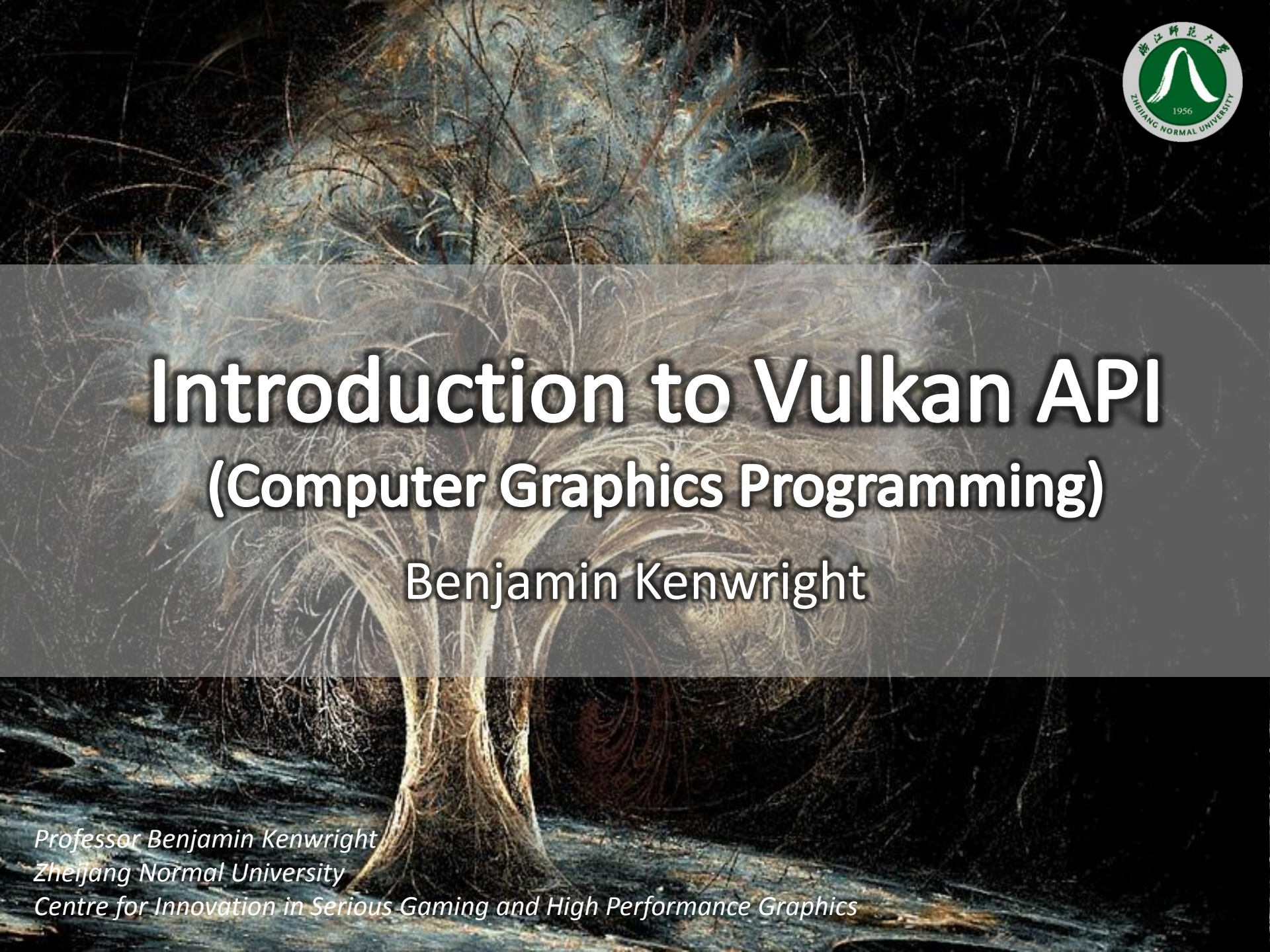

Introduction to Vulkan API

(Computer Graphics Programming)

