

TABLE OF CONTENTS

Problems of Drug Dependence, 1990
Thomas Burks 1

Introduction of the Nathan B. Eddy Memorial Award
Louis S. Harris 4

Nathan B. Eddy Memorial Award Lecture
Charles R. Schuster 6

SYMPOSIUM I

DO OPIOIDS HAVE DIRECT EXCITATORY AS WELL AS INHIBITORY ACTIONS?

Intestinal Contractions: Excitatory Actions of Opioids
Thomas F. Burks, Lane D. Hirning and
Thomas H. Kramer 20

Opioids Can Produce a Concentration-Dependent Naloxone-Reversible Enhancement of Inhibition of Evoked Enkephalin Release
Alan R. Gintzler and Hong Xu 27

Opioids Can Evoke Direct Receptor-Mediated Excitatory as Well as Inhibitory Effects on Sensory Neuron Action Potentials
Stanley M. Crain and Ke-Fei Shen 34

Adenosine Release by Morphine and Spinal Antinociception: Role of G-Proteins and Cyclic AMP
Jana Sawynok, Donna J. Nicholson, Marva I. Sweeney,
and Thomas D. White 40

SYMPOSIUM II

BRAIN IMAGING AND DRUGS OF ABUSE

Metabolic Studies of Drugs of Abuse
Nora D. Volkow, Joanna S. Fowler, Alfred P. Wolf
and Hampton Gillespi 47

<i>Mapping the Metabolic Correlates of Drug-Induced Euphoria</i>	
Edythe D. London, Michael J. Morgan, Robert L. Phillips, June M. Stapleton, Nicola G. Cascella and Dean F. Wong,	54
<i>Effects of Ethanol, Diazepam and Amphetamines on Cerebral Metabolic Rate: PET Studies Using FDG</i>	
Harriet de Wit, John Metz and Malcom Cooper,	61
<i>Measurement of Brain Ethanol Concentrations in Humans With In Vivo Proton Magnetic Resonance Spectroscopy</i>	
Jack Mendelson, Bryan T. Woods, Tak-Ming Chiu, Nancy K. Mello, Scott E. Lukas, Siew Koon Teoh, and Pradit Sintavanarong,	68
SYMPOSIUM III	
OPIATES AND OTHER DRUGS OF ABUSE AND THE IMMUNE SYSTEM	
<i>Immunological Function in Active Heroin Addicts and Methadone-Maintained Former Addicts: Observations and Possible Mechanisms</i>	
Mary Jeanne Kreek,	75
<i>Immunomodulatory Activity of Kappa-, Mu-, and Delta-Selective Opioid Compounds</i>	
Thomas J. Rogers, Dennis D. Taub, Toby K. Eisenstein, Ellen B. Geller and Martin W. Adler,	82
<i>Immune Effects of Opiates in Test Tubes and Monkeys</i>	
Robert M. Donahoe,	89
<i>Neural Control of Immune Function: Opioids, Opioid Receptors and Immunosuppression</i>	
Richard J. Weber, Linda C. Band, Brian deCosta, Agu Pert and Kenner C. Rice,	96
<i>Opiate Binding Sites on Cells of the Immune System</i>	
John J. Madden, Arthur Falek, Robert Donahoe, David Ketelson and Curtis Len Chappel,	103
SYMPOSIUM IV	
REGULATION OF GENE EXPRESSION IN THE OPIOID SYSTEM	
<i>Prodynorphin Gene Expression in Neuronal and Endocrine Cell Types</i>	
James Douglass,	109
<i>Tissue-Specific Splicing of Pro-enkephalin mRNA</i>	
Richard D. Howells and Saranya Rao,	116
<i>Synaptic Regulation of the Enkephalin Gene and Transcription Factors In Vivo: Possible Roles in Drug Abuse</i>	
George R. Uhl, D. Appleby, T. Nishimori, M. G. Buzzi, and M. A. Moskowitz,	123

SYMPOSIUM V

CURRENT TRENDS IN THE CHEMISTRY OF MEDICATIONS FOR THE TREATMENT OF THE CHEMICAL DEPENDENCIES

IN MEMORIAM; ULRICH WEISS
Kenner C. Rice and James M. Cook 130

Inverse Agonists, Probes to Study the Structure, Topology and Function of the Benzodiazepine Receptor
James M. Cook, Hernando Diaz-Arauzo and Michael S. Allen 133

Synthetic and Biological Studies of Potential Affinity Ligands for the Cannabinoid Receptor Based on CP-55, 244
Scott Richardson, Seid Mirasadeghi, Allison Lynn, M. Ross Johnson, Lawrence S. Melvin, Miles Herkenham and Kenner C. Rice 140

Synthesis and Receptor Binding of Cocaine Analogs
Frank I. Carroll, M. Abdur Rahman, Abraham Philip, Anita H. Lewin, John W. Boja and Michael J. Kuhar . . . 147

Phenylalkylamine Stimulants, Hallucinogens, and Designer Drugs
Richard A. Glennon 154

SYMPOSIUM VI

THERAPEUTIC POTENTIAL OF OPIOID ANTAGONISTS

Use of Naltrexone for the Diagnosis and Treatment of Reproductive Hormone Disorders in Women
Jack H. Mendelson, Nancy K. Mello, Siew K. Teoh and James Ellingboe 161

Neuroendocrine (HPA) and Gastrointestinal Effects of Opiate Antagonists: Possible Therapeutic Application
Mary Jeanne Kreek and Joan Culpepper-Morgan 168

SYMPOSIUM VII

NEURAL OPIOID AND DOPAMINE INTERACTIONS IN DOPAMINE AND COCAINE DEPENDENCE

Cocaine-Induced Changes in Gene Expression in Rat Brain
Bruce M. Cohen, Tuong Van Nguyen and Steven E. Hyman 175

