Assoc. Prof. Dr.-Ing. Phạm Van Song

CONTACT INFORMATION

Vice President of Vietnamese-German University (VGU)
Le Lai Street, Hoa Phu Ward, Thu Dau Mot City, Binh Duong Province, Vietnam
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RESEARCH INTERESTS

Hydrology, Water Resources Engineering, Modeling of flow and transport processes in subsurface systems, River Engineering, AI for Water Resource Management

EDUCATION

Technische Universität Berlin, Germany

- Dr.-Ing in Civil Engineering (January 2009)

University of Stuttgart, Germany

- MSc in Water Resources Engineering and Management (September 2004)

Water Resources University, Viet Nam

- BSc in Hydraulic Engineering (May 1999)

EMPLOYMENT

- **6/2017 - now**: Associate Professor, Vice President of Vietnamese-German University (VGU)
- **10/2015 - 5/2017**: Associate Professor, Vice Rector of Thuyloi University - Southern Campus, Vice - Director of Institute for Water and Environment Research (IWER), Head of Department of Civil Engineering, Thuyloi University, Vietnam
- **1/2015 - 9/2015**: Associate Professor, Department of Hydraulic Structure, Head of Education and Student Managament Division, Thuyloi University, Vietnam
- **9/2013 - 12/2014**: Lecturer, Head of Education and Student Managament Division, Thuyloi University, Vietnam
- **05/2013 - 09/2013**: Director, Center for Water Resources and Climate Change Research, Water Resources University , Vietnam
- **11/2010 - 04/2013**: Deputy Director, Center for Hydraulic Engineering and Hydromechanics (HYCONMECH), Southern Institute of Water Resources Research, Vietnam
- **6/2009 - 11/2010**: Vice Head, Department of Hydraulic Engineering, Southern Institute of Water Resources Research, Vietnam
- **12/2005 - 5/2009**: Reseacher (Wissenschaftlicher Mitarbeiter), Chair of Water Resources Management and Modeling of Hydrosystems, Technishe Universität Berlin, Germany
- **08/2004 - 12/2005**: Reseacher (Wissenschaftlicher Mitarbeiter), Chair of Hydromechanics and Modeling of Hydrosystems, University of Stuttgart, Germany

- **08/1999 - 08/2002**: Researcher, Department of Hydroinformatic and Hydraulic Engineering, Southern Institute of Water Resource Research, Ho Chi Minh city, Vietnam

Teaching Experience

- **Teaching Assistant** (Spring 2006, 2007, 2008)
  - Coupling free-surface and groundwater modeling - TU Berlin
- **Teaching Assistant** (Fall 2007)
  - Short Course Modeling of Hydrosystems - TU Berlin
  - Environmental Fluid Mechanic - TU Berlin
- **Teaching Assistant** (Fall 2007)
  - Numerische Modellierung und Hydroinformatik I - TU Berlin
- **Teaching** (2010 - now)
  - Physical Modeling and Measurement Techniques - MSc course in Joint Education Master program in Sustainable Hydraulic Structure, University of Liege – Water Resources University
- **Teaching** (2013 - now)
  - Hyraulic Engineering - BSc in of Hydraulic Engineering , Water Resources University
- **M.Sc Thesis Supervisor**
  - Riesmeier, A (2005): *Numerische Simulation der Strömungsprozesse in Deichen mit einem Zweiphasenströmungsmodell (in German).*
  - Sugimoto, T (2008): *Infiltration Study in Macro Porous Hillslopes with Geostatistical Analysis.*
  - Phạm Ngọc Anh (2010): *Study on Discharge Capacity for Piano Key weir - Application in Van Phong project.*
  - Bùi Đức Du (2010): *Study on flow through Sifon spillway in Cau Ong Dao project, Dalat city, Vietnam.*
  - Nguyễn Quang Nghĩa (2010): *Study on High Velocity Flow in Chute - Application for Bung 2 spillway in Quang Nam province.*
  - Phạm Văn Toàn (2010): *Using Clay Soil for River Dike Construction combined Road in Hau Giang province.*
  - Phạm Thị Ngọc Hoa (2011): *Determination of Hydraulic Regime and Suitable Dissipation Solution for Ta Pao spillway.*
  - Đào Việt Hưng (2012): *Determination of Suitable Dissipation Solution for Dakmi 2 spillway in Quảng Nam province.*
  - Đinh Văn Duy (2012): *Flow-change due to sheet pile cofferdam instalation of Thu Bo barrier.*
  - Cao Văn Chan (2014): *Determination of hydrodynamic load for flap gate operating system design based on numerical modelling and field measurement.*
  - Nguyễn Thị Hà (2014): *Development of operation rule curve for Dau Tieng reservoir with emphasis on water supply and flood mitigation in downstream of Sai Gon river.*
  - Nguyễn Thị Thảo Nguyên (2014): *Assessment of flow discharge through the Dau Tieng spillway on downstream of Saigon river – Propose flood mitigation solutions.*

