Curriculum Vitae (CV)

Name: **Dr. P. Balakrishnan**
E-Mail: **bala@qu.edu.qa**
Rank: **Lecturer in GIS**
Department: **Dept. of Biological & Environmental Sciences**
Institutions: **Qatar University**
Date of Hire: **15-10-1998**
Teaching experience: **24 years in Qatar University**

Educational Qualification

Degrees	Institution(s)	Date	Major / Minor Fields
Ph.D.,	University of Madras, India	July 1998	GIS & Remote Sensing
M.Sc.,	University of Madras, India	April 1989	Cartography
B.A.,	Bharathiar University, India	May 1986	Geography/Statistics

Professional Education

Course	Institution	Year
MCSE - Microsoft Certified Systems Engineer	Microsoft Corporation, USA	January 2006 to Dec.2006
MCSA - Microsoft Certified Systems Administrator	Microsoft Corporation, USA	
MCSA (Messaging) - Microsoft Certified Systems Administrator Messaging	Microsoft Corporation, USA	
MCP – Microsoft Certified Professional	Microsoft Corporation, USA	

Employment History

Oct. 1998 - Present	**Lecturer in GIS**: Dept. of Biological and Environmental Sciences, College of Arts and Sciences, **Qatar University**, Doha, Qatar
June1997 - Spet.1998	**GIS Consultant**: Terradesic Sdn Bhd, Kuala Lumpur, Malaysia
Aug.1996 - May 1997	**GIS Project Executive**: Tangerine Geoscience (A Division of Tangerine Informatique Ltd), Bangalore, India
Nov.1994 - July 1996	**Scientist-SB**: National Remote Sensing Agency, Dept. of Space, Govt. of India, Hyderabad, India
July 1993 - Dec.1993	**Visiting Research Fellow**: University of Waterloo, Canada, Research and Training in GIS and Remote Sensing
Feb. 1991- Oct. 1994	**Junior Research Fellow**: University of Madras, Madras, India

Teaching Expertise (1998 – Present)

Presently **Lecturer in GIS,** College of Arts and Science, Qatar University

No	Subjects	Software used for Practical class
1	BIOL103 - Freshman Seminar	N/A
2	**BIOL502 – GIS and Database**	ArcGIS (All extensions)
3	**BIOL613 – Geospatial Methods**	ArcGIS (All extensions)
4	BIOL496 - Research Project	ArcGIS (All extensions)
5	BIOL497 - Research Project	ArcGIS (All extensions)
6	GEOG346 -Introduction to GIS	ArcGIS (All extensions)
7	GEOG243 -Introduction to Remote Sensing	IDRISI and ERDAS
8.	GEOG242 – Geography of Qatar	N/A
9.	GEOG241 – Weather and Climate	N/A
8	GEOG240- Cartography	ArcGIS
9	GEOG342 - Quantitative Geography	SPPSS 19.x and Geostatistics
10	GEOG245 - Computer Application in Geography	ArcGIS (All extensions), Surfer 9.x, Google Sketchup 7.x and Google Erath 4.x
11	GEOG262 - Urban Engineering Graphics	Autodesk 3D Map 2010 and AutoCAD 2010
12	GEOG466 - Urban Transportation Planning	ArcGIS 10.x and TransCAD 4.x
13	GEOG498 - Graduation Project (1)	ArcGIS (All extensions)
14	GEOG499 - Graduation Project (2)	ArcGIS (All extensions)

Lecturer in GIS, GIS Program**,** Dept. of Computer Technology, College of Technology, Qatar University

No	Subjects	Software, Programming Language and Database used for Practical class
1	Introduction to GIS	ArcView 3.x
2	GIS Analysis (1)	ArcView 3.x Extensions
3	GIS Analysis (2)	ArcInfo7.0(UNIX Platform) and ArcGIS 8.x Extensions
4	Remote Sensing	ERDAS
5	GIS Programming (1)	AML, Avenue, Visual Basic and MapObjects 2.2
6	GIS Programming (2)	Java, UML and ArcObjects
7	Spatial data Input and Output	Workstation ArcInfo7.0 (UNIX Platform)
8	Object Oriented Programming	JAVA Programming Language

9	Database	Oracle 9i
10	Geo-References	QTRANS, Geographic Calculator & Survey Instruments
11	Operating systems	DOS, Windows and Digital UNIX
12	GIS in Qatar	N/A
13	GIS Management	N/A
14	Field Training (Internship)	N/A

Research Project Grants

QU Student Grands:

1. PI - QUST-CAS-FALL-13/14-27: **GIS and Remote Sensing Application for Mangrove Mapping in Qatar and Studies on Physico-Chemical Status in these Mangroves,** CAS Students Grants (Qatar University) [Dec.9th, 2013 – June2014] Research grant of QR 10,000.

2. PI - QUST-CAS-FALL-14\15-18: **Remotely Sensed Empirical Modeling of Bathymetry in the East Coast of Qatar.** CAS Students Grants (Qatar University) [27 Sept. 2014 – June 2015] Research grant of QR 10,000.

