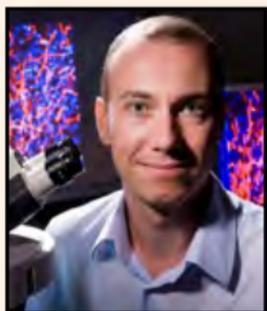


Meet the project scientist



Dr. Sebastien Bouret is a leading expert in the field of metabolic programming and the developmental neurobiology of obesity. The major focus of Dr Bouret's laboratory is to study the development of the regulation of appetite and energy balance.

Tell us a bit about yourself and your lab?

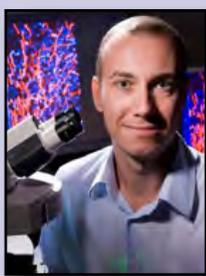
I am a research scientist at Inserm (French National Institute of Health) in Lille, France. My laboratory is studying the role of perinatal hormones and nutrition in lifelong appetite regulation. Our major research interest is to understand how very early life experiences affect brain development.

What is it about your research that particularly interests you?

The brain is the most complex organ in the human body - the seat of our intelligence but now people are beginning to realize that it is the source for so much more. Recent research has raised awareness of the brain's role in regulating how much food we eat. It is particularly fascinating to see that the ability of our brain to control hunger and appetite can also be established at the very beginning of our life.

Sebastien is the author of our first Full4 Healthnote - see overleaf for 'You are what your Mum ate?'

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'You are what your Mum ate?'

Dr Sebastien Bouret,
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What is the problem that this research is addressing?

Women often look at pregnancy as a time for guilt-free eating. It doesn't matter how much you eat, because you're eating for two, right? Epidemiological and animal studies are finding that this is far from true. What women eat while pregnant can affect their child's health for the rest of their lives. This is particularly true for the risk of developing obesity and diabetes.

What is already known about the topic?

Childhood obesity is an alarming trend. Recent statistics estimate that 20% of children are overweight or obese in Europe. Epidemiological evidence confirms that the risk of a child developing obesity and other diseases can be related back to the mother's diet during pregnancy. Data goes all the way back to a famine in the Netherlands during World War II-Studies have shown that children born during the famine had higher rates of obesity, diabetes and other health problems. Similarly, children born to obese mothers have a much greater risk of developing obesity and diabetes in later life.

What research are you undertaking in Full4Health?

The research undertaken in the Full4Health project is exploring the reasons for this connection between early nutrition and obesity risks. Central to this goal is to understand how gut hormones (such as ghrelin) influence brain growth in a context of neonatal over nutrition. Our goal is also to understand whether alterations in nutrition just before or after birth may have long-term and potentially irreversible consequences on this important dialogue between the gut and the brain and predispose individuals to develop obesity and diabetes in later life.

What do you hope will be the major outcomes?

These studies may help us find new ways to have an impact on the obesity epidemic. Our research may provide new insight into how prenatal nutrition leads to obesity and diabetes in children, and point to new treatments for these disorders. Based on these discoveries, early intervention will probably be the key. Many key physiological processes, including brain function and appetite regulation, are established during the perinatal period - that time just prior to and soon after birth - affecting a child's entire life. By managing an optimal metabolic environment in pregnant mothers and children, we may be able to promote a lifetime of metabolic health.