

## Curriculum Vitae : Somporn CHUAI-AREE

**Name** Somporn Chuai-Aree  
**Date of Birth** September 30, 1974  
**Place of Birth** Nakhon Si Thammarat, Thailand  
**Nationality** Thai  
**Religion** Buddhism  
**Marital Status** Single



### Home Address (Thailand)

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69126 Heidelberg, Germany

### Educational Background

Year	Degree	Institute	GPA
March 2001- present	Ph.D. Student (Applied Mathematics)	University of Heidelberg, Heidelberg, Germany	-
Oct 2000	M.Sc. (Computational Science)	Chulalongkorn University, Bangkok, Thailand	3.89
May 1997	B.Sc. (Applied Mathematics)	Prince of Songkla University, Pattani, Thailand	3.45
1990 - 1993	Senior High School (Maths and Science, emphasis on Agriculture)	Thung Song School, Nakhon Si Thammarat, Thailand	2.92
1987 - 1990	Junior High School (Maths and Science, emphasis on Agriculture)	Kuankoei Sutthivittaya School, Nakhon Si Thammarat, Thailand	2.93
1982 - 1987	Primary School	Wad Kuankoei School, Nakhon Si Thammarat, Thailand	-

## Research Projects

- 2001-present      Modeling, Simulation and Visualization of Plants Growth : Prof. Jäger's Group "Applied Analysis" at IWR (Interdisciplinary Center for Scientific Computing), Ruprecht-Karls-Universität Heidelberg, Heidelberg, Germany (using OpenGL on IRIX System)
- Advisors: Prof. Dr. Dr. h.c. mult. Willi Jäger  
Prof. Dr. Dr. h.c. Hans Georg Bock
- 1999-2000      An Algorithm for Simulation and Visualization of Plant Shoots Growth (using Delphi 5.0 and OpenGL on Microsoft Windows 98)
- Advisors: Assoc. Prof. Suchada Siripant  
Prof. Dr. Chidchanok Lursinsap
- 1996-1997      Database Management System for Student Affair of Faculty of Science and Technology, Prince of Songkla University, Pattani Campus (using Microsoft Access version 7.0 on Microsoft Windows 95)
- Advisors: Assist. Prof. Sunan Thongsrinuch  
Rattikarn Saelim

## Publications

### Research Proceedings:

1. W. Kanbua, S. Chuai-Aree: Virtual Wave : an Algorithm for Visualization of Ocean Wave Forecast in the Gulf of Thailand. The 2nd International Symposium on Mathematical, Statistical and Computer Sciences , Bangkok, Thailand, February 19-20, 2005.
2. S. Chuai-Aree, W. Jäger, H. G. Bock, S. Siripant: Modeling, Simulation and Visualization of Plant Root Growth and Diffusion Processes in Soil Volume. Proc. of 4TH International Workshop on Functional-Structural Plant Models , Montpellier, France, June 7-11, 2004, pp. 289-293.
3. S. Chuai-Aree, W. Jäger, H. G. Bock, S. Siripant: PlantVR: Software for simulation and visualization of a model for plant growth. Proc. of 4TH International Workshop on Functional-Structural Plant Models , Montpellier, France, June 7-11, 2004, pp. 418.
4. S. Chuai-Aree, W. Jäger, H. G. Bock, S. Siripant, C. Lursinsap: PlantVR : An Algorithm for Generating Plant Shoot and Root Growth Using Applied Lindenmayer Systems. In B.Hu and M. Jaeger (eds.): Proc. of 2003' Intern. Symposium on Plant growth Modeling, simulation, visualization and their Applications , Tsinghua University Press - Springer Verlag, October 13-16, Beijing, China, pp. 55-68, 2003.
5. S. Chuai-Aree, W. Jäger, H. G. Bock, S. Siripant: Simulation and Visualization of Plant Growth using Lindenmayer Systems, Proc. of Intern. Conf. on High Performance Scientific Computing (HPSC), March 10-14, Hanoi, Vietnam, 2003.