3. PI - QUST-CAS-FALL-14\15-17: **Modeling the dispersion of vehicular carbon-monoxide (CO) pollution in Al Wakrah, Qatar: A CALINE4 approach combined with GIS Techniques.** CAS Students Grants (Qatar University) [27 Sept. 2014 – June 2015] Research grant of QR 10,000.

4. PI - QUST-CAS-FALL-15/16-13 - **Analysis of Urban Heat Islands by using Multi-sensor and Multi-temporal Remote Sensing Images in a Desert City**, CAS Students Grants (Qatar University) [21/02/2016 - 31/12/2016], Research grant of QR 8,000.

5. PI - QUST-CAS-SPR-15/16-8 - **Detecting harmful algal blooms using remote sensing and analyzing their impact on the environment**, CAS Students Grants (Qatar University) [18 May 2016 – Dec 2016] Research grant of QR 8,000.

6. PI- QUST-CAS-SPR-2017-32 - **Assessment of Coastal Vulnerability and Sea Level rise on the Eastern Coast of Qatar due to Global Warming**, CAS Students Grants (Qatar University) [05\01\2017 to 31\12\2017] Research grant of QR 10,000.

7. PI - QUST-CAS-SPR-15/16-7 - **3D Noise Mapping in Doha City using GIS**, CAS Students Grants (Qatar University) [18 May 2016 – Dec 2016] Research grant of QR 8,000.

8. PI - QUST-1-CAS-2018-38: **Impact of Land-Use/Land-Cover Changes on Urban Heat Island in Doha City, Qatar – A Geospatial Application**. CAS Students Grants [Start date is 14/01/2018 to 31/05/2018] Research grant of QR 8,800.

9. QUST-1-CAS-2019-26: **Monitoring Shoreline Change using Remote Sensing and GIS: A Case Study of Doha Coast.** CAS Students Grants [Start date is 06/02/2019 to 2/05/2019] Research grant of QR 9,615.

10. QUST-2-CAS-2019-30: **Comparative analysis of chlorophyll and nitrogen levels of afforested and natural mangrove areas by chemical analysis and remote sensing techniques**. CAS Students Grants [Start date is 25/08/2019 to 28/11/2019] Research grant of QR 7,865.

QU Internal Grants:

1. Co-investigator - CAS08046**: Regional Development Planning for the Municipality of the North, Qatar**, CAS08046 Research, Qatar University [November 2007 to June 2010]. Research grant of $32,200.

2. LPI – QUUG-CAS-HUM-08-01**: GIS Application for 3D Noise mapping for Doha City**, Qatar University Small Research Grant, [October 2008- Jan2010]. Research grant of $11,890.

3. Co-PI - Awarded CHSS/ seed funding support for 2015/ 2nd cycle: **3D GIS Visualization of the Archaeological Site –Lisha**, Qatar. QU Seed Funding (25/10/2015 – June 2016), QR 25,500.

4. Co-PI - QUUG-DBES-15\16-5 – **Eco-systems goods and services by planted and natural Mangrove in Qatar**, QU-Internal Grant [01/03/2016 to 31/12/2017] Research grant of QR 115,200.

5. Co-PI - QUUG-ESC-ESC-14/15-2: **Monitoring Coastal Land-Use Changes using Remote Sensing and GIS: A Case Study of the east Coast of Qatar.** QU-Internal Grant [29/4/2015 to 31/03/2018] Research grant of QR 142,000.

6. PI - QU Internal Grant (Collaborative Grant): **Documentation and Revitalization of the Heritage Village of Tinbek in the State of Qatar**. [Start Date 1 January 2019 to 31 December 2020] Research grant of QR 261,369 **(**in Progress).

UREP Research Grants:

1. LPI - UREP 01 - 001 - 4 – 066: **Geographic Analysis of Land Use Change – A Case study of Greater Doha City, The State of Qatar**, Qatar National Research Fund (QNRF) UREP 1st Cycle (Feb 2007 to June 2008). Research grant of $30,000.

2. LPI - UREP 02 - 002 - 1 – 371: **Evaluation of Accessibility to Primary Schools in the State of Qatar – Primary School Plan of the Year 2025**, Qatar National Research Fund (QNRF), UREP 2nd Cycle (June 2007 – October 2008). Research grant of $20,000.

3. LPI – UREP 09 - 050 - 5 – 012: **Mapping Spatial Patterns of Air Pollution in Doha City Using GIS,** Qatar National Research Fund (QNRF), UREP 9th Cycle (February 2011 – March 2012). Research grant of $53,300.

4. LPI - UREP 12 - 093 - 5 – 024**: Child-friendly Land Use Planning for Greater Doha City**, Qatar National Research Fund (QNRF), UREP 12th Cycle [15-Sep-2012– 01-Dec-2013] Research grant of $29,275.

5. Research Mentor- UREP17-049-6-004: **Mirroring the World of Qatar: Navigation through Historical Maps of Qatar Peninsula.** Qatar National Research Fund (QNRF), UREP17th Cycle [May-2015 to May2016] $94,601

NPRP Research Grants:

1. PI - NPRP 4–087–5–008: **Social Impact Assessment of Intensive Development: High-rise Life in Contemporary Qatar**, Qatar National Research Fund (QNRF), **NPRP** [May 18th, 2011 – 30-Aug-2015], Research grant of $513,415.

