

ICRS2023



TORONTO

33RD ANNUAL
SYMPOSIUM
OF THE

INTERNATIONAL CANNABINOID
RESEARCH SOCIETY

TORONTO
ONTARIO, CANADA

PRELIMINARY PROGRAMME

33RD A N N U A L
SYMPOSIUM OF THE
INTERNATIONAL CANNABINOID
RESEARCH SOCIETY

TORONTO

JUNE 24 – 29, 2023

PRELIMINARY PROGRAMME

2023 ICRS BOARD OF DIRECTORS

EXECUTIVE DIRECTOR
MELANIE KELLY, PH.D.

PRESIDENT
RUTH ROSS, PH.D.

PRESIDENT-ELECT
ZIVA COOPER, PH.D.

PAST PRESIDENT
DAVID FINN, PH.D.

SECRETARY
SAOIRSE O'SULLIVAN, PH.D.

TREASURER
STEVE KINSEY, PH.D.

INTERNATIONAL SECRETARY
KATARZYNA STAROWICZ, PH.D.

STUDENT REPRESENTATIVE
MAGDALENA KOSTRZEWA, PH.D.

GRANT CO-PI
HEATHER BRADSHAW, PH.D.

GRANT CO-PI
STEVE KINSEY, PH.D.

MANAGING DIRECTOR
JASON SCHECHTER, PH.D.

ICRS PRE-CONFERENCE ACTIVITIES

MARRIOTT DOWNTOWN AT CF EATON CENTRE
TORONTO, ONTARIO, CANADA

SATURDAY, JUNE 24TH

12.00 – 16.00

ICRS PEDIATRIC SPECIAL INTEREST GROUP MEETING

HOSTED BY
CANADIAN CHILDHOOD CANNABINOID CLINICAL TRIALS (C4T)

CONFERENCE LEVEL: YORK A/B

INTRODUCTION TO SESSION

KEYNOTE

GLOBAL PERSPECTIVES ON CANNABINOID THERAPEUTICS

A series of short talks followed by a facilitated round table discussion on cannabinoids used for medical purposes in children, with perspectives from physicians, pharmacists, parents, youth and researchers.

FAREWELL

ICRS REGISTRATION: JUNE 24TH, 2023 (16.00 – 18.00)
CONFERENCE LEVEL

WELCOME RECEPTION: 18.00 – 20.00
CONFERENCE LEVEL FOYER

DAY 1
SUNDAY, JUNE 25TH

8:30	LAND ACKNOWLEDGEMENT		
8.40	WELCOME AND OPENING REMARKS		
ORAL SESSION 1. PHYTOCANNABINOIDS: ROUTES OF ADMINISTRATION, PHARMACOKINETICS, INTERACTIONS AND DRIVING			
8.45	Hayley Thorpe*, Anne Canella, Hakan Kayir, M. Asfandyaar Talhat, Larissa Kouroukis, Yu Gu, Ron Johnson, Boyer Winters, Sandra Sanchez- Roige, Abraham Palmer, Craig Bailey and Jibran Khokhar	CELL ADHESION MOLECULE 2 MODERATES CANNABIS EDIBLE INTAKE, Δ^9 -TETRAHYDROCANNABINOL RESPONSE, AND THE ELECTROPHYSIOLOGICAL PROPERTIES OF PRELIMBIC CORTICAL NEURONS	1
9.00	Ryan Vandrey*, Carlos Austin Zamarripa, Ashley Dowd, Tory Spindle, Elise Weerts, Ed Cone, Ruth Winecker and Ron Flegal	DOSE EFFECTS OF ORAL AND VAPORIZED DELTA-8-THC AND COMPARISON TO DELTA-9-THC IN HEALTHY ADULTS	2
9.15	Saoirse O'Sullivan*, Matthew Jones, Taygun Uzuneser, Steven Laviolette and Andrew Yates	A NOVEL CANNABIDIOL: TETRAMETHYLPYRAZINE (CBD:TMP, ART12.11) COCRYSTAL IMPROVES THE BIOAVAILABILITY AND EFFICACY OF CBD	3

