In this talk, I will describe new ideas leading to a construction of identity-based encryption based on the hardness of the (Computational) Diffie-Hellman Problem (without using groups with pairings). This construction achieves the standard notion of identity-based encryption as considered by Boneh and Franklin [CRYPTO 2001]. The presented construction bypasses known impossibility results using garbled circuits that make a non-black-box use of the underlying cryptographic primitives.

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