

Shouke Wei

Ph.D., Professor



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COURSES

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PORTFOLIO

<https://shouke.deepsim.ai/>

LINKS

researchgate.net/profile/Shouke-Wei

ORCID

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MEDIUM

<https://medium.com/@shouke.wei>

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PROFILE

Over 20 years of research experience, over 10 years of teaching experience and 10 years of entrepreneur and management experience in computer modelling and simulation, big data analysis, machine learning algorithms; Ph.D. in Environment and Resource Management; Postdoctoral scientist, and Ph.D. supervisor in Environmental System Modelling; Research associate and Visiting scientist in Forest Hydrological Ecosystem Modelling; Industrial Professor, Adjunct Professor and Postgraduate supervisor in Deep reinforcement learning and Computer vision; Senior Research on R&D of real time monitoring and early warning system platform for water protection, human safety and health; Guest Editors of *Symmetry & Frontiers in Water*; Participated in or holding 19 international research projects; Participated as an invited key speaker in 14 scientific conferences and workshops; Having 27 software copyrights, 5 patents, over 40 publications, and over 200 tutorial blog articles.

RESEARCH & TEACHING INTERESTS

- Machine learning algorithms
- Data analysis and visualization
- Computer modelling and simulation
- Computer vision
- Wavelet analysis
- Real monitoring and early warning system
- Container technology
- Hydrology modelling
- Smart robots
- Game theory
- System dynamics
- Python, R, Spark, Matlab
- NumPy, Pandas, Scikit-learn, Tensorflow, Keras, Modin, Dask, Vaex, Opencv, etc.

EDUCATION

Jun 2011

Dübendorf

Eawag, Swiss Federal Institute of Aquatic Science and Technology

Summer School in Environmental System Analysis

- Models in the Environmental System
- Identification of Models
- Model Predictions

Oct 2004 - Dec 2008
[Cottbus](#)

Brandenburg University of Technology

Ph.D. in Environmental and Resource Management

- Research interests: surface water modelling and simulation, including game theory, statistical modelling, chaotic theory, wavelet analysis, cost and benefit analysis methods
- Dissertation: On the Use of Game Theoretical Modelling of Water Resource Management
- Graduated *summa cum laude*

Oct 2001 - Apr 2004
[Cottbus](#)

Brandenburg University of Technology

M.A. in World Heritage Studies

- Research interests: heritage management and economics

Oct 1997 - Jun 1999
[Jinan](#)

Shandong University

B.A. in English

- Thesis: *Thoughts on the Roles of Pragmatics in Translation*

Sep 1995 - Jun 1997
[Yantai](#)

Yantai University

College Certificate in Economic and Trade English

- Economic, Business, Trade, Communication and negotiation skills

Working Experience

Mar 2024 - Present
[Jining](#)

Distinguished Professor

The School of Computer Science and Engineering, Jining University, China

- Research in data analysis and modelling, deep learning, AI robots

Nov 2023 - Present
[Heze](#)

CEO & Chief Scientist

Deepsim Intelligence Technology Co., Ltd., Shandong, China

- Research and development in IoT platform, data analysis and modelling, deep learning, smart robots

Aug 2023 - Present
[Vancouver](#)

Chief Scientist

Sincerity Enterprises Inc., Canada

- Research & Develop AI Agricultural Weed Removal Robots

Sep 2022 – Dec 2023
[Yantai](#)

Part-time Professor & Postgraduate Supervisor

The School of Mathematics and Statistics, Ludong University, China

- Research in data analysis and modelling, deep learning,
- Supervise postgraduate students in Applied Statistics

Sep 2022 - Present
[Abbotsford](#)

Founder & Senior Instructor

Deepsim Academy, Canada

- E-learning platform on Python, Data analysis, Machine Learning, Signal processing, Computer vision, etc.