9.30	Andriy Gorbenko*, Jules Heuberger, Linda Klumpers and Geert Jan Groeneveld	5-WAY CROSSOVER CLINICAL TRIAL TO ASSESS MODULATING EFFECTS OF CBD ON PSYCHOTROPIC AND ANALGESIC EFFECTS OF THC	4
9.45	Patricia Di Ciano*, Tarek Rajji, Lauren Hong, Sampson Zhao, Patrick Byrne, Yoassry Elzohairy, Jeffrey Brubacher, Michael McGrath, Bruna Brands, Sheng Chen, Wei Wang, Omer Hasan, Christine Wickens, Pamela Kaduri and Bernard Le Foll	EFFECTS OF PREFERRED CANNABIS ON DRIVING IN ADULTS OVER THE AGE OF 65	5
10.00	COFFEE BREAK		
ORAL SESSION 2. PHYTOCANNABINOIDS: MEDICAL USE			
10:30	Andrea Narayan*, Luke Downey and Amie Hayley	SLEEP AND ANXIOLYTIC EFFECTS OF 150MG NIGHTLY SUPPLEMENTATION OF CANNABIDIOL (CBD) FOR PRIMARY INSOMNIA	6
10.45	Ruben van Boxel*, Shiral Gangadin, Albert Batalla and Matthijs Bossong	THE IMPACT OF CANNABIDIOL TREATMENT ON BRAIN FUNCTION AND METABOLISM OF PATIENTS WITH A PSYCHOTIC DISORDER	7
11.00	L Cinnamon Bidwell*, Renée Martin-Willett, Marco Ortiz Torres, Greg Giordano, Jonathon Lisano, Carillon Skrzynski, Kent Hutchison and Angela Bryan	SHORT-TERM ANXIOLYTIC AND HARM-REDUCING EFFECTS OF CANNABIDIOL IN CANNABIS IN FLOWER AND EDIBLE FORMS	8
11.15	Nicholas Glodosky*, Carrie Cuttler and Ryan McLaughlin	CHRONIC AND ACUTE EFFECTS OF CANNABIS USE ON DAILY CORTISOL RHYTHMS IN A NATURALISTIC ENVIRONMENT	9

11.30	Jonathan Ross*, Deepika Slawek, Joanna Starrels, Yuting Deng, Chinazo Cunningham and Julia Arnsten	IMPLEMENTING AN EVIDENCE-BASED, HARM REDUCTION-FOCUSED, MEDICAL CANNABIS PROGRAM IN AN ACADEMIC MEDICAL CENTER IN BRONX, NY	10
11.45	<p>PRESIDENTIAL PLENARY LECTURE</p> <p>TRENDS IN CANNABIS PRODUCTS AND CONSUMER PATTERNS OF USE: UNDERSTANDING THE IMPACT OF CANNABIS LEGALIZATION IN CANADA</p> <p>DAVID HAMMOND, PH.D.</p> <p>Professor and University Research Chair in Public Health in the School of Public Health Sciences at the University of Waterloo</p>		
12.45	<p>LUNCH</p> <p>NIDA-SUPPORTED TRAINEE MENTORSHIP NETWORKING LUNCH</p>		
<p>ORAL SESSION 3. PHYTOCANNABINOIDS: USE PATTERNS, PRENATAL EFFECTS, HARMS, AND HARM REDUCTION</p>			
14.15	Richard Quansah Amissah*, Hakan Kayir, Malik Talhat, Ahmad Hasan, Yu Gu, Ron Johnson, Karolina Urban and Jibran Khokhar	NEURAL AND BEHAVIORAL CORRELATES OF EDIBLE CANNABIS-INDUCED POISONING: CHARACTERIZING A NOVEL PRECLINICAL MODEL	11
14.30	Kendrick Lee*, Mohammed Sarikahya, Samantha Cousineau, Ken Yeung, Steven Laviolette and Daniel Hardy	PRENATAL Δ ⁹ -THC-INDUCED FETAL GROWTH DEFICITS AND POSTNATAL CARDIAC DYSFUNCTION ARE AMELIORATED BY MATERNAL OMEGA-3 FATTY ACID SUPPLEMENTATION IN RATS	12
14.45	César Martinez Ramirez*, Garrett Sauber, Jennifer Sterrett and Cecilia Hillard	MATERNAL CBD EXPOSURE IN MICE ALTERS SOCIAL BEHAVIOR AND BEHAVIORAL FLEXIBILITY IN ADULT OFFSPRING	13

15.00	Hilary Marusak*, Julia Evanski, Leah Gowatch, Amanpreet Bhogal, Samantha Ely and Clara Zundel	SYNERGISTIC EFFECTS OF PRENATAL CANNABIS AND CHILDHOOD TRAUMA EXPOSURE ON LARGE-SCALE FUNCTIONAL BRAIN NETWORKS IN CHILDREN: A DOUBLE HIT TO THE DEVELOPING ENDOCANNABINOID SYSTEM?	14
15.15	Justin Matheson*, Leila Daddoust, Adam Zaweel, Marcos Sanches, Ahmed Hassan, Matt Sloan, Leslie Buckley, Amy Porath, James MacKillop, Christian Hendershot, Stefan Kloiber and Bernard Le Foll	EVALUATING GENDER DIFFERENCES IN CANNABIS USE PATTERNS AND MOTIVES AND SEVERITY OF CANNABIS-RELATED HARMS AMONG ADULTS ACCESSING ADDICTION TREATMENT SERVICES	15
15.30	Amanda Doggett*, Kyla Belisario, André McDonald, Mark Ferro, James Murphy and James MacKillop	EXAMINING THE LONGITUDINAL IMPACTS OF CANNABIS LEGALIZATION IN CANADA ON A SAMPLE OF HIGH-RISK EMERGING ADULTS	16
15.45	POSTER DATABLITZ SESSION 1		DB1
16.15 – 18.15	<p>POSTER SESSION 1</p> <p>RECEPTION</p>		P1