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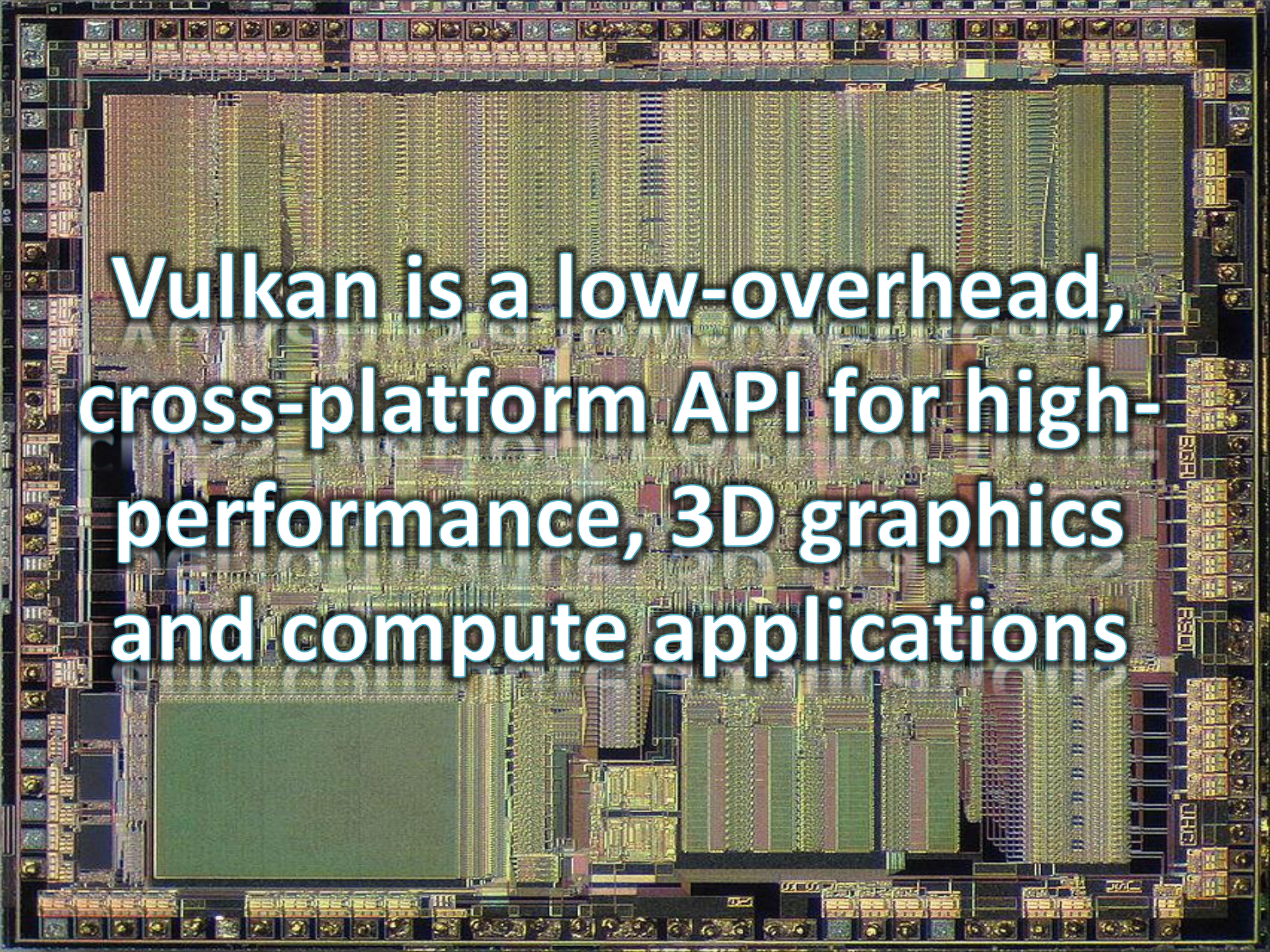
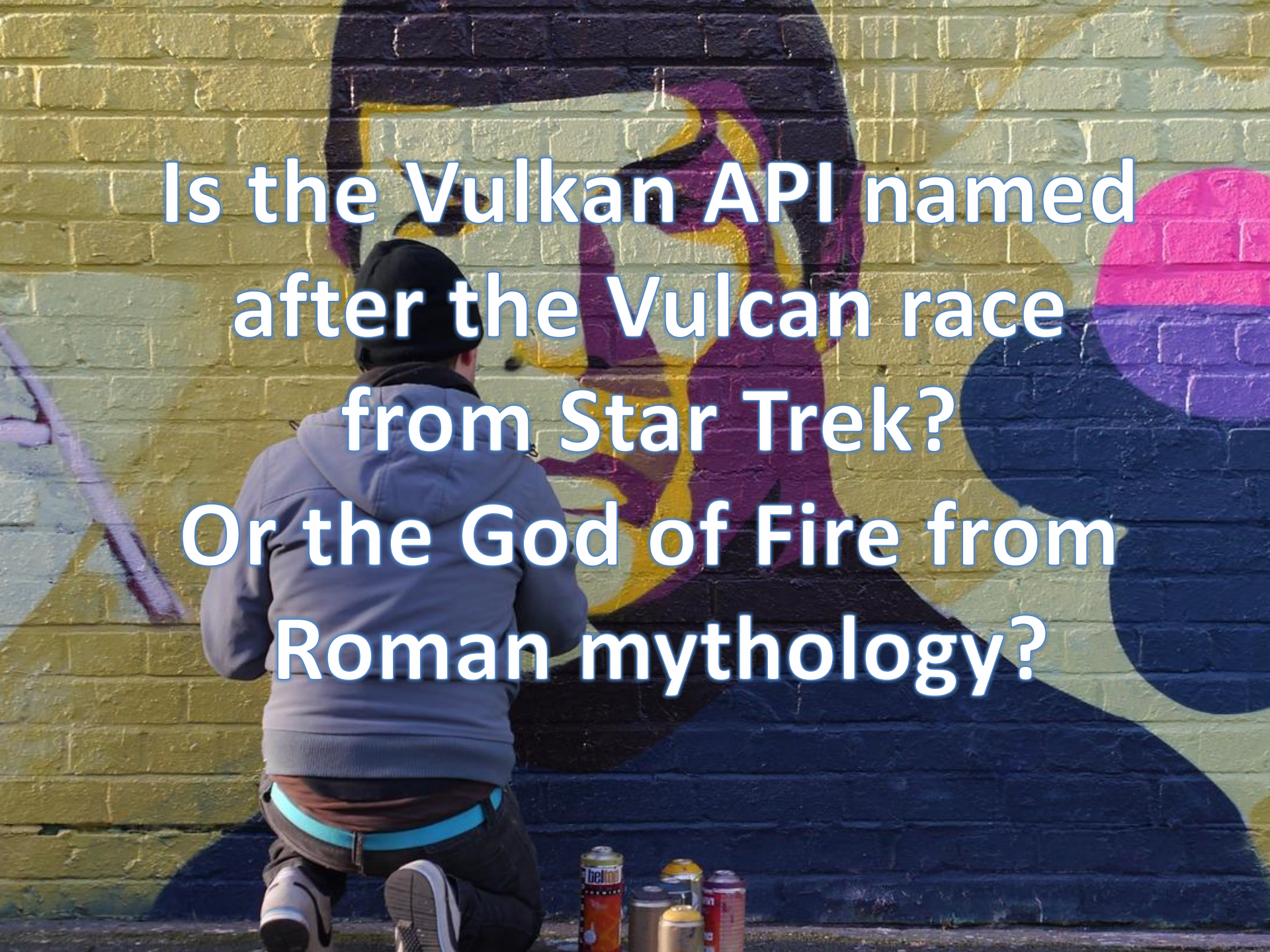