2. PI - NPRP12S-0310-190284: **Risk assessment of native and invasive vectors of diseases in Qatar and their impacts on public and animal health**. [Start Date **05-Jan-2020 to 05-Jan-2024**], Research grant of $657,444 **(in Progress).**

Industrial project:

1. PI - **Investigation of Surface to Near Surface Water Activities at RLIC using remotely Sensed Data and GIS**. Fund by RasGas [May 2014- Dec. 2014] Research grant of $40,000.

Publications

Papers Published

1. Ayesha Y. Ahmad, Imane A. Saleh, **Perumal Balakrishnan,** Mohammad A. Al-Ghouti (2021)**, Comparison GIS-Based interpolation methods for mapping groundwater quality in the state of Qatar,** Groundwater for Sustainable Development, Volume 13, 100573, ISSN 2352-801X**,** https://doi.org/10.1016/j.gsd.2021.100573 [Impact Factor: 3.7]

2. Imane Ali Saleh and **Perumal Balakrishnan** (2019**), GIS Based Hotspot and Cold-spot Analysis for Primary Education in India,** Indian Journal of Science and Technology, Vol 12(45), pp.1-33. DOI: 10.17485/ijst/2019/v12i45/148448, ISSN: 0974-5645. [Impact Factor: 0.6]

3. **Balakrishnan. P,** Mohammed Harish & Mohammed Khalifa M.Z. Al-Kuwari (2018), **Urban Solid Waste Management using Geographic Information Systems (GIS): A Case Study in Doha, Qatar**, International Journal of Advanced Remote Sensing & GIS, Vol.8(1), pp.2901-2918. Cloud Publications, (ISSN 2320 – 0243) DOI: https://doi.org/10.23953/cloud.ijarsg.397. [Impact Factor: 1.97]

4. Noora Al-Naimi, Mohammad A Al-Ghouti & Perumal **Balakrishnan** (2016), **Investigating chlorophyll and nitrogen levels of mangroves at Al-Khor, Qatar: an integrated chemical analysis and remote sensing approach**, Environmental Monitoring and Assessment, 188 (5) 1-12. Springer International Publishing. [Impact Factor: 1.804]

5. Mohamed A. Amr, Abdul-Fattah I. Helal , Athab T. Al-Kinani & **Perumal Balakrishnan** (2016), **Ultra-trace determination of 90Sr, 137Cs, 238Pu, 239Pu, and 240Pu by triple quadruple collision/reaction cell-ICP-MS/MS: Establishing a baseline for global fallout in Qatar soil and sediments**, Journal of Environmental Radioactivity 153,73–87, Elsevier, http://dx.doi.org/10.1016/j.jenvrad.2015.12.008. [Impact Factor: 2.263]

6. Noora Al-Naimi, **Perumal Balakrishnan** & Ipek Goktepe (2015), **Measurement and modelling of nitrogen dioxide (NO2) emissions: a marker for traffic-related air pollution in Doha, Qatar**, Annals

of GIS, 21(3), 249-259, Taylor & Francis, DOI: 10.1080/19475683.2015.1057225. [RG Impact Factor 1.17]

7. Nadeem Hashem & **Perumal Balakrishnan** (2015), **Change analysis of land use/land cover and modelling urban growth in Greater Doha, Qatar**, Annals of GIS, 21(3), 233-247, Taylor & Francis, DOI:10.1080/19475683.2014.992369. [RG Impact Factor 1.17]

8. Jassim A. Al-Khayat and **Perumal Balakrishnan**, **Avicennia Marina around Qatar: Tree, Seedling and Pneumatophore Densities in Natural and Planted Mangroves using Remote Sensing** (2014), International Journal of Sciences 3 (5), pp.18-27 Alkhaer Publications (ISSN 2305-3925). [RG Journal Impact: 0.24]

9. Krishnasamy Raman, Gurusamy Annadurai, **Perumal Balakrishnan**, Murugan Muralidharan (2013), *Seasonal Variation of Atmospheric Stability Over Desert Climate Conditions Using Monin-Obukhov (Mo) Method.* International Journal of Natural and Applied Science, 2(1), pp.6-12 Universal Research Publications.

10. **Balakrishnan. P.**, *Application of Remote Sensing for Mangrove Mapping: A Case Study of Al-Dhakira, the State of Qatar* (2012), Journal of Earth Science and Engineering, 2(10), pp.602-612 David Publishing Company ISSN 2159-581X.

11. **Balakrishnan.P**. Abdul Saleem, N.D.Mallikarjun (2011), *Groundwater Quality Mapping using GIS: A Case Study of Gulbarga City, Karnataka, India.* [African Journal of Environmental Science and Technology] 5(12), pp.1069-1084, Academic Journals, ISSN 1996-0786.

12. Abdul Saleem., M.N. Dandigi., Vijay Kumar K., **Balakrishnan P.,** *Ground Water Quality Assessment for an Indian Urban Habitat: A GIS Approach* (2011), Journal of Environmental Science and Engineering, 5(12), pp. 1561-1569. David Publishing Company, ISSN 1934-8932.