Notes:

Presenting Author*

DAY 2

MONDAY, JUNE 26TH

8.25	OPENING REMARKS		
8.30 - 9.30	<p>PRESIDENTIAL PLENARY LECTURE</p> <p>ASTROCYTE CB1RS LINK SOCIAL OLFACTION, STRESS TRANSMISSION AND COGNITIVE IMPAIRMENT</p> <p>JAIDEEP BAINS, PH.D.</p> <p>Director of the Krembil Research Institute, University Health Network (UHN), Toronto, formerly Scientific Director of the Hotchkiss Brain Institute at the University of Calgary</p>		
ORAL SESSION 4. CANNABINOIDS: SIGNALLING, PAIN, ADDICTION, AND OPIOIDS			
9.30	Hayley Marie Green*, David Benjamin Finlay and Michelle Glass	POSITIVE ALLOSTERIC MODULATION OF THE TYPE 1 CANNABINOID RECEPTOR POTENTIATES ENDOCANNABINOID SIGNALLING AND CHANGES ERK1/2 PHOSPHORYLATION KINETICS	17
9.45	Dongman Chao*, Hai Tran, Quinn Hogan and Bin Pan	MONOACYLGLYCEROL LIPASE INHIBITOR ALLEVIATES PAIN TRANSIENTLY VIA PERIPHERAL MECHANISM AND PAIN- INDUCED DEPRESSION LONG-TERM VIA CENTRAL MECHANISM	18
10.00	Yuma Ortiz*, Joshua Bilbrey, Jasmine Felix, Erik Kienegger, Marco Mottinelli, Sushobhan Mukhopadhyay, Christopher McCurdy, Lance McMahon and Jenny Wilkerson	CANNABIDIOL AND MITRAGYNE EXHIBIT DIFFERENTIAL INTERACTIVE EFFECTS IN THE ATTENUATION OF PACLITAXEL-INDUCED MECHANICAL ALLODYNIA, ACUTE ANTINOCICEPTION, AND SCHEDULE- CONTROLLED RESPONDING IN MICE	19

10.15	Idaira Oliva*, Feezan Kazi, Lucas Cantwell, Ganesh Thakur, Jonathon Crystal and Andrea Hohmann	NEGATIVE ALLOSTERIC MODULATION OF CB1 CANNABINOID RECEPTOR SIGNALING SUPPRESSES OPIOID SELF-ADMINISTRATION AND RELAPSE	20
10.30	Omar Soler-Cedeño*, Hai-Ying Zhang, Pinaki Bhattacharjee, Guo-Hua Bi, Hannah Alton, Emma Xiong, Qing-Rong Liu, Malliga Iyer and Zheng-Xiong Xi	BRAIN CB2 RECEPTOR: A NEW THERAPEUTIC TARGET FOR TREATING OPIOID USE DISORDERS, MAJOR FINDINGS FROM A NEW CB2-KO-EGFP REPORTER MOUSE LINE	21
10.45	Joshua Watkins*, Vishakh Iyer, Rachel Hahn, Petra Aradi, Christos Iliopoulos-Tsoutsouvas, Spyras Nikas, Alexandros Makriyannis, Christina Johnson, Laura Bohn, Istvan Katona and Andrea Hohmann	CANNABINOID CB1 AGONIST-INDUCED RESPIRATORY DEPRESSION IN AWAKE MICE	22
11.00	COFFEE BREAK		
<div>ORAL SESSION 4, CONT. CANNABINOIDS: SIGNALLING, PAIN, ADDICTION, AND OPIOIDS</div>			
11.30	Shanna Babalonis*, Michelle Lofwall, Paul Nuzzo, Laura Fanucchi and Sharon Walsh	SUPRATHERAPEUTIC DOSE COMBINATIONS OF OPIOIDS AND CANNABIS: ABUSE POTENTIAL, PHYSIOLOGIC EFFECTS AND SAFETY PROFILE IN HUMANS	23
11.45	Elisa Pabon* and Ziva D. Cooper	PAIN SENSITIVITY AS A FUNCTION OF CANNABIS USE FREQUENCY	24
12.00	Stephanie Lake*, Conor Murray, Timothy Fong, Elisa Pabon, Brittany Henry and Ziva Cooper	SEX- AND DOSE-DEPENDENT ANALGESIC AND REINFORCING EFFECTS OF SMOKED CANNABIS: A PREVIEW OF DATA FROM THE CANSEX STUDY	25

