

Dear Sir,

My name is **Srinath** and I am doing my PhD in National University of Singapore under the supervision of Dr. Rudyanto Gunawan (who is currently at ETH Zürich).

I am in the final stages of my PhD and I expect to finish my thesis by August 2011. I would like to do a post-doc with you as it matches my research interests too. I worked on Parameter Identifiability, Parameter Estimation and Model-Based Design of Experiments of ordinary differential equation (ODE) models for my PhD thesis. I feel having such strong background in computational modeling, I would suit your project. This mail is a formal application for the same.

I've attached my resume for your perusal. A gist about my academic career so far:

- I did my **B.Tech (Chemical Engg)** from **Anna University**, Chennai, India (2001-2005)
- Then I pursued my masters, **M.Tech (Advanced Chemical Analysis)** at **IIT Roorkee**, India (2005-2007)
- Since 2007 I am at **NUS** doing my **PhD**.

As far as my post-doc is concerned, I am open to any kind of computational project where in I can use my acquired skills and harness any new skills, if necessary, to achieve the desired goal(s).

I am highly interested in doing a post-doc in your group and await any kind of response from you in this regards. Please find my resume and the names of three references below.

Best Regards,

S. Srinath

SRIDHARAN SRINATH

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OBJECTIVE

To make interesting & useful contributions in the area of (bio)chemical process modeling and to facilitate student learning.

RESEARCH INTERESTS

Biochemical Systems Theory, Systems Biology, Mathematical Modeling of Biological Systems, Multivariate Statistical Data Analysis and Optimization

ACADEMIC PROFILE

**August 2007-
Present:**

Doctor of Philosophy

Department of Chemical & Biomolecular Engineering
National University of Singapore

Supervisor(s): Dr. Rudiyanto Gunawan

Thesis area: Model Identification in the Biochemical Systems Theory

**July 2005 -
June 2007:**

Master of Technology in Advanced Chemical Analysis (GPA: 9.0/10.0)

Department of Chemistry,
Indian Institute of Technology, Roorkee, India

Supervisor: Dr. P.P. Thankachan

Thesis area: Theoretical Studies of Stability and Reactivity of
Lower Fullerenes

**August 2001 –
May 2005:**

Bachelor of Technology in Chemical Engineering (81.1%)

Anna University, Chennai, India

Project Title: Hydrodynamic studies in a tapered fluidized bed reactor
and design of water treatment plant.

Supervisor: Dr. R. Parthiban

RESEARCH EXPERIENCE

Dynamic BioSystems Group (Aug 2007 - Present)

Thesis: Model Identification in the Biochemical Systems Theory

Institute: National University of Singapore, Singapore

Advisor(s): Dr. Rudiyanto Gunawan

- Developed methods for parameter identifiability of ODE models, with special focus on BST models. Extended this method to decoupled and lin-log models
- Developed a method for optimal experiment design based on quadratic approximation of parameter inference region
- Integrated the above methods into a useful tool in MATLAB

Theoretical Chemistry Lab, IIT Roorkee (July 2006 – June 2007)

Thesis: Theoretical Studies of Stability and Reactivity of Lower Fullerenes

Institute: Indian Institute of Technology Roorkee, India

Advisor(s): Dr. P. P. Thankachan

- Studied the structure and properties of the lower fullerenes – C_{20} and C_{24} .
- Also studied the dynamics of their hydrogenation.

TEACHING EXPERIENCE

Tutor, National University of Singapore

CN 2116 Chemical Kinetics and Reactor Design (Sem II, 2009-2010)

IT 1005 Introduction to Computing with MATLAB (Sem I, 2010-2011)

Grader, National University of Singapore

CN 3124 Particulate Technology (Sem II 2007-2008; Sem II 2008-2009)

CN 3421 Process Modelling & Numerical Simulation (Sem II 2007-2008; Sem II 2008-2009)

Supervised 2 undergraduate students towards their research project, NUS

INTERNSHIP EXPERIENCE

- Implant training at Lux flavours, Chennai and at Vasudha Pharma Chem Ltd., Hyderabad.
- Worked on selected Analytical Techniques and got familiarized with their principle and operation at **Dr.Reddy's Laboratories Ltd**, Hyderabad, India

RESEARCH OUTCOMES

Journal publications:

1. Srinath S and Gunawan R. *Parameter identifiability of power-law biochemical system models*. J Biotechnol **2010** Sep 1; 149(3) 132-40.

Conference Proceedings:

1. Srinath S, Gunawan R. (2011) *Model-based Design of Experiment for Kinetic Parameter Identification: Beyond the Fisher Information Matrix*, 12th International Conference on Molecular Systems Biology (ICMSB), Lleida, Spain, May 8-12
2. Srinath S, Gunawan R. (2010) *Parameter Identifiability of Metabolic Network Models*, In *Satellite Conference of the International Congress of Mathematics*, Hyderabad, India, Aug 16-18
3. Srinath S, Yuan Z, Gunawan R. (2010) *Identifiability Analysis of Decoupled Power-Law Models*, 5th International Symposium on Design, Operation and Control of Chemical Processes (PSE Asia), Singapore, July 25-28
4. Srinath S, Gunawan R. (2010) *Parameter Identifiability in Kinetic Modeling of Metabolic Pathways*, Poster presented at the Metabolic Engineering Conference VIII, Jeju Island, South Korea, Jun 13 - 17
5. Srinath S, Gunawan R. (2009) *Identifiability Analysis of Metabolic Networks*, 11th International Conference on Molecular Systems Biology (ICMSB), Shanghai, China, June 21-25

TECHNICAL SKILLS

- C/C++ programming and hands on knowledge in COMSOL Multiphysics, GAMS and HySys
- Extensive knowledge and familiarity with MATLAB.

ADDITIONAL TRAINING

- Communication skills workshop, NUS, March, 2008
- Training Course for Teaching Assistants workshop, December, 2009

HONORS & ACTIVITIES

- Department of Chemistry topper in M.Tech in IIT Roorkee (July 2005- July 2007)
- NUS Research Fellowship – Aug 2007 to Aug 2011
- Actively participated in the organizing committee of PSE Asia 2010
- Treasurer, Graduate Students' Association, National University of Singapore, Singapore (2008 – 2009) and coordinated in organizing “Chembiochem ‘08”, a regional conference in NUS.

PERSONAL PROFILE

Nationality	:	Indian
Date of Birth	:	10 th May 1984
Gender	:	Male
Marital Status	:	Married
Alternate Id	:	srinath.svce@gmail.com
Languages Known	:	English, Hindi, Tamil and Telugu

REFERENCES

Dr. Rudiyanto Gunawan
Institute for Chemical and Bioengineering,
ETH Zürich, Switzerland
Email: rudi.gunawan@chem.ethz.ch

Dr. Lakshminarayanan S.
E4-06-05, Department of Chemical and Biomolecular Engineering,
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Dr. P.P.Thankachan
Department of Chemistry
IIT Roorkee,Roorkee
India-247667
Email: thankachan1950@gmail.com

DECLARATION

I hereby declare that all the details furnished above are true to the best of my knowledge.

PLACE: Singapore

DATE: 28/05/2011

SRIDHARAN SRINATH