13. **Balakrishnan.P**, A. Saleem, M.N Dandigi (2011), *Groundwater Quality Index Mapping for Gulbarga City, Karnataka State, India*, [Journal of Environmental Science and Engineering, 5(9), pp.1189-1197. David Publishing Company, ISSN 1934-8932.

14. **Balakrishnan.** P., Alauddin Alomary, *Detection of Land use/Land Cover Change Using Remote Sensing and GIS Techniques, and its Application to Monitoring Pudukkottai Taluk Area,* (2004), Jordan Journal of Applied Sciences, 6 (2), pp8-30 ISBN 1605-2587.

15. **Balakrishnan,** P., *GIS on the Internet*, (1998), The Indian Geographic Journal, 73(1), pp.51-64. ISSN 0019-4824.

16. **Balakrishnan**, P., *Basic Concepts of Remote Sensing and Application*, (1991), The Geographic Teacher India, 25(1-6), pp.33-37

Book Published

1. Alauddin Alomary, **P. Balakrishnan** and Mohsen Elloumi (2002). *Programming with Java*, Dar Wael for Printing - Publishing, Amman, ISBN: 9957-11-308 x.

Book Chapter

1. R. Jaganathan, K. Annaidasan, D. Surendran and **P. Balakrishnan**, "**Morphometric Analysis for Prioritization of Watersheds in the Mullayar River Basin, South India**", Ramkumar, Muthuvairavasamy, Kumaraswamy, K, Mohanraj, Rangaswamy Eds. *Environmental Management of River Basin Ecosystems*, 2015, Springer [ISBN: 978-3-319-13424-6].

Publications in Conferences & Presentation

1. Nadeem Hashem & **Balakrishnan. P.**, **The effect of accelerated development on coastal land use/land cover: case of the State of Qatar**, March 15-17, 2018, European Association of Geographers Annual Conference, Cologne, Germany.

2. Balakrishnan.P., **Food in the City: Where can we grow? using Geospatial Technology**, Urban Agriculture - Feb.14-15, 2018, Land, Food, People, Agriculture and City: A Geographical Perspective, University of Madras, Chennai, India. **(Speaker)**

3. Balakrishnan.P., **Urban Ground Water Quality Assessment with GIS Modelling: A Case Study**, December 3- 4, 2017, Symposium - QULSS 2017 - Water Resources and Management: Future Challenges, Qatar University. **(Speaker)**

4. Balakrishnan.P., **Ground Water Quality Modelling using GIS: A Case Study**, December 3- 4, 2017, Symposium - QULSS 2017 - Water Resources and Management: Future Challenges, Qatar University. **(Poster Presentation)**

5. Balakrishnan.P., **Geo-spatial information technology, an imperative tool, for dealing urban environmental issues**. Nov.25-26th 2016, Fifth UGIT International Conference on Geospatial Technologies for Urban, Forest & Climate Change – Pathway to Sustainable Development, Bangalore University, Bangalore, India. **(Lead Lecture)**

6. Balakrishnan. P., **Remotely sensed Empirical Modelling of Bathymetry in the East Coast of Qatar**, March 29 - April 2, 2016, Annual Meeting of the Association of American Geographers (AAG) to be held in San Francisco, CA, USA.

7. Balakrishnan. P., **Modeling the Dispersion of Vehicular Carbon-Monoxide (CO) Pollution Due to Road Traffic in Doha, Qatar: A Caline4 Approach Combined With GIS Techniques**, 5th NAGI International Conference on Future Earth Perspectives in South Asia to be held in the Department of Geography, Bharathidasan University, Tiruchirappalli – 620 024, Tamil Nadu, India during 05-07 February, 2016.

8. Balakrishnan. P., **GIS approach to modeling traffic related air pollution**, April 9-13, 2013, Annual Meeting of the Association of American Geographers (AAG) to be held in Los Angeles, CA, USA.

9. Balakrishnan. P., **3D Visualization of Demographic data: A Case study of (Zone 22 and 23) in Doha city, The State of Qatar**, Feb.24 – 28, 2012, Annual Meeting of the Association of American Geographers (AAG) to be held in New York, USA.

10. Mohd K Al-Kuwari, Abdl Azziz Ali Almannai & **Balakrishnan. P.**, **The urban renewal planning using visual information designing tools**, Feb.24 – 28, 2012, Annual Meeting of the Association of American Geographers (AAG) to be held in New York, USA.

11. Balakrishnan.P., *Groundwater Quality Mapping for an Indian Urban Habitat*, April 12-16,2011, Annual Meeting of the Association of American Geographers (AAG) to be held in Seattle, USA.

12. Nadeem Hashem & **Balakrishnan. P.**, *Assessing the Use of Dasymetric Mapping For Planning Education Provision in the Greater Doha*, April 12-16, 2011, Annual Meeting of the Association of American Geographers (AAG) to be held in Seattle, USA.

13. Balakrishnan. P., & Nadeem Hashem., *Automated Dasymmetric Mapping Versus Traditional Mapping Techniques: The Spatial Variability Revealed, The Case Study of Qatar*, Modern Techniques and Sustainable Development: Theory and Applications Conference, GCC Geographical Society, 9-11 March 2010, Doha, Qatar.

