

Khalid S. Al-Gahtani, Ph.D.
Associate Professor,
King Saud University, Civil Engineering
P.O. Box 800, Riyadh 11421
Kingdom of Saudi Arabia
E-mail: kgahtani@ksu.edu.sa



- **Academic Qualification:**

- Ph.D. in Civil Engineering, State University of New York at Buffalo, Construction Engineering and Management, 2006.
- Master in Civil Engineering, King Saud University, 1999, Construction Engineering and Management.
- Bachelor of Science in Civil Engineering, King Saud University, 1994.

- **Academic Experience:**

- Associate Professor in King Saud University, Civil Engineering, 2014-Current.
- Assistant Professor in King Saud University, Civil Engineering, 2006-2014.
- Adjunct Assistant Professor in “Missouri University of Science and Technology (MS&T), Engineering Management Department.” 2009-Current.
- Secretary General of King Saud University Endowments, November 2015 - Current
- Teaching Assistant in King Saud University, Civil Engineering, 1994-2006.

- **Work Experience:**

- Secretary General of King Saud University Endowments, November 2015 – Current.
- Supervisor of King Saud University Collages, Almuzahimiyah Branch, for Projects and Operating & Maintenance affairs, August 2013-Novemehr 2015.
- Chairman of Civil Engineering Department in King Saud University, Nov. 2012 – Nov. 2013
- Vice Dean for Technical affairs, Deanship of Admissions & Registration, King Saud University. 2011-2012.
- Vice CEO of “Riyadh Techno Valley, RTV”project 2006-2011. I managed and participated in establishing RTV Project. The project is a Science Park that is located on KSU Campus and its area is around 1.7 square meters. During this time, I participate in:
 - developing the Master plane of the project – Jorang office in Singapore.

- developing the Feasibility Study of the Project, Stanford Research Institute, USA, Washington D.C.
 - managing the construction of RTV main Building.
 - developing the Sustainability Standards of RTV tenants.
 - Coordinator of Joint Master Program in Engineering Management between King Saud university & Missouri University of Science and Technology 2008-Curent.
 - 2 years working in Saudi Telecom Company, 1994-1996:
 - Participated in managing Telephone Network Design process of the Telephone Expansion Project– 6 (TEP-6), 1.5 million Telephone lines.
 - Monitored the project schedule and budget.
 - Coordinated among project parties.
- **Journal Papers:**
1. Saud Alshammari, **Khalid Al-Gahtani**, Ibrahim Alhammad and Nuhu Braimah, “A Systematic Method to Analyze Force Majeure in Construction Claims”, Buildings 2017, 7(4), 115 (5 December 2017).
 2. **Khalid Al-Gahtani**, Ibrahim Alsulaihi, Mohamed Ali and Mohamed Marzouk (2017). Production of Green Concrete using Recycled Waste Aggregate and Byproducts. Built Environment Project and Asset Management, In press.
 3. Al-Sulaihi, I. A, **Khalid S. Al-Gahtani**, Abdullah M. Al-Sugair and Mohamed Marzouk (2017). “Developing a rating system for sustainable office buildings using Simos’ procedure”, Journal of engineering research, Vol.5, No. (1), pp 59-88.
 4. Marzouk, Mohamed, Eslam Mohammed Abdelkader, and **Khalid Al-Gahtani**. "Building information modeling-based model for calculating direct and indirect emissions in construction projects." Journal of Cleaner Production, Vol.152 (20 May 2017): pp 351-363.
 5. **Al-Gahtani, K. S.**, AlSulaihi, I. A., & Iqupal, A., “Total Float Management: Computerized Technique for Construction Delay Analysis”, *Canadian Journal of Civil Engineering*, 2016, Vol.43 No. (5), pp 391-401.
 6. **Al-Gahtani, K.**, Alsulaihi, I., El-Hawary, M., & Marzouk, M., “Investigating sustainability parameters of administrative buildings in Saudi Arabia”, *Technological Forecasting and Social Change*, Volume 105, April 2016, pages 41–48
 7. **Al-Gahtani, K.**, Al-Sulaihi, I., Al Rashed, R., & Batarfi, A., “Key Performance Indicators for Value Management in Saudi Construction Industry”, *International Journal of Application or Innovation in Engineering & Management (IJAIEM)*, ISSN 2319 – 4847, November 2015, Volume 4, Issue 11, 54-62.
 8. Ibrahim Al-Sulaihi, **Khalid Al-Gahtani**, Abdullah Alsugair and Ibrahim Tijani. “Assessing Indoor Environmental Quality of Educational Buildings Using BIM” Journal of Environmental Science and Engineering B, 4 (2015), 451-458, doi:10.17265/2162-5263/2015.08.006

