

CURRICULUM VITA

JAAK PANKSEPP

Personal:

Born: Tartu, Estonia (June 5, 1943)
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Academic Address:

Integrative Physiology and Neuroscience
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EDUCATION (Psychology, Psychobiology and Neuroscience):

B.S. 1965 University of Pittsburgh, Pittsburgh, Pennsylvania
M.S. 1967 University of Massachusetts, Amherst, Massachusetts
Ph.D. 1969 University of Massachusetts, Amherst, Massachusetts
Dissertation: *The Neural Basis of Aggression*

PROFESSIONAL BACKGROUND:

1968 - 1969 Instructor; Smith College, Northampton, Massachusetts
1969 - 1970 NSF Post-doctoral research fellow; University of Sussex, Brighton, England
1970 - 1971 NIGMS Post-doctoral research fellow; University of Sussex, Brighton, England
1971 - 1972 NIMH Post-doctoral research fellow; Worcester Foundation for Experimental Biology, Shrewsbury, Massachusetts
1972 - 1974 Assistant Professor; Bowling Green State University, Bowling Green, OH
1974 - 1977 Associate Professor; BGSU, Bowling Green, OH
1977 - 1988 Professor; BGSU, Bowling Green, OH
1988 - PRESENT Distinguished Research Professor of Psychobiology, BGSU (Emeritus since 1998)

1999 - 2000 Visiting Professor, Dept. of Psychology, University of Michigan
1990 - PRESENT Adjunct Professor of Psychiatry, Medical College of Ohio at Toledo
2001 - PRESENT Head, Affective Neuroscience Research, Chicago Institute for Neurosurgery and Neuroresearch and Falk Center for Molecular Therapeutics,
2001 - PRESENT Adjunct Professor of Psychology, Northwestern University.
2002 - 2003 Honorary Leverhulme Visiting Professor, University of Portsmouth (UK)
2006 - PRESENT Research Co-Director: Hope for Depression Research Foundation
2006 - PRESENT Baily Endowed Chair in Animal Well-Being Science, Washington State University, Pullman, WA.

TEACHING EXPERTISE AND INTERESTS

- Brain Mechanisms of Behavior/ Affective Neuroscience
- Developmental Psychobiology/ Developmental Disorders
- Psychobiology of Emotions and Motivations
- Neuroanatomy, Neurophysiology and Neuropsychology
- Clinical Psychopharmacology/Biological Psychiatry
- Experimental Methods

SPECIAL HONORS AND AWARDS

- BGSU Special Achievement Award (1974 & 1975)
- BGSU Research and Development Award (1976)
- Sigma Xi Outstanding Young Scientist Award (1977)
- NIMH Research Scientist Development Award (1975 - 1980)
- Award, Meritorious Research in Autism, Toledo Soc. for Autism, 1987
- Outstanding Contributor to Graduate Education at BGSU (1988)
- Distinguished Research Professorship in Psychobiology, BGSU (1988)
- Professional of the Year, NW Ohio Autism Society (1991)
- Member of Interdisciplinary Core Faculty, NIMH Post-doctoral training program for the Study of Emotions (MH-18931), 3 Year appointment, UC Berkeley and USF (1989-1991), 4 year re-appointment (1992-1995), 2 year re-appointment, Univ. of WI (1996-1998)
- Professor of the Year, Psi Chi National Honor Soc., BGSU Chapter (1996-1997)
- Zdenek Klein Award for Human Ethology, year 2002 for contribution to the Special Issue on *Human Ethology and Evolutionary Psychology* entitled "Comparative Approaches in Evolutionary Psychology: Molecular Neuroscience Meets the Mind" Supplement to the *Neuroendocrinology Letters*, Vol 23, Dec. 2002
- Honorary Doctorate, University of Tartu, Estonia (2004)
- Arnold Pfeffer Neuro-Psychoanalytic Prize, N. Y. Psychoanalytic Institute (2005)
- Fellow of the Association of Psychological Sciences (2006)
- Lifetime achievement award from National Institute of Play (2008)
- The Oscar Sternbach Memorial Award from the National Psychological Association for Psychoanalysis for "Outstanding dedication and contributions to the field of psychoanalysis" (2009)
- The Glass Slipper Award from the International Experiential Dynamic Therapy Association (2010).
- The Order of the White Star, Government of Estonia (2011).

PROFESSIONAL CONTRIBUTIONS (Publications and Presentations) **RESEARCH REPORTS**

1967:

Panksepp, J. and Trowill, J. A. Intraoral self-injection: I. Effects of delay or reinforcement on resistance to extinction and implications for self-stimulation. *Psychonomic Science*, 1967, 9, 407-408.

Panksepp, J. and Trowill, J. A. Intraoral self-injection: II. The simulation of self-stimulation phenomena with a conventional reward. *Psychonomic Science*, 1967, 9, 407-408.

Panksepp, J., Trowill, J. A. and Trehub, A. An inexpensive electro-fistular swivel for negative feedback control of self-stimulation. *Journal of Experimental Analysis of Behavior*, 1967, 10, 571-579.

1968:

Gandelman, R., Panksepp, J., and Trowill, J. A. The effects of lever retraction on resistance to extinction of a response rewarded with electrical stimulation of the brain. *Psychonomic Science*, 1968, 10, 5-6.

Gandelman, R., Panksepp, J., and Trowill, J. A. Preference behavior between water deprivation-induced and carbachol-induced drinkers. *Communications in Behavioral Biology*, 1968, 5, 341-346.

Gandelman, R., Panksepp, J., and Trowill, J. A. The effect of lever retraction on resistance to extinction of a response rewarded with electrical stimulation of the brain. *Psychonomic Science*, 1968, 12, 173-174.