Opioid Involvement in the Rewarding Effects of Chronic Cocaine
Ronald P. Hammer, Jr., Daniel W. Clow and Linda P. Spear 182

Preclinical Evaluation of the Effects of Buprenorphine, Naltrexone and Desipramine on Cocaine Self-Administration
Nancy K. Mello 189

<i>Buprenorphine Treatment for Concurrent Heroin and Cocaine Dependence: Phase I Study</i>	
Jack H. Mendelson, Nancy K. Mello, Siew Koon Teoh, John Kuehnle, Pradit Sintavanarong and Karen Dooley-Coufos	196

SYMPOSIUM VIII

DIAGNOSING SUBSTANCE ABUSE AND DEPENDENCE AND OTHER PSYCHIATRIC DISORDERS

<i>Assessing Substance Abuse and Other Psychiatric Disorders: History of Problems, State of Affairs</i>	
Lee Robins	203
<i>The SCID: A Clinical Instrument for Assessing Psychiatric Disorders</i>	
Thomas R. Kosten, K. Bryant and B. J. Rounsaville	213
<i>The CIDI and CIDI-Substance Abuse Module (SAM): Cross-Cultural Instruments for Assessing DSM-III, DSM-III-R and ICD-10 Criteria</i>	
Linda B. Cottler	220
<i>Categorizing Substance Abusers Using the ASI: Implications for Evaluation and Treatment</i>	
A. Thomas McLellan, Mary Randall, Natalie Joseph and Arthur I. Alterman	227
<i>Diagnosing Personality Disorders in Substance Abusers</i>	
Helen Pettinati	236

SYMPOSIUM IX

ANTI-OPIATE PEPTIDES AS MEDIATORS OF OPIOID TOLERANCE AND DEPENDENCE

<i>The Actions of FMRF-NH₂ and FMRF-NH₂ Related Peptides on Mammals</i>	
Robert B. Raffa	243
<i>Animal Conflict, Analgesia and the Modulatory Effects of FMRFamide-Related Peptides</i>	
Martin Kavaliers	250
<i>FMRF-NH₂-Like Peptides as Antiopiates</i>	
Hsiu-Ying T. Yang, Elizabeth A. Majane and Jinmin Zhu	257
<i>Upregulation of Rat Brain Opioid Receptors by the Chronic Administration of Morphine: Possible Evidence for an Anti-Opiate Model of Tolerance and Dependence</i>	
Richard B. Rothman, Hsiu-Ying T. Yang and Joseph B. Long	264
<i>FMRF-NH₂ Like Mammalian Octapeptide in Opiate Dependence and Withdrawal</i>	
David H. Malin, J. Ronald Lake, Maria V. Hammond, David E. Fowler, Juan E. Leyva, Robert B. Rogillio, Joy B. Sloan, Thomas M. Dougherty and and Karen Ludgate	271

POSTER SESSION I

Illicit Drug Use During Pregnancy: Effects of Opiates and Cocaine on Human Placenta
M. S. Ahmed, D. Zhou, T. Schoof, C. Spong,
K. Sagduyu, A. Agbas and D. Maulik. 270

Substance Abuse Patterns in Pregnant Women
Janet S. Knisely, Evelyn R. Spear, Diane J. Green,
James T. Christmas and Sidney H. Schnoll. 280

Specificity of Conditional Responding to Naturalistic Stimuli in Humans With Different Drug-Use Histories
Ronald N. Ehrman, Steven J. Robbins,
James R. MacRae and Anna Rose Childress 282

A Comparison of Drug Use and Adjustment in Urban Adolescent Children of Substance Abusers
Janet Gross and Mary E. McCaul. 284

College Undergraduate Drug Use and Life-Styles, 1969, 1978 and 1989
Martin Ionescu-Pioggia, Deep Varma, Harrison Pope
and Jonathan Cole. 285

Impulsivity and Substance Abusers: Changes With Treatment and Recovery
J. M. Jensen, H. M. Pettinati, B. D. Evans,
K. Meyers and V. N. Valliere. 207

Cathinone, A Phenylpropylamine Alkaloid from Khat Leaves that Has Amphetamine Effects in Humans
P. Kalix, S. Geissshusler, R. Brenneisen,
U. Koelbing and H.-U. Fisch 289

A Substance Abuse Consultation Service: Characteristics of Patients and Pedagogical Potential
F. R. Levin, W. W. Weddington, C. A. Haertzen,
A. Cohen and D. A. McDuff 291

Preliminary Report on Psychiatric Comorbidity in Adolescent Substance Abusers
Spyros J. Monopolis, Robert K. Brooner,
Regina M. Jadwisiak, Emily Marsh and
Chester W. Schmidt, Jr. 293

Putative Aminoalkylindoles (AAI) Antagonists
F. M. Casiano, R. Arnold, D. Haycock, J. Kuster
and S.J.Ward. 295

Evaluation of Ether and Free Hydroxyl Analogs of Delta-8, Delta-9, and Delta-9,11-THC as Cannabinoid Antagonists
D. R. Compton, W. R. Prescott, C. S. Siegel,
P. M. Gordon, R. K. Razdan and B. R. Martin. 297

Delta-9-THC Interactions With PCP and Ethanol in Fats Responding Under a Fixed Consecutive Number Schedule
Pamela Doty, Mitchell J. Picker and
Linda A. Dykstra 299