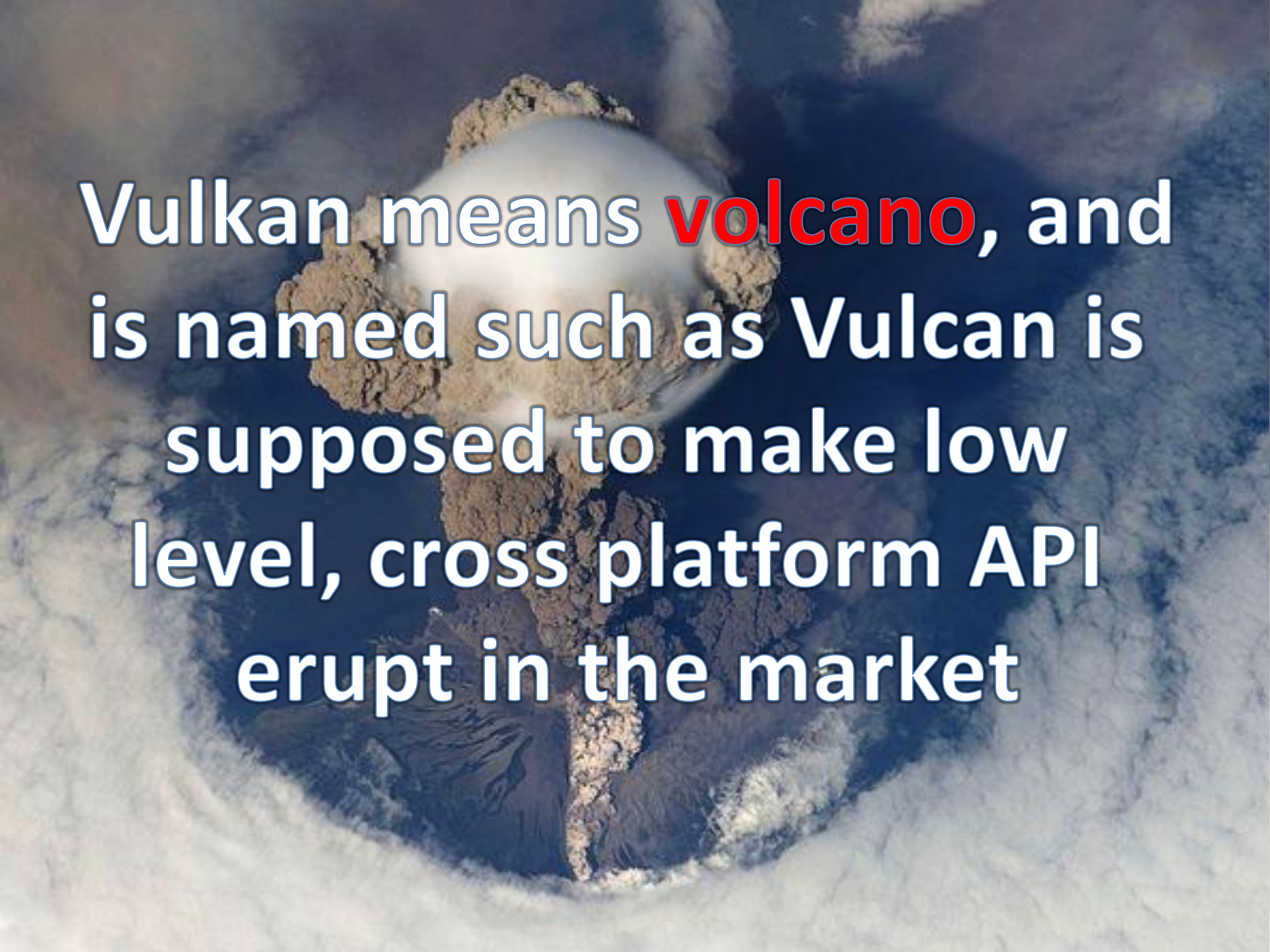
Road Map Course