14. Muhammed Al-Kuwari., & Balakrishnan. P., *GIS Application for Primary Health Centers: A case of Greater Doha, State of Qatar*, Modern Techniques and Sustainable Development: Theory and Applications Conference, GCC Geographical Society, 9-11 March 2010, Doha, Qatar.

15. Balakrishnan.P., Muhammad Khalifa Al-Kuwari., & Nasser Fakhro *., Monitoring Urban Growth of a Desert City through Remote Sensing and GIS: Greater Doha, The State of Qatar,* March 22-27, 2009 Annual Meeting of the Association of American Geographers (AAG) to be held in Las Vegas, NV,USA.

16. Balakrishnan.P., Nasser Fakhro., *GIS Application for Road Accidents - A case of Doha City, The State of Qatar,* April 15-19, 2008, Annual Meeting of the Association of American Geographers (AAG) to be held in Boston, MA, USA.

17. Abdul Saleem., Dandigi M.N., and **Balakrishnan.P.**, *Urban Ground Water Assessment and GIS Modelling – A Case Study of Gulbarga City,* International Conference on "Groundwater Dynamics and Global Change" at Jaipur, Rajasthan, India during the period March 11 – 14, 2008.

18. Balakrishnan, P., *Habitat suitability model for the Grass Rockfish and Leopard Shark in Monterey Bay: Using GIS to model marine habitats*, MATE's 2004 Summer Institute for Faculty Development July 11-17, 2004. USA. (http://www.mpcfaculty.net/tami_lunsford/SI_04_Institute/GIS/Projects/bala.pdf)

19. Taragi R.C.S., Balakrishnan, P., *GIS data sharing Lessons from Qatar Nationwide GIS*, 6th Annual International Conference of MAP INDIA – 2003, , January 28-31 2003 New Delhi, India.(http://www.gisdevelopment.net/policy/international/mi03061.htm)

20. Balakrishnan, P., *Geographic Information system for micro level Planning in Tribal development*, National Seminar on Tribal Ecology and Development, Department of Anthropology, University of Madras, India, September 13 - 14, 1996.

21. Balakrishnan, P., et al. *Errors in GIS*, National Symposium on GIS Technology Application and Resource and Facility management, University of Madras, Madras, Feb. 1995.

Commercial Projects Experiences: 1996 – 1998

As a **Project Executive** at **Tangerine GeoScience,** India and a **Consultant** at **Terradesic Sdn Bhd** at **Malaysia**, I gained vast experience in Projects Implementation. I was leading the project planning and implementation, including feasibility studies, cost estimates, development of project structure; working closely with business managers and customers to establish project parameters; managing project

resources, budgets and schedules within those parameters; working with other project managers, and the overall project teams and functional team leaders to define and implement project workflows and associated tools.

1. **GIS Application for Wilayah Persekutuam Kuala Lumpur, Malaysia (Klang Valley Project**)
   Software: ReGIS and Visual Basic 4.0
   Role: Project Manager
   Name of Client: Universiti Teknologi Malaysia (UTM) and Wilayah Lembah Klang
   Cost of Project: $100,000
2. **GIS for MPPJ (Municipality Planning for Petalan Jeya, Malaysia), Section 13 Local Plan**
   Software: Autodesk World, Visual Basic 4.0
   Role: Project Consultant
   Name of Client: MPPJ Town Planning Department
   Cost of Project: $50,000
3. **GIS for monitoring and Management of warehouse goods**
   Software: ReGIS and Visual Basic 4.0
   Role: Project Consultant
   Name of Client: Johor Port Authority
   Cost of Project: $20,000
4. **PJ (Petalan Jeya) GIS-GIS Model and Spatial Strategic Plan (5 Years) for MPPJ**
   Software: Autodesk World and Visual Basic 4.0
   Role: Project Consultant
   Name of Client: MPPJ Town Planning Department
   Cost of Project: $75,000
5. **Preparation of an Integrated Management Plan for Sustainable use of the Johor Mangrove forests, Malaysia**
   Software: Arcinfo, Arcview and Extensions
   Role: Project Manager
   Name of Client: Johor Forestry Department/DANCED
   Cost of Project: $20,000
6. **Internet GIS Project (R & D work)**
   Software: Autodesk MapGuide , Cold Fusion Professional, HTML and VBA
   Role: R &D
   Name of Client: In Housework
7. **Lucknow Development Authority (LDA) GIS Project**
   Software used: Arc/Info, Arcview, Oracle, Avenue and AML
   Role: Application Developer
   Name of Client: Lucknow Development Authority
   Cost of Project: $60,000
8. **Cellular Phone Information System (BPL, ERICSSON)**
   Software Used: AtuoCAD, Arc/info and PCI-Geomatics
   Role: Application Developer
   Name of Client: BPL and ERICSSON
   Cost of Project: $120,000
9. **Pilot Project on Integrated Mission for Sustainable Development (IMSD) Project, Space Application Center, Department of Space, India.**
   Software: AtuoCAD, Arc/info and PCI-Geomatics
   Role: Application Developer
   Name of Client: Space Application Center

Cost of Project: $15,000

10. **GIS Application to Improve Water Distribution and Farm Productivity: A Case Study in Bhakra Command Area, India, (National Remote Sensing Agency, Hyderabad, Tangerine Geoscience, Bangalore, International Irrigation Management Institute, Sir Lanka).**
   Software Used: Arc/info, IDRISI, SPSS and Q-PRO
   Role: Application Developer
   Name of Client: NRSA and International Irrigation Management Institute
   Cost of Project: $10,000

Scientific Projects Experience: 1991 - 1996

SCIENTIST at <u>National Remote Sensing Agency</u> (Land use, Cartographic and Map printing Division), Dept. of Space, Govt. of India, Hyderabad, India (1994 to 1996).

