

## CURRICULUM VITAE

# HAMID NABATI



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## EDUCATION

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- Department of Energy Technology, KTH, Stokholm, Sweden

RPP. Research Preparatory Program Sept. 2004 –Aug 2005

- Faculty of Engineering, University of Tabriz, Tabriz, Iran Sep. 1997 – July 2000

M.S. Degree Score (16.92/20).

Major: Mechanical Engineering

Minor: Energy Conversion

**Thesis:** “*Thermodynamic and Economical Investigation of Steam Power Plants Repowering*”

- Faculty of Engineering, Orumia University, Orumia, Iran. Oct. 1993 – Sep. 1997

B.S. Degree Score (15.16/20).

Major: Mechanical Engineering Minor: Fluid Dynamics & Heat Transfer

Project: “*Absorption System Designing for Automotive Cooler*”

- Alameh-ye-Helly high school (The competitive school for exceptionally talented students in Iran)

Diploma in Mathematics and Physics, Score (16.30/20). 1990- 1993

## EMPLOYMENT HISTORY

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### Research Expert in Thermal Systems of Power Plants

Niroo Research Institute, Tehran –Iran

Jul. 2000 – Sep. 2004

### Industrial Boiler Adviser

Niroo Consulting Engineers Co., Tehran-Iran

Jul. 2001 – Oct. 2002

### CNC Machin Operator and Programmer

Plåt & Mekano Company, Stockholm, Sweden

Feb. 2005 –Aug. 2005

### Assistant Professor, Mechanical Engineering Dept.,

Mechanical Engineering Dept., Azad University of Hamadan, Iran

Sep. 2005 – .....

■ **Cadet**

- 1- Taban Shahr Co.(Buali Sina Hospital Construction Project), Hamedan, Iran     **Summer 1997**
- 2- Heavy Machinery Maintenance Section, Hamedan Way and Transportation Regional Office, Hamedan, Iran     **Summer 1996**

**ACADEMIC EXPERIENCE**

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**Department of Energy Technology, KTH, Stockholm, Sweden     2004 – 2005**

- Simulation of single pressure combined cycle for CompEdu (Educational package presented by Energy department, KTH), using excel and VBA programming language.
- Preparing a computerised complete thermodynamic table for water and steam, using excel and VBA programming language.

**Faculty of Engineering, University of Tabriz, Tabriz, Iran     1997 – 2000**

- Thermodynamic and economical investigation of steam power plants repowering

**Faculty of Engineering, Orumia University, Orumia, Iran     1993 – 1997**

- Design of cooling absorption system for automotive HVAC system

**INDUSTRIAL EXPERIENCE**

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**NRI, Niroo Research Institute, Tehran, Iran     2000–2004**

- Modeling of boiler and furnace of utility power plants by experimental equations and zonal method of analysis.(Software Preparation – Touss Software)
- Development of computer code for 3D direct and total exchange area in radiative calculations.
- Consultant in gas turbine inlet air cooling system project (rey and fars power plants)
- Project manager:
  - 1- “Design and manufacturing of an experimental model to analysis cooling system of small generators.”
  - 2- “GE-F9 gas turbine inlet air cooling system design and installation for Yazd power plant ”
- Design of heat recovery steam generator (hrsg) for Yazd solar thermal power plant
- Installation of test stands for small generator cooling system modelling

**Niroo Consulting Engineers Co, Tehran, Iran.     2001–2002**

- Fault diagnosis of two SD33 boilers used in sugar industry

**Technology Development Institute (TDI), Tehran, Iran.     2005–2006**

- Numerical modeling of cooling system radiator installed on apower transformer

**PUBLICATIONS**

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**Conferences**

- 1- Nabati H., Mahmoudi J., "Optimal Pin Fin Heat Exchanger Surface for Pulp and Paper Industry", the Fifth International IMACS Symposium on Mathematical Modelling (5th MATHMOD), February 8 – 10, Vienna

University of Technology, Vienna, Austria, 2006.