ORAL SESSION 5. CANNABINOIDS: FIBROSIS

12.15	Muhammad Arif*, Abhishek Basu, Kaelin Wolf, Joshua Park, Lenny Pommerolle, Madeline Behee and Resat Cinar	WHY IS PERIPHERAL CB1R ANTAGONISM A RATIONAL THERAPEUTIC STRATEGY FOR PULMONARY FIBROSIS? EVIDENCE FROM MULTI-OMICS APPROACH FOR ESTABLISHING A TRANSLATIONAL LINK	26
12.30	Abhishek Basu*, Kaelin M. Wolf, Muhammad Arif, Madeline Behee, Charles N. Zawatsky, Malliga R. Iyer and Resat Cinar	INHALATIONAL DELIVERY OF MRI-1867 (ZEVAQUENABANT), A THIRD-GENERATION CANNABINOID RECEPTOR 1 (CB1R) ANTAGONIST, EMERGED AS A NOVEL THERAPEUTIC MODALITY IN PULMONARY FIBROSIS	27
12:45	Liana Younis*, Ana Iden, Ida Gluzamn and Yankel Gabet	A PROTECTIVE EFFECT OF THE CB2R AGONIST OSTEOGENIC GROWTH FACTOR (OGP) AGAINST BLEOMYCIN-INDUCED PULMONARY FIBROSIS IN MICE	28
13:00	<div>LUNCH</div> <div>TRAINEE COMMUNICATIONS WORKSHOP</div>		
<div>ORAL SESSION 6. CANNABINOIDS: CANCER, SKIN, EYE, AND GASTROINTESTINAL SYSTEM</div>			
14.30	Ana Iden*, Aaron Naim, Tamar Liron, Marilena Vered and Yankel Gabet	THE ANTI-TUMORIGENIC ROLE OF CANNABINOID RECEPTOR 2 IN SKIN CARCINOGENESIS	29
14.45	Evandro Jose Beraldi*, Catherine MacNaughton Keenan, Laurie Wallace and Keith Alexander Sharkey	ROLE OF CB1 RECEPTORS IN THE GASTROINTESTINAL TRACT AFTER MICROBIOTA DEPLETION AND NATURAL RECOLONIZATION	30

15.00	Ronen Rosenblum*, Yara Eid Mutlak, Anat Gelfand, Nitsan Maharshak, Ayal Hirsch, Hila Novak Kotzer and David Meiri	A NOVEL SELECTIVE CANNABINOID DERIVATE SUPPRESSES MURINE AND HUMAN IBD THROUGH A STAT3- DEPENDENT MECHANISM	31
15.15	Jenna Billingsley*, Emily Richter, Heather Bradshaw, Jim Wager- Miller, Kelsey Andreis, Kyle Yust, Taryn Bosquez-Berger, Natalia Murataeva and Alex Straiker	ENDOCANNABINOID REGULATION OF TEARING	32
15.30	POSTER DATA BLITZ SESSION 2		DB2
16.00 – 18.00	POSTER SESSION 2 RECEPTION		P2
18:00	BUSINESS MEETING		

Notes:

Presenting Author*

DAY 3

TUESDAY, JUNE 27TH

8.25	OPENING REMARKS		
ORAL SESSION 7. CANNABINOIDS: SIGNALLING, BEHAVIOUR, ANXIETY, AND CNS			
8.30	Khalil Eldeeb*, Sandra Leone-Kabler, Mark Scialdone and Allyn Howlett	Δ 8-ISO-TETRAHYDROCANNABINOL AND NEURONAL CELL SIGNALING	33
8.45	Alexander Young*, Melanie Kelly and Eileen Denovan-Wright	MICROGLIA-MEDIATED NEURONAL DEATH CAN BE SUPPRESSED BY SELECTIVE CANNABINOID RECEPTOR AGONISTS IN VITRO	34
9.00	Ozge Gunduz-Cinar*, Laura Castillo, Maya Xia, Elise Van Leer, Emma Brockway, Gabrielle Pollack, Olena Bukalo, Aaron Limoges, Sarvar Oreizi-Esfahani, Veronika Kondev, Rita Báldi, Farhana Yasmin, Ao Dong, Judy Harvey White, Resat Cinar, George Kunos, Yulong Li, Larry Zweifel, Sachin Patel and Andrew Holmes	ENDOCANNABINOIDS IN THE CORTICO-AMYGDALA NEUROCIRCUIT MEDIATE FEAR EXTINCTION	35
9.15	Barkha Yadav-Samudrala*, Ben Gormal, Hailey Dodson, Shreya Ramineni, Diane Wallace, Michelle Peace, Justin Poklis, Wei Jiang and Sylvia Fitting	DIFFERENTIAL EFFECTS OF ACUTE THC ON BEHAVIOR AND THE ENDOCANNABINOID SYSTEM IN NEUROHIV MOUSE MODEL	36

