

The Evolution of Personalised Nutrition:

Foundations of personalised nutrition

From reporting in the media, one could be under the impression that PN is a recent phenomenon of just the past five years or so. However, PN as a separate field of study, and an area that is intensely investigated and well supported by national and international funding agencies, has existed for at least over three decades with very little change in its scientific foundations and the claims being made about its benefits. What has changed however is the increasing commercialisation of the interface between scientific analysis providers and consumers, mainly driven by digital technologies and cheaper D2C testing devices for bio-specimen samples, such as blood, cells, stool, saliva etc. As we show in Figure 1, basic nutrition coaching apps are now quite well established in the market, while personalised nutrition based on genomics and the microbiome are still at a relatively early stage in their development, with the prospect of personalised foods (foods tailored to an individual's needs) only just beginning to capture investor interest at present.

Figure 1 Personal nutrition mapped onto the Gartner hype curve

Data Source: adapted from DigitalFoodLab (2021)

It appears that we are currently witnessing almost the highpoint of the hype cycle for genomics and microbiome-based personal nutrition that usually peaks when new technologies become more affordable and meet a wave of investor interest that drives growth in commercial applications. In order to be able to put such current reporting trends into context and understand PN as it presents itself today, we provide here an overview of definitions, the historical science context, and the scientific methods used in the PN sector.