**Title: Bioavailability of bioactive food compounds: a challenging journey to bio efficacy  
Name:** XXXX  **Organization/Institute:** XXXXXXX **Country:** XXXXX

**Abstract**

Bioavailability is a key step in ensuring bio efficacy of bioactive food compounds or oral drugs. Bioavailability is a complex process involving several different stages: liberation, absorption, distribution, metabolism and elimination phases (LADME). Bioactive food compounds, whether derived from various plant or animal sources, need to be bioavailable in order to exert any beneficial effects. Through a better understanding of the digestive fate of bioactive food compounds we can impact the promotion of health and improvement of performance. Many varying factors affect bioavailability, such as bioaccessibility, food matrix effect, transporters, molecular structures and metabolizing enzymes. Bioefficacy may be improved through enhanced bioavailability. Therefore, several technologies have been developed to improve the bioavailability of xenobiotics, including structural modifications, nanotechnology and colloidal systems. Due to the complex nature of food bioactive compounds and also to the different mechanisms of absorption of hydrophilic and lipophilic bioactive compounds, unravelling the bioavailability of food constituents is challenging. Among the food sources discussed during this review, coffee, tea, citrus fruit and fish oil were included as sources of food bioactive compounds (e.g. (poly)phenols and polyunsaturated fatty acids (PUFAs)) since they are examples of important ingredients for the food industry. Although there are many studies reporting on bioavailability and bioefficacy of these bioactive food components, understanding their interactions, metabolism and mechanism of action still requires extensive work. This review focuses on some of the major factors affecting the bioavailability of the aforementioned bioactive food compounds.  
  
**(250-300 Words)**

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**(200-250 words)**