- 2- Nabati H., Mahmoudi J., "Numerical Study of Thermal Performance of Different Pin-Fin Morphologies", 46th Conference on Simulation and Modelling (SIMS 2005), Trondheim, Norway, 2005.
- 3- H.Nabati, M. Ameri, "Installation & Testing of The Fog Inlet Air Cooling System for the ShahidRajaie Combined Cycle Power Plant", 14th International THERMO Conference 22-24 June, 2005, Budapest Hungary.
- 4- H.Nabati, M. Ameri, "Gas Turbine Power Augmentation Using Fog Inlet Air-Cooling System", Proceedings of ESDA04, 7th Biennial Conference on Engineering Systems Design and Analysis, July 19-22, 2004, Manchester, United Kingdom.
- 5- H.Nabati, R.Hosseini, Y.Porasad, "Experimental determination of heat transfer coefficient for stationary and rotating horizontal cylinder" Journal of Engineering of the University of Mazandaran, Vol. 2, no 3-4, Autumn 2003-Winter 2004.
- 6- H. Nabati, M. Soltani, R. Hosseini, " Technical And Economic Assessment Of The Inlet Air Cooling System Application For Power Augmentation In The Hot Season For Rey Power Plant Fiat Gas Turbine Units ", 18th International Power System Conference, October 2003, Tehran, Iran, 98-F-EPG-321, pp 203-213.
- 7- H. Nabati, K. Sarabchi, "Converting of Steam Power Plant to Combined Cycle by Boiler Repowering", HEFAT2003, 2nd International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics 23 – 26 June 2003, Victoria Falls, Zambia, Paper number: NH2
- 8- H. Nabati, M. Soltani, " Operation Analysis of Touss Power Plant Cycle and Boiler by Touss Software", 17th International Power System Conference, October 2002, Tehran, Iran, 98-F-EPG-533, pp 201-210.
- 9- H. Nabati, M. Soltani, R. Hosseini, "Modeling of Touss Power Plant Boiler By Zone Method", 16th International Power System Conference, October 2001, Tehran, Iran, 98-F-POP-266, pp 83-95.
- 10- K.Sarabchi, H. Nabati, "Repowering of the Steam Power Plant", 16th International Power System Conference, October 2001, Tehran, Iran, 98-f-pop-565, pp 223-235.
- 11- K.Sarabchi, H. Nabati, "Thermodynamical Investigation of Steam Power Plant Repowering By Combined Cycle Conversion", Proceeding of 8th Annual Iranian Mechanical Engineers Association Conference, May 16-19, 2000, Tehran, Iran, pp 649-659.

#### **Journals:**

- 12- Mahmoudi J., Nabati H., "An Experimental Study on Productivity and Quality Improvement of Horizontal Continuous Casting Process", International Journal of Green Energy, Vol. 3, Number 2, pp 185-199, 2006.

#### **Reports**

- Numerical Study of Thermal Performance of Different Pin-Fin Morphologies with Air Impingement through CFD Modeling, Outokumpu R&D department, Västrås, Sweden, Aug 2005.
- Feasibility Study and Scheme Selection of Inlet Air Cooling System for Yazd Combined Cycle Power Plant Gas Turbines, Power Generation Research

Center, Mechanical Department, NRI, Report No. PMEBT01/T1, Sep. 2003.

- As Built Drawing For Generator Model Construction and Installation report, NRI Report PMEPN08/T2, (Project: Design & Construction of an Experimental Model for Small Generator Cooling System Simulation”, Mechanical Systems Department, Niroo Research Institute, Sep 2003
- Design of Required Model and Experiences and Thechnical data Specification for Small Generator Cooling, NRI Report PMEPN08/T1, (Project: Design & Construction of an Experimental Model for Small Generator Cooling System Simulation”, Mechanical Systems Department, Niroo Research Institute, Febuary 2002
- Final Technical and Economical Evaluation of Installed Gas Turbine Inlet Air Cooling Evaporative Cooler System in Rey Power Plant ”, Power Generation Research Center, Mechanical Department, Report No. PMEBT01/T2, 2003.
- Technical and Economical Evaluation of Proposed Schemes for Gas Turbine Inlet Air Cooling Evaporative Cooler System in Rey Power Plant ”, Power Generation Research Center, Mechanical Department, Report No.PMEBT01/T1, 2002.
- Touss software help, NRI, Power Generation Research Center, Mechanical Department, Report No. PMENT01/T21, 2001.
- Results of Touss Boiler modeling software, NRI, Power Generation Research Center, Mechanical Department, Report No. PMENT01/T20, 2001.
- Touss boiler modeling with experimental method, NRI, Power Generation Research Center, Mechanical Department, Report No. PMENT01/T18, 2001.
- Touss boiler modeling with zone method, NRI, Power Generation Research Center, Mechanical Department, Report No. PMENT01/T19, 2001.
- Design of Heat Recovery Steam Generator for Yazd Solar Thermal Power Plant, NRI Report PMESB01/T3, November 2000, (Project: Feasibility Study & Conceptual Design of Yazd Solar Thermal Power Plant, Mechanical Systems Department).