- Cù Ngọc Thắng (2014): *Simulation of flow over a piano key weir using numerical and physical modelling.*
- Đào Đức Anh (2014): *Numerical simulation of flow through the Lybarinth weir – A case study of Phuoc Hoa spillway.*
- Hoang Kim Thi (2015): *Determination of suitable dissipation solution for large barrier - Cace study of Thu Bo barrier.*
- Phan Van Dung (2015): *Determination of soil bank erosion systems of Con Bung area, Thanh Phu district, Ben Tre province .*
- Le Ba Chinh Quyen (2015): *Influence of Rach Gia - Kien Giang sea dike system to Mekong delta flood regime.*
- Tran Viet Tien (2015): *Water supply for shrimp growing in coastline area of Mekong delta - Case study of shrimp growing area in Bac Lieu province.*
- Mai Ngoc Duc (2016): *Technical solution of fresh water reservoir for coastal area of Mekong delta.*
- Doan Duc Duy (2018): *Quality management solution for Dong Hung Thuan high school building construction of management unit Dist. 12 in Ho Chi Minh city.*
- Dang Minh Phap (2019): *Construction solution for soil bank erosion prevention and deposition in coastal area of Ghanh Hao, Bạc Lieu province.*

Publications

- Song Pham Van, Hoang Minh Le, Dat Vi Thanh, Thanh Dang Duc, Ho Huu Loc, Duong Tran Anh (2019): *Deep learning Convolutional Neural Network in rainfall-runoff modeling*, submitted to Journal of Hydroinformatics

- Tu Le Xuan, Thanh Vo, Johan Reyns, Song Pham Van, Thanh Duc Dang, Dano Roelvink, Duong Tran Anh (2019): *Sediment transport and morphodynamical modeling on the estuaries and coastal zone of the Vietnamese Mekong Delta*, submitted to Continental Shelf Research

- Duong Tran Anh, Song Pham Van, Thanh Dang Duc, Long Phi Hoang (2019): *Downscaling rainfall using deep learning Long Short-Term Memory and Feedforward Neural Network*, International Journal of Climatology, DOI: 10.1002/joc.6066

- Duong Tran Anh, Thanh Dang Duc, Song Pham Van (2019): *Improved rainfall prediction using combined pre-processing methods and feed forward neural networks*, J Multidisplinary Scientific Jounal, J2019, Vol. 2, Issue 1, 65 - 83, DOI: 10.3390/j2010006

- Makoto Tamura, Kazuya Yasuhara, Kiyotake Ajima, Van Trinh Cong, Song Van Pham (2018): *Vulnerability of climate change and its adaptation in the Mekong Delta: Monitoring and residents' perception survey along the coastal area in Soc Trang province, Vietnam*, International Journal of Global Warming, Vol. 16, No. 1, 2018, p. 102 - 117, DOI: 10.1504/IJGW.2018.094312

- Phạm Văn Song, Trinh Cong Van (2016): *Identification of water supply adaptation areas for shrimp growing in Mekong delta*, Proceeding of Annual Conference on Water Resources, Thuyloi University, ISBN:978-604-82-0066-4

- Phạm Văn Song, Trinh Cong Van (2016): *Water Supply Techniques for intensive shrimp in Mekong delta*, Journal of Water Resources & Environmental Engineering, ISSN 1859-3941, Vol 55/10-2016

- Pham Van Song (2014): *Diseases polluted water transport in a aquaculture system with water supply and drainage combined channel - Propose models for adaptation*, Journal of Water Resources & Environmental Engineering, ISSN 1859-3941, Vol 46/9-2014

- Pham Van Song (2014): *Simulation of flow over piano key weir using numerical and physical model - Case study for Dakmi2 weir*, Journal of Water Resources & Environmental Engineering, ISSN 1859-3941, Vol 45/6-2014

- Pham Van, S., & Cu, N.T. (2014): *Modelling of Flow over Piano key weir - Parameter Studies using Numerical and Physical Simulation*, 19th IAHR-APD 2014 Congress, September 21 - 24, 2014, WRU, Hanoi, Vietnam

- Pham Van Song (2014): *Development of V-shape baffles of stilling basin for large tidal barrier - Case study for Thu Bo barrier*, Journal of Water Resources Science and Technology, ISSN: 1859-4255, Vol 22/10-2014

