**Working Title: Optical MIMO modulation techniques under illumination constraints**

1. **Introduction**
   1. Motivation
   2. System ideas
   3. Signaling chain bock diagram
   4. SOA
   5. Some other applications
2. **The SISO channel**
   1. Channel description – digital
   2. Introduce devices, models and parameters, constraints.
   3. Noise
   4. Performance of digital tech OOK, PPM, VPPM
   5. Performance of analog tech. OFDM, ACO/DCO
3. **MIMO: Exploring the spatial dimension**
   1. Spatial Modulation
   2. Spatial Multiplexing
   3. Performance enhancement with imaging receiver
   4. SIS-OFDM
4. **MIMO: Exploring the color dimension**
   1. Multiplexing with colors ACO/DCO with different colors
   2. IEEE 802.15.7
   3. Performance of CSK
   4. Metameric Modulation
   5. (Potential to combine CSK with OFDM)
5. **Optical wireless broadcast system design**
   1. SVD-VLC model of system design
   2. Multi-wavelength VLC system design analysis
6. **Conclusions**
7. **Appendix**