

Fall 2010

- More speed & diversity for low light and bright field imaging:
 - Fast CMOS: 1.3Mpixels and 500 fps; higher speed partial scans and ROIs
 - sCMOS
 - Full line of Hamamatsu cameras featuring the ORCA-Flash2.8 & ImageEM EMCCDs
 - Faster ICCD gating – Improved FLIM and long decay (Lanthanide) TRFM
 - XT/Turbo: improved S/N and 12 bit outputs; 120-1000 fps operation
- New Applications
 - BRET Qdot Nanoprobes – Zymera, Inc.
 - Novel Bioluminescence Imaging *in vitro* and *in vivo*: micro to macro
 - Event activated image acquisition: start/stop/save via real time ROI event triggers
- New in Piper Control TM
 - Windows 7 64/32; legacy/updated Windows XP
 - Larger ring buffers & faster streaming to RAID
 - Improved Micro-Manager integration and support for Piper Control API
 - Strip charting with real time ROI measurements, tracking, event detection
 - Faster TTL I/O and faster synchronization to/from external devices
 - Greater peripheral device control:
 - ♦ Zeiss microscopes
 - ♦ Nikon Ti
 - ♦ Yokogawa CSU-X1 spinning disk confocal
 - ♦ ASI & Ludl stages/filter wheels
 - ♦ Z-drives: Piezo Jenna, ASI
 - ♦ Prizmatix high brightness LED products: 30 KHZ/1 microsecond on-off
 - ♦ Data Translation I/O modules
 - ♦ Quantum Composer multichannel pulse control system for FLIM and TRFM
- New Hardware
 - High-power large area LED illumination
 - ♦ Uniform field: <1% non uniformity
 - ♦ UV to nIR
 - ♦ 40W/m² over 20 cm² 15 cm working distance
 - ♦ Pulsed operation
 - ♦ Sources can be overlapped for ultra-high power densities
 - ♦ Up to 16 colors from one module
 - ONYX Dark Box – Developmental Version
 - ♦ Configured for unique R&D applications
 - ♦ Convert from Macro to Micro visualization – 1:1 & 5X lens adapters
- New Co-Developers
 - Mission Bay Imaging – jointly providing support & software development for Micro-Manager
 - Zymera - developing platforms for commercialization of self-illuminating red to near infrared (NIR) emitting nanocrystal technologies for preclinical *in vivo* imaging and molecular detection
- New Software Partners
 - MotionAnalysis – CellTrak: Morphology and Motility Assessment Software
- Faster, More Comprehensive Customer Service & Support
 - Net-based desktop porting for immediate assessment & diagnosis, demonstrations & instruction

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