- Pham Van Song & Dinh Van Duy (2013): *Change of flow regime during construction of Thu Bo barrier*, Proceeding of Annual Conference on Water Resources, Thuyloi University, ISBN:978-604-82-0066-4

- Phạm Văn Song, Đặng Đức Thanh & Lê Xuân Bảo (2013): *Influence of flooding discharge for Dau Tieng spillway to Sai Gon river downstream*, Journal of Water Resources Science and Technology, ISSN: 1859-4255, Vol 19/12-2013

- Vu Hoang Thai Duong & Pham Van Song(2012): *Dissipation design in downstream of Thu Bo barrier by numerical and physical model*,Journal of Water Resources & Environmental Engineering, ISSN 1859-3941, Vol 37/6-2012

- Pham Van Song, Trinh Cong Van (2011): *Urban Flooding in Ho Chi Minh city: Problems and Solutions*, The 4th SEA-EU-NET Stakeholders Conference, Hanoi

- Nguyễn Thanh Hải, Tăng Đức Thắng, Phạm Văn Song (2010): *Results of downstream transition of barrier in Mekong river delta*, Science and Technology Journal of Agriculture and Rural Development, ISSN 0866-7020, Vol.18/2010, pp 51-55

- Nguyễn Thanh Hải, Tăng Đức Thắng, Đinh Sỹ Quát, Phạm Văn Song (2010): *Determination of discharge capacity through the piano key weir*, Science and Technology Journal of Agriculture and Rural Development, ISSN 0866-7020, Vol.17/2010, pp 41-44

- Pham Van, S., Hinkelmann, R., Nehrig, M. & Martinez, I. (2011): *A Comparison of Numerical and Experimental Simulations of Water-Gas Flow Processes through Dikes with Fault Zones*, Engineering Applications of Computational Fluid Mechanics Vol. 5, No. 1, pp 149-158

- Pham Van, S. & Hinkelmann, R. (2008): *Development and Comparison of Different Model Concepts for Two-Phase Flow in Fractured-Porous Media*. Progress Reports, Fachgebiet Wasserwirtschaft und Hydrosystemmodellierung, Technische Universität Berlin

- Pham Van, S. & Hinkelmann, R. (2007): *Development and Comparison of Different Model Concepts for Two-Phase Flow in Fractured-Porous Media*. Progress Reports, Fachgebiet Wasserwirtschaft und Hydroinformatik, Technische Universität Berlin

- Stadler, L., Hinkelmann, R., Helmig, R. & Pham Van, S. (2006): *A Comparison of Model Concepts for Macropore Infiltration*, 6. Workshop - Poröse Medien -, Eberhard Karls Universität Tübingen

- Pham Van, S., Stadler, L. & Hinkelmann (2006): *Comparison of a Micro-Scale and a Meso-Scale Model Concept for Two-Phase Flow in Fractured-Porous Media*, XVI International Conference on Computational Methods in Water Resources, Copenhagen, Denmark

- Rouault, P., Nehrig, M., Pham Van, S. & Hinkelmann, R. (2006): *Zerstörungsfreie experimentelle und numerische Untersuchungen zur Schwachstellenanalyse in Deichen*, Sicherung von Dämmen, Deichen und Stauanlagen - Handbuch für Theorie und Praxis, Vol. II, Eigenverlag des Instituts für Geotechnik und des Forschungsinstituts Wasser und Umwelt, Siegen, pp. 109-115

- Pham Van, S. & Hinkelmann, R. (2005): *Case Studies on Water Infiltration Processes in the Unsaturated Zone with a Multi-dimensional Multiphase Flow Model*, 5th International Symposium on Management of Aquifer Recharge, Berlin, IHP-VI, Series on Groundwater No. 13, Recharge Systems for Protecting and Enhancing Groundwater Resources

- Pham Van, S. & Hinkelmann, R. (2005): *Development and Comparison of Different Model Concepts for Two-Phase Flow in Fractured-Porous Media - Application to Water Infiltration Processes in Hillslopes*. Progress Reports, Fachgebiet Wasserwirtschaft und Hydroinformatik, Technische Universität Berlin

- Pham Van, S., Busse, T. & Hinkelmann, R. (2004): *Modeling of Two-Phase Flow in Porous Media - Parameter Studies on Water Infiltration Processes*, 5. Workshop - Poröse Medien -, Eberhard Karls Universität Tübingen

- Pham Van, S., Kobayashi, K. & Hinkelmann, R. (2004): *Numerical Simulation of Two-Phase Flow in Porous Media - Parameter Studies on Water Infiltration Processes in an Experimental Slope*, Young Water Research Journal, Vol. 1, pp. 58-64, YWAT, The Netherlands