9.30	Gabriella R. Smith*, Kathleen McCoy, Emma Grant, Saad Sualeh, Josie Everett Mayil Bhat., Blake Woods, Max Rose, Ken Mackie and Anna Kalinovsky	DEFICITS IN ENDOCANNABINOID SIGNALING IN THE CEREBELLUM DISRUPTS SOCIAL PREFERENCE	37
9.45	Alex Straiker* and Ken Mackie	MUSCARINIC CANNABINOID SUPPRESSION OF EXCITATION, A NOVEL FORM OF COINCIDENCE DETECTION	38
10:00	IN MEMORIAM		IM
10.15	COFFEE BREAK		
ORAL SESSION 8. NOVEL LIPID PATHWAYS AND ENDOCANNABINOID PROFILES			
10.45	Floor Stevens*, Remco Peter, Berend Gagestein, Iakovi Tfofi, Hans Aerts and Mario van der Stelt	DISCOVERY OF A NOVEL METABOLIC PATHWAY OF N-ACYLETHANOLAMINES BY GLUCOCEREBROSIDASE-2	39
11.00	Anne-Sophie Archambault*, Francesco Tinto, Jean-Philippe Lavoie, Élisabeth Dumais, Mélissa Simard, Vlncenzo Di Marzo and Nicolas Flamand	HUMAN EOSINOPHILS AND NEUTROPHILS BIOSYNTHESIZE NOVEL LIPOXYGENASE METABOLITES FROM MONOACYLGLYCEROLS AND N-ACYL-ETHANOLAMINES	40
11.15	Toru Uyama*, Mohammad Mamun Sikder, Sumire Sasaki, Zahir Hussain, S. M. Khaledur Rahman, Katsuaki Hoshino, Yoshimi Miki, Makoto Murakami and Natsuo Ueda	PLAAT5 AS A CA2+-INDEPENDENT N-ACYLTRANSFERASE PRODUCING ANANDAMIDE AND OTHER N-ACYLETHANOLAMINES IN TESTIS	41

11.30	Heather Bradshaw*, Clare Johnson, Shivani Collur, Hannah Bentz, Praveen Kulkarni and Craig Ferris	EFFECTS OF AGE ON PLASMA LEVELS OF CANNABINOIDS AND ENDOLIPIDS AFTER VAPORIZED CANNABIS IN MICE	42
11.45	<p style="text-align: center;"><u>KANG TSOU MEMORIAL SPEAKER</u></p> <p style="text-align: center;">ENDOCANNABINOIDS DRIVE MEMORY GENERALIZATION IN THE STRESSED MOUSE BRAIN</p> <p style="text-align: center;">SHEENA JOSSELYN, PH.D.</p> <p style="text-align: center;">Senior Scientist at The Hospital for Sick Children (SickKids), Professor of Psychology and Physiology at the University of Toronto, Canada Research Chair in Brain Mechanisms Underlying Memory, Senior Fellow in the Canadian Institute for Advanced Research (CIFAR), Fellow of the Royal Society of Canada</p>		
12.30	<p style="text-align: center;">BOX LUNCH</p> <p style="text-align: center;">A box lunch will be served and then you are free to enjoy Toronto Box lunch for all, regardless of whether going on outing or not.</p>		
13.15 -	<p style="text-align: center;">FREE TIME</p> <p style="text-align: center;">OUTINGS</p>		

Notes:

Presenting Author*

DAY 4
WEDNESDAY, JUNE 28TH

8.45	OPENING REMARKS	
NIH/NCCIH SYMPOSIUM LOOKING BEYOND Δ ⁹ -THC: A TRANSLATIONAL PERSPECTIVE ON THE ANALGESIC PROPERTIES OF MINOR CANNABINOIDS AND TERPENES		
9.00	David Shurtleff	PROGRAMMATIC PRIORITIES IN SUPPORTING CANNABIS RESEARCH
9.15	Aditi Das	MINOR CANNABINOID METABOLITES GENERATED BY HUMAN CYTOCHROME P450S ARE BIOACTIVE
9.30	Sara Jane Ward	ANTI-ALLODYNIC EFFECTS OF CANNABIGEROL (CBG) IN RODENT MODELS OF NEUROPATHIC PAIN
9.15	Ziva Cooper	ASSESSING THE ANALGESIC AND SUBJECTIVE EFFECTS OF BETA-CARYOPHYLLENE ADMINISTERED ALONE AND COMBINED WITH DELTA-9-THC: A PLACEBO-CONTROLLED INVESTIGATION IN VOLUNTEERS
9.30	Hance Clarke	REAL WORLD EVIDENCE - HAVE WE LEARNED ANYTHING ABOUT THE ROLE OF MINOR CANNABINOIDS?

