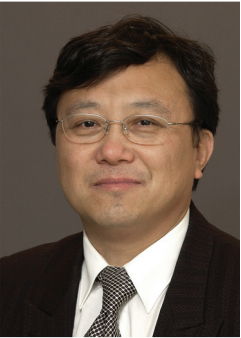


Who

We

Are



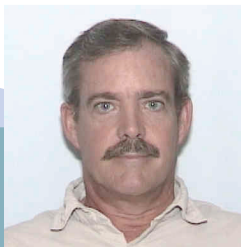
Dr. Yichun Xie  
Interim Head  
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and Geology &  
Director of IGRE

The Institute for Geospatial Research & Education is a non-profit geographic information technology outreach center located at EMU.

The Institute's Mission is to provide technology transfer and technical support services to public agencies, research organizations and the private sector to foster the use and implementation of geospatial technology.

IGRE conducts research and also provides GIS consulting services in the areas of Application Development, Parcel Data Automation & Maintenance, Emergency Response Map Layers, Automated Vehicle Location (AVL), Remote Sensing, Web Publishing and Distributed GIS systems.

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Version 02-2005



# IGRE

## Institute for Geospatial

## Research & Education

# Eastern Michigan University

## GPS Bus Location & Analysis

### Detroit Public Schools

In collaboration with the Office of Student Transportation, IGRE is developing a suite of software applications specifically designed to support the transportation department's mission of on-time arrival, safety and efficiency. These applications integrate positional data received from bus mounted GPS receivers to manage daily route and ridership schedules. These applications report late arrivals, notify dispatchers of route and vehicle speed violations and creates new routes when ridership characteristics change, due to student transfers. To learn more about the AVL applications used to manage bus fleets and safeguard students who ride the bus daily, please review these two articles at <http://igre.emich.edu/news/exemplar.pdf/> and <http://www.gisdevelopment.net/magazine/years/2004/nov/going.htm>

## LinkMichigan Telecommunications Planning Program

### Merit Network, Inc.

In partnership with Merit, IGRE developed a series of real-time, online tools for capturing telecommunications inventory data, facility locations and service area boundary features. These data were then mapped on street centerline and municipal boundary map layers provided by the Michigan Center for Geographic Information. Along with this mapping system, IGRE also developed Discussion Forum and Chat Applications to facilitate communication between county residents and Planning Group officials involved in the program. The architecture used to provide the real-time, online functionality included a Windows Server, ArcIMS, ArcSDE and JAVA modules developed by IGRE.

## Enhanced 911 Centerline

### Ogemaw County Sheriff

To upgrade the Sheriff Department's PSAP with Enhanced 911 capabilities, they needed an accurate and validated street centerline file for use with the new Computer Aided Dispatch (CAD) system. IGRE was retained to acquire the street centerline data and structure it to conform to the NENA and US Postal Service data formats. IGRE validated the centerline file for street name spellings, address range gaps and overlaps, odd/even number parity and proper segmentation. As final steps, the Ameritech CAD address database was geocoded to the centerline file to identify address records that could not be located. Please visit <http://igre.emich.edu/services/services.html/> to read more about the services IGRE provides to PSAPs.

## Parcel Data Automation

### Ogemaw County, Michigan

IGRE was retained by Ogemaw County's Equalization Department to automate (convert to digital) their 24,000 parcels, currently in the form of paper section and survey plats. The ArcGIS Parcel Data Model was used to capture Parcel, ROW, Encumbrance, Subdivision, Meander and other boundary features portrayed on the maps. To control the edge-matching of parcels in the 15 townships for these planning level maps, the Michigan Center for Geographic Information quarter-quarter section point files were used for constructing the horizontal accuracy.

## Industrial Parcel Inventory

### Owosso/Corunna Chamber of Commerce

IGRE in partnership with ROWE, Inc. worked with the Owosso/Corunna Chamber of Commerce and the Shiawassee Economic Development Partnership to create a GIS-based industrial property inventory for Shiawassee County. The GIS parcel inventory and geodatabase developed for the 365 industrial parcels will be used to promote economic development at these undeveloped and distressed property locations.

## Open Space Prioritization

### Van Buren Township, Michigan

In collaboration with Nativescape LLC, IGRE designed a GIS application to identify the location of open space parcels greater than 5 acres within Van Buren Township and prioritize parcels identified for preservation, by assigning each parcel a preservation score. The parcel scoring system was based on a weighting scheme developed using landuse and land cover data along with adjacency criteria developed with input from Van Buren Township's Environmental Department. Other data used in the evaluation model included natural features information, size, proximity and connectivity analyses. Van Buren Township's digital orthophotography, hydrography, and parcel fabric were also utilized in the analysis. Please visit <http://maps.acad.emich.edu/openspace/> to view the results of the prioritization project.

## Convert AutoCAD Line Annotations to Coverage Attributes

Dr. Yichun Xie developed a series of customizable Arc Macro Language (AML) scripts, which can convert AutoCAD and Microstation line annotations to Arc Coverage attribute items. The scripts also place the annotation items correctly adjacent to their appropriate line features. With these AMLs, conversion of parcel line work and annotation from various CAD layers to GIS Coverage format can be performed automatically, accurately and efficiently saving hundreds of hours of tedious conversion. The scripts are editable to conform to the myriad of CAD formats used for parcel maintenance.