Jan 2022 - Present
[Abbotsford](#)

Founder & Chief Scientist

Deepsim Intelligent Technology Inc., Canada

- Research in machine learning algorithms, data analysis and forecasting methods, image analysis, human behavior recognition to smart real-time monitoring and early warning system platforms

Jan 2018 – Dec 2023
[Yantai](#)

Industrial Professor, Adjunct Professor & Postgraduate Supervisor

	School of Computer and Control Engineering, Yantai University
	<ul style="list-style-type: none"> Research in Deep reinforcement learning, Computer vision, and human behavior analysis Teaching course of "AI Algorithms" and supervise postgraduate students
Aug 2019 - Dec 2021 Beijing	Chairman & Chief Scientist Deepsim Intelligent Information Technology Co. Ltd. <ul style="list-style-type: none"> Research in IOT, big data analysis, deep learning, human behavior recognition, health modelling and prediction, R&D real time monitoring and early warning system platform for human safety and health
Sep 2019 - Dec 2020 Yantai	Chief Engineer R&D Center, Yantai Qingquan Industry Co. Ltd. <ul style="list-style-type: none"> Research in IOT, big data analysis, deep learning, Computer vision, VR R&D heating system and real time water monitoring and early warning system
Jul 2017 - Jan 2020 Yantai	Chairman & Senior Researcher Jouryu Qingquan Intelligent Software Sci-Tech Co. Ltd. <ul style="list-style-type: none"> Research in IOT, big data analysis, deep learning, Computer vision, VR modelling, water quality and flood forecasting R&D real time monitoring and early warning system platform for water environment
Dec 2015 - Apr 2017 Vancouver	Lecturer UNS International Education Group Ltd. <ul style="list-style-type: none"> Tutoring on Game Theory, Linear Algebra, Python, Natural Disaster, Economics
Sep 2012 - Dec 2018 Vancouver	President & Senior Researcher Emodlogic Technology Inc. <ul style="list-style-type: none"> Research and Consult on Environmental and Resource Modelling, Data Analysis and Forecasting
Apr 2013 - Apr 2014 Vancouver	Research Associate The University of British Columbia (UBC) <ul style="list-style-type: none"> Research on forestry ecosystem modelling
Jun 2012 - Dec 2012 Vancouver	Co-chair Land and Water Committee Director Society Promoting Environmental Conservation (SPEC)
Jan 2012 - Apr 2013 Vancouver	Visiting Scientist Faculty of Forestry, the University of British Columbia (UBC) <ul style="list-style-type: none"> Research on forestry modelling between forestry and water
Jul 2009 - Sep 2011 Dübendorf	Postdoctoral Scientist & Supervisor of Ph.D. Students Department System Analysis, Integrated Assessment and Modeling, Swiss Federal Institute of Aquatic Science and Technology (Eawag)

	<ul style="list-style-type: none"> Research on system dynamic modelling between environmental and economics
Nov 2006 - Jan 2008 Cottbus	Teaching & Research Assistant Brandenburg University of Technology <ul style="list-style-type: none"> Teaching Statistical <i>Modelling with SPSS</i>

TEACHING AND STUDENT SUPERVISION

Nov 2021 - Present Abbotsford	Udemy Online Courses: <i>Practical Jupyter Notebook from Beginner to Experts; Mastering Python Data and Modelling Essentials; Python Wavelet Transform for Data Science and Machine Learning: (I) - (VI); Learning Python Easy and Fast Way; etc.</i>
Sep 2018 - Present Yantai	School of Computer and Control Engineering, Yantai University Course: <i>Artificial Intelligence (AI)</i> Lectures: <i>Python, Skills of English Scientific Paper Writing, Application of Computer Modelling in Environmental and Resource Management,</i> Supervision of Master's Students: Deep Learning, Water Quality , Deep Reinforcement Learning, Behavior Recognition
Dec 2015 - Apr 2017 Vancouver	UNS International Education Group Ltd. Courses: <i>Game Theory, Linear Algebra, Python, Natural Disaster, Economics</i>
Nov 2013 Vancouver	College of Forestry, Nanjing Forestry University Lectures: <i>Scientific Paper Writing, Introduction to R Language, Applications of System Dynamic Simulation Models in Forest Management, Experience of Studies and Working Overseas</i>
Apr 2011 Xian	College of Urban and Environmental Sciences, Northwest University Lecture: <i>Modelling and Simulation of Water Sources: Application</i>
Jul 2009 - Sep 2011 Dübendorf	Eawag, Swiss Federal Institute of Aquatic Science and Technology Supervision of Ph.D. Students: 2 Students in Hydrologic Modeling
Apr 2007 Wuhan	Institute of Changjiang Water Resource Protection Lecture: <i>Game Theoretical Model of Water Quality in Danjiangkou Reservoir</i>
Oct 2006 - Dec 2008 Cottbus	Brandenburg University of Technology Course: <i>Statistical Modelling with SPSS</i>