9.45	Inna Belfer	MODERATED Q & A / DISCUSSION SESSION
10.00	COFFEE BREAK	
‘ON THE SHOULDERS OF GIANTS’: RAPHI MECHOULAM MEMORIAL SYMPOSIUM		
10:30	Mechoulam Family	TITLE TBA
10.45	Allyn Howlett	TITLE TBA
11:00	Esther Shohami	THE ENDOCANNABINOID SYSTEM IS NEUROPROTECTIVE AFTER TRAUMATIC BRAIN INJURY IN MICE: "MY 30 YEARS TRIP WITH RAPHI IN THE CANNABIS FIELDS"
11.15	George Kunos	TITLE TBA
11.30	Linda Parker	“A QUARTER OF A CENTURY COLLABORATING WITH RAPHI”
11:45	Aron Lichtman	TITLE TBA
12:00	Ethan Russo	TITLE TBA

PRELIMINARY ICRS2023 PROGRAMME – SUBJECT TO CHANGES

12:15	<p style="text-align: center;"><u>2023 ICRS MECHOULAM AWARDEE</u></p> <p style="text-align: center;">IMPROVING OUR UNDERSTANDING OF CANNABINOID PHARMACOLOGY AND MEDICATION DEVELOPMENT THROUGH THREE DECADES OF CONTROLLED HUMAN CANNABINOID ADMINISTRATION STUDIES</p> <p style="text-align: center;">MARILYN HUESTIS, PH.D.</p> <p style="text-align: center;">Adjunct Professor in the Department of Epidemiology and Preventive Medicine, School of Medicine, University of Maryland Baltimore and recently retired as a tenured senior investigator and Chief, Chemistry and Drug Metabolism Section, IRP, National Institute on Drug Abuse and National Institutes of Health</p>		
13:00	LUNCH		
ORAL SESSION 9. MINOR CANNABINOIDS			
14.00	Sarah Olivia Vanegas*, Thomas Gamage, Jonathan Maturano, David Sarlah and Steven Kinsey	<i>IN VIVO</i> EFFECTS OF MINOR CANNABINOIDS CANNABINOL, CANNABICHROMENE, AND CANNABICYCLOL OCCUR VIA MULTIPLE RECEPTOR MECHANISMS	43
14.15	Vered Cohen*, Elazar Besser, Shiraz Schiller and David Meiri	A NEWLY-IDENTIFIED PHYTOCANNABINOID MODULATES THE ESTROGEN RECEPTOR AND REDUCES TUMOR PROGRESSION IN A MOUSE MODEL OF BREAST CANCER	44
14.30	John Jackson*, Claudia Dietrich, Ali Shademani, Manisha Dosanjh, Mark Pryjma, Dana Lambert and Charles Thompson	CANNABICHROMENE (CBC), CANNABIGEROL (CBG) AND SILVER NANO-PARTICLES DELIVER BROAD SPECTRUM ANTIMICROBIAL SYNERGY IN HYDROGEL-FORMING WOUND CARE DRESSINGS	45
14.45	Carrie Cuttler*, Aria Petrucci, Ethan Russo and Ziva Cooper	ACUTE EFFECTS OF CANNABIGEROL IN HUMANS: A DOUBLE-BLIND, PLACEBO- CONTROLLED, CROSSOVER, FIELD TRIAL	46

15.00	<p>ICRS WILLIAM A. DEVANE EARLY CAREER AWARDEE</p> <p>SEX DIFFERENCES IN ENDOCANNABINOID SIGNALING PATHWAYS INVOLVED IN CHRONIC PAIN AND CANCER: PRESENT AND INSIGHTS INTO THE FUTURE</p> <p>JOSEE GUINDON, PH.D.</p> <p>Associate Professor in the Department of Pharmacology and Neuroscience at Texas Tech University Health Sciences Center</p>	
15.30	POSTER DATABLITZ SESSION 3	DB3
16.00 – 18.00	<p>POSTER SESSION 3</p> <p>RECEPTION</p>	P3
19.00	<p>AWARDS CEREMONY</p> <p>AND</p> <p>ICRS BANQUET</p>	

Notes:

Presenting Author*

DEPARTURE: THURSDAY, JUNE 29TH

PRELIMINARY ICRS2023 PROGRAMME – SUBJECT TO CHANGES

DATABLITZ SESSION 1

DAY 1, SUNDAY, JUNE 25TH: 15:45 - 16:15

Christine M. Wickens*, Robyn D. Robertson, Jan G. Ramaekers, Tom R. Arkell and Eef L. Theunissen	CANNABIS AND DRIVING: RECENT EPIDEMIOLOGICAL EVIDENCE	DB1-1 [P1-5]
Marta De Felice*, Hanna J. Szkudlarek, Mar Rodríguez-Ruiz, Taygun C. Uzuneser, Mohammed H. Sarikahya, Mathusha Pusparajah, Juan Pablo Galindo Lazo, Shawn N. Whitehead, Ken K.-C. Yeung, Walter J. Rushlow and Steven R. Laviolette	ADMINISTRATION OF N-ACETYLCYSTEINE PREVENTS THE LONG-LASTING DEPRESSIVE-LIKE PHENOTYPES INDUCED BY ADOLESCENT THC EXPOSURE	DB1-2 [P1-9]
Catherine Hume*, Samantha Baglot, Lucia Javorcikova, Savannah Lightfoot, Jessica Scheufen and Matthew Hill	EFFECTS OF PRENATAL TETRAHYDROCANNABINOL (THC) VAPOUR EXPOSURE AND HIGH-FAT DIET ON RAT FEEDING PATTERNS, ADIPOSITY, AND GLUCOSE METABOLISM	DB1-3 [P1-10]
Lindsay Lo*, Justin Strickland, Ryan Vandrey and Caroline MacCallum	A SYSTEMATIC REVIEW AND META-ANALYSIS OF CLINICAL TRIALS INVESTIGATING ACUTE CANNABIDIOL (CBD) IMPAIRMENT: COMPARISON WITH PLACEBO AND DELTA-9-TETRAHYDROCANNABINOL (THC)	DB1-4 [P1-19]
Samantha Johnstone*, Maryam Sorkhou, Molly Zhang, Sarah Dermody, Rachel Rabin and Tony George	CANNABIS CRAVINGS PREDICT COMPENSATORY INCREASES IN CIGARETTE USE IN SCHIZOPHRENIA: FINDINGS FROM CANNABIS ABSTINENCE STUDIES	DB1-5 [P1-21]

