

PERSONAL INFORMATION



DUONG TRAN ANH

Yen Dinh District, Thanh Hoa Province, Vietnam
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Sex Male | Date of birth 06/07/1982 | Nationality Vietnamese

WORK EXPERIENCE

- June – September 2005 **Water Resources Engineer**
Hydropower Center of Viet Nam Academy for Water Resource
- October 2005 – February 2010 **Water Resources Engineer**
Thanh Hoa Project Management Unit under Thanh Hoa Department of Agriculture and Rural Development (DARD).
- March 2010 to 2012 **Water Resources Engineer**
Southern Regional Hydro-meteorological Center, Ministry of Natural Resources and Environment (MONRE).

EDUCATION AND TRAINING

- Oct. 2013 – Dec. 2018 **Doctoral Research Degree**
▪ PhD degree at Technische Universität München (TUM), Germany
Dissertation: “*Impact of climate change on hydraulic regimes and salinity intrusion in the Mekong Delta. Case study of the Hau River*”, supervised by Prof. Dr. Peter Rutschmann and Dr.-Ing Minh Duc Bui. Examinators: Prof. Dr.-Ing. Markus Disse; Prof. Dr.-Ing. Peter Rutschmann; Prof. Dr.-Ing. Franz Nestman; Prof. Dr.-Ing. Wolfram Mauser.
- 2010 - 2012 **Master Engineering Degree**
Water Engineering and Management (WEM), Asian Institute of Technology, Thailand.
Thesis: “*Assessment of rice productivity under climate change for Ca Mau province, Vietnam*”, supervised by Dr. Sylvain Perret and Dr. Sangam Sthretha.
- 2000 - 2005 **Bachelor of Engineering**
Faculty of Hydraulic Construction, Hanoi Water Resources University, Viet Nam;
Thesis: “*Designing the earth dam and spillway in Tra Cau, Quang Ngai province*”.
- Dec 2011 - May 2012 **Exchange program**
Department of Hydrology, Water Management and Water Protection, TU Braunschweig, Germany supervised by Prof. Dr. Günter Meon.
- July – Sept. 2012 **Young Scientist Research**
APEC climate Centre, Busan, South Korea
- July – Oct. 2016 **Research Exchange at Colorado State University, Colorado, USA**
Working with Prof. Dr. Jorge Ramirez in hydrology and Prof. Dr. Pierre Julien in sediment transport projects.
- July – August 2019 **Summer School**
Summer School on Sustainable Climate Risk Management at Earth & Environmental Systems Institute Penn State University, USA.

PERSONAL SKILLS

Mother tongue(s)	Vietnamese				
Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	Very Good	Very Good	Very Good	Very Good	Very Good

Communication skills

Organisational / managerial skills

Job-related skills

Computer skills

- Good communication skills with international experts, 3 years of experiences of working as donors and bidders.
 - Manager in hydraulic works projects within 5 years experiences;
 - Coordinator of Natural Disaster Risk Management – Component II: Community-based disaster risk management financed by World Bank and Netherland.
 - Supervisor of project execution as pumping station, dams, sluices, canal, intake, small bridges for 5 years;
 - Making Documents for Investment preparing some Rural infrastructure Projects financed by ADB (include: hydraulic work as irrigation, drainage, dam, pumping station in poverty area) with 16.8 million USD.
 - Implementation of ODA procedures for project investment (4 years experiences)
 - Good Presentation and talking at national workshop and training courses.
- MS office, ANN, LSTM, CNN, MIKE 11, MIKE 21, Delf3D; NAM, Arc-GIS, GCMs, SWAT, MATLAB, python.

