

## Topics for Final (Tutorial) Projects

- Recent Advances in OPOs (CW, Pulsed, Ultrafast)
- Ultrashort Pulse Optical Parametric Amplifiers (OPA)
- New  $\chi^{(2)}$  Crystals
- Advances in QPM and Random Phase Matching
- Kerr-Combs in micro-resonators
- 3<sup>rd</sup> Harmonic Microscopy
- Multi-photon Microscopy
- SBS in Fiber Lasers
- Raman Lasers (e.g. in diamond)
- High-Intensity Interactions (High-Harmonic Generation)
- High-Intensity Interactions (Filaments)
- Solitons
- Ultrafast White Light Continuum Generation in Optics Solids
- Mid-IR Ultrafast (White-Light Continuum +OPA)
- THz Generation
- NLO in Metamaterials
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