9. Al-Sulahi, I., Al-Sugair, A., **Al-Gahtani, K.**, “Framework for Evaluating the Sustainability of Buildings’ Design in Saudi Arabia Using Building Information Modeling”, *International Journal of Structural Analysis & Design–IJSAD*, Volume 2: Issue 1, April 2015, [ISSN : 2372-4102]
10. Mohamed M. Marzouk, Mohamed Hisham, and **Khalid S. Al-Gahtani**; “Applications of bridge information modeling in bridges life cycle”; *Smart Structures and Systems*, Vol. 13, No. 3, March, 2014, ISSN: 1738-1584 (Print), 1738-1991 (Online).
11. Hany Abd Elshakour M., Ibrahim A. Al-Sulahi, **Khalid S. Al-Gahtani**, and Naief Turki Ibn-Homaid; “Benchmarking Framework for Performance of Construction Companies in Saudi Arabia”; *Jokull journal*, Volume. 64, Issue. 3, March, 2014; ISSN: 0449-0576.
12. **Khalid S. Al-Gahtani**, Ibrahim A. Al-Sulahi, Saad Al-Shihri, Mohammed Al-Rsheed; “Investigation into Sustainability in Saudi Construction Industry”; *Pensee Journal* (ISSN: 0031-4773) Vol. 76, Issue. 1, January 2014.
13. **Khalid S. Al-Gahtani**, Ibrahim A. Al-Sulahi; “Systematic Approach to Analyze Change Order and Delay Claim”; *Pensee Journal* (ISSN: 0031-4773) Vol 64, No. 3, March 2014.
14. Ali, H., Al-Sulahi, I., and **Al-Gahtani, K.** “Indicators for Measuring Performance of Building Construction Companies in Kingdom of Saudi Arabia." *Journal of King Saud University - Engineering Sciences*, Volume 25, Issue 2, July 2013, Pages 125–134.
15. **Khalid S. Al-Gahtani**, "Risk Assessment for Scheduling Acceleration", *International Journal of Application or Innovation in Engineering & Management (IJAIEM)*, vol.2, no. 2, ISSN: 2319 - 4847, February 2013.
16. **Khalid S. Al-Gahtani**, "Addressing Scheduling Software for Analyzing Delay Claim," *International Journal of Engineering and Technology*, vol. 4, no. 4, ISSN: 1793-8244, pp. 471-474, 2012.
17. **Al-Gahtani, Khalid S.** and Mohan, Satish B; “Delay Analysis Techniques Comparison", *Journal of Civil Engineering and Architecture*, ISSN 1934-7359, USA, Aug. 2011, Volume 5, No. 8 (Serial No. 45), pp. 740-747.
18. **Al-Gahtani, Khalid S.**, “Method for integrating EVM with Delay Analysis Technique”, *Canadian Journal on Environmental, Construction and Civil Engineering*, AM Publisher, Vol. 2, No. 1, January 2011, Pages: 80-88.
19. **Al-Gahtani, Khalid S.**; “Float Allocation using Total Risk Approach”, *American Society of Civil Engineering, ASCE, Journal of Construction Engineering and Management*, Vol. 135, No. 2, February 2009.
20. **Al-Gahtani, Khalid S.** and Mohan, Satish B.; “Total Float Management for Delay Analysis”, *Cost Engineering*, Vol. 49, No. 02, AACE International, Morgantown, WV, Feb. 2007
21. Mohan, Satish B and **Al-Gahtani, Khalid S.**; "Current Delay Analysis Techniques and Improvements", *Cost Engineering*. Vol. 48, No. 09, AACE International, Morgantown, WV, Sep. 2006.

