Curriculum Vitae

Name: Dr.-Ing.Phatcharasak Arlai

Birthplace: Phetchaburi, Thailand

Sex: Male

Professional: Governmental lecturer at C7 level (C11-maximum level)

Work place:

Research Center of Sustainable Water Resource and Disaster Mitigation Management,

Program of Civil and Environmental Engineering,

Nakhon Pathom Rajabhat University,

85 Malaiman Rd., Muang, Nakhon Pathom, Thailand, 73000.

Education:

B.Eng (Water Resources Engineering) with a civil professional certificate in 1997, Kasetsart University, Thailand

M.Eng (Water Resources Engineering), Chulalongkorn University, Thailand

Dr.-Ing.(Civil Engineering) with “Magna Cum Laude”, University of Kassel, the Republic of Germany

Visiting researcher at Water Resources Research Center, Disaster Prevention Research Institute, Kyoto University, 2008 (Full Scholarship under UMAP program).

Professional experience:

1. 1999-2000: Teaching assistant at Hydrology and Hydraulic lab, Department of Water Resources Engineering, Chulalongkorn University, Thailand
2. 1999-2000: Research assistant: Flood monitoring in Bangkok Metropolitan
3. 2000: Hydrologist of the master plan of river transport in North and Northeast of Thailand
4. 2000 to 2007: Lecturer at Program of Construction Technology
5. 2007 to present: Lecturer at Program of Civil and Environmental Engineering
6. 2009: I joined the water expert seminar in TU Braunschweig was financed by DAAD.

Research Interests:

1. Groundwater and Solute Transport Modeling
2. Stochastic Subsurface Flow
3. Geostatistics
4. Optimization Techniques for Groundwater Resources Management
5. Variable Density Groundwater Flow and Solute Transport
6. Conjunctive Uses between Groundwater and Surface Water
7. Hydrological Models
8. Hydrodynamic Models
9. Micro Hydropower
10. Sedimentation and Erosion

Research Projects:

1. Investigation for Mitigation Flood in Lower Chao Phraya River Basin by Using the Retention Ponds and Flood Recharge into Bangkok Aquifers was funded by National Research Council of Thailand. Its period was 2007 to 2008.
2. Groundwater and Solute Transport Modeling part of the project of improvement and develop law for the groundwater conservation was funded by Chulalongkorn University. Its period was 2007 to 2008.
3. Land Subsidence Investigation in Bangkok was funded by Chulalongkorn University. Its period was 2008

4. Safe Yield Investigation in Kok River Basin, Chiang Rai, North of Thailand was financed by Department of Groundwater Resources, Thailand. Its study period was 2009-2010.
5. Underground Dam Design in Samui Island: Modeling Part was employed by Sanyu Company during 2010 – present.
6. Numerical Investigation of Safe Yield in Bangkok Aquifers System under the constraints of Flow, Saline Contamination and Land Subsidence during 2010 – present.

Special Lectures:

1. Design Weir and Retention Wall, 2007 at Nakhon Pathom Rajabhat University
2. Groundwater Modeling, July 4th, 2008, at Chulalongkorn University
3. Applications of Groundwater Modeling for Groundwater Management and Geotechnology Works, Oct, 2008 at Nakhon Pathom Rajabhat University.

Lecture Notes:

1. Design Weir and Retention Wall
2. Groundwater Modeling
3. Applications of Groundwater Modeling for Groundwater Management and Geotechnology Works

Conference/Proceeding/Journals

1. Arlai, P. and Tuantan Kitpaisalsakul, Contribution of rainfall-runoff data measurement to direct runoff hydrograph computation, Journal of Research and Development Vol.12, 4 (2001), Engineering Institute of Thailand under King Patronage.

