

## Essential oils as natural antimicrobials agents: Potential applications against foodborne pathogens

**Thales Leandro Coutinho de Oliveira**  
State University of Campinas, Brazil

The natural additives use replacing traditional chemical preservatives goes according to current market trends, where consumers are requesting for healthy products and valuing all-natural e clean-label concepts. In this context, plant and spices essential oils (EOs) are gaining significance for their potential as preservative, since they have classification of “generally recognized as safe (GRAS)” and a wide acceptance from consumers. In addition, it shows a great potential as sanitizing agents. EOs are volatile, natural and complex compounds characterized by a strong odor and are formed by aromatic plants as secondary metabolites. Besides to being used as flavoring agents in foods, EOs exhibit proved antibacterial, antifungal and antioxidant properties. This lecture will be focused on our research team current results regarding essential oil extraction methods/yields, chemical characterization and antimicrobial effects. Particularly, will be discussed their *in vitro* antimicrobial activity, antibiofilm effects, food matrices application and ultra-structural cell damages.

### Biography

Thales Leandro Coutinho de Oliveira has completed his formation in Food Engineering from Federal University of Lavras at 2008. He concluded his Master degree formation in this same institute at 2010. He works on food safety assurance, natural bioactive compounds, biofilms eradication methods and emerging technologies for food processing. Currently, he is concluding his doctor formation at State University of Campinas, in the School of Food Engineering. He has recently published in reputed journals and serving as a reviewer for numerous expressive food science and technology journals.