Conor Murray*, Alexa Torrens, Stephanie Lake, Timothy Fong, Elisa Pabon, Brittany Henry, Daniele Piomelli and Ziva Cooper	PHARMACOKINETICS OF THC AND CANNABIS ABUSE LIABILITY IN MEN AS A FUNCTION OF FREQUENCY OF CANNABIS USE	DB1-6 [P1-25]
Marieka DeVuono*, Mina Nashed, Mohammed Sarikahya, Andrea Korcsis, Roger Hudson, Kendrick Lee, Sebastian Vanin, Daniel Hardy and Steven Laviolette	PRENATAL EXPOSURE TO THC AND CBD PRODUCES SEX-SPECIFIC EFFECTS ON ADOLESCENT NEUROPSYCHIATRIC OUTCOMES	DB1-7 [P1-51]
<p>DATABLITZ presenters present BOTH a 4-minute presentation AND a POSTER at ICRS2023.</p> <p>DATABLITZ abstract page numbers are indicated [IN BRACKETS].</p>		

Notes:

Presenting Author*

DATABLITZ SESSION 2

DAY 2, MONDAY, JUNE 26TH: 15:30 - 16:00

Lucy Rose Thomsen*, David Benjamin Finlay, Michelle Glass and Rhonda Joy Rosengren	CLINICALLY RELEVANT DRUGS MODULATE THE EFFECT OF AMB-FUBINACA IN MALE AND FEMALE MICE	DB2-1 [P2-02]
Angela Henderson-Redmond*, Courtney Lulek, Malabika Maulik, Mary Piscura, Kayla DeSchepper, Josee Guindon and Daniel Morgan	MUTANT MICE EXPRESSING AN INTERNALIZATION-RESISTANT FORM OF CB1R DISPLAY ENHANCED TOLERANCE TO CANNABINOIDS	DB2-2 [P2-3]
Daniel Barrus*, Kyle Rehrauer, Sara Kearney, Anghelo Gangano, Primali Navaratne, Terry-Elinor Reid, Adrian Roitberg, Ion Ghirviriga, Alexander Grenning, Christopher Cunningham and Thomas Gamage	AXIALLY CHIRAL CANNABINOIDS DISPLAY ENHANCED CB2 SELECTIVITY	DB2-3 [P2-5]
Jonah Wirt*, Maria Gerasi, Edward Stahl, Christina Brust, Laura Bohn, Alexandros Makriyannis and Andrea Hohmann	POSITIVE ALLOSTERIC MODULATION OF CB1 CANNABINOID SIGNALING REVERSES PATHOLOGICAL PAIN IN A PROBE-DEPENDENT MANNER WITHOUT PRODUCING TOLERANCE OR UNWANTED SIDE EFFECTS	DB2-4 [P2-13]
Szabolcs Dvorácskó*, Resat Cinar and Malliga Iyer	TARGETING CANNABINOID RECEPTOR 1 (CB1R) WITH NOVEL FOUR-ARM BITOPIC ANTAGONISTS	DB2-5 [P2-14]
Carlos Henrique Alves Jesus*, Jonah Wirt, Paniz Azizi, John Hailine, Hasaan Kazi and Andrea Hohmann	ACETAMINOPHEN PRODUCES ANTINOCICEPTION THROUGH A DIACYLGLYCEROL LIPASE-DEPENDENT MECHANISM IN RODENT MODELS OF INFLAMMATORY AND POST-SURGICAL PAIN	DB2-6 [P2-19]

Deepika Slawek*, Chenshu Zhang, Yuting Deng, Yuval Zolotov, Giovanna Calderon DiFrancesca, Stephen Dahmer, Joanna Starrels, Chinazo Cunningham and Julia Arnsten	MEDICAL CANNABIS AND OPIOID USE AMONG ADULTS WITH CHRONIC PAIN: PRELIMINARY RESULTS FROM AN 18-MONTH LONGITUDINAL STUDY	DB2-7 [P2-38]
<p>DATABLITZ presenters present BOTH a 4-minute presentation AND a POSTER at ICRS2023.</p> <p>DATABLITZ abstract page numbers are indicated [IN BRACKETS].</p>		

