

CCR RNA BIOLOGY WORKSHOP

NCI Shady Grove, Room TE406/408/410

10:00 AM

WELCOME

Short talks session 1

Daniel Arango (Oberdoerffer, Shalini: LRBGE)

DISTRIBUTION AND FUNCTION OF THE RNA ACETYLOME

Adriana Zingone (Ryan, Brid: LHC)

GENOME-WIDE MAP OF APA IN LUNG CANCER AND ITS MODULATION BY SMOKING AND RACE: A PILOT STUDY

Iain Sawyer (Hager, Gordon: LRBGE)

CAJAL BODIES BRIDGE THE GAP BETWEEN GENOME ORGANIZATION AND SPLICEOSOMAL RNA EXPRESSION

Carla Neckles (Caplen, Natasha: GB)

TARGETING THE *EWS-FLII* PRE-mRNA G4-QUADRUPLEXES IN EWING SARCOMA CELLS

Guest speaker

11:00 AM

Jeff Collier, Ph.D.,

Director of The Center for RNA Molecular Biology
Case Western Reserve University, School of Medicine

CODON OPTIMALITY IMPACTS GENE EXPRESSION THROUGHOUT EVOLUTION

12:00 – 1 PM

Lunch

12:30 PM

Room - Seminar 110 will be available for the hanging of posters

Poster session 1

Room - Seminar 110

1:00 – 1:45 PM

Odd number presenters

Short talks session 3

David Calabrese (Schneekloth, Jay: CBL)

TARGETING *MYC* TRANSCRIPTION WITH NUCLEIC ACID BINDING SMALL MOLECULES

Regan LeBlanc (Le Grice, Stuart: BRL)

SMALL MOLECULE TARGETING OF PAN-ENE RNA TRIPLE HELIX AND IMPLICATIONS FOR THE TREATMENT OF KSHV

Jianbo Chen (Hu, Wei Shau: HIV DRP, RRL)

HIV-1 RNA TRANSPORT, DIMERIZATION AND PACKAGING

2:45 -3:00 PM

Break

Short talks session 4

Chad Brocker (Gonzalez, Frank: LM)

REGULATION OF LONG NON-CODING RNA BY PEROXISOME PROLIFERATOR-ACTIVATED RECEPTOR ALPHA AND THE POTENTIAL IMPACT ON SYSTEMIC LIPID HOMEOSTASIS

Ritu Chaudhary (Lal, Ashish: GB)

PRO-SURVIVAL p53-INDUCED LONG NONCODING RNA *PINCR* REGULATES SPECIFIC p53 TARGETS BY BINDING TO MATRIN 3

Yun Ji (Gattinoni, Luca: ETIB)

ENHANCING THE EFFICACY OF T CELL-BASED IMMUNOTHERAPIES USING MIR-155 ENGINEERED TUMOR-SPECIFIC CD8⁺ T CELLS

Poster session 2

Room - Seminar 110

3:45 – 4:30 PM

Even number presenters

4:30 PM

END OF WORKSHOP

POSTERS

Room - Seminar 110

1:00 – 1:45 PM **Poster Session 1** Odd number presenters

3:45 – 4:30 PM **Poster session 2** Even number presenters

- 1 **Fardokht Abulwerdi** (Le Grice, Stuart: BRL)
IDENTIFICATION AND CHARACTERIZATION OF HBV (E) RNA-BINDING SMALL MOLECULES
- 2 **Eckart Bindewald** (Shapiro, Bruce: GRCBL)
IN SILICO PREDICTION OF MULTI-STRANDED INTERACTING NUCLEIC ACID STRANDS
- 3 **Xavier Bofill De Ros** (Gu, Shuo: GRCBL)
APPLYING INSIGHTS FROM PRI-MIRNA PROCESSING TO shRNA DESIGN
- 4 **Jiandong Chen** (Gottesman, Susan: LMB)
TRANSLATIONAL CONTROL OF A DNA REPAIR GENE BY THE RNA-BINDING PROTEIN HFQ CONTRIBUTES TO BACTERIAL STRESS-INDUCED MUTAGENESIS
- 5 **Mauricio Comas-Garcia** (Rein, Alan: HIV DRP, RRL)
IN VITRO SELECTIVE BINDING BETWEEN THE HIV-1 PACKAGING SIGNAL AND GAG IS DRIVEN BY A DELICATE BALANCE BETWEEN SPECIFIC AND NON-SPECIFIC INTERACTIONS
- 6 **Colleen Connelly** (Schneekloth, Jay: CBL)
DISCOVERY OF INHIBITORS OF MICRORNA-21 PROCESSING THROUGH SMALL MOLECULE MICROARRAY SCREENING
- 7 **Lisheng Dai** (Gu, Shuo: GRCBL)
CYTOPLASMIC DROSHA ACTIVITY GENERATED BY ALTERNATIVE SPLICING
- 8 **Hien Dang** (Wang, Xin: LHC)
THE RNA BINDING PROTEIN RDBP ENHANCES C-MYC-INDUCED HCC BY MODULATING C-MYC TARGETS
- 9 **Sean Davis** (Meltzer, Paul: GB)
TRANSCRIPTOMIC DATA SCIENCE USING BIOCONDUCTOR
- 10 **Wojciech Kasprzak** (Shapiro, Bruce: GRCBL)
COMPUTER SIMULATIONS PROVIDE INSIGHTS INTO OPTICAL TWEEZER RNA STRUCTURE UNFOLDING DATA
- 11 **Sukhbir Kaur** (Roberts, David LP)
CD47 REGULATES THE SORTING OF MIRNA INTO EXTRACELLULAR VESICLES RELEASED BY JURKAT T CELLS
- 12 **Suntae Kim** (Caplen, Natasha: GB)
THE EWS-FLI1 PRE-mRNA IS VULNERABLE TO INHIBITION OF U2 SNRNP FUNCTION
- 13 **Bong-Hyun Kim** (Zheng, Zhi-Ming GRCBL)
FULL TRANSCRIPTIION MAP OF MOUSE PAPILOMAVIRUS TYPE 1 (MmuPV1) FROM WART TISSUES
- 14 **Maria Kireeva** (Kashlev, Mikhail, GRCBL)
REGULATION OF RNA POLYMERASE TRANSLOCATION BY THE LENGTH OF THE RNA-DNA HYBRID
- 15 **Xiao Ling Li** (Lal, Ashish) GB
LONG NONCODING RNA PURPL CONTROLS BASAL p53 LEVELS AND PROMOTES TUMORIGENESIS IN COLORECTAL CANCER
- 16 **Haibin Liu** (Zheng, Zhi-Ming, GRCBL)
LNCRNA EXPRESSION LANDSCAPE IN CERVICAL CANCER
- 17 **Mariana Mandler** (Oberdoerffer, Shalini: LRBGE)
FUNCTION OF GENE BODY DNA METHYLATION ON RNA SPLICING