Project record

- **Propose the solution for mitigation of erosion and deposition of Mekong river system in Vietnam (2018)**
  Client: Ministry of Science and Technology
  Assigned tasks: Team leader, flow simulation and writing technical design reports

- **Design and Capacity Development for the Operation of the Real-Time Flood Early Warning System in the Dong Nai -Saigon River's Lower Basin (2016)**
  Client: Ministry of Agriculture and Rural Development and Dannish government
  Assigned tasks: Team leader, flow simulation and writing technical design reports

- **Development of Operation Rule Curve Research for Dau Tieng Reservoir in Sai Gon River (2013)**
  Client: Ministry of Agriculture and Rural Development
  Assigned tasks: Team leader, hydrological simulation and writing technical design reports

- **Research on flood protection management for Dong Nai- Sai Gon river basin (2011-2013)**
  Client: Ministry of Science and Technology
  Assigned tasks: Project member, hydrodynamic modelling, hydrological simulation and writing hydrological reports

- **Emergency preparedness plan for the downstream of Dau Tieng reservoir (2012)**
  Client: World Bank
  Assigned tasks: Project member, hydrodynamic modelling, hydrological simulation

- **Flood damage assesment for Ho Chi Minh city under Dau Tieng dam-break conditions (2013)**
  Client: WRU
  Assigned tasks: Project member, hydrodynamic modelling, hydrological simulation

- **Solution for Winter Wheat Production (2013 - 2015)**
  Client: Ministry of Science and Technology
  Assigned tasks: Team leader, hydrological simulation and writing technical design reports

- **Research for Channel Separating Water Supply and Drainage Channels in the Aquaculture System (2009-2010)**
  Client: Vietnam Academy of Water Resources - Ministry of Agriculture and Rural Development
  Assigned tasks: Team leader of design hydraulic structures, hydrological simulation and writing technical design reports

- **Sustainable Solution for Flooding Areas in Mekong River Delta in Viet nam (2000-2003)**
  Client: Ministry of Science and Technology
  Assigned tasks: Project member, hydrodynamic modelling, hydrological simulation and writing hydrological reports

- **Detailed design of Thu Bo storm surge barrier under Ho Chi Minh city area flood protection project (2009-2011)**
  Client: ICMB9 - Ministry of Agriculture and Rural Development
  Assigned tasks: Team leader of design hydraulic structures and writing technical design reports

- **Detailed design and construction drawings of Muong Chuoi storm surge barrier under Ho Chi Minh city area flood protection project (2011-2013)**
  Client: ICMB9 - Ministry of Agriculture and Rural Development
  Assigned tasks: Team leader of design hydraulic structures, and dyke system for the project area, writing design reports

- **Preliminary design of Kinh Lo storm surge barrier under Ho Chi Minh city area flood protection project (2011)**
  Client: ICMB9 - Ministry of Agriculture and Rural Development
  Assigned tasks: Design hydraulic structures, and dyke system for the project area, writing technical design reports

- **Detailed design of surrounding dyke system for orchards combination**

with aquacultures in Quoi Thien, Vung Liem district, Vinh Long province (2009)
Client: Vinhlong Department of Agriculture and Rural Development
Assigned tasks: Team leader of hydraulic structure design and hydrological simulation, in charge of calculations for hydraulic system works, writing design reports

- **Survey and consultancy of water resources investment project for aquacultural activities in Thanh Binh – Quoi Thien isles, Vinh Long province (2012)**
  Client: Vinhlong Department of Agriculture and Rural Development
  Assigned tasks: Team leader of hydraulic structure design and hydrological simulation, in charge of calculations for hydraulic system works, writing design reports

- **Survey and consultancy of water resources investment project for aquacultural activities in Hieu Thanh, Hieu Nhon and Hieu Nghia communes, Vinh Long province (2012)**
  Client: Vinhlong Department of Agriculture and Rural Development
  Assigned tasks: Team leader of hydraulic structure design and hydrological simulation, in charge of calculations for hydraulic system works, writing design reports

- **Construction infrastructures for large sample field of Tan An Luong commune, Vung Liem district of Vinh Long province (2013)**
  Client: Vinhlong Department of Agriculture and Rural Development
  Assigned tasks: Team leader of hydraulic structure design and hydrological simulation, in charge of calculations for hydraulic system works, writing design reports

- **Member of projects in Physical Hydraulic Modelling:**
  Client: Vinhlong Department of Agriculture and Rural Development
  Assigned tasks: Team leader of hydraulic structure design and hydrological simulation, in charge of calculations for hydraulic system works, writing design reports