M. Nosrati, S.M. Mousavi, R.K. Kermanshahi; Analysis of syntrophic anaerobic digestion of volatile fatty acids using enriched cultures in a continuous reactor; Internation Conference on Environment 2010 (green technologies for the benefits of bottom billions);

M. Nosrati, B. Golfar, S. A. Shojaosadati; A thermodynamic approach to energy transduction in mitochondria; journal of non-equilibrium thermodynamics (JNET, ISI); vol. 35; pp. 15–34; May 2010.

F. Yazdian, S. Hajizadeh, S.A. Shojaosadati, M. Jahanshahi, R. Khalilzadeh. **M. Nosrati** (2005) Production of Single CellProtein (SCP) from NaturalGas; Parameter Optimization and RNAevaluation. Iranian Journal of Biotechnology, 3, 235-242.

F. Yazdian, S.A. Shojaosadati, **M. Nosrati**, M.R. Mehrnia, E. Vasheghani-Farahan. (2009) Study of geometry and operational conditions on mixing time, gas hold up, mass transfer and biomass production from natural gas in a horizontal tubular loop bioreactor. Chemical Engineering Science, 64, 540-547.

F. Yazdian, S.A. Shojaosadati, **M. Nosrati**, M. PesaranHajiabbas, E. Vasheghani-Farahani. (2009) Investigation of gas properties, design, and operational parameters on hydrodynamic characteristics, mass transfer, and biomass production

from natural in an external airlift loop bioreactor. Chemical Engineering Science, 64, 2455-2465.

F. Yazdian, M. PesaranHajiabbas, S.A. Shojaosadati, **M. Nosrati**, E. Vasheghani-Farahani, M.R. Mehrnia. (2010) Study of hydrodynamic, mass transfer and energy consumption for biomass production from natural gas in a vertical tubular loop bioreactor. Biochemical Engineering Journal, 49, 192-200.

F. Yazdian, S.A. Shojaosadati, **M. Nosrati**, KH. Malek, M.R. Mehrnia. (2009) On-line measurement of dissolved methane concentration during methane fermentation in a loop bioreactor. Iranian Chemistry and Chemical Engineering Journal, 28, 85-93.

F. Yazdian, S.A. Shojaosadati, **M. Nosrati**, E. Vasheghani-Farahani, M.R. Mehrnia. (2010)Mixing studies in loop bioreactors. Iranian Chemistry and Chemical Engineering Journal, under revision.

F. Yazdian, S.A. Shojaosadati, **M. Nosrati**, E. Vasheghani-Farahani, M.R. Mehrnia. (2010) Comparison of loop bioreactors based on hydrodynamic and mass transfer characteristics for biomass production from natural gas. Iranian Chemistry and Chemical Engineering Journal, in press.

F. Yazdian, M. PesaranHajiabbas, S.A. Shojaosadati, **M. Nosrati**, E. Vasheghani-Farahani, M.R. Mehrnia. (2007) Investigation of mixing time, gas hold-up and flow regime in horizontal tubular loop bioreactor during production of Single cell protein (SCP) from natural gas. 5th National Biotechnology Congress, Tehran, Iran.

F. Yazdian, M. PesaranHajiabbas, S.A. Shojaosadati, **M. Nosrati**, E. Vasheghani-Farahani, M.R. Mehrnia. (2007) Evaluation of gas hold-up and mixing time in loop bioreactors during production of Single cell protein (SCP) from natural gas. Biomicroworld, Seville, Spain

M. Nosrati, S. Sanjaria, A. Haghtalab; Osmotic coefficient data and an excess Gibbs energy function for single-phase complex system of glucose + alcohol + water; fluid phase equilibria (**ISI**); vol. 277; #2; pp. 107–113; Mar. **2009**.

M. Nosrati, M. Jalali, T. Ramaswamy Sreekrishnan, S. A. Shojaosadati; Determination of bio-oxidation energy released by thermophiles in secondary and mixed bio-solids; Iranian journal of chemistry and chemical engineering (IJCC, **ISI**); vol. 26; #2; pp. 125–130; Summer **2007**.

Mohsen Nosrati, Tichur Ramaswamy Sreekrishnan and Satya Narayan Mukhopadhyay; Energy audit, solid reduction and pathogen inactivation in secondary sludge during batch thermophilic aerobic digestion process; journal of environmental engineering; American society of civil engineers (ASCE, **ISI**); vol. 133; #5; pp. 477–484; May **2007**.

Mohsen Nosrati, Mahdi Pesaran Hajiabbas, Fatemeh Yazdian, Seyed Abbas Shojaosadati, Mohammad Reza Mehrnia, Ebrahim Vasheghani Farahani; Investigation of loop bioreactor for production of single cell protein from natural gas; the 5th international chemical engineering congress and exhibition; Kish island; a poster presentation (abstract and CD); Jan. 2–5; **2008**.

Mohsen Nosrati, Seyed Abbas Shojaosadati and Tichur Ramaswamy Sreekrishnan; Thermophilic aerobic digestion of activated sludge, reduction of solids and pathogenic microorganisms; Iranian journal of chemistry and chemical engineering (IJCC, **ISI**); vol. 25; #1; pp. 67–71; Spring **2006**.

