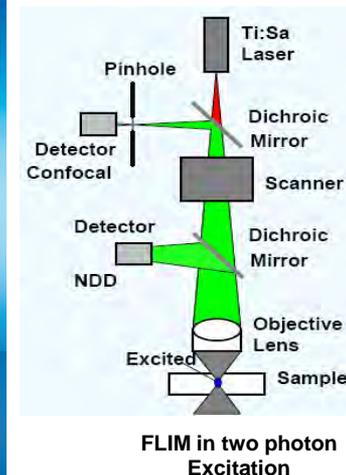


Multi-Photon, laser Scanning Confocal & Fluorescence Lifetime Imaging (FLIM)

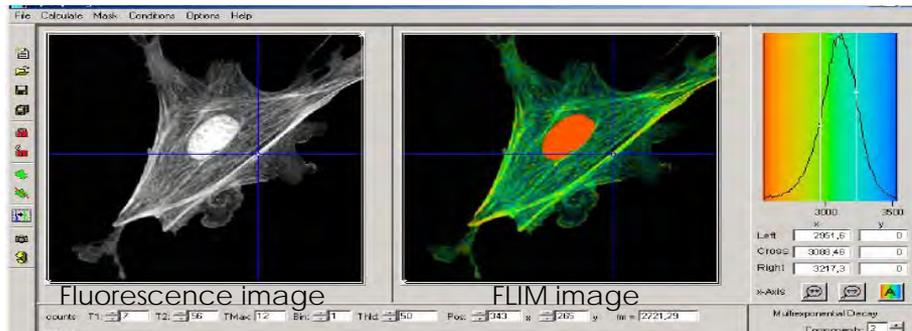
Capability/Need

- Fluorescence microscopy system that **seamlessly integrates** nonlinear two-photon excitation, laser scanning confocal microscopy and FLIM in living systems
- Nonlinear two-photon excitation enables minimally invasive and deep penetrating 3D imaging of living tissues and cells
- FLIM supports quantitative investigation of molecular interaction dynamics in living cells.



Science/Users

- Studying Interactions and fate of nanomaterials within living tissues and cells.
- Investigating interactions within microbial biofilms
- Users (Dr. Tanguay/Oregon State Univ and Dr. Maddux/Univ of Oregon) investigating microbial communities and nanotoxicology.



EMSL Strategy Alignment; Specifics

- Science themes: Biological Interactions and Dynamics
- Cross-cutting challenges: Static-Dynamics; Unprecedented Resolution; Predict Biological Function; Linking Theory/Experiment
- EMSL capability area: Cell Isolation and Systems Analysis
- Anticipated availability: March 2010
- Technical POC: Galya Orr, Steve Wiley