ACADEMIC ACTIVITIES

Reviewer for Journals:

- Water Resource Management*
- International Journal of Water Resources and Environmental Engineering (IJWREE)*
- Ecological Modelling*
- The Arabian Journal for Science and Engineering B-Engineering (AJSE B-Engineering)*
- Environmental Engineering Science*
- Environmental Engineering and Management Journal*
- International Research Journal of Management and Business*
- International Journal of Management Science and Engineering Management (IJMSEM)*

- *Journal of Environmental Management (JEMA)*
- *Journal of Hydroinformatics*
- *Advances in Meteorology*
- *Water*
- *Hydrological Sciences Journal*
- *Environmental Earth Sciences*
- *Sustainability*
- *Journal of Economic and Social Policy*
- *Frontiers of Earth Science*
- *Neural Computing and Applications*

CONFERENCE PRESENTATIONS

1. Wei, S. 2017. Smart Evaluation and Early Warning Modes for Water Environment. China National High-end Forum of Sustainable Use of Water Resource and Safty Guard of Drinking Water. China, Xuzhou, November 14-15, 2017.
2. Wei, S. 2010. Simulating dynamic behavior of river discharge using wavelet-neural network modeling approaches (Poster). Latsis Symposium 2010 - Ecohydrology, October 17-19. EPFL Lausanne, Switzerland.
3. Wei, S. 2010. Modeling and Simulation Methods and Techniques on Water Resources. Northwest University. Xi' an, China.
4. Wei, S. 2009. Game theoretic models to analyze water quality and quantity conflicts existing in the Middle Route of the South-to-North Water Transfer Project in China. International Symposium on Hydrological models, October 24-26, 2009. Beijing, China.
5. Wei, S. 2009. Simulating water diversion and pollution reduction conflicts in river basin using game theoretic models. International Yellow River Forum, 20-23. Zhengzhou, China.
6. Wei, S., Islam, S.N. 2009. Analysis of China' s Energy challenges and problems. ASIM 2009 - Cottbus, 20. Symposium Simulation Techniques. September 23-25, 2009, Germany.
7. Wei, S. 2008. Energy challenges, problems and related Strategies in China. BTU ERM Alumni Conferences of Energy and Natural Resources Policy-Distributional Justice. Cottbus, Germany.
8. Wei, S. 2007. Water conflicts and their solutions by means of game theory. Kölpinsee workshop 2006 – 10th Workshop on Modelling and Simulation of Ecosystem, October 31 – November 2, 2007, Seebad Kölpinsee, Germany.
9. Wei, S. 2007. Game theory based water quality models for reservoir management. ENVIROINFO 2007 – 21st conference of Informatics for Environmental Protection, September 12 - 14, 2007, Warsaw, Poland.
10. Wei, S. 2007. Simulating water conflicts using game theoretical models for water resources management. Sixth International Conference on Ecosystems and Sustainable Development, 5 - 7 September, 2007, Coimbra, Portugal.
11. Wei, S. 2007. Water supply and water demand of Beijing – A game theoretic approach for modeling. ITEE (2007) - Third International ICSC Symposium, March 29 – 30, 2007, Ordenburge, Germany.
12. Wei, S. 2006. Simulating effects of global warming using game theory models for water management. 5th Marienthal workshop 2006 – Global Warming and Impact on Ecosystems, November 27-29, 2006, Convent St. Marienthal, Germany.
13. Wei, S. 2006. Game theoretic approaches to model water conflicts on a river basin scale. Kölpinsee workshop 2006 – 10th Workshop on Modelling and Simulation of Ecosystem, October 25 – 2Thesis : 7, 2007, Seebad Kölpinsee, Germany.
14. Wei, S. 2006. A glance over the situation concerning water resource protection in China. Kölpinsee Workshop 2006 - Kölpinsee workshop 2006 – 10th Workshop on Modelling and Simulation of Ecosystem, October 25 – 27, 2007, Seebad Kölpinsee, Germany.

