

## Workshop

### **Mapping in the Cloud:**

### **Application Programmer Interfaces (APIs) for Mapping**

Michael P. Peterson  
Department of Geography / Geology  
University of Nebraska at Omaha  
Omaha, NE USA 68182

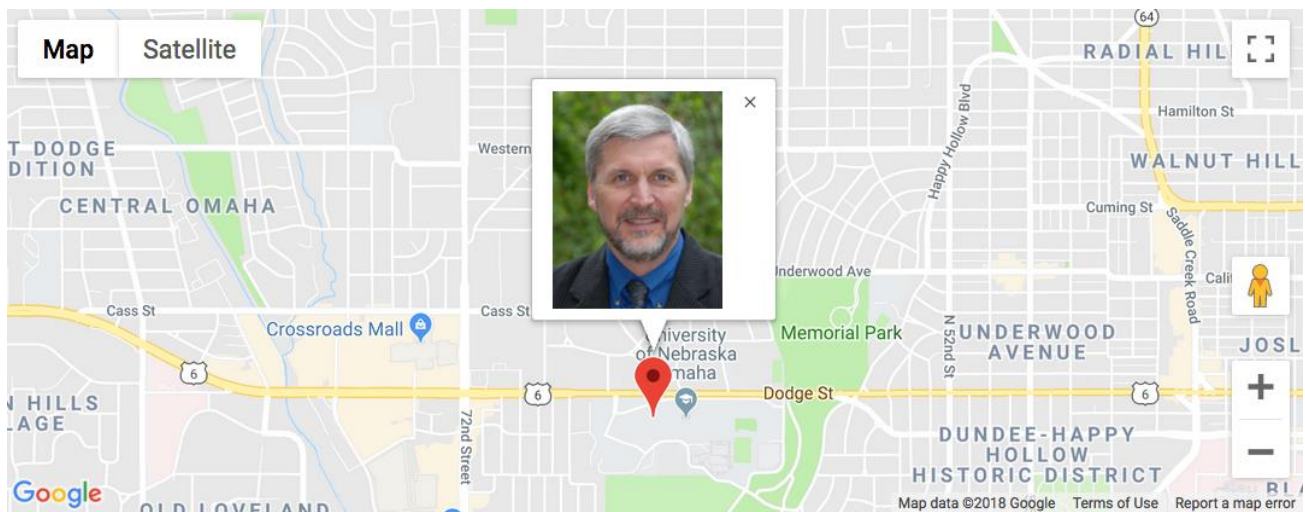
and

Rex G. Cammack  
Department of Geography / Geology  
University of Nebraska at Omaha  
Omaha, NE USA 68182

The distributed system of computers informally referred to as the “*cloud*” represents the future of maps and GIS. Most maps are now stored at data centers. It is also where the programs reside that manipulate the underlying information. Application Programming Interfaces (APIs) support programming *in the cloud*. APIs are function libraries that facilitate the melding of data and resources from multiple web resources by providing the means to acquire, manipulate and display information from a variety of sources. Many different APIs have been written for the user-driven web.

Mapping is a major application of APIs. Their widespread use is the result of the large amount of data that has a spatial component. The ease of mapping with APIs has resulted in all kinds of different maps, many showing information that has never been mapped before.

While the Google Maps API remains the most commonly used API, a variety of other APIs have been introduced. Most are based on a programming language called JavaScript. These APIs are examined in this workshop as well as the mapping of data from a MySQL database using a server-side scripting language called PHP. During this 4-hour workshop, participants will create their own cloud-based website to implement the examples.



Michael P. Peterson, PhD, is Professor in the Department of Geography/Geology at the University of Nebraska at Omaha, where he has been on the faculty since 1982. He has been a visiting scholar or fellow at universities around the world; most recently, he was Fulbright Fellow and Visiting Professor at the Vienna Technical University in Austria (1999, 2011), Visiting Professor at the Munich University of Sciences in Germany (1999, 2000, 2001), Visiting Research Fellow at Carleton University in Ottawa, Canada (2004), and Erskine Fellow at the University of Canterbury in Christchurch, New Zealand (2012). Dr. Peterson is past president of the North American Cartographic Information Society and former editor of *Cartographic Perspectives*. The author of numerous articles and several books, and co-editor of a book series called *Lecture Notes in Geoinformation and Cartography* with over 80 titles, he chaired the Commission on Maps and the Internet of the *International Cartographic Association (ICA)* from 1999 to 2011. He is currently co-editor of the *Journal of Geovisualization and Spatial Analysis*. The *Mapping in the Cloud* book, on which this workshop is based, was published in 2014 by Guilford Press.

Rex G. Cammack, PhD, is Associate Professor in the Department of Geography/Geology at the University of Nebraska at Omaha, where he has been on the faculty since 2006. Currently Fulbright Fellow and Visiting Professor at the University of Zadar Croatia (2018), Associate Professor at Missouri State University (1997 - 2006), He is also serving as a member of the Board of Directors of the CAGIS professional organization. Dr. Cammack is currently chair of the International Cartographic Association (ICA) Commission on Maps and the Internet and past President of the Cartography Specialty Group of the AAG. Has published several papers on Cartography internet cartography and spatial analysis.