PUBLICATIONS

Journal papers

1. Tu, L.X, Thanh, V.Q., Johan Reyns, Song, P.V., Thanh, D.D, **Duong, T.A.**, Dano Roelvink. (2019). Sediment transport and morphodynamical modeling on the estuaries and coastal zone of the Vietnamese Mekong Delta. *Journal of Continental Shelf Research*. <https://doi.org/10.1016/j.csr.2019.07.015>
2. Dang, N.M, **Duong, T.A.**, Thanh, D.D. (2019). ANN optimized by PSO and Firefly algorithms for predicting of scour depths around bridge piers. *Journal of Engineering with Computers*. DOI: <https://doi.org/10.1007/s00366-019-00824-y>.
3. Dang, N.M, **Duong, T.A.**, Thanh, D.D. (2019). Adaptive Neuro-Fuzzy Inference System combined with Principal Component Analysis for Daily Suspended Sediment Concentration Prediction. *Journal of Hydro-Environment Research* (*under review*)
4. Song, P.V, Hoang, M.L, Dat, V.T, Thanh, D.D., Loc, H.H. **Duong, TA.** (2019). Deep learning convolutional neural network applied in rainfall-runoff modeling. *Journal of Hydro-informatics* (*under review*).
5. Song, P.V, Dat, V.T, Hoang, M.L, Thanh, D.D., Bang, T.S, **Duong, TA.** (2019). Effect of gradient descent optimizers and dropout technique on LSTM model performance of rainfall – runoff prediction. *Journal of Engineering with Computers* (*under review*).
6. **Duong, T.A.**, Song, P.V, Thanh, D.D., Long, P.H (2019). Downscaling rainfall projection using deep learning Long Short-Term Memory Recurrent Neural Network. *International Journal of Climatology*.
7. **Duong, T.A.**, Thanh, D.D., Song, P.V. (2019). Improved rainfall prediction using pre-processing methods and feed forward neural network. *Journal of Multidisciplinary*. DOI: 10.3390/j2010006.
8. **Duong, T.A.**, Long, P.H, Bui, M.D, Rutschmann, P. (2018). Modelling seasonal flows in the Vietnamese Mekong due to upstream discharge variation, climate change and sea level rise. *Journal of River Basin Management*.
9. **Duong, T.A.**, Long, P.H, Bui, M.D, Rutschmann, P. (2018). Simulating future flows and salinity intrusion using combined one- and two-dimensional hydrodynamic modelling–The case of the Hau river, Vietnamese Mekong Delta. *Journal of Water* 2018, 10(7), 897.
10. Proloy, D., **Duong, T.A.**, Parmeshwar, D. U. (2015). Assessment of the impacts of climate change and brackish irrigation water on rice productivity and evaluation of adaptation measures in Ca Mau province, Vietnam. *Theoretical and Applied Climatology*, pp 1 -16.

Conference papers

1. Dang, N.N, **Duong, T.A.**, Thanh, D.D. (2019). Climate change and the water–food-energy nexus in Vietnam: Towards a practical method of water security index for water resources management. 1st International Conference on Economics, Development and Sustainability, EDESUS 2019, 15-16 November 2019 in VNU, Hanoi, Vietnam.
2. Thanh, D.Q., **Duong, T.A.**, Thanh, D.D., Song, P.V (2019). Predicting water quality responses under climate change using coupled one- and two-dimensional models for Dong Nai River Basin. 15th International Asian Urbanization Conference (AUC), November 27-30, 2019, Vietnamese-German University, Ho Chi Minh City, Vietnam.
3. Vien, L.N. Dang, N.N., Tung, N.B., **Duong, T.A.**, Thanh, D.D. (2019). Assessment of climate change and sea level rise impacts on flows and saltwater intrusion in Vu Gia Thu Bon river basin. Proceedings of the 10th International Conference on Asian and Pacific Coasts (APAC 2019) September 25-28, 2019, Thuyloi University, Hanoi, Vietnam,
4. **Duong, T.A.**, Bui, M.D, Rutschmann, P. (2018). Data pre-processing combined with Artificial Neural Network to improve the performance of time series modelling. 5th IAHR Europe Congress, Trento University, Italy.
5. **Duong, T.A.**, Bui, M.D, Rutschmann, P. (2018). A comparative study of three different models to predict monthly rainfall in Ca Mau; Vietnam. *Proceeding of Wasserbau-Symposium 2018, TU Graz, 18-20 Sept. 2018, Austria.*
6. **Duong, T.A.**, Bui, M.D, Rutschmann, P. (2016). Effect of Upstream Discharge and Climate Change on the Hydraulic Regime in Vietnamese Mekong Delta. *Proceeding of Wasserbau-Symposium 2016, Wallgau, Oberbayern, Germany.*
7. **Duong, T.A.**, Bui, M.D, Rutschmann, P. (2015). Impact of climate change on salinity intrusion in Mekong delta. *Proceeding of 14th International conference on Environmental Science and Technology, Rhodes, Greece.*
8. Tung Kieu, **Duong, T.A.**, Tram Nguyen (2018). A novel approach model applying SA-PSO algorithms for rainfall prediction in Vietnamese Mekong Delta. International conference on Water Management and Climate change toward Asia's Water-Energy-Food Nexus and SDGs, Bangkok, Thailand.
9. Proloy D., **Duong, T.A.**, Dang, NN. (2014). Assessment of rice productivity under climate change for Ca Mau province, Vietnam. *19th IAHR-APD 2014 Congress, Hanoi, Vietnam.*
10. **Duong, T.A.**, Dang N.N. (2014). New Approach to Rainfall Forecasting using Simulated Annealing Algorithms, *19th IAHR-APD 2014 Congress, Hanoi, Vietnam.*

