

## Documents

Elhassan, A., Alzubaidi, L., Al Ghazo, J.

**Modeling and synthesis of human Insulin Secretion Mechanism using CAD**

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**Abstract**

In this paper, the modeling and synthesis of human Insulin Hormone Secretion Mechanism is accomplished using VHDL and FPGAs technologies. A mathematical model is developed and analyzed using Matlab and Least-Square fitting algorithm. C++ is used to model the behavior of Insulin secretion in humans and converted to VHDL. Results are verified then the mechanism is realized on a Xilinx FPGAs chip. This chip is then tested with simulated input and its behavior is deemed consistent with the mathematical model. The chip is therefore an identical replica of the Human Insulin Secretion Mechanism.

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