Selected Bachelor assignments (2018-2019 & 2029-2020)

(sorted per cluster)

Applied Nanophotonics

TNW-BMPI	A negacyclic convolution technique for efficiently solving the Helmholtz equation
TNW-BMPI	Aberrations as a function of depth and Zernike modes
TNW-BMPI	Imaging performance of of the wavefront shaping microscope
TNW-BMPI	Axial characteristics of a focused-ultrasound-transducer array
TNW-COPS	Using an optical circuit as an unclonable physical key
TNW-COPS	Gaussian beam excitation of an optical fiber using the Fictitious Domain Method
TNW-COPS	Is it possible to detect Förster Resonance Energy Transfer Between Near-Infrared Emitting Quantum Dots
TNW-LPNO	Characterisation of Linearity and Noise in Fibre-based Brillouin Amplifiers
TNW-LPNO	Supercontinuum generation in silicon nitride waveguides without top cladding
TNW-LPNO	Mode Conversion and Efficient Coupling Using Tapered, Large Core Si_3N_4 Waveguides
TNW-OS	Characterisation of a Al2O3:Yb3+ Microring resonator in water
TNW-OS	Analysing a Neural Network used to classify Raman Spectra of Vesicles

Energy, Materials and Systems

TNW-EMS	Pumping of a magnetic fluid by means of an alternating magnetic field; A ferrohydrodynamic model
TNW-EMS	Entrance current transfer and minimum quench energy in magnesium diboride cabled structures
TNW-EMS	Improvement of pulse reconstruction and arrival direction estimation at the HiSPARC experiment
TNW-EMS	Determination of the recirculating ion current using a Faraday cup inside the fusor
TNW-EMS	Current Sensors for a Superconducting Transformer
TNW-EMS	Determining the magnetisation loop of HTS Roebel cables

NanoElectronic Materials

TNW-CCP	Complex quantum mechanical computations of the many electron Schrödinger equation using Deep Neural Networks
TNW-CCP	Using Machine Learning for identifying phase transitions op spin 1/2 Heisenberg chains.
TNW-CCP	Implementation of Quantum Monte Carlo methods in the study program of Applied Physics
TNW-CCP	Molecular Dynamics using noisy interatomic forces
TNW-CMS	Topological Insulators: Tight-Binding Models and Surface States
TNW-CMS	Tight-binding modeling of halide perovskite semiconductors
TNW-CMS	Modeling excitons in halide perovskite semiconductors
TNW-CMS	Optical properties of 2D materials from the many-body Bethe-Salpeter equation within a tight-binding approach
TNW-ICE	Studying the efect of localisation effects onspectroscopic measurements in a phase controlled topological device

TNW-ICE	Measuring fractional magnetic-flux quanta states in superconducting π-loops
TNW-ICE	Towards probing superconducting aspects of twisted bilayer graphene.
TNW-ICE	Nanopatterning strontium titanate substrates towards photocatalytic applications
TNW-ICE	The effect of critical current disorder in Josephson junction arrays
TNW-ICE	An analysis of Andreev bound states in a systems of topological insulators
TNW-ICE	Influence of the growth rate on the surface morphology of Vx (Bi1-ySby)2-xTe3 thin films
TNW-ICE	Capacitance Analysis of SrTiO3, A Journey towards the Spin Battery
TNW-ICE/QTM	Quantum Mechanical Modelling of Carbon Nanotube Transistor
TNW-IMS	Designing and Building a Model Setup to Optimize Yield in Bifacial Solar Power Plants
TNW-IMS	A semi-classical model for the thermoelectric properties of cubic SnSe
TNW-IMS	Dependence of the formation tin sulfide thin films on synthesis parameters
TNW-IMS	In-situ crystallization of Zr-doped In_2O_3 thin films
TNW-IMS	Solid phase crystallisation of lanthanum-doped barium tin oxide
TNW-IMS	Exploration of the synthesis of thin-filmlm ZrOS as a p-type transparent conductive material through sulfurization
TNW-PIN	Mechanical exfoliation and stamping of graphene for twistronics
TNW-PIN	An investigation into asymmetry arising due to differences in current setpoint in scanning tunneling spectroscopy
TNW-PIN	An AFM study of nanoscopic blisters under a sheet of 2D material
TNW-XUV	Thin film PZT actuator with three-dimensional actuation capabilities
TNW-XUV	Frequency dependence of the piezoelectric coefficient (d33) and hysteresis in lead zirconate titanate (PZT) columnar

Physics of Fluids

TNW-POF	LES study on wind farms
TNW-POF	The effect of the gravitational profile on rapidly rotating spherical Rayleigh-Bénard convection
TNW-POF	Bursting bubble in a Herschel-Bulkley fluid
TNW-POF	Mid-air collision between water and ethanol droplets: When inertia takes over from surface tension
TNW-POF	Spreading of a liquid drop on a fluid-fluid interface
TNW-POF	Heat Transfer in Twente MHT Tunnel
TNW-POF	Wetting of surfactant droplets
TNW-POF	Controlled Hydrodynamic Cavitation Induced from Micropits Generated using High Power Laser Ablation
TNW-POF	The Nickshot in squash:A simple mechanical model
TNW-POF	Translational and rotational dynamics of buoyant chiral particle(s) free rising in water
TNW-POF	Singular jet dynamics of drop impacts at high Bond numbers
TNW-POF	Evaporation-Driven Particle Assembly On Micro-Structured Fractal-Like Substrates
TNW-POF	Conditions for Imbibition on Micropillared Surfaces

TNW-POF	Wetting superhydrophobic surfaces using surfactants in turbulent flows
TNW-POF	Center of mass offset governing kinematics of free-rising particles
TNW-POF	Finger formation and swimming droplets after phase separation in a ternary fluid confined in a Hele-Shaw cell
TNW-POF	Early time dynamics in immiscible drop impacts

Soft Matter

TNW-NBP	Detecting and characterisng nano-plastics in water.
TNW-PCF	Enhancement of charge trapping at fluoropolymer surfaces for high efficiency energy harvesting
TNW-PCF	Detection of charges in Teflon film by Electric Scanning Probe Techniques
TNW-PCF	Electrowetting on Liquid Infused Surfaces

Other groups outside Applied Physics domain

EEMCS-BIOS	Increasing the throughput of a pff device for purification of boar spermatozoa
EEMCS-BIOS	Electrical properties of fluid catalytic cracking particles
EEMCS-BIOS	Design, fabbrication and testing a microfluidic chip to culture coccolithophores
EEMCS-HS	A new concept to classically account for varying particle numbers in general relativity
EEMCS-HS	Port-Hamiltonian gauge theories
EEMCS-NE	Finding memory in boron-doped silicon using a delay line
EEMCS-NE	A Kwant Model for Quantum Transport in a Hybrid Nanowire System
ET-EFD	Design and effectiveness of a novel tripping device for wind tunnel testing
ET-MSM	The effect of realistic material properties on the onset of the propeller structures of Saturns rings.
TNW-MCS	Influence of the voltage grid distribution on the accuracy of field enhancement factor measurements