PROJECTS

1. Jan 2023- present: Leading the project of "Home Care Robot" funded by the Xi'an Science and Technology Bureau. This robot is capable of monitoring the behavior and health of elderly individuals in their homes, and can provide early warning and prediction for potential health risks and incidents like falls.
2. Jan 2021 - present: Leading the development of the "Intelligent Healthcare Diagnosis and Warning Big Data Robot," which is internationally advanced. This robot incorporates features such as automation, intelligence,

informatization, and visualization. It can promptly alert and predict health accidents and sudden illnesses, as well as provide early warnings for potential health risks.

3. Feb 2021 - Jun 2023: "Integration and Demonstration of Key Technologies for Industrialized Seedling Cultivation of Holly" (SBE2021310180), supported by Jiangsu Key Research & Development Plan, China.
4. Jan 2021 - Dec 2023: "Research on the Distributed Clustering Algorithm and Application of Streaming Big Data" (ZR2020MF148), supported by Shandong Natural Science Foundation, China.
5. Sep 2019 - May 2022: "Human Behavior Recognition based on Human Skeleton Keypoints and Deep Reinforcement Learning" (201900358005). a master's student research project at Yantai University, working as an advisor and primarily responsible for guiding the research project and providing technical support.
6. Jan 2019 - Dec 2021: "Real-time Monitoring and Simulated Early Warning Platform for Water Quality based on Artificial Intelligence." to study the patterns of water pollution in river basins and develop intelligent monitoring and early warning technologies for water quality using the Internet of Things (IoT) and artificial intelligence.
7. Sep 2018 - May 2021: "Research on Water Quality Prediction Model based on Deep Learning Algorithms" (201800358019B). a master's student research project at Yantai University, working as an advisor and primarily responsible for guiding the research project and providing technical support.
8. Jan 2019-Dec 2021: Yantai City's major science and technology competition project "Artificial Intelligence-based Real-time Monitoring and Simulation Early Warning Platform of Water Quality " (2019CXJJ037), supported by Scientific and Technology Bureau of Yantai City, China.
9. Jan 2018 - Dec. 2020: Yantai major science and technology competition project "Green, Efficient and Smart Agriculture Management Platform Based on New Generation Information Technology" (2018YT06130844), supported by Scientific and Technology Bureau of Yantai City, China..
10. Jul 2017.07-2019.07: "R&D of intelligent evaluation and early warning system for river and lake health and its demonstration application in Dagu Jiahe River" (2017SF085), supported by Shandong Jouryu Qingquan Intelligent Software Technology Co., Ltd. and Yantai Hydrological Bureau.
11. May 2017 - May 2019: the entrepreneurial innovation project of Shandong Jouryu Qingquan Intelligent Software Technology Co., Ltd. "Research and development of energy-saving and environmental protection simulation information management system based on Internet of Things, artificial intelligence and virtual reality technology" (2017JY001).
12. Jun 2012 - Jun 2013: "Forest Multi-Value Assessment Framework" research project (1070-20/OT13FHQ318) , supported by the Forestry Department of British Columbia, Canada.
13. Jul 2012 - Apr 2014: the Asia-Pacific-Canada cooperation project "Asia-Pacific Forest System Adaptation to Climate Change" (APFNet/2010/PPF/001), support by APFNet.
14. Jul 2009 - Jun 2011: the China-Swiss science and technology cooperation project "Determination of China's Weihe River Environmental Flow Demand and Maintenance Strategy" (2009DFA22980).
15. Nov 2004 - Jun 2008: "Conflicts and Solutions in China's South-to-North Water Diversion Project", Ph.D. Research Project of Brandenburg University of Technology, Germany.
16. Apr 2002 - Apr 2004: "China's World Heritage Management, Tourism, Economic Development and Environmental Protection", Master Student Research Project of Brandenburg University of Technology, Germany.
17. Oct 2001 - Mar 2002: "Restoration of Wolf House on the German-Polish Border", Master Student Research Project of Brandenburg University of Technology, Germany.
18. Oct 2001 - Jul 2002: "Brandenburg Spreewald Scenic Area Planning", Master Student Research Project of Brandenburg University of Technology, Germany.
19. Feb 2002 - Aug 2002: "Dessau-Wörlitz Royal Garden Planning", Master Student Research Project of Brandenburg University of Technology, Germany.

