Abstract: What does a graph drawn on a topological surface give us?
1. As we know very well, it tells us the Euler characteristic of a surface.
2. If we assign a positive real number to each edge, then it gives us a complex structure on the surface. Thus graphs know the moduli space of algebraic curves, and tell us the intersection numbers and the Euler characteristic of the moduli space.
3. If we assign positive integers, then it makes the surface an algebraic curve defined over the field of algebraic numbers!
4. If we assign an element of a finite group G to an edge, then it tells us the Fourier transform between the group G and its characters.
5. If we assign an element of a Frobenius algebra to each vertex of a graph, then it gives us a topological quantum field theory (TQFT).

The talk is aimed at explaining this simple, yet deep, idea. Items 2 and 3 are based on my work with Michael Penkava, and Item 4 with Josephine Yu. The final topic is based on a joint paper with Olivia Dumitrescu. We present a correspondence between Frobenius algebras and 2D TQFTs, which 'graphically' illustrates how the algebra structure is reflected on a TQFT.