- **Conference Papers:**

1. Mrad, M., **Al-Gahtani, K.**, & Hulchafo, R., “Time-Cost-Quality Trade-Off Problem Using Simulation-Based Integer Linear Programming Optimization Model: (Selection of Feasible Construction Projects at The Early Phase)”. Ninth International Conference On Science, Technology, Engineering and Management 2017 (ICSTEM 2017), (pp. 25-30). Dubai
2. Al-Sulahi, I., **Al-Gahtani, K.**, Al-Sugair, A., "Toward Developing a Systematic Approach for Assessing Green Buildings in Saudi Arabia Using BIM." “7th SAUDI GREEN BUILDING FORUM, 17-19 October, 2016
3. AlSulahi, I., **Al-Gahtani, K.**, Al-Sugair, A., Tijani, I. (2015). “Framework for Assessing the Indoor Environmental Quality for Educational Buildings using BIM” 2nd International Workshop on Civil Engineering and Architecture, IWCEA-2015, Istanbul, 12-13 Sep. 2015.
4. Marzouk Mohamed, Gamal Ibrahim, **Al-Gahtani Khalid**, “Tracking Indoor Air Quality of Buildings using BIM”, ICSC15 - Canadian Society for Civil Engineering Construction Specialty Conference, the University of British Columbia, Vancouver, June 7 to 10, 2015
5. Mohamed Marzouk, Mahmoud Metawie, Mohamed Hisham, Ibrahim Al-Sulahi, Mohab Kamal and Khalid Al-Gahtani. “Modeling Sustainable Building Materials in Saudi Arabia.” ICCCB/ASCE/CIB W078 International Conference, June 23-25, 2014.
6. Al-Sulahi, I., Al-Sugair, A., **Al-Gahtani, K.**, “Framework for Evaluating the Sustainability of Buildings’ Design in Saudi Arabia Using Building Information Modeling” Proc. of the Second Intl. Conf. on Advances In Civil, Structural and Environmental Engineering- ACSEE 2014, Zurich, Switzerland, 25 – 26 October 2014.
7. **Al-Gahtani, K.**, Al-Sulahi, I., Alsehami, A. “Responsibility of Nonworking Days in Analyzing Delay claim”, AACE's 2013 Annual Meeting, AACE international, CDR-1353, 30 June-3 July 2013, Washington, DC, USA
8. Mohamed Marzouk, Mohamed Hisham, Mohamed Elsheikh, **Khalid Al-Gahtani**. Building Information Model for selecting environmental building materials. 7th international structural Engineering and construction conference. Honolulu, Hawaii, USA, Jun 18-23 2013.
9. Alsehami, Abdullah; **Al-Gahtani, Khalid**, “Improving Construction Management Practices: Call for New Research Approach”, 18th International ICE-Conference on Engineering, Technology and Innovation, 18 - 20 June 2012, Munich, Germany.
10. **Al-Gahtani, Khalid S.**, “Addressing Scheduling Software for Analyzing Delay Claim”, 2010 International Conference on Construction and Project Management, Chengdu, China, November 16-18, 2010.
11. Aldusari, Abdulaziz N. and **Al-Gahtani, Khalid S.** "Utilizing Architectural Identity in Conveying Riyadh Techno Valley's Values", 20th Biennial

- Congress & General Assembly, “Leadership for Innovation”, Dubai institute of Technology (DIT), Dubai, United Arab Emirates, October 11-14, 2010.
12. **Al-Gahtani, Khalid S.** and Ghani, Syed Raiyan; "Knowledge management Tools: Adaption in Construction Management", Second International Conference on Engineering Systems Management and its Applications “ICESMA’10”, American University of Sharjah, United Arab Emirates, March 30 – April 1, 2010, IEEE Conferences, ISBN: 978-1-4244-6520-0.
 13. Al-Harkan, Ibrahim M., **Al-Gahtani, Khalid S.** and Chavez, Raul S.; "Role of Engineering Management in Gulf State Countries", Second International Conference on Engineering Systems Management and its Applications “ICESMA’10”, American University of Sharjah, United Arab Emirates, March 30 – April 1, 2010, IEEE Conferences, ISBN: 978-1-4244-6520-0.
 14. **Al-Gahtani, Khalid S.** and Mohan, Satish B; “Delay Analysis Techniques Comparison”, *Fifth International Conference on Construction in the 21st Century (CITC-V)*, May 20-22, 2009, Istanbul, Turkey.
 15. **Al-Gahtani, Khalid S.** and Taher, Khalid A.; “Analysis of Construction Delay Responsibilities using Expert System” *4th Saudi Engineering Conference, Riyadh, Saudi Arabia, December 2007 (Arabic Language)*.
 16. **Al-Gahtani, Khalid S.**; “Risk Assessment for Scheduling Acceleration” AACE international transaction, Nashville, TN – July 2007.
 17. **Al-Gahtani, Khalid S.** and Mohan, Satish B; "Total Float Management for Delay Analysis", AACE international transaction, New Orleans – June 2005.
 18. Mohan, Satish B and **Al-Gahtani, Khalid S.**; "Current Delay Analysis Techniques and Improvements", AACE international transaction, New Orleans – June 2005.