Mohsen Nosrati, Seyed Abbas Shojaosadati, Tichur Ramaswamy Sreekrishnan and Satya Narayan Mukhopadhyay; Inhibition of thermophilic anaerobic digestion of waste food by long chain fatty acids and propionate; Iranian journal of biotechnology (IJB, **ISI**); vol. 2; #4; pp. 261–268; Oct. **2004**.

Mohsen Nosrati and Ali Haghtalab; Nonrandom factor model for the excess Gibbs free energy of weak electrolytes including phosphoric acid; fluid phase equilibria (**ISI**); vol. 152; #1; pp. 43–55; Jul. **1998**.

Mohsen Nosrati; Investigation of different factors on efficiency of sodium chlorate electrolysis cells; 4th national Iranian congress of chemical engineering; Sharif university of technology; Tehran, Iran; #4; pp. 411–415; Mar. 8–10; **1999**.

Mohsen Nosrati; Combustion mechanism of solid fuels; 5th national Iranian and 4th international chemical engineering congress; Shiraz university; Shiraz, Iran; #8; pp. 3 (abstract and CD); Apr. 3–5; **2000**.

Mohsen Nosrati and Ali Haghtalab; Solubility prediction of calcium sulfate in salt-acid solutions; 3rd national Iranian congress of chemical engineering; university of Oil Industries; Ahwaz, Iran; #1; pp. 192–195; Mar. 8–10; **1998.**

Mohsen Nosrati and Ali Haghtalab; Development of NRTL–NRF model for the excess Gibbs free energy of phosphoric acid solutions in water; 2nd national Iranian congress of chemical engineering;Amir Kabir university; Tehran, Iran; #2; pp. 194–197; Feb. 24–26; **1997**.

Mohsen Nosrati; "Pradin", a thermodynamic software for solid fuel combustion; 2nd congress of fuel combustion;

Sharif university of technology; Tehran, Iran; #4; pp. 35–41; Feb. 15–17; **2001**.

Mohsen Nosrati and Seyed Abbas Shojaosadati; Thermophilic anaerobic digestion of waste food; 1st national seminar on recycling and waste management of process industries; Tarbiat Modares university; Tehran, Iran; #1; pp. 55 (abstract and CD); Sep. 20–21; **2004**.

Mohsen Nosrati and Seyed Abbas Shojaosadati; Volatile solids removal and pathogen inactivation in activated sludge during thermophilic aerobic digestion; 9th Iranian national congress of chemical engineering; Iran university of science and technology; Tehran, Iran; #3; pp. 25 (abstract and CD); Nov. 23–25; **2004**.

Mohsen Nosrati, Tichur Ramaswamy Sreekrishnan and Seyed Abbas Shojao-sadati; Thermophilic anaerobic digestion of waste food (reactor design); 9th Iranian national congress of chemical engineering; Iran university of science and technology; Tehran, Iran; #6; pp. 148 (abstract and CD); Nov. 23–25; **2004**.

Mohsen Nosrati, Ali Pirouzi and Samira Vasheghani; A thermodynamic model for noncompletely dissociable electrolytes; 10th Iranian chemical engineering congress; Zahedan, Iran; university of Sistan and Balouchestan; pp. 666–673; Nov. 15–17; **2005**,

Mohsen Nosrati, Bahareh Golfar and Seyed Abbas Shojaosadati; A thermo-regulation model for adenosinetriphosphate; 10th Iranian chemical engineering congress; Zahedan, Iran; university of Sistan and Balouchestan; pp. 4387–4392; Nov. 15–17; **2005**.

Mohsen Nosrati, Bahareh Golfar and Seyed Abbas Shojaosadati; Thermodyna-mics of ATP synthesis; 1st symposium of bio-thermodynamics; Frankfurt, Germany; a poster presentation in non-equilibrium thermodynamics section; abstract and CD; Feb. **2005**.

Mohsen Nosrati, Mehdi Jalali and Seyed Abbas Shojaosadati; Denaturation of seeds in sewage sludge using thermal conditioning; 4th national biotechnology congress; Kerman, Iran; a poster presentation in agriculture section; abstract and CD; Aug. **2005**.

Mohsen Nosrati, Mehdi Jalali and Seyed Abbas Shojaosadati; Endogenous res-piration kinetics and measurements of bio-oxidation energy during thermophi-lic aerobic digestion of secondary and mixed biosolids; 4th national biotechnology congress; Kerman, Iran; a poster presentation in environment section; abstract and CD; Aug. **2005**.

Mohsen Nosrati, Neda Nazemi and Seyed Abbas Shojaosadati; Joint culture of two defined methylotrophic strains for denitrification of ground water with natural gas as carbon source; international conference on environmental, industrial and applied microbiology (Bio-Micro-World 2009); Lisbon, Portugal; a poster presentation; #W87 (02/12); Dec. 2–4; **2009**.

Mohsen Nosrati and Shahrzad Hormozdi; Bioreactor design and study of loading rate influence on anaerobic digestion of discarded food for biogas production; 2nd conference and exhibition of environmental engineering; university of Tehran; Tehran, Iran; abstract and CD; May 18–21; **2008**.

