Selected Master assignments (2019-2020 & 2020-2021)

(sorted per cluster)

Applied Nanophotonics

TNW-BMPI	Enhancement of Photoacoustic Tomography reconstructions with deep learning
TNW-BMPI	Experimental Optical diffraction tomography for wave simulations on weakly scattering samples
TNW-BMPI	Raman Spectroscopic Measurements on the Lipid Composition of Human Milk and Lipid Phase Transitions
TNW-BMPI	Model-based wavefront shaping to improve imaging in lung-on-a-chip devices.
TNW-COPS	Multi-photon source for integrated quantum photonics
TNW-COPS	Controllable Josephson junction for photon Bose-Einstein condensates
TNW-COPS	2D Box Traps for Bose-Einstein
TNW-COPS	Towards integrated photonic quantum simulation
TNW-COPS	Optimisation of spin glass Hamiltonians using photon Bose-Einstein condensates
TNW-LPNO	The first hybrid integrated diode laser for the visible spectral range
TNW-LPNO	Chromatic aberration at the source of High Harmonic Generation in Argon
TNW-LPNO	Generation of Kerr frequency combs in TriPleX silicon nitride microring resonators
TNW-LPNO	Universal Microwave Photonics Modulation Transformer
TNW-LPNO	Modelling nonlinear optical pulse propagation using pseudo-spectral methods.
TNW-LPNO	Integrated Brillouin Lasing in Cascaded Double Ring Resonators
TNW-OS	Fabricating optical quality aluminium oxide layers using RF reactive sputter deposition
TNW-OS	Dielectric measurements on salt water using a double tube setup
TNW-OS	An advanced spectrometer for chromatic confocal distance measuring
TNW-OS	Realization of a Photonic Integrated Circuit RGB-engine
TNW-OS	Al2O3:Yb3+ modular microring sensing laser
TNW-OS	Towards a set-up for the detection and characterisation of MS induced lesions
TNW-OS	Various applications of gratings in Al2O3 microring resonator sensors
TNW-OS	CARS in confined water, Investigating water as a potential vibration bio-marker

Energy, Materials and Systems

TNW-EMS	Constraining the Standard Model Effective Field Theory Wilson Coefficients using Higgs and Diboson Data
TNW-EMS	Superconducting degaussing coils: Electromagnetic considerations
TNW-EMS	Evaporation of a liquid nitrogen drop on a water meniscus
TNW-EMS	Inter-tape contact resistance measurements on simplified CORC wires under bending load

NanoElectronic Materials

TNW-CCP	Forces with Finite Nodal Variance in quantum Monte Carlo
TNW-CMS	omputational methods in quantum mechanics with applications in spintronic calculations
TNW-ICE	Towards probing unconventional superconductivity at the LaAlO3/SrTiO3
TNW-ICE	Study on superconducting -loops based on hybrid s-wave/d-wave Josephson junctions
TNW-ICE	Top gating of structured topological insulator films deposited by MBE
TNW-ICE	Investigating the charge-transfer gap in the strongly correlated van der Waals compound NiPS3
TNW-ICE	Fractional charge of Josephson vortices in a Josephson junction array at a superconductor-topological insulator
TNW-ICE	Towards a Chern insulating state in a LaMnO3 bilayer
TNW-ICE	Measuring energy storage governed by Maxwell's Demon in (Bi1−xSbx)2Te3 thin films
TNW-IMS	Out-of-plane ionic conductivity for Li 3x La 2/3−x TiO 3 thin films
TNW-IMS	Free-space concentration of diffused light
TNW-PIN	Influence of surfactant deposition on wetting properties of silicon substrates
TNW-PIN	Transition Voltage Spectroscopy: Exploring the relationship between Transition Voltage and width of the tunneling
TNW-PIN	Quasiparticle interference on Au(111), HOPG and Graphene using a thermovoltage STM
TNW-PIN	Coalescence of 2D eutectic PtGe droplets
TNW-PIN	Dual scanning tunneling spectroscopy: a technique to obtain k-space information on the electronic band structure
TNW-XUV	Characterization of segregation in nanometer thin films using hybrid X-ray measurements

Physics of Fluids

TNW-POF	Mid air collisions between water and ethanol
TNW-POF	Tracking of finite-sized particles in turbulent Taylor–Couette flow
TNW-POF	Numerical implementation of Marangoni effects in basilisks
TNW-POF	Optical and acoustical characterization of the response of protein-and-nanoparticle-stabilized microbubbles
TNW-POF	Periodically modulated Rayleigh-Bénard convection and data-driven method for identification of the spatiotemporal structures
TNW-POF	Interaction of airflow on droplet trains in a novel inhaler application
TNW-POF	Acoustically driven meniscus modes in inkjet printing
TNW-POF	The influence of palmitic acid on dilatational microbubble shell elasticity and surface tension
TNW-POF	Drag reduction in two-phase Taylor-Couette flow
TNW-POF	Dynamics in Laser Induced Forward Transfer: Effect of Viscosity
TNW-POF	Plane wave imaging of coated monodisperse microbubble contrast agents
TNW-POF	The effects of curvature on near-wall turbulence in high Reynolds number Taylor-Couette flow.
TNW-POF	Dam break for non-spherical particles
TNW-POF	Bubble–particle collisions in homogeneous isotropic turbulence

Soft Matter

TNW-BE	raining techniques for Generative Adversarial Networks for tabular data
TNW-BE	Flow dependence of redox cycling current in nanofluidic channels
TNW-NBP	Conformation and flexibility of the intrinsically disordered protein αlpha-synuclein
TNW-PCF	Rotational diffusion of rough colloids
TNW-PCF	Enhancing dropwise condensation through active transport of drops using electrowetting
TNW-PCF	Droplet impact energy harvesting on a charge trapping-enhanced uoropolymer-silica electret
TNW-PCF	Electrodewetting

Other groups outside Applied Physics domain

EEMCS-NE	Investigating the Intelligence Scaling of Neuromorphic Chips
EEMCS-NE	Designing NIS Junctions in Semiconductor Nanowires