PATENTS

1. Wei, S.; Yi, X.; Shi, Y.; Fu, C.; Xing, L.; Yan, J.; Cheng, L.; Tuerxiu, K.; Li, N. 2019. A Smart Evaluation and Early Warning Sytem for River and Lake Water Environment Health (201911305361.3).
2. Wei, S., Zhao, J., Sun, D., Wei, S. L. 2017. A Water Flow Monitoring and Early Warning System of Rivers and Lakes (ZL201721494518.0).
3. Wei, S., Zhao, J., Sun, D., Wei, S. L. 2017. A Monitoring and Early Warning System of Water Environment (ZL201721494520.8).
4. Wei, S., Zhao, J., Sun, D., Wei, S. L. 2017. An Early Warning System of Flooding (ZL201721496218.X).
5. Wei, S., Sun, D., Wang, Y. 2017. A Wast Gas Monitoring and Early Warning System of Boiler power generation

SOFTWARE COPYRIGHTS

1. Cloud Platform based on Big Data Analysis and Calculation of Water Resources V1.0 (2018SR092705)
2. Virtual Reality based Smart Simulation Early Warning System of Water Level V1.0 (2018SR092774)
3. Background Management System of Water Environment Monitoring and Early Warning V1.0 (2018SR092790)
4. Smart Alarm Control System of Water Environmental Major Accident V1.0 (2018SR092084)
5. Internet of Things based Hydrological Data Acquisition Automation Control System V1.0 (2018SR094333)
6. Kafka High-efficiency Communication Transmission System of Hydrological Information V1.0 (2018SR092790)
7. Smart Simulation System of Water Quality Real-time Monitoring and Early Warning V1.0 (2018SR092804)
8. Database Query and Automatic Analysis System of Water Resource Management V1.0 (2018SR092076)
9. Experts Suggestion Smart System of Water Resource Management V1.0 (2018SR092766)
10. Smart Monitoring and Early Warning Simulation System Platform of Water Environment V1.0 (2018SR066204)
11. River and Lake Health Assessment system based on Social Service Function Indicators V1.0 (2018SR664159)
12. Potential Risk Analysis System for the Physical Structure of Rivers and Lakes V1.0 (2018SR660576)
13. Smart System of River and Lake Health Diagnosis Experts Suggestion V1.0 (2018SR660599)
14. River and Lake Health Assessment System based on Ecological Indicators V1.0 (2018SR663292)
15. Smart Assessment and Early Warning Platform of River and Lake Health V1.0 (2018SR660451)
16. Background Management System Platform of Smart Assessment and Early Warning of River and Lake Health V1.0 (2018SR660812)
17. Smart System of Hydrology and Water Resources Health Diagnosis V1.0 (2018SR664369)
18. Water Quality Health Assessment System based on Neural Network V1.0 (2018SR663298)
19. Smart Query System for River and Lake Health Status based on Non-relational Database V1.0 (2018SR666147)
20. Smart Agricultural Production Management System V1.0 (2019SR1049270)
21. Smart Agricultural Planting Management System V1.0 (2019SR1050674)
22. Smart Agricultural Product Traceability Management System V1.0 (2019SR1050671)
23. Smart Agricultural Irrigation Management System V1.0 (2019SR1053091)
24. Smart Agriculture Traceability Management System V1.0 (2019SR1049030)
25. Smart Agriculture Online Monitoring System V1.0 (2019SR1050731)
26. Smart Agriculture Management Cloud Computing Platform V1.0 (2019SR0851722)
27. Simulation and Early Warning System for Agricultural Non-point Source Pollution V1.0 (2019SR0853255)