Major work:
o **Supporting:** GIS, Image Processing and mapping techniques for various projects.
o **Software Used:** Arc/info, ERDAS, PCI-Geomatics, AML and C

Member of the Projects
o Land use / Land Cover Mapping using satellite image - National level Project
o Wasteland Mapping using satellite images - National level Project
o Soil Mapping using satellite image - National level Project
o Drought assessment Mapping using satellite image - National level Project
o Water Resources Mapping project using satellite image
o Forest Cover Mapping project using satellite image
o River Migration Studies using satellite image
o Geology/geomorphology mapping project using satellite image
o Integrated Mission for Sustainable Development (IMSD) project using satellite image - National level project
o IRS-IC satellite Reference map preparation and Printing
o Scanning and Reproduction. An exercise with Wasteland Map
o Reduction and Enlargement through Scanner

Junior research fellow at Dept. of Geography, University of Madras, Madras, India (1991 to 1994)

o **Research Topic**: **"**Use of **Geographic Information System** for Land Cover Mapping: A case study of Pudukkottai Taluk, Tamil Nadu, India.

o **Software Used:** Arc/info, PCI-Geomatics, SPSS and AML

University Services: Academic/Technical Committees
o **GIS Coordinator –** Coordinating between Qatar University and Center for GIS (CGIS) and other agencies in Qatar (2000 – Present)

- o **Member - Curriculum Development Committee,** the Design and launch of the GIS Program, Department of Computer Technology, College of Technology, Qatar University. (1998 – 2001)
- o **Member – Time Table Committee**, GIS Program, Department of Computer Technology, College of Technology, Qatar University. (1999 -2005)
- o **Member – Textbook Committee,** GIS Program, Department of Computer Technology, College of Technology, Qatar University. (1999 – 2005)
- o **Member – Students advisory Committee**, GIS Program, Department of Computer Technology, College of Technology, Qatar University. (2000 – 2005)
- o **Member - Field Training (Internship) Committee**. GIS Program, Department of Computer Technology, College of Technology, Qatar University. (1999 – 2004)
- o **Member - Field Training (Internship) Committee**. Geography and Urban Planning Program, Department of Humanities, Qatar University. (2007)
- o **Member – Graduation Project Committee,** GIS Program, Department of Computer Technology, College of, Qatar University. (2000 – 2005)
- o **Member – Graduation Project Committee,** Geography and Urban Planning Program, Department of Humanities, Qatar University. (2005 – Present)
- o **Member - GIS Committee**, Geography and Urban Planning Program, Department of Humanities, Qatar University. (2006 – 2009)
- o **Member – PLO Assessment System.** Geography and Urban Planning Program, Department of Humanities, Qatar University. (2008 – 2010)
- o **Member-** Board of Trustees, Al Ieman Secondary Independent School, (2007 – 2009)
- o **Member- Herbarium, biological museum and field committee**. Department of Biological and Environmental Sciences (2012 – 2015)
- o **Member- GIS Lab maintenance Sub-Committee.** Department of Biological and Environmental Sciences (2012 – 2014)
- o **Member- MSC self-review report Committee**. Department of Biological and Environmental Sciences (2014 – 2015)
- o **Member- UG Research Committee**. Department of Biological and Environmental Sciences (2014 – 2015)
- o **Member- Budget Committee**. Department of Biological and Environmental Sciences (2014 – 2015)
- o **Member- Maintenance sub-committee**. Department of Biological and Environmental Sciences (2014 – 2015)
- o **Member** - **PhD comprehensive exam committee**. Department of Biological and Environmental Sciences (Fall 2014)

- o **Member** – **Environmental Science/Geography commission.** Department of Biological and Environmental Sciences (2014 - 2017)
- o **Member** – **Undergraduate PLO Assessment Sub-Committee.** Department of Biological and Environmental Sciences (2016 - 2017)
- o **Member** – **Graduate PLO Assessment & self-study Sub-Committee.** Department of Biological and Environmental Sciences (2016 - 2017)
- o **Member – MSc Thesis advisory committee**. Department of Biological and Environmental Sciences (2011- 2017)
- o **Member** – **PhD students advisory committee**. Department of Biological and Environmental Sciences (2013 - Present)
- o **Member - Engagement and Activities.** Department of Biological and Environmental Sciences (2017 - 2018)
- o **Member -Outreach Committee.** Department of Biological and Environmental Sciences (2018 - 2019)
- o **Chair** - **Exam Committee**. Department of Biological and Environmental Sciences (2014 – 2019)
- o **Member** - **Exam Committee**. Department of Biological and Environmental Sciences (Fall 2019 – 2020)
- o **Member** - **Lab and Facilities Committee**. Department of Biological and Environmental Sciences (Fall 2019 - 2020)
- o **Member - Labs and Facilities Committee**-CAS-Sciences and Applied Sciences Cluster (Fall 2019 – Spring 2020)
- o **Member** – **Budget & Strategic Plan Committee**. Department of Biological and Environmental Sciences (Fall 2019 - present)
- o **Member** – **Curriculum and Quality Assurance Committee**. Department of Biological and Environmental Sciences (Fall 2019 - present)

Expertise in Computer Programming, Software and Technical Skills

Since 1988, I worked with various GIS & Mapping, Remote Sensing, Database Software products, Programming Languages and various Operating Systems.

