

The first center for computational social sciences in Trento

December 14, 2022

A new Center has stemmed from the collaboration between Fondazione Bruno Kessler, the departments of Sociology and Social Research, and of Economics and Management at UniTrento. Smart cities, changing work, and strategic management of public data: the collaboration between information technology, statistics, and social sciences provides support for decision-making.

How will we move in the future? What will our cities, homes or workplaces look like? What services will we need? Will we be able to grow sustainably? There are so many questions that open up whenever we try to imagine the future or even to better understand what is happening in our society today, in the economy, at all levels, locally and globally. Giving an answer is far from easy. Yet never before have we been surrounded by data – on what we buy, where we travel, who we meet – that is increasingly accessible. Information that allows human behavior to be observed with a precision that was thought to be impossible only a decade ago. And predicting.

Computational social sciences do this: they use useful digital technologies to guide the development of public policies and production systems. They lie at the intersection of computer science, statistics and social sciences. They follow the digital traces produced in different and everyday economic, administrative and social processes to study human activities and relationships. They use an enormous amount of **demographic, behavioral, network and Internet of Things data** through powerful computational tools and the same basic scientific questions that drive traditional social sciences.

Dedicated to this new approach is **Italy's first research center on computational social sciences**, which will debut on December 16 and 17, 2022, with its first public activity, a [workshop](#) to be held in the Kessler Lecture Hall of the Department of Sociology and Social Research designed precisely to bring together expertise active in the country and connect the interdisciplinary academic and scientific community engaged on these issues. The [Center for Computational Social Sciences and Human Dynamics \(C2S2\)](#) has been set up by the **departments**

of Sociology and Social Research and Economics and Management at the University of Trento in cooperation with the Fondazione Bruno Kessler. The network of collaborations expanded right from the start to include industrial and institutional partners that will seize the opportunities that are already in sight with the **Pnrr**.

There are three main directions, among many possible ones, in which the Center's activities are moving right from the start: smart cities (with, for example, the focus on mobility, urbanization, transformations of the city fabric, depopulation or degradation phenomena); organizational studies (for example, well-being in the workplace, enhancement of skills, information and organizational flows); and data management in public administration to support decision-making and development policies.

Data to understand phenomena and make informed decisions – This approach allows new datasets to be fielded, but also allows existing resources to be analyzed in a completely new way, deriving information never obtained before. Indeed, computational social sciences offer useful insights into new social phenomena triggered by digitization that can be used to make informed decisions or to develop new business or public policy strategies.

There are many possible applications: predicting behavior based on social exposure, behavior propagation, social ties models, behavioral demographics, models for evaluating well-being (social, health, organizational well-being) for enhancing human and social capital, economic and business models.

Broaden and deepen the field of research – Traditional social sciences base their method on the collection of observational data on human activity. For example, who says what to whom, with what effect, with whom enters into social, spatial, temporal interaction. This sampling is difficult, if not impossible, to perform on a large scale and over time. Another difficulty concerns the possibility of affecting and changing the conditions under which observations are made. For example, when it comes to randomly assigning a task to large groups of people interacting in treatment and control groups. In both situations, computational social sciences can make a difference thanks to the tool of digital technology, capable of collecting and processing large amounts of information.

Social sciences in Trento – It is no coincidence that the new page of social sciences, the one dedicated to computational sciences, is being written in Trento. A city that has long been working to become in effect a smart city, but also the place where the social sciences first developed 60 years ago on the same basis. "The social sciences and sociology have always been empirical sciences founded on the observation of social phenomena through data analysis and data modeling by means of statistical and mathematical models," explains sociologist Ivano Bison, one of the founders of the Center along with Giuseppe Veltri, Giuseppe Espa, other faculty members of the two departments, **Bruno Lepri from Fondazione Bruno Kessler and some researchers from FBK's [Digital Society center](#)**. "And Trento on the Italian scene has always stood out for its strong empirical and quantitative impact in social studies. The recent activation of an interdepartmental master's degree program in Data Science involving the departments of computer engineering, industrial engineering, mathematics, sociology, economics and psychology, the CiMeC together with Fondazione Bruno Kessler, involved in particular through its Digital Society group, attests to it. The Center was created precisely out of a desire to strengthen the strong and constructive link that arose during the design of this master's degree and draws its strength from the presence within it of very diverse expertise working in the fields of computational social science

and data science: sociology, computer science, economics, statistics, demography, social and behavioral psychology, philosophy, linguistics and the humanities.”

UniTn | FBK PRESS RELEASE

PERMALINK

<https://magazine.fbk.eu/en/news/the-first-center-for-computational-social-sciences-in-trento/>

TAGS

- #data
- #data science
- #digitalsociety
- #iot
- #pnrr
- #publicadministration
- #scienze sociali
- #statistics

AUTHORS

- Editorial Staff