Conformationally Restrained Aminoalkylindoles: Potent, Stereoselective Ligands at the Cannabinoid Binding Site	
K. G. Estep, T. E. D'Ambra, E. M. Olefirowicz, M. R. Bell, M. A. Eissenstat, D. A. Haycock and S. J. Ward	300
Cannabinoid-Like Effects of Aminoalkylindole Compounds on the Physical Properties of Brain Membranes: Fluorescence Polarization Studies	
J. C. Moldovan, S. J. Ward and A. S. Bloom	302
Characterization of Aminoalkylindole Binding: Selective Displacement by Cannabinoids	
D. A. Haycock, J. E. Kuster, J. I. Stevenson, S. J. Ward, and T. D'Ambra	304
Marijuana Use by Methadone Maintenance Patients	
Andrew J. Saxon, Donald A. Calsyn, Paul A. Blaes. Virginia M. Haver and Diane M. Greenberg	306
Response to Marijuana as a Function of Potency and Breathhold Duration	
James P. Zacny, and L. D. Chait	308
Human Avoidance Responding With Added Point Loss During Acute Tobacco Abstinence	
Don R. Cherek, Robert H. Bennett and Ralph Spiga	310
The Role of Nicotine Titration in the Smoking Behavior	
C. Cohen, J. Le Houezec, C. Martin and R. Molimard	311
Smoking Cessation, Depression and Dysphoria	
Sharon M. Hall, Ricardo Munoz and Victor Reus	312
Effect of Repeated Nicotine Administration in Nonsmokers	
Stephen J. Heishman, Frederick R. Snyder and Jack E. Henningfield	314
Smoking Cessation for Adolescent Substance Users: Preliminary Considerations	
J. L. Jaeger, K. Meyers and P. Sargiotto	316
Behavioral and Subjective Effects of Buspirone and Lorazepam in Sedative Abusers: Supra-therapeutic Doses	
T. S. Critchfield, and R. Griffiths	318
Diazepam Preference in Males With and Without a Family History of Alcoholism	
Harriett de Wit	319
Divided Attention Task Performance in Women With and Without Familial Alcoholism	
B. W. Lex, E. M. Rhoades, S. K. Teoh and J. H. Mendelson	321

Differential Craving Between Recovering Abstinent Alcoholic-Dependent Subjects and Therapeutic Users of Benzodiazepines
 Irwin Lucki, Joseph R. Volpicelli and Edward Schweizer 322

Human Aggressive Responding: Effects of Response-Cost and Ethanol
 Ralph Spiga, Don R. Cherek and Robert H. Bennett . . . 324

The Discriminative Stimulus Effects of Abecarnil
 Nancy A. Ator. and Roland R. Griffiths 325

Reduced Amplitudes of Somatosensory Evoked Potentials Observed After Chronic Ethanol Exposure
 Cathy J. Bogart and Larry P. Gonzalez 326

Behavioral Effects of Chronic Abecarnil Administration in Baboons
 Christine A. Sannerud, and Roland R. Griffiths 320

Self-Injection of Barbiturates, Benzodiazepines and Other Sedative-Anxiolytics in Baboons
 Roland R. Griffiths, Christine A. Sannerud, Richard J. Lamb, Nancy A. Ator and Joseph V. Brady. 325

Effect of (-) and (+) Nicotine on [3H]DA Uptake and Release in Rat Striatum
 S. Izenwasser, H. M. Jacocks and B. M. Cox 330

Studies of the Effect of Nicotine on Synaptosomal Calcium Accumulation Using FURA-2
 Cecelia J. Hillard and Wendy K. Graf 331

Lack of Neurotoxicity After Intra-Raphe Micro-Injections of MDMA ("Ecstasy")
 Joseph M. Paris and Kathryn A. Cunningham 333

[3H]1,3-D1(2-Toly)Guanidine Labels Two High Affinity Binding Sites in Guinea Pig Brain: Evidence for Allosteric Regulation by Calcium Channel Blockers and Sigma Liganda
 Richard B. Rothman, Artin Mahboubi, Audrey A. Reid, Chong-Ho-Kim, Brian R. deCosta, Arthur E. Jacobson and Kenner C. Rice. 335

Synthesis and Anticonvulsant Activity of Dextromethorphan Analogs
 F. C. Tortella and A. H. Newman. 337

The Competitive NMDA Receptor Antagonist, CPP, Allosterically Modulates NMDA Receptor Associated PCP Binding Sites in the Absence of Steric Hinderance
 A. A. Reid, W. D. Bowen, C. Setterlund and R. B. Rothman. 339

Dextromethorphan Inhibits But Dextrorphan Potentiates Behavior Induced By PCP and Ketamine in Rats
 J. I. Szekely. L. G. Sharpe and J. H. Jaffe 341

Effects of Subject Expectancy on the Disposition of Tetrahydrocannabinol (THC) from Smoked Hashish Cigarettes
 J. Cami, D. Guerra, B. Ugena, J. Segura and R.de la Torre 345

POSTER SESSION II

HIV Infection in Female Intravenous Drug Abusers (IVDAs) of Childbearing Age in NYC Drug Clinics and Their Demographic Profile
 David C. Ajuluchukwu, Lawrence S. Brown, Jr., Janet Mitchell, Rosalind Thompson and April M. Harris 346

Factors Associated with Elevated Risk of HIV Among Hispanic IVDAs
 Mark E. Barrett and Robert J. Battjes. 348

HIV-Risk Behaviors Among a Middle Class Population: A Preliminary Investigation Among Adolescent vs. Adult Substance Users
 K. Meyers, J. L. Jaeger, V. N. Valliere, J. M. Jensen, H. M. Pettinati, B. D. Evans and P.Sargiotto 351

Chronic Cocaine-Induced Supersensitivity is Blocked by Co-treatment With the Peptide Cycle-(Leu-Gly)
 Larry P. Gonzalez, Janet F. Czachura and Kevin W. Brewer. 353

Differential Dopaminergic Potency of Cocaine, Procaine and Lidocaine Infused Locally in the Nucleus Accumbens In Vivo with Calibration by Capillary Electrophoresis
 L. Hernandez, N. A. Guzman, and B. G. Hoebel 355