- **Conference Presentation:**

1. **Al-Gahtani, Khalid S.**, “World endowment experiences and the experience of King Saud University.” Associate Conference with Jazan University-seventh book exhibition, Gazan, Saudi Arabia, 28 Jun- 8 July 2017.
2. **Al-Gahtani, Khalid S.**, “Successful experiences in investment between public universities and the private sector.” The Fifth Saudi Conference on Project Management (Managing of public-private projects), Saudi Council of Engineers, Riyadh, Saudi Arabia, 4-5 May 2016.
3. **Al-Gahtani, Khalid S.**, “King Saud University investments toward achieving the Kingdom vision 2030.” Exhibition and International Conference on Higher Education, Ministry of education, Riyadh, Saudi Arabia, 12-13 April 2016.
4. **Al-Gahtani, Khalid S.**, “The role of university endowments in advancing the international universities.” Investment and finance of educational buildings conference, Ministry of education, Riyadh, Saudi Arabia, 10-11 Jan 2016.
5. **Al-Gahtani, Khalid S.**, “Construction Delay Analysis Techniques”, The 4th Project Management Conference, organized by Saudi Council of Engineering, 28-29 April, 2015.
6. **Al-Gahtani, Khalid S.**, “Role of Saudi Universities in Preparing Project managers”, The 3rd Project Management Conference, organized by Saudi Council of Engineering, 16-19 April, 2011.

- **Book**

1. **Al-Gahtani, Khalid S.** "Construction Delay Analysis Techniques, Technique Comparison, Float Analysis, and IT Solution", LAP LAMBERT Academic Publishing, ISBN-13:978-3-8433-5070-9, 2010.
2. Levin, Paul, "Construction Contract Claims, Changes & Dispute Resolution", ASCE, ISBN-10: 0784402760, June 1998, Translated to Arabic by **Al-Gahtani, Khalid S.** King Saud University Publisher, 2011.

- **Graduation Projects:**

- Ph.D. Dissertation – A comprehensive construction delay analysis technique: Enhanced with a float ownership concept, 2006.
- Master theses – Construction Delay Claim Analysis by using Expert System, Dec 1999.
- 4th Year senior project – An Intelligent Bid Evaluations System, June 1994.

- **Award**

- Distinguished Research and Publication Quality Awards, KSU, June-2009
- Listed on "Who's Who in the World 2010, 2013, 2014, 2015".
- Listed on "Who's Who in Asia 2012".

- **Teaching Courses:**

- EMGT 461, Global project Management, – MS&T.
- CE 610, Advanced Topics in Value Engineering – KSU.
- CE 611, Maintenance Engineering and Management – KSU.
- CE 613, Planning and Modeling Construction Processes – KSU.
- CE 614, Selected Topics in Construction Engineering & Management – KSU.
- CE 572, Computer Applications in Civil Engineering – KSU.
- CE 517, Computer Applications in Construction – KSU.
- CE 511, Construction Planning and Control - KSU
- SFE 551, Safety in Civil Engineering Projects – KSU.
- GE 401/403, Engineering Economics– KSU.
- GE 402/404, Engineering Project Management – KSU.
- CE 417, Construction Equipment and Methods– KSU.
- CE 496/497, capstone Project 1 & 2- KSU.
- GE 209, Computer Programming, Teaching Assistance– KSU.

- **Funded Project:**

- **Al-Gahtani, Khalid S.**; “Computerized System for Delay Analysis”, Engineering research Center, King Saud University, December 2007, SR30,000/\$8000.

