

# Content-based Similarity Queries on Complex Data – Challenges and Real Applications

Agma J. M. Traina<sup>1</sup>

<sup>1</sup>ICMC – USP  
São Carlos – SP – Brazil

agma@icmc.usp.br

The amount and complexity of data generated and managed in nowadays systems, such as images, videos, and time series among others, bring several challenges to the data management developers in order to comply with the expectation of the users and data owners. Not only the majority of the applications demand searching complex data through queries considering several different aspects on the same data, but also getting the answers in a timely manner. Content-based similarity retrieval enables performing queries and analyses using the required features automatically extracted from the data without user intervention.

In this talk we will discuss the challenges posed to the database and related communities in order to provide techniques and tools to overcome the precision and time concerns regarding similarity queries over complex data. Examples and results obtained with two decades long experience over real applications will be presented and discussed.

## About the Autor



Agma J. M. Traina is a Professor with the Computer Science Department of the Mathematics and Computer Science Institute at the University of São Paulo at São Carlos. She received her PhD in Computational Physics from the University of São Paulo at São Carlos, Brazil. Agma got her BSc and MSc in Computer Science from the Mathematics and Computer Science Institute at the University of São Paulo at São Carlos. Agma's research interests ranges from complex data indexing and retrieval by content, similarity queries to data visualization and visual data mining. She has focused her research on medical applications supported by image processing techniques, and more recently on climate/agriculture and remote sensing data. Over the years, she has supervised over 40 Graduate students in these areas, and published more than 250 papers in journals and conferences. Agma is a member of the Brazilian Computer Society, ACM and IEEE Computer Society.