Genetic Differences in the Development of Cocaine-Kindled Seizures
 R. J. Marley, J. M. Witkin and S. R. Goldberg 357

Preliminary Evidence that the High Affinity Dopamine Reuptake Inhibitor, GBR12909, Antagonizes the Ability of Cocaine to Elevate Extracellular Levels of Dopamine.
 Richard B. Rothman, Andrea Mele, Audrey A. Reid, Hyacinth Akunne, Nigel Grieg, Andrew Thurkauf, Brian R. deCosta, Kenner C. Rice and A. Pert 359

Lack of a Genetic Correlation Between the Convulsant and Epileptogenic Effects of Cocaine and Lidocaine
 J. M. Witkin, S. R. Goldberg and R. J. Marley. 361

Day Hospital Versus Inpatient Cocaine Dependence Rehabilitation: An Interim Report
 Arthur I.Alterman 363

A Treatment Crisis: Cocaine Use by Clients in Methadone Maintenance Programs
 A. F. Kolar, B. S. Brown, W. W. Weddington and J.C.Ball 365

An open Pilot Study of Bupropion and Psychotherapy for the Treatment of Cocaine Abuse in Methadone-Maintained Patients
 Arthur Margolin, Thomas Kosten, Ismene Petrakis
 S. Kelly Avants and Therese Kosten. 367

Incidence of Personality Disorders in Cocaine vs. Alcohol-Dependent Females
 H. M. Pettinati, R. A. Cabezas, J. Jensen,
 B. D. Evans and K. Meyers. 369

Clinical Features of Cocaine Induced Paranoia
 Sally L. Satel, Steven M. Southwick and
 Frank H. Gawin 371

Liver Function Tests in Non-parenteral Cocaine Users
 Javier Tabasco-Minguillan, David M. Novick
 and Mary Jeanne Kreek. 372

Evidence for Kinetic Disparity Among Pertussis Toxin Substrate G-Proteins Coupled to Opiate Receptors
 Donna J. Carty 373

Stereospecificity of Mixed-Action Opioid Agonist/Antagonists in Morphine-Tolerant Squirrel Monkeys
 Linda A. Dykstra, Mitchell J. Picker and
 Kelly Powell 375

The Effect of Prenatal Methadone Exposure on Development and Nociception During the Early Postnatal Period of the Rat
 E. Karl Enters, Hongzhi Guo, Usha Pandey,
 Daijin Ko and Susan E. Robinson 376

Design and Synthesis of Opioid Receptor Selective Enkephalin Analogues
 Catherine A. Gehrig, Om Prakash, Geza Toth and
 Victor J. Hruby 378

Pharmacological Properties of (+)-Buprenorphine and (+)-Diprenorphine
 N. A. Grayson, R. B. Rothman, H. Xu and
 K.C. Rice 380

Factors Influencing Self-Administration of Aerosol Sufentanil in Rats
 A. B. Jaffe, L. L. Weinhold and L. G. Sharpe 382

Effects of Oxymorphone on Morphine Induced-Antinociception in Mice and Rats
 Q. Jiang, Kenner C. Rice, Brian deCosta
 and Frank Porreca 384

Involvement of Spinal Adenosine in Descending Antinociception Produced by Supraspinal Receptor-Selective Opioid Agonists
 Zhiwei Li, Gary E. DeLander and Frank Porreca 386

Oxide-Bridged 5-Phenylmorphans as Probes for Narcotic Receptor Mediated Phenomena
 J. T. M. Linders, T. R. Burke, A. E. Jacobson
 and K.C. Rice 388

Antagonism of Mu and Kappa Opioids: Effects on Schedule-Controlled Behavior in Pigeons Sondra R. Mattox, Mitchell J. Picker and Linda A. Dykstra	390
[D-Met2]-FMRFamide (DMFa): Production of Naloxone-Sensitive Antinociception in Mouse Tail-Flick Test Robert B. Raffa and Charlene D. Connelly.	391
A Computer-Aided Investigation into the Role of Hydrogen Bonding in the Binding Conformation of the Endo-Ethenotetrahydrooripavine, PEO Simon F. Semus	393
Effects of Opiate Agonists and Antagonists on Cerebral Metabolic Activity in the Conscious Rat Elliot A. Stein and Scott A. Fuller	395
Opioid and Non-Opioid Behavioral Actions of Dynorphin A and the Dynorphin Analogue DAKLI Keith A. Trujillo and Huda Akil	397
Involvement of a Peripheral Component in the Antinociceptive Effects of Opioids in a Model of Tonic Pain Helen Wheeler-Aceto and Alan Cowan	399
Differential Effects of Calcitonin Gene-Related Peptide In Tests Utilizing Thermal Versus Nociceptive Stimuli S. P. Welch, D. L. Stevens and W. L. Dewey	401
Lack of Irreversible Antagonism of Opioid δ Receptors by [D-ala², Leu⁵, Cys⁶]Enkephalin in the Mouse Isolated vas Deferens Preparation Kenneth D. Wild, Qi Jiang, Maria Iannone, Wayne Bowen and Frank Porreca	402
Nonpeptide Opioids: In Vivo Effects on the Immune System Wanda Williams, Kenner C. Rice and Richard J. Weber	404
Distribution of Opioid Peptides in Brain and GI Tract: Age- and Species-Specific Differences E. M. Unterwald, F. Nyberg, L. Terenius and M. J. Kreek	408
Pseudoirreversible Binding of Opiates to Opioid Receptor Subtypes in Rat Brain: A Quantitative Study Heng Xu, Chong-Ho Kim, Y. C. Zhu, Richard J. Weber, Kenner C. Rice and Richard B. Rothman	410
Modulation of NK Activity: Role of Neuroendocrine Status G. Bodner, K. M. Soda, J. Kennedy, H. Albeck and M. J. Kreek	412
Dependence-Producing Drug Testing in Opiate Users in Warsaw, Poland T. I. Chrusciel and H. Tobolska-Rydz	414