6. S. Chuai-Aree, W. Jäger, H. G. Bock, S. Siripant: Smooth Animation for Plant Growth Using Time Embedded Component and Growth Function. In N. V. Sanh, Y. Lenbury, Y. H. Wu and B. Wiwatanapataphee (eds.): Proc. of Intern. Conf. on Computational Mathematics and Modeling, May 22-24, Thailand, in East-West Journal of Mathematics, special volume, pp. 285-295, 2002.
7. Chuai-Aree, S., Siripant, S. and Lursinsap, C., "Animating plant growth in L-system by parametric functional symbols", Proc. of Intern. Conf. on Intelligent Technology 2000, December 13-15, Assumption University Bangkok, Thailand, pp. 135-143, 2000.
8. Chuai-Aree, S., Lursinsap, C., Sophatsathit, P. and Siripant, S., "Fuzzy C-Mean: A statistical feature classification of text and image segmentation method", Proc. of Intern. Conf. on Intelligent Technology 2000, December 13-15, Assumption University Bangkok, Thailand, pp. 279-284, 2000.

### Research Journals:

1. S. Chuai-Aree, W. Jäger, H. G. Bock, S. Siripant: Simulation and Visualization of Plant Growth Using Lindenmayer Systems. In H. G. Bock, E. Kostina, H. X. Phu and R. Rannacher (eds.): Modeling, Simulation and Optimization of Complex Processes, Springer-Verlag, pp. 115-126, 2005.
2. Rodkeaw, Y., Chuai-Aree, S., Lursinsap, C., Sophatsathit, P. and Siripant, S. and Chongstitvatana, P., "Animating Plant Growth in L-System by Parametric Functional Symbols", International Journal of Intelligent Systems, Vol. 19(1-2), (2004), pp. 9-23.
3. S. Chuai-Aree, W. Jäger, H. G. Bock, S. Siripant: Smooth Animation for Plant Growth Using Time Embedded Component and Growth Function. East-West Journal of Mathematics, Special Volume, pp. 285-295, 2002. ( pdf )
4. Chuai-Aree, S., Lursinsap, C., Sophatsathit, P. and Siripant, S., "Fuzzy C-Mean: A statistical feature classification of text and image segmentation method", International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems, Vol. 9(6), (2001), pp. 661-671, World Scientific Publishing Company.

### Working experiences

May 1997-present	Lecturer in Introduction to Computer, Introduction to Computer Programming, Operating System, Computer System, Information Technology and Mathematical Modelling for undergraduate students, Department of Mathematics and Computer Science, Faculty of Science and Technology, Prince of Songkla University, Thailand
*June 1998 – Oct 2000	Leaving for M.Sc. (Computational Science), Chulalongkorn University, Bangkok, Thailand
*March 2001 – Present	Leaving for Ph.D. (Applied Mathematics), University of Heidelberg, Germany

### Scholarships and Awards

2001- present	Ph.D. Scholarship from Thai Government, Thailand
1999-2000	M.Sc. Scholarship from Thai Government, Thailand
1998-1999	TAB Foundation Scholarship, Chulalongkorn University, Bangkok, Thailand
1994-1996	B.Sc. Scholarship from Thai Government, Thailand

## **Skills and Qualifications**

Computer Languages	C, Pascal, Delphi, Visual Basic, HTML, OpenGL, MPI, basic knowledge in C++ and JAVA
Computer OS	Microsoft Windows 3.1/95/98/ME/2000/NT/XP, Unix/Linux/IRIX
System Administration	Novell Netware/Unix/Linux

## **Research Interests**

Simulation and Visualization of Plant Growth, Lindenmayer systems (L-systems), Plant Model, Numerical Analysis, Image Processing, Computational Biology, Parallel Processing, Simulation and Optimization, Computational Science, Computer Graphics and Visualization, Artificial Neural Network, Fuzzy logic, Ocean Wave and Tsunami Simulation

## **Activities**

2002 – Present	As a committee of Borijak Project supporting the scholarship for junior high school students in North-East Thailand.
2003	As a committee of 2 <sup>nd</sup> Thai Student Academic Conference (ThaiSAC2003), Aachen, Germany.
2002	As a committee of 1 <sup>st</sup> Thai Student Academic Conference (ThaiSAC2002), Stuttgart, Germany.
1995-1996	Student Representative of Student Union, Prince of Songkla University, Pattani Campus, Thailand.
1994-1995	Student Representative of Faculty of Science and Technology, Prince of Songkla University, Pattani Campus, Thailand.

## **Languages**

Thai (Native Language), English and basic of German.