



## RÉSUMÉ

### ALEJANDRO FERNANDEZ TONGCO

Office Address: 501 Agricultural Hall  
Oklahoma State University  
Stillwater, Oklahoma 74078, U.S.A.  
(Coordinates: 36.124°N, 97.072°W)

Office Phone: 405.744.6159

Office email: [al.tongco@okstate.edu](mailto:al.tongco@okstate.edu)

Personal email: [al\\_tongco@yahoo.com](mailto:al_tongco@yahoo.com)

### PROFESSIONAL INTEREST

**Geographic Information Systems (GIS)** -- Project Synthesis, Development and Implementation, Sustainability, Evaluation, and Training

### EDUCATION

- **Ph.D. in General Engineering**  
Oklahoma State University, Stillwater, Oklahoma, U.S.A.  
Dissertation: *Design of a Cross-flow Water Turbine*
- **Master of Science in Agricultural Engineering**  
Major: Agricultural Machinery; Minor: Soil and Water Conservation  
University of the Philippines at Los Baños, College, Laguna, Philippines  
Thesis: *Design, Construction, and Testing of a Sweet Potato Harvester*
- **Bachelor of Science in Mechanical Engineering**  
University of San Jose-Recoletos, Cebu City, Philippines

### GIS EDUCATION AND CERTIFICATIONS

- Geographic Information Systems (full-semester course, Fall 2004), Mesa College, San Diego, California, U.S.A. Main software used: ArcGIS suite.
- Advanced GIS/Image Analysis (full-semester graduate course, Spring 2006, Oklahoma State University, Stillwater, Oklahoma, U.S.A. Main software used: ArcGIS and ERDAS Imagine.
- GIS Certificates awarded by the Environmental Systems Research Institute (ESRI), Redlands, California, U.S.A.:

- Learning ArcGIS 9
- Learning ArcGIS 9 3D Analyst
- Learning ArcGIS 9 Spatial Analyst
- Creating, Editing, and Managing Geodatabases for ArcGIS 9
- Introduction to ArcGIS 9 Geostatistical Analyst
- Turning Data into Information Using ArcGIS 8
- Understanding Map Projections and Coordinate Systems
- Working With Rasters in ArcGIS 8
- Spatial Analysis of Geohazards Using ArcGIS 8
- Working with Rasters in ArcGIS Desktop
- Creating and Editing Geodatabase Topology with ArcGIS Desktop (for ArcEditor and ArcInfo)
- Creating and Integrating Data for Natural Resource Applications
- Introduction to Urban and Regional Planning Using ArcGIS 9
- Cartographic Design Using ArcGIS 9
- Creating and Editing Geodatabase Features with ArcGIS Desktop (for ArcEditor and ArcInfo)
- Mapping Oklahoma Communities – Community GIS Analysis – 23 Jan 2009. Oklahoma City, U.S.A.

#### **GIS-RELATED PROJECTS (past three years)**

- Team Member: Promoting GIS Knowledge and Use by the Public Sector in Rural Oklahoma: A Pilot Project (<http://agecon.okstate.edu/gis/>). Author: Development, data acquisition, and management of its geospatial database and data access site. McCurtain County, Oklahoma, U.S.A. In-progress.
- Team Member: Development and maintenance of geospatial data for regional bioenergy resource assessment. Oklahoma State University. In-progress.
- Team Member: Temporal Parcel Fragmentation Project. Oklahoma State University. In-progress.
- Author-Developer: OSU AgEcon Databank, Oklahoma State University (<http://agecon.okstate.edu/databank/>). In-progress.
- Consultant to the project: An Integrated University-wide Management and Academic Capability-Building Initiative for Liceo de Cagayan University Using Geographic Information Systems (GIS). Liceo de Cagayan University, Cagayan de Oro City, Philippines.
- Author-Developer: Philippine GIS Data Clearinghouse (<http://www.philgis.org>). Continuous.

#### **GIS-RELATED SEMINARS AND WORKSHOPS (past three years)**

- Sole Resource Person: “6-Part GIS Training Series using ArcGIS with Applications in Agriculture and Agricultural Economics.” Includes production of training tutorials, 18 Feb 09 to 29 Apr 09, Dept of Agricultural Economics, Oklahoma State University.
- Lead Resource Person: “Series of Mapwindow GIS Lectures and Workshops with GIS Applications in Local Government.” Includes production of training tutorials. 26 Oct 2009, 5-6 Jan 2010, and 4-6 May 2010. Idabel, McCurtain County, Oklahoma, U.S.A.