Metirapone-Induced Withdrawal Symptoms: Symptoms in Methadone-Maintained Patients
 J. A. Kennedy, N. Hartman, R. Sbriglio, E. Khuri,
 H. Albeck and M. J. Kreek. 416

Cardiovascular Components of the Response to Morphine
 Mary Beth Pretorius, Conrad J. Wong and
 David B. Newlin. 417

Factors Influencing Assessment of Opioid Miosis in Humans
 L. L. Weinhold and G. E. Bigelow. 419

ORAL COMMUNICATIONS I

BASIC PHARMACOLOGY: CANNABINOIDS AND OTHER DRUGS OF ABUSE

The Evaluation of Synthetic Cannabimimetic Congeners For Discriminative Stimulus and Cataleptogenic Effects in Rats
 William R. Prescott and Billy R. Martin 421

Spinal Action of Cannabinoid-Induced Antinociception
 Aron H. Lichtman and Billy R. Martin. 422

Aminoalkylindoles (AAIs): A New Route to the Cannabinoid Receptor?
 Susan J. Ward, E. Baizman, M. Bell, S. Childers,
 T. D'Ambra, M. Eissenstat, K. Estep, D. Haycock,
 A. Howlett, D. Luttinger, M. Miller and
 M. Pacheco 425

Aminoalkylindoles (AAIs): Structurally Novel Cannabinoid-Mimetics
 M. A. Eissenstat, M. R. Bell, T. E. D'Ambra,
 K. G. Estep, D. A. Haycock, E. M. Olefirowicz
 and S.J.Ward. 427

Importance of Reactive Metabolites to the In Vivo Hepatic Clearance of Phencyclidine (PCP)
 M. A. Zorbas and S. M. Owens 429

Influence of Phencyclidine (PCP) Pharmacokinetics on PCP Dependence After i.v. and s.c. Routes of Administration
 William D. Wessinger and S. Michael Owens. 431

Withdrawal from Nicotine Fails to Produce a Conditioned Taste Aversion to Saccharine in Rats and Mice
 Heidi F. Villaneuva, John R. James, Shahwali Arezo
 and John A. Rosecrans. 433

[3H]AHN 070: A High Affinity Irreversible Radioligand for Characterization of Peripheral Benzodiazepine Receptors
 A. H. Newman, R. T. McCabe, J. A. Schoenheimer and
 P. Skolnick. 435

Synthesis and Evaluation of Novel BTCP Based Affinity Ligands for the Dopamine Reuptake Complex
 Brian R. deCosta, Richard R. Rothman, Hyacinth
 Akunne, Arthur E. Jacobson and Kenner C. Rice. 437

Role of NMDA Receptors in Methamphetamine-Induced Changes in Extrapyramidal and Limbic Neuropeptide Systems	G. R. Hanson, N. Singh, L. Bush and J. W. Gibb	439
ORAL COMMUNICATIONS II		
ABUSE POTENTIAL EVALUATION		
The Relationship Between Cocaine Venous Blood Levels and the Cardiovascular and Subjective Effects of Smoked and Intravenous Cocaine In Humans	Richard W. Foltin and Marian W. Fischman	440
Low Doses of Caffeine Can Serve as Reinforcers in Humans	A. H. Oliveto, J. R. Hughes, S. L. Pepper, W. K. Bickel and S. T. Higgins	442
Assessment of Mazindol for Abuse Liability	W. B. Pickworth, S. A. Klein, E. B. Bunker and J. E. Henningfield	443
Low-Dose Caffeine Discrimination in Normal Humans	Kenneth Silverman and Roland R. Griffiths	444
Low Dose Caffeine Physical Dependence in Normal Subjects: Dose-related Effects	Suzette M. Evans and Roland R. Griffiths	446
The Effects of Deprivation on the Reinforcing Efficacy of Smoking	L. H. Epstein, C. M. Bulik, K. A. Perkins and A. R. Caggiula	448
Acute Opioid Physical Dependence in Humans: Effects of Varying the Morphine-Morphine Interval	Kimberly C. Kirby and Maxine L. Stitzer	449
Acute Physical Dependence in Opiate-Naive Humans	Julian L. Azorlosa and Maxine L. Stitzer	451
Relative Abuse Liability and Pharmacodynamics of Transnasal and Intramuscular Butorphanol	John T. Sullivan, Kenzie L. Preston, Margaret P. Testa and Donald R. Jasinski	452
Changes in Mood, Craving and Sleep During Acute Abstinence Reported by Male Cocaine Addicts	William W. Weddington, Barry S. Brown, Edward J. Cone Charles A. Haertzen, Elizabeth M. Dax, Ronald I. Herning and Barry S. Michaelson	453
Double Blind Assessment of Buprenorphine Withdrawal In Opiate-Addicts	L. Sam. J. Cami, T. Fernandez, J. M. Olle, J. M. Peri and M. Torrens	455

ORAL COMMUNICATIONS III

EPIDEMIC AND PUBLIC POLICY

Use and Abuse of Prescription and Recreational Drugs by Chronic Pain Patients
Deborah L. Haller and Stephen Butler 456

Nicotine Dependence in an Urban Population of Young Adults: Prevalence and Co-morbidity with Depression, Anxiety and Other Substance Dependencies
Naomi Breslau, Patricia Andreski and M. Marlyne Kilbey 458

Drug Use and Abuse at Historical Black Colleges
Julius Debro 460

Drugs Use in Women With Bulimia and Anorexia Nervosa
Cynthia M. Bulik, Leonard H. Epstein, Monica McKee and Walter Kaye 462

