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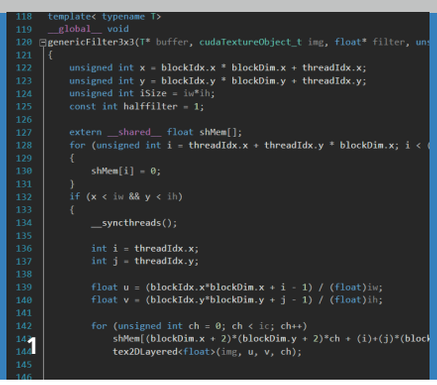

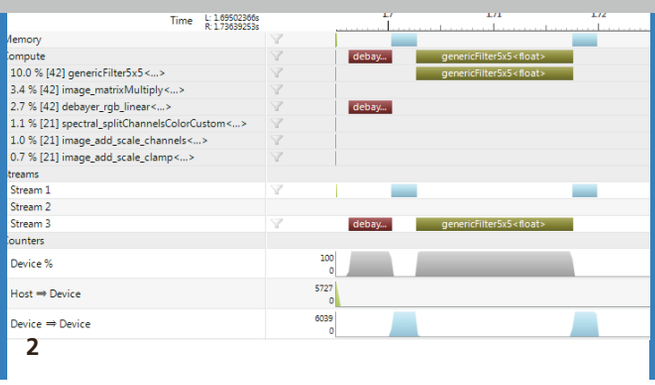

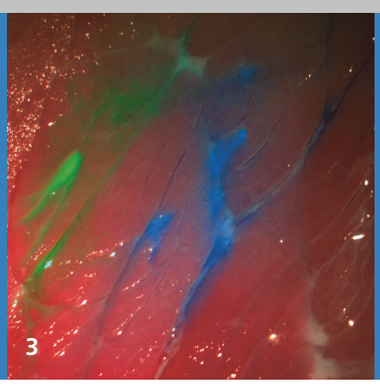

1 GPU-accelerated filter kernel (CUDA)

2 GPU optimization (Nsight)

3 Fusion of reflectance and fluorescence views from the real-time Multi-Spectral Imaging (rMSI) system

IMAGE ACQUISITION & PROCESSING

Background

Novel applications of optical imaging to measure or monitor fast processes require custom setups with increased complexity. The synchronous control of multiple cameras and light sources, as well as the high frame rate of capturing, visualizing and analyzing the resulting images pose a significant technological challenge.

Our Services

At PAMB, we develop custom solutions for

- Precise and flexible timing control
- Multi-camera image acquisition
- Analysis and visualization of multi-spectral image data
- GPU acceleration (CUDA)
- Custom algorithm development

Real-time Solutions

We specialize in the development and implementation of real-time (up to 100 fps) image processing routines for

- Image enhancement (color correction, filtering, etc.)
- Multi-spectral image unmixing
- Image fusion

Our Credentials

Our real-time Multi-Spectral Imaging system (rMSI) acquires, processes and displays reflectance and fluorescence images from up to three 5 MPixel 16-bit sCMOS cameras at 60 fps with latency below 15 ms.

Image acquisition and processing solutions are also available in combination with our custom optical imaging systems.

Project Group for Automation in Medicine and Biotechnology

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