

BlackScholes
Dot product ... Vector reduction

**High-level
programming**

High-level Expression

Algorithmic Patterns

iterate

split

map

...

reorder

join

reduce

***Algorithmic choices &
Hardware optimizations***

**Exploration with
rewriting rules**

Low-level Expression

OpenCL Patterns

vectorize

map-workgroup

...

toLocal

map-local

Code generation

OpenCL Program

Hardware Paradigms

workgroups

local memory

...

barriers

vector units