



**NAS Research Workshop 1: Uthai Riverlake (15,16,17,18 September 2022)**  
**Centre for Theoretical Physics and Natural Philosophy, Mahidol University**

<i>Thursday 15 Sept 2022</i>	<i>Events</i>	<i>Key Persons</i>
12.00-13.30	Workshop Lunch	
13.30-14.00	MRC Grant First Year Output	Burin Gumjudpai (NAS)
14.00-14.20	<b>Coffee Break</b>	
14.20-15.20	Lecture: Application of Multiplex Network to Finance and Biology	Pradeep Bhadola (NAS)
15.20-15.40	Talk: Phase Transition of Financial Networks	Sompoach Saichaemchan (NAS & IF)
15.40-16.00	Talk: Holographic Dark Energy in Modified Gravity	Amornthep Tita (NAS & IF)
16.00-16.20	Talk: Stability of Interacting Dark Sectors	Chonthicha Kritpetch (U. Phayao)
16.20-16.40	Talk: Cosmology in Holographic Non-minimal Derivative Coupling Theory: Constraints from Inflation and Variation of Gravitational Constant	Phichayoot Baisri (NAS & IF)
<i>Friday 16 Sept 2022</i>	<i>Events</i>	<i>Key Persons</i>
10.00-11.00	Lecture: Interacting Dark Energy and Its Observational Constraints	Nandan Roy (NAS)
11.00-12.00	Lecture: VCDM and Cuscuton	Masroor C. Pookkillath (NAS)
12.00-13.30	Workshop Lunch	
13.30-13.50	Talk: Holographic Dark Energy from Apparent Horizon Thermodynamics	Candrasayah Muhammad (NAS & IF)
13.50-14.10	Talk: Generalized and Extended Chaplygin Gas Dark Energy	Phongsaphat Rangdee (U. Phayao)
14.10-14.30	Talk: Holographic Cosmology with Apparent Horizon Cut-off	Suphakorn Chunlen (U. Phayao)
14.30-16.30	<b>Coffee Break + Small group project initiation</b>	All
18.30-20.30	<b>Workshop Dinner</b>	
<i>Saturday 17 Sept 2022</i>	<i>Events</i>	<i>Key persons</i>
10.00-11.00	Lecture 1: PT-symmetric Massive Gauge Models and Their Symmetries  Lecture 2: Flat-band Effective Dynamics and Mass Generation	Kumar Abhinav (NAS)
11.00-12.00	Lecture: Eisenhart Lifting in Gravity Models	Narakorn Kaewkhao (Prince of Songkla U.)
12.00-13.30	Workshop Lunch	
13.30-13.50	Talk: Effects of Strain on the Schwinger Pair Creation in Typical Triaxially Strained Graphene	Artit Hutem (Phetchabun Rajabhat U.)
13.50-14.10	Talk: A k-essence Model of Inflation, Dark Matter and Dark Energy	Warawut Sa-ardsin (Thepsatri Rajabhat U.)
14.10-14.20	Undergrad. Talk: Dark Energy from Single Scalar Field Models	Suwanna Chomchopphaipana (U. Phayao)
14.20-14.30	Undergrad. Talk: Exponential potential and cosmological scaling solution	Phusuda Thanunkullapong (U. Phayao)
14.30-14.40	Undergrad. Talk: Generalized Chaplygin gas with phantom power-law cosmology	Chutikan Homlaor (U. Phayao)
14.40-16.30	<b>Coffee Break + Small group project initiation</b>	All
<i>Sunday 18 Sept 2022</i>	<i>Events</i>	<i>Key persons</i>
10.00-12.00	Project Outline Presentation	Project Leaders
12.00-13.30	Closing/Workshop Lunch/Room Checkout	