- 18 **Monika Mehta** (Tran, Bao: CCR Sequencing Facility)
NEW ADVANCES IN STUDYING CELLULAR RNA BY NEXT-GENERATION SEQUENCING
- 19 **Michelle Moon** (Schneekloth, Jay: CBL)
TARGETING THE PREQ1-I RIBOSWITCH WITH DRUGLIKE SMALL MOLECULES
- 20 **Marin Olson** (Dalal, Yamini: LRBGE)
INVESTIGATING THE ROLE OF CENTROMERIC TRANSCRIPTION IN THE MAINTENANCE OF
HUMAN CENTROMERES
- 21 **Murali Palangat** (Larson, Dan: LRBGE)
CANCER ASSOCIATED MUTANT SPLICING FACTOR U2AF35 CONFERS ALTERED DNA DAMAGE
RESPONSE, ENHANCED CELL VIABILITY AND ACTIVATION OF SASP PATHWAY IN HUMAN
BRONCHIAL EPITHELIAL CELLS UPON IRRADIATION WITH X-RAY
- 22 **Lorena Parlea** (Shapiro, Bruce: GRCBL)
RING CATALOG: THE FIRST REGISTRY OF COMPUTATIONALLY PROGRAMMED RING-LIKE
RNA NANOCONSTRUCTS
- 23 **Anu Puri** (Shapiro, Bruce: GRCBL)
CONTROLLED RELEASE OF siRNA-LIPOPLEXES BY PHOTSENSITIVE AGENTS FOR IMPROVED
GENE SILENCING: PRELIMINARY STUDIES
- 24 **Jacqueline Salotti** (Johnson, Peter: MCGP)
ROLE OF UPF1 IN A NOVEL 3'UTR REGULATORY MECHANISM IN RAS TUMOR CELLS
- 25 **Anna Serquina** (Ziegelbauer, Joe: HAMB)
STABLE ISOTOPE LABELING OF AMINO ACIDS IN CELL CULTURE (SILAC) SCREEN IDENTIFIES
KSHV VIRAL MICRORNAS MODULATING THE MEVALONATE/CHOLESTEROL BIOGENESIS
PATHWAY
- 26 **Tiejuan Shao** (Gu, Shuo: GRCBL)
SCREENING MICRORNA 3' MODIFICATION ENZYMES BY CRISPR-CAS9 SYSTEM
- 27 **Nishi Sharma** (Zheng, Zhi-Ming: GRCBL)
KSHV ORF57 INHIBITS THE FORMATION OF STRESS GRANULES BY INTERACTION WITH PACT
AND PKR TO BLOCK EIF2A PHOSPHORYLATION
- 28 **Chringma Sherpa** (Le Grice, Stuart: BRL)
AN EVOLVED RNA RECOGNITION MOTIF THAT SUPPRESSES HIV-1 TAT/TAR-DEPENDENT
TRANSCRIPTION
- 29 **Joanna Sztuba-Solinska** (Le Grice, Stuart: BRL)
A SMALL STEM-LOOP STRUCTURE OF THE EBOLA VIRUS TRAILER INTERACTS WITH HSPA8
AND IS ESSENTIAL FOR EBOLA VIRUS REPLICATION
- 30 **Kyota Yasuda** (Mili, Voula: LCMB)
CYTOPLASMIC FUS INCLUSIONS DISRUPT KINESIN-1 LEADING TO LOSS OF DETYROSINATED
MICROTUBULES AND RNA MISLOCALIZATION
- 31 **Paul Zakrevsky** (Shapiro, Bruce: GRCBL)
CONDITIONAL RNAi RESPONSE MEDIATED BY A MULTI-STRANDED RNA SWITCH