As for any symmetric space, the tangent space to Siegel upper-half space is endowed with an operation B, coming from the Lie bracket on the Lie algebra. The object of the seminar is the pull-back of this operation to the moduli space of curves via the Torelli map j: Mg—>Ag. Firstly we will recall the definition (due to Kobayashi) and some properties of the Bergman kernel associated to an algebraic curve. Then we will characterize j*B, in a moduli point [C], in terms of the geometry of the curve, using the Bergman kernel. Finally, we will show that the Bergman kernel of an algebraic curve C is the harmonic representative -in a suitable sense- of the meromorphic 2-from on CxC that governs the second fundamental form of the Torelli map.