Field	Computer Programming and Software	Knowledge
GIS and Mapping Software	PC-ArcInfo 4.x,, Workstation ArcInfo7.x,, ArcGIS 8.x to 10.x , ArcGIS Pro, ArcGIS Online and *Extensions*, ArcView and *Extensions*, ArcIMS, MapObjects, ArcServer, ArcObjects, ArcPAD MapInfo, AutoCAD, QGIS, Autodesk Map3D, MapGuide, GRASS, Surfer, Voxler, ReGIS and GeoMedia	Professional Level
Remote Sensing Software	ERDAS, PCI-Geomatics, ENVI and IDRISI	Professional Level

Environmental Software	SoundPLAN7.3, CUSTIC, AERMOD, **CALRoads**, DISPER, Geospatial Modeling Environment, and Marine Geospatial Ecology	Very Good
Databases	ORACLE - DBA, MS-Access and dBase	Advanced
Programming	I have used the following programming languages: Basic, C, AML, Avenue, VB, VBA, UML, COM, HTML, VB.NET, XML and Java	Very Good
Statistical Software	SPSS ver. from (6x to 19.x), Statistica 8.x and Geoda	Advanced
Operating systems	I have worked in heterogeneous environments for long time. While doing so, I gained experience with many flavors of UNIX (Digital UNIX, AIX, IRIS, Solaris and most recently Linux) and other operating systems (DOS, MS-Window3.x/9x/XP/NT/ 2000/Vista/7/8/10 and MacOS)	Professional Level
System and Network Administration	Disk Administration, Repair Disk, Event Viewer, Performance Monitor, Creating users, Dropping users, Administrative Privileges, Security, Client/Server configuration and Installing various software's and network	Very Good
MS-Office and Graphic software	MS-Office, Graphic Package (Visio, Corel Draw, HG, Photo shop, Adobe Illustrator, Camtasia Studio and SnagIt)	Advanced
E-learning software	Blackboard	Advanced
Operating Different Instruments	Field Survey Instruments (Total Station, GPS), Noise Meter, Air Pollution Meter, PDAs , and A0 Platter	Very Good

Professional and Training Certification

Well trained in **GIS and Remote Sensing software:** ArcGIS, Arc/Info, ArcView, GRASS, IDRISI and EASI/PACE, ERDAS, MapInfo etc., **Database Software:** Oracle, Access Database, and **Programming Languages:** Java, Visual Basic, C, Networking, and academic professional development workshops

Course	Institution	Period
CCSN001: Climate Change Science and Negotiations	SDG Academy (United Nations)	Jun 30, 2020 to Sep 1, 2020
CCSI001: Climate Change: The Science and Global Impact	SDG Academy (United Nations)	Jun 30, 2020 to Sep 1, 2020
MOOC - Do-It-Yourself Geo Apps	Environmental Systems Research Institute (ESRI)	4 Week (Completed on August 22, 2020
Introduction to Go. Data – Field data collection, chains of transmission and contact follow-up	The World Health Organization (WHO)	Completed on 26 July 2020
Geostatistical Interpolation: Creating a 3D Prediction Surface	Environmental Systems Research Institute (ESRI)	Completed on 10 July 2020 (4 hours)
Space-Time Analysis: Time-Series Clustering	Environmental Systems Research Institute (ESRI)	Completed on 10 July 2020 (1 hour)