- **Khalid Al-Gahtani**, Mohamed Marzouk, Mohab Kamal. “Framework for Sustainable Building Materials using Building Information Modeling Technology and Genetic Algorithm Optimization” National Plan for Science & Technology, September 2013, SR 1,924,000/ \$51,3000.
- **Supervised MS & PhD students:**
 - Ibrahim A. Al-Sulaihi, (PhD), Dissertation title “Framework for Evaluating the Sustainability of Buildings’ Design in Saudi Arabia Using Building Information Modeling”, Co-Supervisor Dr Abdullah Alsugair, May 2017
 - Rehmato Khalil, (MS), Theses title “Robust optimization Model for Time Cost Quality and Risk for Construction Project Schedule”, Co-Supervisor Dr Mahdi Murad, Expected Jan 2018
- **Coe-Supervised MS & PhD students**
 - Saud A. Alshammari, (PhD), Dissertation “A Comprehensive Methodology for Analyzing Excusable Non-Compensable Delay in Construction Delay Claims”, Advisor Prof. Ibrahim Alhammad, Expected Jan 2018
 - Sulaiman A. Alotaibi, (MS), Thesis “An investigation into current implementation of Design-Build Contracts in the Kingdom of Saudi Arabia”, Advisor Prof. Ibrahim Alhammad, Oct. 2015
 - Ibrahim A. Al-Sulaihi, (MS), Thesis title “Identifying Key Performance Indicators for Benchmarking Performance of Construction Firms in Kingdom of Saudi Arabia”, Supervisor Dr Hany Abd Elshakour, Jan, 2012
- **Attending Workshop Training:**
 - “Peer-Review program to improve teaching skills”, Deanship of skills development, King Saud University, 10-13 April, 2016.
 - “KSU-KPIs and benchmarking”, Deanship of skills development, King Saud University, 7-8 February, 2016.
 - “Change management and organizational development”, Deanship of skills development, King Saud University, 27-28 January, 2016.
 - “Simulation Modeling Training, AnyLogic 7 Fundamental”, AnyLogic Company, Paris, France, 12-14 October, 2015.
 - “Scientific Research Essentials for Professional Development of KSU Faculty”, Kansas State University, Manhattan, Kansas, USA, July 27-31.
 - “Positive Academic Leadership”, Academic Leadership development Workshop, Ministry Of education - Riyadh, Saudi Arabia, 6 April 2015.
 - “Building and Managing Teamwork”, Deanship of Skills Development - King Saud University- During the period of 5-6 April 2015.

- Flipped Classroom”, Deanship of Skills Development - King Saud University- During the period of 29-30 March 2015.
- “Scientific Publishing in international Periodicals” Deanship of Skills Development - King Saud University- During the period of 10-11 March 2015.
- “Autodesk Revit Structure (Basic)” Engosoft Training & Education, 4 March 2015, Riyadh, Saudi Arabia, 25 hours.
- “Revit Structure Essentials” Kemet Academy, May 2014, Cairo, Egypt, 25 hours.
- “Excellence in University Teaching” Dalhousie University, Halifax, Canada - During the period of 9-10 June 2014.
- “Fundamental of e-learning management System (Blackboard)” Deanship of E-learning and distance learning- King Saud University- During the period of 9-10 March 2014.
- “Statistical analysis Test using SPSS” Deanship of E-learning and distance learning- King Saud University- During the period of 11-12 March 2014.
- “Certificate in Higher Education Leadership”, Florida Atlantic University at Boca Raton, FL, USA, June 24-28, 2013.
- “Leadership Skills of Academic Departments” – Deanship of Skills Development- King Saud University- During the period of April 21-22, 2013.
- “Recognition e-learning management system (Blackboard)” Deanship of E-learning and distance learning- King Saud University- During the period of 11-Sept. 17, 2013
- “Implementing an Enterprise Project management Environment”- A panel discussion of some the leaders in the public and private sectors in the field of project management- March 12, 2013
- “Meeting Management” – Elocution training center- General Organization for Technical Training- December 10, 2012.
- “Learning Outcomes Assessment” – Deanship of Skills Development- King Saud University- During the period of March 14-15, 2012.
- “Course Design and Construction” – Deanship of Skills Development- King Saud University- During the period of April 7, 2012.
- “Student Learning Support” – Deanship of Skills Development- King Saud University- During the period of April 1, 2012
- "Teaching methods in education-oriented knowledge-based economy" - Prince Naif Institute for Research and Advisory Services - Islamic University of Imam Muhammad bin Saud – February 20-22, 2010.
- “Academic Leadership in Research-intensive Universities” – Deanship of Skills Development- King Saud University- January 19, 2010.
- “Project Scheduling by using MS-Project”, Engineering College, King Saud University, 2007, 2010, and 2011.
- “Planning and Scheduling for Construction Project”, Engineering College, King Saud University, 10 to 14 March 2007.