- Lead Resource Person: “Training-Workshop on the Application of GIS in Ecological/Environmental Studies” including production of training tutorials, Caraga State University, Butuan City, 11-13 Sep 2010.
- Sole Resource Person: “GIS Seminar-Workshop” including production of training tutorials, Caraga State University Cabadbaran Campus, 17 Sep 2010.
- Lead Resource Person: “Seminar-Workshop on GIS Applications” including production of training tutorials, Liceo de Cagayan University, Cagayan de Oro City, 21-23 Sep 2010.
- Lead Resource Person: “GIS Training Workshop” including production of training tutorials, Geodetic Engineers of the Philippines Caraga Chapter, Department of Trade & Industry, Butuan City, 25-26 Sep 2010.
- Seminar Lecturer: “Enhancing Institutional Research Using GIS” at Caraga State University, Butuan City, 18 Sep 2010,
- Seminar Lecturer: “Developing a GIS for Institution-wide Applications” at Surigao Education Center, Surigao City, 2 Oct 2010.
- Sole Resource Person: “4-Part GIS Training using ArcGIS 10 with Applications in Agriculture and Agricultural Economics.” Includes production of training tutorials, Nov-Dec 2011, Dept of Agricultural Economics, Oklahoma State University.

## **GIS-RELATED WORK EXPERIENCE**

### **Research Specialist (GIS), 1 Jun 2008 to Present**

Department of Agricultural Economics

Oklahoma State University, Stillwater, Oklahoma, U.S.A.

Main tasks: Assists/Collaborates/Advises OSU Agricultural Economics department faculty, staff, and graduate students in projects involving GIS including data management, spatial analysis, and geodata visualization.

### **Project Director and Founder, Jun 2009 to Present**

Philippine GIS Data Clearinghouse (PhilGIS, <http://www.philgis.org>) - a nonprofit, nongovernment entity dedicated to develop, manage, and distribute free Philippine geospatial datasets.

Main tasks: Sets the direction and manages PhilGIS and authors its website.

### **GIS Consultant, Dec 2010**

MachineryLink, Inc.

Kansas City, Missouri, U.S.A.

### **Various GIS-Engaged Positions**

As GIS Specialist, GIS Teaching Assistant, GIS Technician, and GIS Information Specialist with the OSU Departments of Geography, Entomology, and Landscape Architecture, as well as Spatial and Environmental Information Clearinghouse, and with SST Software, Inc. between 1999 and 2008. Stillwater, Oklahoma.

## **GIS-RELATED PUBLICATIONS, TECHNICAL PAPERS AND PRESENTATIONS (past three years)**

Tongco, A. and A. Stoecker. 2011. *Assessment of irrigable soils along the Elm Fork and North Fork of the Red River*. Solicitation W912BV-08-T0207. U.S. Army Corps of Engineers. Tulsa Division, Oklahoma.

- Tongco, A. and G. Japos. 2011. *Integration of geographic information systems (GIS) to enhance academic capability of Philippine higher education institutions*. Asian Journal of Business & Governance. Vol 1, No 1, January 2011. Liceo Press. Cagayan de Oro, Philippines.
- Tongco, A. 2011. *Mitigating flood losses: An Introduction to implementing a basin-wide approach using remote sensing and geographic information systems (GIS)*. Asian Journal of Business & Governance. Vol 1, No 1, January 2011. Liceo Press. Cagayan de Oro, Philippines.
- Tongco, A. 2011. *Developing a geographic information system (GIS) for rural villages in the Philippines*. IAMURE: International Association of Multidisciplinary Research. Vol 1, No 1.
- Ghimire, M., H. Bhavsar, J. Vitale, A. L. Stoecker, J. S. Choi, and A. Tongco. 2011. *GIS Integrated Decision Support System for Investment in Irrigation*. Poster Presentation. U.S. Army Corps of Engineers. Tulsa Division, Oklahoma.
- Baylon, A.M. and A. Tongco. 2011. *Human Security and GIS: An Introduction*. Presented at the 20<sup>th</sup> General Conference of the International Federation of Social Science Organizations. November 18-20. Philippines.

### **SELECTED ACADEMIC POSITIONS**

**Vice President**, Information and Communications Technology

**Dean**, College of Engineering and Information Technology

**Director**, Research Planning and Development

1 Apr 2001 to 30 Apr 2003

Zamboanga Arturo Eustaquio Colleges (now Universidad de Zamboanga), Zamboanga City, Philippines

**First Dean (and Founder)**, School of Engineering and Computer Science and

**Director**, School of Arts and Science, Jun 1995 to Dec 1998

**Head**, Computer Center, Jun 1995 to May 1996

Northern Mindanao State Institute of Science and Technology (now Caraga State University), Butuan City, Philippines

### **GIS ORGANIZATION MEMBERSHIP**

South Central Arc User Group

[www.scaug.org](http://www.scaug.org)