Notes:

Presenting Author*

DATABLITZ SESSION 3

DAY 4, WEDNESDAY, JUNE 28TH: 15:30 - 16:00

Savannah Lightfoot*, Andrei Nastase, Gabriela Costa Lenz Cesar and Matthew Hill	INVESTIGATING THE EFFECTS OF ACUTE THC VAPOUR EXPOSURE ON AUDITORY FEAR CONDITIONING AND FEAR EXTINCTION	DB3-1 [P3-1]
Camila Alvarez*, Brandon Laurence Oliver, Natalie Elizabeth Zlebnik and Nicholas Vincent DiPatrizio	ROLE OF THE GUT-BRAIN ENDOCANNABINOID SYSTEM IN FOOD REWARD	DB3-2 [P3-3]
Mohammed Sarikahya*, Karen Wong, Samantha Cousineau, Marta De Felice, Matthew Jones, Anubha Dembla, Amanda Alcaide, Ken Yeung, Daniel Hardy, Walter Rushlow and Steven Laviolette	TARGETING THE BASOLATERAL AMYGDALA GLUTAMATERGIC SYSTEM TO REVERSE THE LONG-TERM IMPACTS OF PRE-NATAL THC EXPOSURE ON ANXIETY AND AFFECTIVE PHENOTYPES	DB3-3 [P3-4]
Tisi Annamaria, Carozza Giulia, Di Re Lucia, Giacobuzzo Giacomo, Scipioni Lucia, Oddi Sergio, Maccarone Rita and Maccarrone Mauro*	UP-REGULATION OF CANNABINOID RECEPTOR 2 (CB2) AND FATTY ACID AMIDE HYDROLASE (FAAH) IN THE RETINA OF A MOUSE MODEL OF ALZHEIMER'S DISEASE	DB3-4 [P3-13]
Maria Teresa Grande*, Samuel Ruiz de Martin Esteban, Maria Andrea Arnanz, Ana Maria Martinez Relimpio, Laura Martin Perez, Almudena Lopez Escobar, Ricardo Mostany, Cecilia Hillard and Julian Romero	CANNABINOID TYPE 2 RECEPTORS MODULATE MICROGLIA FUNCTIONS IN A MOUSE MODEL OF ALZHEIMER DISEASE	DB3-5 [P3-29]

Ariel Rothner*, Tom Gov, Liad Hinden, Alina Nemirovski, Joseph Tam and Barak Rosenzweig	SYSTEMIC CHANGES IN ENDOCANNABINOIDS AND ENDOCANNABINOID-LIKE MOLECULES IN RESPONSE TO PARTIAL NEPHRECTOMY-INDUCED ISCHEMIA IN HUMANS	DB3-6 [P3-30]
Riley Gournay*, Parker Williams, Danielle Fernandez, Mia Bingaman, Chloe Martinez, Jordyn Moore, Morgan Ferretti, Anna Marie Nguyen and Ellen Leen-Feldner	THE ACUTE VERSES REPEATED EFFECTS OF CANNABIDIOL ON WORRY AND ANXIETY: A DOUBLE-BLIND, RANDOMIZED PLACEBO CONTROLLED TRIAL	DB3-7 [P3-42]
<p>DATABLITZ presenters present BOTH a 4-minute presentation AND a POSTER at ICRS2023.</p> <p>DATABLITZ abstract page numbers are indicated [IN BRACKETS].</p>		

Notes:

Presenting Author*

POSTER SESSION 1: 66 POSTERS

DAY 1, SUNDAY, JUNE 25TH: 16:15 - 18:15

POSTER SESSION 2: 63 POSTERS

DAY 2, MONDAY, JUNE 26TH: 16:00 - 18:00

POSTER SESSION 3: 48 POSTERS

DAY 4, WEDNESDAY, JUNE 28TH: 16:00 - 18:00

ICRS 2023

JUNE 24 - 29 TORONTO

The **International Cannabinoid Research Society** is a non-political organization dedicated to Ph.D.-level investigation in all fields of cannabinoid research – with more than 500 international Members representing 50+ countries, our Symposia present peer-reviewed findings on the leading-edge of endogenous, plant-derived and synthetic cannabinoids and the related bioactive lipids.

Our annual ICRS Symposia are held worldwide – this year from Toronto, Canada. We invite you to join us for a brilliant, 4-day event of *cannabinoid science* at the beautiful Marriott Downtown at CF Toronto Eaton Centre.

Click the links below. See you all in June!

The ICRS is an U.S. 501(c)3 non-profit.

33rd Annual Symposium
on the Cannabinoids
June 24-29, 2023
Toronto, CANADA

www.icrs.com www.icrs2023.org

33 YEARS OF
EXCELLENCE IN
CANNABINOID
RESEARCH



ICRS 
INTERNATIONAL
CANNABINOID
RESEARCH
SOCIETY