Preparing manuscripts

1. Multi-points calibration of the hydrological modelling SWAT with varying DEM resolution over Mekong River Basin.
2. Assessing climate change impact to hydrological runoff and drought over the Great Mekong River Basin.
3. Linkage between surface and groundwater in the Greater Mekong River Basin using couple SWAT-Modflow modelling.
4. Deep learning convolutional neural network extracting surface weather maps for weather forecasting in Vietnam.
5. Predicting water quality responses under climate change using coupled one- and two-dimensional models for Dong Nai River Basin.

Conferences

- Workshop on Water issues in Megacity in Ho Chi Minh city, Vietnam, March 2013 by Exceed-DAAD and Institute for Environment and Resource, Vietnam.
- Workshop on Water and Energy in Hanoi capital, Vietnam, May 2013 by Exceed-DAAD and Water Resources University
- Training on project implementation and management, environment management; resettlement and site clearance management, financial and disbursement management by World Bank in the year 2006, 2007, 2008.
- International conference on Climate change, Water and Policy 2012 in APEC climate center (APCC) at Busan, South Korea September 11-13, 2012;
- 19th IAHR-APD Congress 2014, Hanoi water resources University, Vietnam, September 21-24, 2014.
- 14th International conference on Environmental Science and Technology, 3 – 5 September 2015, Rhodes, Greece.
- 5th IAHR Europe Congress, Trento University, Italy.
- Wasserbau-Symposium 2016, Wallgau, Oberbayern, Germany

Honours and awards

- 2005: Certificate for Outstanding Student in Studying and Practice in whole Academic Course, Hanoi Water Resources University;
- 2005: The third prize in the Scientific Research Student Conference in Hanoi Water Resources University with the theme: Calculation of pressure in Arch Dam Viet Nam by Limited Element Method;
- 2003: The third prize in Viet Nam Student Theoretical Mechanics Olympic;
- 2010: Full SIDA scholarship for Master of Engineering on water engineering and management at Asian Institute of Technology, Thailand (August 2010 – 2012);
- 2011: Full DAAD scholarship for Exchange student studying at Department of Hydrology, Water Management and Water Protection, TU Braunschweig, Germany with research topic: “Impact of sea level rise and water level in Mekong river to salt water intrusion in a Tien and Hau river estuary”;
- 2012: Full APCC scholarship for young scientist program, doing research topic “Impact of climate change on water resources and agricultural production in Ca Mau province, Vietnam”
- 2013: Full ASIAN Scholarship for graduate study at Chulalongkorn University, Thailand (June – October 2013)
- 2013: Full IPCC and CUOMO Foundation scholarship for PhD study at Technische Universität München (TUM), Germany (October 2013 – Dec. 2018).

References

1. Dr. Dang Duc Thanh – Pillar of Engineering Systems and Design, Singapore University of Technology and Design, Singapore.
Email: thanhiwer@gmail.com,
2. Associate Prof. Dr. Nguyen Mai Dang – Director of International education of Water Resources University, Vietnam
Email: dang@wru.vn, dang@tlu.edu.vn , Tel: 0084-989-551-699
3. Prof. Dr. Duong Thanh Luong – Former Chancellor of University Council, Hanoi water resources University, Vietnam.
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