Oat Use in New York City
Dallas L. Browne 464

Patterns of Drug Abuse Treatment Utilization in a General Population
Rumi K. Price, Linda B. Cottler and Lee N. Robins 466

Opening the "Black Box" of Drug Abuse Treatment-Measurement and Evaluation of the Treatment Domain
John C. Ball 468

Alerting Drug Abusers to Overdose Threats: The Media's Role
James L. Sorensen, Julie London, Rachel Wolfe, Donald Tusel, Allyson Washburn, Kyung-Hee Choi and Denyse Lee 469

A Historical Perspective on British and American Drug Policies
John J. Rouse and Bruce D. Johnson 471

ORAL COMMUNICATIONS IV

HIV INFECTION AND AIDS

Predictors of HIV Seropositivity in Newark and Jersey City i.v. Drug Users Not Currently Enrolled in Treatment
Martin Y. Iguchi, Mitchell Rosen, Harvey Musikoff, Harvey Kushner, John French, Robert Baxter, Victor Lidz, Jerome J. Platt and Christine Grant . . . 473

Needle Sharing Behaviors Associated With HIV Among Intravenous Drug Users (IVDUs): A Two-year Study
Kenneth Foster, Tooru Nemoto, Lawrence S. Brown, Jr. and Robert J. Battjes 475

Ibogaine Fails to Reduce Naloxone Precipitated Withdrawal in the Morphine Dependent Rat
L. Sharpe and J. Jaffe 477

HIV Infection in Intravenous Drug Abusers (IVDAs) in NYC Drug Treatment Clinics: 1985-1989	
L. S. Brown, Jr., R. Y. Phillips, D. Nurco, B. Primm, R. Battjes, and T. Nemoto.	470
The Role of Cocaine Use in the HIV Transmission Among IVDUs: 1987 and 1988 Cohort Study	
Tooru Nemoto, Lawrence S. Brown, Jr., Robert J. Battjes, Alvin Chu and Kenneth Foster	480
Effect of Education on High Risk HIV Transmission Behaviors	
Donald A. Calsyn, Andrew J. Saxon, George Freeman, Jr. and Stephen Whittaker	482
New York City's Needle Exchange Experiment: Policy Implications From its First Year	
Cherni L. Gillman.	484
Diseases Commonly Found in the Drug Abuser: Is There More Than HIV?	
M. J. Hickson, L. S. Brown, R. Y. Phillips, D. A. Ajuluchukwu and T. Nemoto	486
Intravenous Drug Abusers With Antisocial Personality Disorder: High Rate of HIV-1 Infection	
Robert K. Brooner, George E. Bigelow, Lawrence Greenfield, Eric C. Strain and Chester W. Schmidt	488
Psychiatric Symptoms, High Risk Behaviors and HIV Positivity Among Methadone Patients	
David S. Metzger, George E. Woody, Dominick DePhillipis, Helen Navaline, A. Thomas McLellan and Charles P. O'Brien	490
Preliminary Results of Polymerase Chain Reaction (PCR) Testing of Elisa Negative IVDUs in Methadone Treatment	
George Woody, David Metzger, Brian Wu Patrick Druley, A. Thomas McLellan and Charles P. O'Brien	492
ORAL COMMUNICATIONS V	
TREATMENT OF COCAINE ABUSE AND DEPENDENCE	
Pre-treatment Natural History of Cocaine Addiction	
Hari K. Khalsa, M. Douglas Anglin and Alphonso Paredes	494
Behavioral and Cardiovascular Effects of Cocaine and Alcohol Combinations in Humans	
S. T. Higgins, W. K. Bickel, J. R. Hughes, M. Lynn, and M. A. Capeless	501
Relapse to Cocaine Use Following Treatment: Preliminary Findings on the Role of Social Support	
Barbara E. Havassy, Sharon M. Hall, and David M. Wasserman	502
Effects of Bromocriptine on Subjective and Autonomic Responses to Cocaine-Associated Stimuli	
Henry R. Kranzler and Lance O. Bauer	505

Effects of Cocaine Alone and in Combination With Bromocriptine in Human Cocaine Abusers	
Kenzie L. Preston, John T. Sullivan, Eric C. Strain and G.E. Bigelow	507
Concurrent Effects of Acute Intravenous Cocaine in Context of Chronic Desipramine in Humans	
Glenn Pickett, Thomas R. Kosten, Frank H. Gawin, R. Byck, J. Fleming, D. Silverman, T. A. Kosten and P. Jatlow	508
Amantadine and Desipramine for Cocaine Abusing Methadone Patients	
T. R. Kosten, C. H. Morgan and R. S. Schottenfeld . . .	510
Clinical Trial of Multiple Treatment Agents for Cocaine Dependence: A Placebo-Control Elimination Study	
Forest Tennant	512
Mazindol Treatment of Cocaine Abuse. A Double-Blind Investigation	
I. A. Diakogiannis, M. Steinberg and T. R. Kosten . . .	514
Evaluation of the 5HT₃ Antagonist Ondansetron (O) for Cocaine (C)-Like Activity and Abuse Potential	
Donald R. Jasinski, Kenzie L. Preston, Margaret Testa and John T. Sullivan	515
Fluoxetine for Cocaine Abuse in Methadone Patients: Preliminary Findings	
Steven L. Batki, Luisa B. Manfredi, James L. Sorensen, Peyton Jacob, Roland Dumontet and Reese T. Jones	516
ORAL COMMUNICATIONS VI	
OPIOID PHARMACOLOGY I	
Identification of a Novel Class of Highly Potent Sigma Ligands Related to the Kappa-Selective Agonist U50,488	
Lilian A. Radesca, Brian R. de Costa, Wayne D. Bowen, Lisa J. DiPaolo and Kenner C. Rice	518
Comparison of Binding Affinities and Adenylate Cyclase Inhibition for the Determination of Efficacy at μ-Opioid Receptors in a Neuroblastoma Cell Line	
Lawrence Toll	520
In Vitro d-Amphetamine and Cocaine Increase Opioid Binding in Mouse Brain Homogenate	
B. C. Yoburn. K. Lutfy and V. Sierra	522
Opiate-Induced Inhibition of Calcium Flux in Immune	
Yoshitatsu Sei, Todd D. McIntyre, Ester Fride, Kohji Yoshimoto, Phil Skolnick and Prince K. Arora	524
The Effect of Morphine Tolerance-Dependence and Abstinence on μ, δ, and κ Opiate Receptors of Discrete Brain Regions and Spinal Cord of the Rat	
Hemendra N. Bhargava and Anil Gulati'	530

