

# Real Valued Test Functions

Heuristic and Evolutionary Algorithms Laboratory (HEAL)

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## Ackley Function

$$f(x) = 20 + e - 20 \cdot e^{\frac{1}{5} \sqrt{\frac{1}{n} \sum_{i=1}^n x_i^2}} - e^{\frac{1}{n} \sum_{i=1}^n \cos(2\pi x_i)}$$

**Dimensions:**  $n$   
**Domain:**  $-32.768 \leq x_i \leq 32.768$   
**Global Optimum:**  $f(x) = 0.0$  at  $x = (0.0, 0.0, \dots, 0.0)$   
**Operator:** AckleyEvaluator  
**Chart:**