ArcGIS Pro Basics	Environmental Systems Research Institute (ESRI)	Completed on June 14, 2020 (1 hour)
MOOC- The Location Advantage	Environmental Systems Research Institute (ESRI)	6 Week (Completed on 11 June 2020)
The 3rd Global Training about Big Data, Data Science and Biostatistics	The Center for Excellence in Teaching and Learning in Collaboration with The Statistics consulting Unit at CAS, Qatar University	21-22 August, 2019
Data science	SchslarsPro, Doha	26th -28th April, 2019
The 3rd Annual Graduate Faculty Day - 2018	Office of faculty and Instructional Development (OFID), Qatar University	Monday, February 5th, 2018
What's new in Blackboard Update?	Office of faculty and Instructional Development (OFID), Qatar University	January 17th, 2018
PBL and its implementation in Practice Qatar University	Office of faculty and Instructional Development (OFID), Qatar University	January 16th, 2018
Self-Regulated Learning: From Theory to Practical Application	Office of faculty and Instructional Development (OFID), Qatar University	January 16th, 2018
Building Online Exams	Office of faculty and Instructional Development (OFID), Qatar University	March 2nd, 2017
Training - Maximize Mentoring Potential	Office of faculty and Instructional Development (OFID), Qatar University	Feb. 8th -9th, 2017
Advanced Sampling	Social Economic Survey Research Institute, Qatar University and University of Michigan, Qatar	Oct.10-13th, 2016
Workshop: First Year Focus Program: Teaching First Year Students effectively	Office of faculty and Instructional Development (OFID), Qatar University	Sept.27th, 2016
Developing Institutional Leadership: Strategic Approaches to the scholarship of Educational Leadership (SoEL) Within and across the disciplines in diverse University contests	Office of faculty and Instructional Development (OFID), Qatar University	Sept. 22nd, 2016
Professional Noise Mapping Training using SoundPLAN 7.3 - software	VIBROCOMP – Middle East, Dubai, UAE	Oct..20 to 22nd, 2014
Web Mapping with GeoServer	AAG Annual Meeting 2012 - New York, USA	February 24, 2012
Spatial Pattern Analysis: Mapping Trends and Clusters	AAG Annual Meeting 2012 – New York, USA	February 25, 2012
Modeling Spatial Relationships using Regression Analysis	AAG Annual Meeting 2012 – New York, USA	February 25, 2012
Land Change modeling	AAG Annual Meeting 2011 – Seattle, USA	April 16, 2011
Network Analysis using ArcGIS	AAG Annual Meeting 2009 – Las Vegas, USA	March 24, 2009
Transportation GIS with TransCAD	AAG Annual Meeting 2008, Boston, USA	April 15, 2008
Autodesk **3D Max**	Family Computer Center**,** Doha, QATAR	8th December2007 to 10th January 2008 (30 hours)
MCSE - Microsoft Certified Systems Engineer	**Microsoft Corporation, USA**	
MCSA - Microsoft Certified Systems Administrator	**Microsoft Corporation, USA**	
MCSA (Messaging) - Microsoft Certified Systems Administrator Messaging	**Microsoft Corporation, USA**	January 2006 to Dec.2006
MCP – Microsoft Certified Professional	**Microsoft Corporation, USA**	
Computer Aided Design	Engineers CADD Centre Private Limited, Hyderabad, India	July 25th, 2005 to Aug. 19th 2005 (30 hours)

Computer Networking	Syscom, Doha, QATAR	March 1st to April 1st 2005 (30 hours)
Computer Hardware	Family Computer Center, Doha, QATAR	Sept.12th to Nov.7th 2004 (50 hours)
GIS and Marine Science	Marine Advanced Technology Education (MATE) Center, 980 Fremont Street Monterey, CA 93940 **USA** http://www.marinetech.org	July 11-17, 2004 (42hours)
Database - Oracle **9i DBA**	SQL * International Hyderabad, 500 016, **India**	July 15th to Aug.6th 2003 (160 hours)
Dot Net (VB.NET, ASP.NET, XML, ADO.NET, WAP, WML)	Software Solution Integrated Limited. Chennai, 600 005, **India**	July 20th to Aug.25th 2001 (180 hours)
Programming in **VB 6.0** (Desktop and Distributed)	Software Technology Group International Ltd. Chennai, **India**	Aug.2000 to Sept.2000 (96 hours)
ArcGIS (ArcMap, ArcCatalog, ArcToolbox)	CGIS Regional Training Center, Doha, **Qatar**	July 2000 (30 hours)
Database - Oracle **DBA 8.x**	Al-Attiya Computer and Technology, Doha, **Qatar**	April 2000 (108 hours)
Programming in **Java1.2**	APTECH Computer Education, Doha, **Qatar**	November 1999 (42 hours)
Database - **Oracle 8.x**	Software Solution Integrated Limited Chennai - 600 042, India	September 1999 (120 hours)
ArcInfo, GRASS, IDRISI and EASI/PACE software	University of Waterloo, **Canada**	July 1st, 1993 to 20th Dec.1993
ArcInfo and PCI-EASI/PACE software	University of Madras, Dept. of Geography Chennai - 600 005, **India**	Nov.30th to Dec.4th 1992
MapInfo 4.5 (DOS)	University of Madras, Dept. of Geography, Chennai - 600 005, India	July 1992 - Aug.1992
Advanced Research Methodology	University of Madras, Dept. of Psychology Chennai - 600 005, India	March 23rd to 25th 1992
C - Programming	Info Tech, Chennai, India	March 1988 - May 1988

Scientific and Professional Societies

o **Life Member** -The Indian Geographical Society, University of Madras, India – 1991 –Present

o **Member** -The Association of the American Geographers (AAG) http://www.aag.org, 2008-Present.

Awards and Scholarships

o Junior Research Fellowship (**TN-JRF**), India (March 1991 to September 1994)
o **CIDA** (Canadian International Development Agency) - Visiting Research Fellowship to University of Waterloo, Canada (July 1993 to Decmber1993)
o **The National Science Foundation (NSF)** – Fellowship for GIS and Marine Science: Using GIS to model Marine Habitats, USA (July 2004)
o **Visualization Development Competition:** 3D Visualization of Demographic data in Qatar, Texas A&M University at Qatar. (February 2011 – April2011) – http://technology.qatar.tamu.edu/rc/2574.aspx
o **UGIT's Excellency Award-2016 -** Bangalore University. India.