Sustained Release Injectable Naltrexone Microcapsules E. S. Nuwayser, D. J. DeRoo, P. D. Balskovich, and A.G. Tsuk	532
---	-----

ORAL COMMUNICATIONS VII

REPRODUCTION AND FAMILY STUDIES

Acute Effects of Secobarbital and Ethanol as a Function of Family Alcoholism History Mary E. McCaul, Jaylan S. Turkkan, Dace S. Svikis and George E. Bigelow	534
---	-----

Neurofunctional Consequences of in Utero Cocaine Exposure Bernard Z. Karmel, Judith M. Gardner and Catherine L. Magnano	535
--	-----

New Trends in Infant Pain Management: Potential for Opiate Dependence C. R. McLaughlin, J. G. Hull and C. P. Cramer	537
---	-----

ORAL COMMUNICATIONS VIII

COCAINE BASIC PHARMACOLOGY

Cocaine, Catecholamines and Cardiac Toxicity Gabriel G. Nahas, Renaud Trouve and William M. Manger	539
---	-----

Chronic Cocaine Administration and Withdrawal from Cocaine Modify Central Neurotensin Receptors in Rats N. S. Pilotte, W. M. Mitchell, L. G. Sharpe, E. De Souza and E. M. Dax	541
---	-----

Effects of Chronic Cocaine on the Behavioral and Immunological Effects of Chronic Stress in Mice David J. Mokler, Kathleen M. Correia and James E. Novotny	543
---	-----

Sensitization to Cocaine Produced by Injection of Pertussis Toxin into the A10 Dopamine Region J. D. Steketee and P. W. Kalivas	545
---	-----

Evidence for High and Low Affinity [3H]Cocaine Binding Sites Associated with the Serotonin Reuptake Complex in Guinea Pig Brain: Allosteric Modulation by Paroxetine Hyacinth Akunne, Brian R. deCosta, Kenner C. Rice Arthur E. Jacobson and Richard B. Rothman	547
---	-----

ORAL COMMUNICATIONS IX

OPIOID PHARMACOLOGY II

Intrathecal Morphine and Insulin Cause Hypoglycemia in Mice by Different Mechanisms D. A. Brase, H. L. Tripathi and W. L. Dewey	549
---	-----

Potentiation of Reward by Food Deprivation is Blocked by Antibodies to Dynorphin A Kenneth D. Carr	551
--	-----

Immunosuppressive Agent Modulates the Severity of Opiate Withdrawal
 N. Dafny, P. M. Dougherty and D. Drath 553

Opioid Self-Administration Contingent on Physiologic Parameters
 Kenneth Grasing and Hazel Szeto 556

In Vivo Concentration-Response Relationships For Fentanyl: Absence of Acute Tolerance in the Rat Tail-Flick Test.
 Thomas H. Kramer, Elizabeth A. Ayres and Thomas F. Burks 558

Epidural and Intrathecal Administration of Sufentanil, Alfentanil and Morphine in the Dog: A Comparison of Analgesic Effects and the Development of Tolerance
 Paul J. Tiseo, Marc B. Sabbe and Tony L. Yaksh 560

Intraspinal Opioids in Frogs: A New Behavioral Model For the Assessment of Opioid Action
 Craig W. Stevens 561

ORAL COMMUNICATIONS X

CLINICAL PHARMACOLOGY OF ABUSED DRUGS

Chronic Tolerance to Nicotine's Effects on Suppressing Hunger and Caloric Intake
 Kenneth A. Perkins, Leonard H. Epstein, Richard L. Stiller, J.E. Sexton and Rolf G. Jacob 563

Acute Marijuana Smoking Reduces Vagal Tone
 David B. Newlin, Mary Beth Pretorius, Conrad J. Wong and Elizabeth M. Dax 565

Short-Term D9-tetrahydrocannabinol (THC) Does Not Affect Neuroendocrine or Immune Parameters
 E. M. Dax, N. S. Pilotte, W. H. Adler, J. E. Nagel and W.R. Lange 567

Elevated Drug Saliva Levels Suggest A "Depot-Like" Effect in Subjects Treated With Sublingual Buprenorphine
 E. J. Cone, S. L. Dickerson, W. D. Darwin, P. Fudala and R. E. Johnson 569

Interaction of Cocaine With Ethanol:
 M. Farre, M. Llorente, B. Ugena, X. Lamas and J. Cami 570

Cocaethylene Inhibits Uptake of Dopamine and Can Reach High Plasma Concentrations Following Combined Cocaine and Ethanol Use
 P. Jatlow, W. L. Hearn, J. D. Elsworth, R. H. Roth, C. W. Bradberry and J.R. Taylor 572