- What is Vulkan?
- Background (OpenGL vs Vulkan)
- Whats and Whys of Vulkan
- Getting Started Programming Vulkan
- Step-by-Step Introduction
- Examples
  - Hello Triangle to Complex Scenes
- Summary/Conclusion
- Discussion/Questions


Vulkan is a low-overhead, cross-platform API for high-performance, 3D graphics and compute applications


Is the Vulkan API named after the Vulcan race from Star Trek?
Or the God of Fire from Roman mythology?


Vulkan means volcano, and is named such as Vulcan is supposed to make low level, cross platform API erupt in the market


Is OpenGL Dead?


OpenGL isn't Dead Yet
However, a New Era has Arrived

Birth of a new API


Is Vulkan really OpenGL
Under the Bonnet?

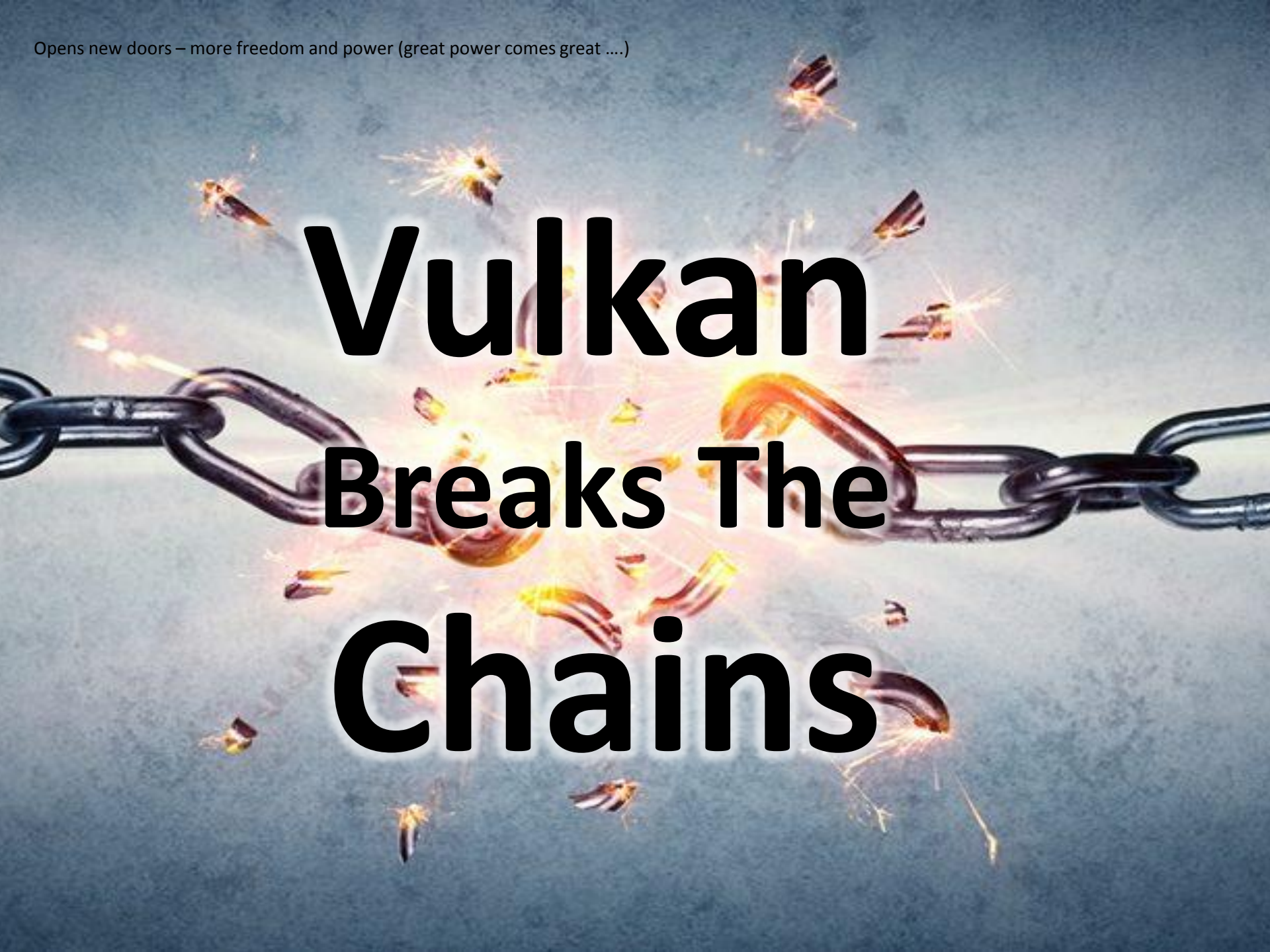
Vulkan is a Complete Redesign from the Ground Up

Do we need another API?

Is this redesign anything special?

Accommodate Next Generation Hardware (Parallelism & Control)

Opens new doors – more freedom and power (great power comes great ….)



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Introduction to Computer Graphics and the Vulkan API

From Principles to Practice

Where Do We Start?

What's Next

- What's inside Vulkan?
- How do all the pieces fit together?
- How many lines of code?
- Breaking it down
- Workshop approach
  - small exercises that focus on different areas
  - up and running from the start
  - ground-up (i.e., write everything)

Today

- Work through Exercises in Workbook
- `Hands-on’
  - YOU have to type in code
  - Helps with learning
  - Master the core principles
- Each Exercise focuses on a particular area
  - e.g., customizing graphical effect, optimising/modifying buffers

Questions/Discussion