HONORS & AWARDS

- Mar 2019: the 3rd Prize of the Electronic Information of Science and Technology Competition of Yantai City
- Jan 2019: Professor of Industry of Shandong Province
- Jun 2018: the 2nd Prize of the Electronic Information of Science and Technology Competition of Yantai City
- Jan 2018: Adjunct Professor, Postgraduate Supervisor, School of Computing and Control Engineering, Yantai University
- Mar 2018: "Double Hundred Plan" High-end Talent of Yantai City
- Aug 2018: "Talent Card" of Yantai City
- Dec 2018: "High Talent" of Laishan, Yantai City
- May 2017: High-end (type-A) Talent of China Foreign Experts Bureau
- May 2017: The second prize of the 2017 Foreign Advanced Talent Entrepreneurship Project of Yantai Laishan Economic Development Zone
- Oct 2009: Section Chairman of the 4th Yellow River International Forum
- Jul 2009: Postdoctoral Fellowship of Sino-Swiss Science and Technology Project
- Apr 2009: 2008 "China National Scholarship for Outstanding Self-financed International Students"
- Oct 2007: Teaching Assistantship of DAAD STIBET Project of Germany
- Oct 2006: Teaching Assistantship of DAAD STIBET Project of Germany

PROFESSIONAL AFFILIATIONS

- GreenTech Exchange (GTE), B.C. Canada
 - Society Promoting Environmental Conservation (SPEC), B.C. Canada
 - Shandong Association of Artificial Intelligence
 - Chinese Association of Artificial Intelligence
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MAIN PUBLICATIONS

Journal Papers:

1. Wei, S., Zhao, J., Li, J., Yuan, M. 2023. Seq2seq model for human action recognition based on skeleton and two-layer bidirectional LSTM. *Journal of Ambient Intelligence and Smart Environments*, vol. Pre-press, no. Pre-press, pp. 1-17. DOI:10.3233/AIS-220125
2. Yuan, M., Wei, S. Sun, M., Zhao, J. 2022. Wavelet Decomposition and Seq2Seq Hybrid Models for Water Quality Prediction. *Water Resources*, 49(4):743-752.
3. Yuan, M., Wei, S. Sun, M., Zhao, J. 2022. Seq2Seq Water Quality Prediction Model Based on Wavelet Denoising and LSTM. *Computer Systems & Applications*, 31(6):38-47. (in Chinese)
4. Yuan, M., Wei, S., Zhao, J., Sun, M. 2021. A Sytemactic Survey on Human Behavior Recognition Methods. *SN Computer Science*, 3, Article number: 6 (2022) .
5. Yi, X., Wei S., Shi, Y., Fu, C., Xing, L., Yan, J., Zhao, J. 2021. Hydrological Series Prediction Model Based on Wavelet Nonlinear Autoregressive Network. *Computer Technology and Development*, 31(03):70-77. (in Chinese). doi:10.3969 / j. issn. 1673-629X. 2021. 03. 012.
6. Zhao, J., Wei S., Wen, X., Qiu, X.. 2020. Analysis and prediction of big stream data in real-time water quality monitoring system. *Journal of Ambient Intelligence and Smart Environments*, 12: 393-406.
7. Wei Shouke; Zhao Jindong; Tong Xiangrong. 2020. Impacts of socio-economic status and environmental attitudes of locals on E-flow allocation in Weihe River Basin, China. *HydroResearch*, 3: 158-165.
8. Sun M, Wei SK, Wang YJ, Zhao JD, Yuan MX. Prediction Model of Water Quality Based on Wavelet Decomposition and LSTM. *Computer Systems and Applications*, 2020, 29(12): 55-63(in Chinese).
9. Wei, S., Lei, A.L., Gnauck, A. 2008. Solving water conflicts using game theoretic models. *Yangtze River* (in Chinese), 39(23): 8-13.
10. Wei, S., Gnuack, A., Lei, A.L. 2009. Simulation analysis of domestic water demand and its future uncertainty in water scarce area. *Frontiers of Earth Science in China*, 3(3):349-360. DOI:10.1007/s11707-009-0047-z.
11. Wei, S., Lei, A.L., Gnauck, A. 2009. Application of game theoretic models to solve the benefit conflicts in water resources management. *Journal of Hydraulic Engineering*, 40(8): 910-918.
12. Wei, S., Lei, A.L., Islam, S.N. 2010. Modelling and simulation of industrial water demand in Beijing. *Frontiers of Environmental Science & Engineering in China*, 4(1): 91-109. DOI: 10.1007/s11783-010-0007-6.
13. Wei, S., Yang, H. 2010. Simulation of domestic conflicts concerning water allocation and pollution reduction in interbasin water division of China using game theory based approaches. *Journal of Beijing Normal University (Natural Science)*, 46(3):254-267.
14. Wei, S., Yang, H., Abbaspour, K., Mousavia, J., Gnauck, A. 2010. Game theory based models to analyze water conflicts in the Middle Route of the South-to-North Water Transfer Project in China. *Water Research*, 44: 2499-2516. DOI: 10.1016/j.watres.2010.01.021.
15. Islam, S.N., Singh, S., Shaheed, H., Wei, S. 2010. Settlement relocations in the char-lands of Padma River basin in Ganges delta, Bangladesh. *Frontiers of Earth Science in China*, 4(4): 393 – 402. DOI:10.1007/s11707-010-0122-5.
16. Wei, S., Song, J.X., Khan, N. 2012. Simulating and predicting river discharge time series using wavelet-neural network hybrid modeling approach. *Hydrological Processes*, 26(2): 281-296. DOI: 10.1002/hyp.8227
17. Wei, S., Yang, H., Song, J., Abbaspour, K., Xu, Z. 2012. System dynamic simulation model for assessing socio-economic impacts of different levels of environmental flow in the Weihe River Basin, China. *European Journal of Operational Research*, 221 (1): 248-262. DOI: 10.1016/j.ejor.2012.03.014.
18. Wei, S., Song, J.X. 2012. Improving prediction accuracy of river discharge time series using a Wavelet-NAR network. *Journal of Hydroinformatics*, 14(4): 974-991. DOI: 10.2166/hydro.2012.143.
19. Wei, S., Yang, H., Song, J., Abbaspour, K., Xu, Z. 2012. Wavelet-neural network model for estimation and prediction of monthly flow of the Weihe River in China. *Hydrological Science Journal*, 58(2): 374-389. DOI: 10.1080/02626667.2012.754102
20. Wei, S. 2011. Estimating water deficit and uncertainties in water scarce area using a conceptual and

econometric regression hybrid modelling approach. *Water Science and Engineering*, 5(4): 450–463. DOI: 10.3882/j.issn.1674-2370.2012.04.009.

21. Zuo, D., Xu, Z., Peng, D., Cheng, L., Wei, S., Abbaspour, K.C., Yang, H. 2014. Modeling spatiotemporal patterns of water resources availability in the Wei River Basin in China. *Hydrological Processes*, Article first published online: 22 SEP 2014. DOI: 10.1002/hyp.10307.

Books:

22. Wei, S., 2005. *Managing World Heritage Sites in China from an Economic Perspective*. Dissertation.de-Verlag, Berlin.
23. Wei, S. 2015. *An Application of Game Theoretic Models to Water Resources Management*. Emodlogic Technology Inc., Vancouver.