Acute Tolerance to Cocaine Pressor Effects in Humans
 John J. Ambre 574

Pharmacologic Effects of Methamphetamine Vapor Inhalation (Smoking) in Man	
Mario Perez-Reyes, Reid White, Susan McDonald, Judy Hill, Robert Jeffcoat and C. Edgar Cook	575
Plasma Levels of Methamphetamine After Smoking of Methamphetamine Hydrochloride	
C. Edgar Cook, A. Robert Jeffcoat, Mario Perez-Reyes, Brian M. Sadler, Judith M. Hill, W. Reid White and Susan McDonald	578
Alcohol Effects on HCG Stimulated Conadal Hormones in Women	
Siew Kooh Teoh, Jack H. Mendelson, Nancy K. Mello, Alicja Skupny and J. Ellingboe	580
ORAL COMMUNICATIONS XI	
TREATMENT OF OPIOID DEPENDENCE	
Medical Methadone/Interim Report	
Edward Senay, Andrea G. Barthwell, Robert Marks Richard White	582
The Effects of Buprenorphine in Methadone-Dependent Volunteers	
E. C. Strain, G. E. Bigelow, K. L. Preston and I. Liebson	584
Outpatient Comparison of Buprenorphine and Methadone Maintenance. I. Effects on Opiate Use and Self-Reported Adverse Effects and Withdrawal Symptomatology	
Rolley E. Johnson, Paul J. Fudala and Jerome H. Jaffe	585
Outpatient Comparison of Buprenorphine and Methadone Maintenance. II. Effects on Cocaine Usage, Retention Time in Study and Missed Clinic Visits	
Paul J. Fudala, Rolley E. Johnson and Jerome H. Jaffe	507
Methadone Maintenance Outcome As A Function of Detoxification Fear: Preliminary Findings	
Jesse B. Milby, Mary Gentile, Mary Kaye Sims, A. Thomas McLellan, George Woody and Neil Haas	509
ORAL COMMUNICATIONS XII	
DIAGNOSIS, ASSESSMENT AND SYMPTOMATOLOGY	
Comparison of SCID and LEAD Standard Diagnoses for Drug and Psychiatric Disorders	
K. J. Bryant, B. J. Rounsaville and T. F. Babor	591
Utility of the Cognitive Status Examination (CSE) For Detection of Neuropsychological Impairment in Substance Abuse Patients	
R. Gillen, H. Kranzler, R. Kadden and M. Wiedenman	595
Use of Psychopathy Checklist With Opiate Addicts	
John S. Cacciola, M. Rutherford, and A.I. Alterman	597

Problems Associated With the Assessment of Personality Disorders in Substance Abusers
 Bernard Gaulier, Steve F. Butler and Deborah L. Haller. 599

Symptom Clustering of Substance Dependence and Abuse: Examining Internal Validity of DSM-III, and IIIR Symptom Criteria
 Rumi K. Price, John E. Helzer, Linda B. Cottler, and Lee N. Robins. 601

Cocaine Symptoms Are Predicted by Familial Psychopathology
 Therese A. Kosten, Thomas R. Kosten and Bruce J. Rounsaville. 603

Alterations in the Distribution of the Auditory P300 Evoked Response Potential: Similarities Between Ethanol and Divided Attention Task Performance
 Scott E. Lukas, Jack H. Mendelson, Elena Kouri, Michelle Bolduc and Leslie Amass. 605

Nicotine Effects in EEG Spectral Data: Smokers vs. Non-smokers
 Janet Brigham and Ronald I. Herning 607

Quantitative EEG Studies of Chronic THC Abuse: (1) Replication of Topographic Findings, (2) Within EEG Band Spectral Power Shifts, (3) Discriminant Function Analysis of Chronic Use vs Non-use
 F. Struve, J. Straumanis, G. Patrick and Y. Raz 608

Auditory Evoked Response Brain Potentials in Individuals at Risk for Alcoholism: Influence of Task Demands and Motivational Factors
 Leslie Amass, Scott E. Lukas and Jack H. Mendelson 610

ORAL COMMUNICATIONS XIII

COCAINE BEHAVIORAL PHARMACOLOGY

Cocaine Interaction With Sulpiride, Methysergide, Naloxone and Desipramine: Neurophysiological Effects of Mesolimbic and Neostriatal Neuronal Activity
 P. M. Dougherty, J.-T. Qiao, R. C. Wiggins and N. Dafny 612

Changes in the Behavioral Effects of Cocaine by Magnesium in Squirrel Monkeys
 Kathleen M. Kantak 615

Effects of Naltrexone on Cocaine Self-Administration
 Nancy K. Mello, Jonathan B. Kamien, Jack H. Mendelson and Scott E. Lukas. 617

Buprenorphine Suppresses Cocaine Self-Administration by Rhesus Monkeys Over 1 to 4 Months of Daily Treatment
 Jonathan B. Kamien, Nancy K. Mello, Jack H. Mendelson and Scott E. Lukas. 619

<i>Cocaine vs. Food Choice in Rhesus Monkeys: Effects of Increasing the Response Cost for Cocaine</i>	
Michael A. Nader and William L. Woolverton	621

ANNUAL REPORTS

<i>Biological Evaluation of Compounds for Their Physical Dependence Potential and Abuse Liability. XIV. Animal Testing Committee of the Committee on Problems of Drug Dependence, Inc. (1990)</i>	
Arthur E. Jacobson	622

<i>Dependence Studies of New Compounds in the Rhesus Monkey and Mouse (1990)</i>	
Mario D. Aceto, Edward R. Bowman, Louis S. Harris and Everette L. May	640

<i>Evaluation of New Compounds for Opioid Activity; Compounds for Opioid Activity (1990)</i>	
James H. Woods, Fedor Medzihradsky, Charles B. Smith, Gail D. Winger and Charles P. France	682

Subject Index	725
-------------------------	-----

Author Index	751
------------------------	-----

NIDA Monographs	761
---------------------------	-----