- “Construction Economics, Estimating & Tendering and Progress Control”, Engineering College, King Saud University, 5 - 9 May 2007.
 - “Science Park in Saudi Arabia”, Qassim University, June 2006.
 - Short Courses in Primavera at AT&T company in 1995.
 - 4 short courses in the joint program between [University of Missouri-Rolla](#) and [King Saud University](#):
 1. Total Quality Management, from Oct. 30 to Nov. 3, 1999
 2. Production Planning & Scheduling, from Feb. 5 to Feb. 9, 2000
 3. Project Management, from April. 1 to April. 5, 2000
 4. Facilities Planning, from April. 8 to April. 12, 2000
 - 3 short courses in [Division of Educational Outreach](#) at [Colorado State University](#):
 1. Team Dynamics for Project Management - from March 22 to April 5, 2001
 2. Project Management-Risk Management - from April 17 to May. 15, 2001
 3. Project Management and Contracting - from April. 18 to May. 5, 2001
 - Seminar of "Construction Delay, Acceleration & Inefficiency claims", [Federal Publications Seminars LLC](#). June 9-10 2004.
- **Attending conferences:**
 - Middle East Facility Management Association (MEFMA) Conference 2017, Riyadh, Saudi Arabia, 23-24 Nov 2016.
 - The Third Forum of Endowments, Ministry of Islamic Affairs, Endowments, Dawah, and Guidance, Riyadh, Saudi Arabia, 14-15 Nov 2016.
 - ARAB ACRAO 32nd Conference- American University of Science and Technology-25-29-3-2012
 - International Conference on Sustainable Design and Construction- The University of Kansas-23-25/3/2011
 - Second Conference of Project Management "Project Management Reality and Ambition" - Saudi Council of Engineers - 5-9/4/2008
- **Membership Associations:**
 - Association for the Advancement of Cost Engineering International, AACE International, since 2004.
 - Saudi Council of Engineers, since 2006.
 - American Association of Civil Engineering, ASCE, since 2007.
 - International Association of Computer Science and Information Technology(IACSIT), since 2010
- **Other Participations:**
 - Attending event to present Sheikh Sulaiman Al - Rajhi endowments, Riyadh Chamber, Riyadh, Saudi Arabia, 18 April 2017.
 - Give a lecture about Application of Building Information Modeling on Civil Engineering – Activities of ASCE student’s chapter at the

Department of Civil & Environmental Engineering at King Faisal University, Alahsa, Saudi Arabia April 5, 2015.

- Give a lecture about Construction Delay Analysis Techniques at Civil Engineering Department – Construction Engineering and Management Division – Purdue University, West Lafayette, Indian, USA – August 2014.
- Secretary General of the Department of Civil Engineering between the year 2009 - 2011.
- Coordinator of Construction Engineering and Management between the year 2010 - 2011.
- Civil Eng. Committee for developing the department 2009 - 2011.
- Civil Eng. Committee for Lab Equipment requirement 2009 - 2011.
- Chairman of the Civil Engineering Club – 2011-2012.
- Scientific Committee member of the First, second, third, and fourth Conference for project Management, organized by the project Management chapter of the Saudi Council of Engineers, April 2007, 2009, 2011, 2015.
- Registration Committee member for Civil Engineering Department, Spring and Fall Semester 2007.
- Commercial Committee member of 4th Saudi Engineering Conference, Riyadh, Saudi Arabia, December 2007.
- Review some papers and projects related to Construction field.

- **Computer Experience:**

- BIM software (Revit-Autodesk software).
- Visual Basic, Microsoft FORTRAN PowerStation, and C++ (Programming Software).
- STADD III, and SAP2000 (Structure Software).
- Microsoft Project, Primavera Project Planning, and SureTrak (Scheduling Software).
- Monte Carlo and Primavera Risk Analysis (Risk Management Software).
- AnyLogic and UMI Cyclone (Simulation software).
- V.P. Expert, LEVEL5 (Expert System Software).
- DPI (Decision Support System Software).
- NET (Neural Network software)
- ArcGIS (GIS Software).