Previous quote highlights a key issue from the beginnings of EBM, that of integrating expertise with evidence, a task that largely relies on the practice of (good) clinical reasoning (CR). However, it is not at all clear how is that this kind of integration takes place. Indeed, there are several approaches to CR, which I have classified, grosso modo, into two categories, namely cognitive and argumentative. While the first one concerns human cognitive processes of information processing leading to decision taking, and belongs to Cognitive Psychology, the latter belongs to Philosophy and finds its roots in logic and argumentation theory. These perspectives have found a place in the medical sciences literature, both in regard to research (Upshur 2003, Pilgram 2015) and in the teaching of CR (Facione 2008, Kassirer 1983, 2010).

In this talk, I explore the relationship between the notions of evidence and hypothesis in the context of medical practice. I shall argue in favor of the thesis according to which a diagnosis is framed in an argument in which evidence is displayed for (against) a certain hypothesis.

I shall review some models of abduction and inference to the best explanation in contemporary philosophy of science and analyze their potential for medical diagnosis. Clinical reasoning in medical practice provides us with an excellent setting to highlight some of the challenges that core notions in the philosophy of science face.