#### **Book**

- Book Translation, “Heat Transfer Tools - Educational Software for Heat and Mass Transfer”, Under Publication.

### **ADDITIONAL PROFESSIONAL ACTIVITIES**

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#### **Teaching Experience**

- Assistant in thermodynamics courses in Tabriz university 1997 - 1999
- Physics and mathematics teacher in high school (Allamehye Helly High School, Hamedan-Iran) Oct. 1997 – Jun. 1999

#### **Fluent Software Simulation**

- Simulation of air flow in gas turbine intake ducts
- Simulation of flow behaviour in heat exchanger
- Numerical study of thermal performance of different pin-fin morphologies

#### **Training**

- Fluent and Gambit software training, NRI
- Letter writing in English, NRI
- Visual basic programming, NRI
- Labview software, NRI

- Thermal systems modelling workshop, NRI
- New methods of thecnical papers presentation, NRI

#### COMPUTER SKILLS

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- Programming in *Fortran 90*
- Programming in **Visual Basic**, **Quick Basic** and **VBA**
- Familiarity with scientific software such as **Maple**, **MATLAB**, **EES**
- Fluent in **Gambit**, **Fluent**
- Familiarity with **Star-CD**
- Familiarity with **LabView 6**
- Familiarity with **AutoCad**
- Fluent in operating systems such as **MSDOS**, **Windows98/2000/XP**
- Fluent in **Office** Softwares and **Visio**

#### PROFESSIONAL MEMBERSHIPS

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- Associate member, iranian construction engineers organization, Province of Hamadan
- Iranian society of mechanical engineering (ISME)

#### LANGUAGES

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- Farsi: Fluent
- English: Good (IELTS 6 Bond Score)
- Swedish: Basic knowledge

#### RESEARCH INTERESTS

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- Thermal system simulation
- Numerical method in heat transfer
- Thermodynamics and combustion
- Steam and gas turbine power plants
- Computer programming

#### SPECIAL INTEREST COURSES

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- Measurement techniques, numerical methods in energy technology, labview, advanced courses in thermodynamics, renewable energy, fluid dynamics, heat transfer

#### OTHER FIELDS OF INTEREST

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##### Music

- Iranian Traditional Music
- Classical Music

##### Literature

- Persian literature

### **Hobbies**

- Football, Music, Chess, Picnic, Mountain Climbing

### **REFERENCES**

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- 1- Dr Andrew Martin, Associate Professor, Department of Energy Technology, Royal Institute of Technology, KTH, Stockholm, Sweden,  
Email: andrew@energy.kth.se, Tel.: +46 8 7907473, fax: +46 8 204161
- 2- Narmin Baagherzadeh-Hushmandi, PhD student Department of Energy Technology, Royal institute of Technology (KTH), Stockholm, Sweden, Email: Narmin.Baagherzadeh-Hushmandi@energy.kth.se, Tel.: +46 8 790 74 80
- 3- Dr Hessam Taherian, Assistant Professor, Mechanical Engineering Dept., Faculty of Engineering, Mazandaran University, P.O.Box. 484, Babol, Iran, Email: taheriah@yahoo.com (Primary); Taherih@tech.umz.ac.ir ; Tel. +98-911-151-8741 (9 am-10 pm, Tehran time GMT +3.5), Fax:+98-111-3234201