****

DEPARTMENT OF PHYSICS

April 10

Undergraduate Zoom Oral Sessions (meeting ID # 91481681464)
Faculty mentors: Dr. Mahua Biswas, Dr. Matthew Caplan, Dr. Xing Fang, Dr. Rosangela Follman, Dr. Rainer Grobe, Dr. Uttam Manna, Dr. Epaminondas Rosa Jr., Dr. Andres Vidal-Gadea, and Dr. Q. Charles Su

****

Session 1

8:00-8:15 a.m.
Cassie McGinnis (Rosa, Follmann)
NETWORK INFLUENCE ON NEURONAL ACTIVITY PREDICTION

8:15-8:30
Zachary Mobille (Follmann, Vidal-Gadea, Rosa)
MATHEMATICAL MODELLING OF TEMPERATURE EFFECTS ON THE AFD NEURON OF CAENORHABDITIS ELEGANS

8:30-8:45
Jordan Bryan (Grobe, Su)
DIRAC VACUUM CAN RESOLVE RAPIDLY CHIRPED EXTERNAL FIELDS

8:45-9:00
Tom Sturino (Grobe, Su)
USING EVOLUTIONARY PRINCIPLES IN SYMBOLIC REGRESSION

9:00-9:15
Marcos Perez (Biswas)
SILICON NANOPARTICLES FOR OPTICAL TWEEZING

9:15-9:30
Amelia Korveziroska (Biswas)
SILICON BASED INORGANIC MATERIALS NANOPATTERNING FOR MICROELECTRONIC APPLICATIONS

9:30-9:45
Ian Freeman (Caplan)
PRECISE DIFFUSION COEFFICIENTS FOR WHITE DWARF ASTROPHYSICS

9:45-10:00
Luis Rizo (Fang, Grobe, Su)
THE EXACT PREDICTABLE FUNCTIONS BY A SINGLE NEURON

10:00 – 10:15 a.m.
Break

Session 2:

10:15-10:30
Jordan Bryan (Grobe, Su)
SYMBIOTIC VS. NON-SYMBIOTIC OPTIMIZATION FOR SPATIAL AND TEMPORAL DEGREES OF FREEDOM IN PAIR CREATION

10:30-10:45
Cal Forsman (Caplan)
THERMOELASTICITY OF NUCLEAR PASTA

10:45-11:00
Brighton Coe (Caplan)
SIMULATED MULTIFRAGMENTATION OF ^{48}CA WITH ^{48}CA COLLISIONS

11:00-11:15
Brighton Coe (Biswas, Manna)
RESONANCE COUPLING BETWEEN OPTICAL ANAPOLES AND QUANTUM EMITTERS IN SILICON NANOSPHERE J-AGGREGATE HETEROSTRUCTURES

11:15-11:30
Brighton Coe (Manna, Biswas)
EXCITATION OF DARK MODE IN HIGH-INDEX SILICON OLIGOMER NANOSTRUCTURES USING CYLINDRICAL VECTOR BEAMS

11:30-11:45
Michal Szcerba (Manna)
MIE SCATTERING FROM SINGLE SILICON NANOPARTICLES

11:45-12:00 pm
Scott Urnikis (Rosa, Follmann)
PROPAGATING WAVES OF SYNCHRONIZATION IN THE BRAIN

12:00-12:15
Jack Bellinger (Grobe, Su)
GENETIC EVOLUTION AS A MEANS TO FIND PHYSICS FORMULAS

12:15-12:30
Harold Diaz (Caplan)
TIDES IN COLLIDING GALAXIES

12:30 p.m.

The End of the Physics Zoom Oral Sessions