2. Arlai, P., Statistic and inverse model to evaluate reliability calibrated parameters in a complex-aquifer-system, Wasser-Abfall Seminar, University of Kassel, Germany, December 8, 2005, Presentation.
3. Arlai, P., Koch,M.,,and S. Koontanakulvong, Modeling flow and transport for sustainble yield estimation of groundwater resources in the Bangkok aquifer system EGU General Assembly 2006, Vienna, Austria, April 2-7, 2006. Poster.
4. Arlai, P., M. Koch, S. Koontanakulvong and W. Bejranonda, Numerical Modeling as a Tool to Investigate the Feasibility of Artificial Recharge to Prevent Possible Saltwater Intrusion into the Bangkok Coastal Aquifers System , In: Proceedings of Groundwater Hydraulics in Complex Environments, Toulouse, France, June 12-14, 2006.
5. Arlai, P., M. Koch and S. Koontanakulvong, Statistical and Stochastical Approaches to Assess Reasonable Calibrated Parameters in a Complex Multi-Aquifer System , In: Proceedings of CMWR XVI - Computational Methods in Water Resources , Copenhagen, Denmark, June 19-22, 2006.
6. Arlai, P., M. Koch and S. Koontanakulvong, Numerical Investigation of the Cradle of Saline Contamination and Effective Remediation Schemes for Amending Saline Water Pollution Problem in the Bangkok Coastal Aquifers System , 3rd APHW Conference , Bangkok, October 16-18, 2006. Poster
7. Arlai, P., M. Koch and S. Koontanakulvong, Embedding an Optimization Module within a 3D Density Dependent Groundwater and Solute Transport Model to determine an effective Groundwater Management Scheme in the Bangkok Aquifers System , In: Proceedings of Asian Simulation and Modelling 2007, Chiang Mai, Thailand, January 9-11, 2007.
8. Arlai, P., and M. Koch, Numerical Investigation of the original Sources of saline Pollution and efficient Remediation Scenarios in the Bangkok multilayer-Aquifer System , In: Proceedings of 12th National Convention on Civil Engineering, , Phitsanulok, Thailand, 2-4 May, 2007.
9. Arlai, P., and M. Koch, Need for density-dependent Flow and Transport Modeling of horizontal Seawater and vertical Saltwater Intrusion in the Bangkok multilayer-Aquifer System , In: Proceedings of 12th National Convention on Civil Engineering, , Phitsanulok, Thailand, 2-4 May, 2007.

10. Koch, M. and P. Arlai, Deterministic and stochastic Modeling of Groundwater Flow and Solute Transport in the heavily-stressed Bangkok coastal Aquifer, Thailand, and Investigation of optimal Management Strategies for possible Aquifer Restoration , IAH-conference 2007, Lissabon, Portugal , 2007.
11. Koch, M. and P. Arlai, A stochastical approach to assess the reliability of parameter calibration in a complex, heavily- stressed multi-aquifer system, IUGG XXIV 2007, Perugia, Italy , 2007. Presentation.
12. Arlai, P. and M. Koch, Numerical Modeling of possible Saltwater Intrusion Mechanisms in the Coastal Aquifer System of the Gulf of Thailand and Development of optimal Management Strategies for its possible restoration, 2nd Academic Symposium on Groundwater Resources, Miracle Grand Hotel, Bangkok, September 26-27, 2007, held by Department of Groundwater Resources.
13. Arlai, P., Integrated Groundwater Management Process (GWM) with 3-D Variable Density Groundwater Flow and Solute Transport to investigate an efficient Groundwater Management Scheme in Bangkok multilayered Aquifer System, GMSARN International Conference, Ambassador City Jomtien Hotel, Pattaya, Thailand, December 12-14, 2007.
14. Arlai, P., Integrated Groundwater Management Process (GWM) with 3-D Variable Density Groundwater Flow and Solute Transport to investigate an efficient Groundwater Management Scheme in Bangkok multilayered Aquifer System, GMSARN International Journal vol.2, issue 4, Dec. 2008.
15. Arlai,P. and M. Koch,, Cost-economical Optimization and Feasibility Investigation of Groundwater Management Schemes for Groundwater Flow and Density-dependent Solute Transport in the Bangkok Aquifer System , XVII International Conference on Computational Methods in Water Resources (CMWR 2008) , San Francisco, July 6-10, 2008, Presentation.
16. Arlai, P., T. Kitpaisalsakul, M. Yongprawat and R. Onchang, THE SENSITIVITY ANALYSIS OF GROUNDWATER RECHARGE INTO BANGKOK AQUIFERS SYSTEM TO REMEDIATE FLOOD IN LOWER CHAO PHRAYA RIVER BASIN, 2008 Asian-Pacific Regional Conference on Practical Environmental Technologies, University of Philippines, Diliman, Quezon City, Philippines, June 30th to July 1st, 2008.