Proceeding Papers or Book Chapters:

24. Wei, S., 2011. Energy challenges, problems and related Strategies in China. In: Schmidt, M., Onyango, V., Palekhov, D. (Eds.), *Implementing Environmental and Resource Management*, Springer-Verlag, Berlin Heidelberg, pp.105-118.
25. Wei, S., Gnauck, A. 2007. Water supply and water demand of Beijing – A game theoretic Approach for modeling. In: Gómez, J.M., Sonnenschein, M., Muller, M., Welsch, H., Rautenstrauch, C. (Eds.), *Information Technologies in Environmental Engineering*. Springer Verlag, Berlin Heidelberg, pp.525-536. DOI: 10.1007/978-3-540-71335-7_51.
26. Wei, S., Gnauck, A. 2007. Game theoretic approaches to model water conflicts on a river basin scale. In: Gnauck, A. (Ed.), *Systemtheorie und Modellierung von Ökosystemen*. Shaker Verlag, Aachen, pp.22-40.
27. Wei, S., 2007. A survey on the situation of water resource and water management in China. In: Gnauck, A. (Ed.), *Systemtheorie und Modellierung von Ökosystemen*. Shaker Verlag, Aachen, pp.171-186.
28. Wei, S., Gnauck, A. 2007. Simulating water conflicts using game theoretical models for water resources management. In: Tiezzi, E., Marques, J.C., Brebbia, C.A., Jørgensen, S.E. (Eds.). *Ecosystems and Sustainable Development VI*. WIT Press, Southampton, Boston, pp. 3-12. DOI:10.2495/ECO070011.
29. Wei, S., Gnauck, A., 2007. Game theory based water quality models for reservoir management. In: Hryniewicz, O., Studziński, J., Maciej Romaniuk, M. (Eds.), *Proceedings of EnvirolInfo Warsaw 2007: Environmental Informatics and Systems Research, Volume 1: Plenary and session papers*, Warsaw, Poland. Shaker Verlag, Aachen, pp.363-370.
30. Wei, S., Gnauck, A. 2007. Analyzing water quality management using game theoretical models. In: the *Proceedings of International Scientific–Practical Conference: Logistics and Economics of Resource- and Energy-Saving In Industries (ISPC LEREI-2-2007)*, Volume 1, on 12th-15th September at Saratov State Technical University, Saratov, Russia, pp.248-252.
31. Wei, S., Gnauck, A. 2008. Water conflicts and their solutions by means of game theory. In: Gnauck, A. (Ed.), *Systemtheorie und Modellierung von Ökosystemen*. Shaker Verlag, Aachen, pp.34-49.
32. Wei, S., Islam, S.N. 2009. Analysis of China's Energy challenges and problems. In: Gnauck, A., Luther, B. (Ed.), *ASIM - 20. Symposium Simulation Techniques*. Shaker Verlag, Aachen, CD pp 475-483.
33. Wei, S., Islam, S.N., Gnauck, A. 2009. Environmental and energy problem in China. In: A. Gnauck (ed.), *Systemtheorie und Modellierung von Ökosystemen*. Shaker Verlag, Aachen. pp. 202-211.
34. Wei, S., Yang, H. 2010. Simulating water diversion and pollution reduction conflicts in river basin using game theoretic models. In: *Proceedings of the 4th International Yellow River Forum on Ecological Civilization and River Ethics, Vol II*. Zhenzhou, China. pp. 287-365.
35. Wei, S. 2013. *Introduction to Basic Model Techniques. A Theory and Practice Guide: Training Workshop on Strategies and Approaches for Sustainable Forest Management in a Changing Climate*. Kunming, Yunnan, China, 1 -12 July, 2013. pp. 38-50.

Book Preparing :

36. Wei, S. 2022. *Learning Python the Easy and Fast Way* (processing)
37. Wei, S. 2022. *Practical Jupyter Notebook from Beginner to Experts* (processing)
38. Wei, S. 2022. *Data Analysis and Modelling Essential with Python* (processing).
39. Wei, S. 2022. *Wavelets Transform for Data Science and Machine Learning with Python* (processing).

Thesis :

40. Wei, S. 2004. *Managing World Heritage Sites in China from an Economic Perspective*. A Master's Thesis at the Faculty of Architecture, Civil engineering and Urban planning, the Brandenburg University of

Technology in Cottbus, Germany.

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