Mohsen Nosrati, Soheila Kheradmandnia,Fatemeh Atyabi and Ebrahim Vasheghani Farahani; The effect of process variables on the size of solid lipid nanoparticles prepared from beeswax and carnauba wax; 12th national Iranian congress of chemical engineering; technical university of Sahand; Tabriz, Iran; abstract and CD; Oct. 21–24; **2008**.

Mohsen Nosrati and Bahareh Golfar; Seawater desalination for industrial purpose; Conference on seawater desalination; Tehran, Iran; a poster presen-tation (abstract and CD); pp. 3 in posters proceeding; Feb. 16–17; **2008**.

Mohsen Nosrati and Navid Moghadam; The treatability of landfill leachate using mesophilic and thermophilic activated sludge; 2nd international student congress of biotechnology; university of Tehran; Tehran, Iran; a poster presen-tation (abstract and CD); pp. 254 in abstracts proceeding; Nov. 15–17; **2008**.

Mohsen Nosrati, Ehsan Hosnani and Seyed Abbas Shojaosadati; The impact of biological parameters affecting dewaterability of wastewater biosolids; 2nd international student congress of biotechnology; university of Tehran; Tehran, Iran; a poster presentation (abstract and CD); pp. 237 in abstracts proceeding; Nov. 15–17; **2008**.

Mohsen Nosrati, Ehsan Hosnani and Seyed Abbas Shojaosadati; Role of extracellular polymeric substances in dewaterability of untreated, sonicated and digested waste activated sludges; 1st international conference on advances in

wastewater treatment and reuse (AWTR2009); university of Tehran; Tehran, Iran; abstract and CD; pp. 229 in abstracts proceeding; # 10191-O; Nov. 10-12; **2009.**

Mohsen Nosrati, Navid Moghadam and Seyed Abbas Shojaosadati; Landfill leachate treatment using aerobic thermophilic treatment process; 1st international conference on advances in wastewater treatment and reuse (AWTR2009); university of Tehran; Tehran, Iran; abstract and CD; pp. 233 in abstracts proceeding; # 10196-O; Nov. 10-12; **2009**.

Mohsen Nosrati and Maryam Esnaashari; Reuse of Yazd effluent wastewater; 1st international conference on advances in wastewater treatment and reuse (AWTR2009); university of Tehran; Tehran, Iran; abstract and CD; pp. 258 in abstracts proceeding; # 10227-O; Nov. 10-12; **2009**.

Mohsen Nosrati and Ali Pirouzi; Nan-rondom factor model for the excess Gibbs free energy of sugar solutions; 11th national Iranian congress of chemical engineering; Tarbiat Modares university; Tehran, Iran; (abstract and CD); a poster presentation; Nov. 28-30; **2006**.

Mohsen Nosrati, Bahare Golfar and Seyed Abbas Shojaosadati; The efficiency of ATP production in various mitochondria populations; 11th national Iranian congress of chemical engineering; Tarbiat Modares university; Tehran, Iran; (abstract and CD); Nov. 28-30; **2006**.

Mohsen Nosrati, Zahra Sahebnazar, Mahsa Mohammad Taheri, Seyes Abbas Shojaosadati, Mahmud Naderi and Abdolhamid Tehrani; Evaluation of biodegra-bility of polyethylene under composting condition; international conference on environmental, industrial and applied microbiology; Bio Micro World; Seville, Spain; a poster presentation; Nov. 28-Dec. 1; **2007**.

Mohsen Nosrati, Tichur Ramaswamy Sreekrishnan and Raghav Narayanan; An energy-efficient process for treatment of sewage sludge; international water association (IWA/Biosolids 2007); Moncton (New Brunswick), Canada; #id 176220; pp. 747-752; Jun. 24-27; **2007**.

Invention dissolved methan sensor yazd shoja nosrati fateme zajkaniha hamid bonyad iraniamn patents

Mohsen Nosrati; Production of biomass from natural gas; an approach to thermodynamics, mass transfer and hydrodynamic aspects; biomass and bioenergy; **2010**.

Mohsen Nosrati; Comparison of different loop bioreactors based on hydrodynamic characteristics, mass transfer, energy consumption and biomass production from natural gas. biotechnology advances; **2010**.

Treatment of industrial wastewaters by ozone; **Mohsen Nosrati** and Mohammad Sharif Yekkelar; Farayand (journal of chemical engineering department in Sharif university of technology); Tehran, Iran; (#0) 14-18, 1996.

Research Interests

1. Environmental Biotechnology
2. Biological Waste Treatment
3. Bio-reactions and Bio-reactors
4. Biological Thermodynamics
5. Fuel and Combustion
6. Thermodynamics of Electrolyte Solution

Courses Taught

1. Bio – Kinetics and Bio – Reactor Design

2. Biological Thermodynamics

3. Nano – Thermodynamics

4. Thermodynamics of Non-Ideal Solutions

5. Downstream Processing in Biological Systems

6. Transport Phenomena

7. Industrial Microbiology

8. Electrochemistry