17. Arlai, P., Integrated non-Linear Regression Inverse and Groundwater Modeling to evaluate reasonable calibrated Parameters in a multilayered Aquifers, The 1st NPRU ACADEMIC CONFERENCE, 23rd -24th of October, 2008, Nakhon Pathom Rajabhat University, Nakhon Pathom, Thailand.
18. Arlai, P. and M. Koch , The Importance of Density-Dependent Flow and Solute Transport Modeling to simulate Seawater Intrusion into a Coastal Aquifer System , International Symposium on Efficient Groundwater Resources Management (IGSTH 2009) , Bangkok, Thailand, February 16-21, 2009.
19. P. Arlai, T. Kitpaisalsakul, M. Yongphrawat and R. Onchang, Numerical Investigation of gravitational Recharge from Kamlings into Bangkok Aquifers System, IGSTH2009, Bangkok, Thailand, February 16-21, 2009.
20. P.Arlai, Sitisak Manyu, Kriangsak Pirarai, Arun Lukjan and Monthon Yongprawat, The Permissible Yield in Mae Sai multilayered Aquifers System, The Fourth GMSARN International Conference 2009 "Energy Security and Climate Change: Problems & Issues in GMS" 25-27 November 2009, Ha Long City, Vietnam.
21. Arlai, P., M. Koch ,M. Yongprawat, S. Pirom and T. Kitpaisalsakul, Numerical Investigation of combinend Floood Mitigation and Groundwater Recharge in the Chao Phraya River Basin , 17 th Congress of the Asia and Pacific Division of the International Association of Hydraulic Engineering and Research (IAHR-APD 2010) , Auckland, New Zealand, February 21-24, 2010.
22. Arlai, P., M. Koch, S. Munyu, K. Pirarai and A. Lukjan, Modeling Investigation of the sustainable Groundwater Yield for the Vian Pa Pao Aquifers System, northern Thailand, 2nd regional Conference on Global Environment, Ho Chi Minh City, Vietnam, March 8-9, 2010.
23. Arlai, P., M. Koch, S. Munyu, K. Pirarai and A. Lukjan, Numerical modeling to investigate SAFE YIELD in Mae sai Multilayered aquifers, Asian-Pacific Regional Conference on practical environmental technogies 2010, Ubon Rachathani, March 24-27, 2010.
24. Arlai, P., M. Koch, S. Munyu, K. Pirarai and A. Lukjan, Optimization of Grid Spacing in a Groundwater Model, PSU Engineering Conference, Prince of Songklanakarin University, Hat Yai, Thailand, April 22-23, 2010.

25. Y., Prawat, P. Arlai and R. Onchang, Possibility Study of Recharging Flood from Flood Retention Reservoirs into Bangkok Aquifers System by Numerical Modeling, Journal of Environmental Engineering, August, 2010.
26. Arlai, P., M. Koch and A. Lukjan, Numerical Investigation of the future sustainable Groundwater Yield in the Kok River Basin, northern Thailand , IUGG, Melbourne, Australia 2011 , Melbourne, Australia, June 28 - July 7, 2011, Redbook of IAHS (in press).
27. Arlai, P., M. Koch and A. Lukjan, Modeling Investigation of the sustainable Groundwater Yield for the Wiang Pao Aquifers System, northern Thailand Hydrogeology Journal, 2011 (submitted).