Panksepp, J. and Trowill, J. A. Extinction following intracranial reward: Frustration or drive decay? *Psychonomic Science*, 1968, 12, 173-174. February 2011 4

Panksepp, J., Gandelman, R. and Trowill, J. A. The effect of intertrial interval on running performance for ESB. *Psychonomic Science*, 1968, 13, 135-136.

1969:

Panksepp, J., Gandelman, R. and Trowill, J. A. Reply to Gallistel. *Psychonomic Science*, 1969, 16, 26-27.

Panksepp, J. and Trowill, J. A. Positive and negative contrast effects with hypothalamic reward. *Physiology & Behavior*, 1969, 4, 173-174.

Panksepp, J. and Trowill, J. A. Electrically induced affective attack from the hypothalamus of the albino rat. *Psychonomic Science*, 1969, 16, 118-119.

1970:

Panksepp, J. and Trowill, J. A. Positive incentive contrast with rewarding electrical stimulation of the brain. *Journal of Comparative and Physiological Psychology*, 1970, 70, 358-363.

Clark, S., Panksepp, J. and Trowill, J. A. A method for recording sniffing in the free-moving rat. *Physiology & Behavior*, 1970, 5, 125-126.

Panksepp, J., Gandelman, R. and Trowill, J. A. Modulation of hypothalamic self-stimulation and escape behavior by chlordiazepoxide in the rat. *Physiology & Behavior*, 1970, 5, 965-969.

1971:

Panksepp, J. and Trowill, J. A. Incentive contrast with shifts in sucrose concentration. *Learning and Motivation*, 1971, 2, 49-57.

Panksepp, J. Aggression elicited by electrical stimulation of the hypothalamus in albino rats. *Physiology & Behavior*, 1971, 6, 311-316.

Panksepp, J. Drugs and "stimulus-bound" attack. *Physiology & Behavior*, 1971, 6, 317-320.

Panksepp, J. Effects of hypothalamic lesions on mouse-killing and shock-induced fighting in rats. *Physiology & Behavior*, 1971, 6, 321-329.

Panksepp, J. and Booth, D. A. Decreased feeding after injections of amino acids into the hypothalamus. *Nature*, 1971, 233, 341-342.

Panksepp, J. The control of fighting between passive and aggressive rats. *Communications in Behavioral Biology*, 1971, 6, 233-235.

Panksepp, J. Effects of fats, proteins and carbohydrates on food intake in rats. *Psychonomic Monograph Supplements*, 1971, Vol. 4, No. 5 (While No. 53).

Panksepp, J. Is satiety mediated by the ventromedial hypothalamus? *Physiology & Behavior*, 1971, 7, 381-384.

Panksepp, J. A re-examination of the role of the ventromedial hypothalamus in feeding behavior. *Physiology & Behavior*, 1971, 7, 385-394.

1972:

Panksepp, J., Tonge, D. and Oatley, K. Insulin and the glucostatic control of feeding. *Journal of Comparative and Physiological Psychology*, 1972, 78, 226-232.

Panksepp, J. Hypothalamic radioactivity after intragastric glucose-14C in rats. *American Journal of Physiology*, 1972, 223, 396-401.

Panksepp, J., Toates, F. M. and Oatley, K. Extinction induced drinking and wood gnawing in hungry rats. *Animal Behavior*, 1972, 20, 493-498.

Panksepp, J. and Dickinson, A. On the motivational deficits after medial hypothalamic lesions. *Physiology & Behavior*, 1972, 9, 609-614.

Panksepp, J. and Nance, D. M. Insulin, glucose and hypothalamic regulation of feeding. *Physiology & Behavior*, 1972, 9, 447-451.

Stern, W. C., Morgane, P. J., Panksepp, J., Zolovick, A. J. and Jalowiec, J. E. Elevation of REM sleep following inhibition of protein synthesis. *Brain Research*, 1972, 47, 254-258.

1973:

Panksepp, J. A reanalysis of feeding patterns in the rat. *Journal of Comparative and Physiological Psychology*, 1973, 82, 78-94.

Panksepp, J., Zolovick, A. J., Jalowiec, J. E., Stern, W. C., and Morgane, P. J. Fenfluramine: Effects on aggression. *Biological Psychiatry*, 1973, 6, 181-186.

Panksepp, J., and Booth, D. A. Tolerance in the depression of intake when amphetamine is added to the rat's food. *Psychopharmacologia*, 1973, 29, 45-54.

Zolovick, A. J., Stern, W. C., Panksepp, J., Jalowiec, J. E. and Morgane, P. J. Sleep-waking patterns in cats after administration of fenfluramine and other monoaminergic modulating drugs. *Pharmacology Biochemistry and Behavior*, 1973, 1, 557-567.

Panksepp, J., Jalowiec, J. E., Zolovick, A. J., Stern, W. C. and Morgane, P. J. Inhibition of glycolytic metabolism and sleep-waking states in cats. *Pharmacology Biochemistry & Behavior*, 1973, 1, 41-46.

Jalowiec, J. W., Panksepp, J., Shabshalowitz, H., Zolovick, A. M., Stern, W.C. and Morgane, P. J. Suppression of feeding in cats following 2-deoxy-D-glucose. *Physiology & Behavior*, 1973, 10, 805-807.

Panksepp, J. and Pilcher, C.W.T. Evidence for an adiolipokinetic mechanism in the ventromedial hypothalamus. *Experientia*, 1973, 29, 793-794.

Panksepp, J., Jalowiec, J. E., Morgane, P. J., Zolovick, A. J. and Stern, W. C. Noradrenergic pathways and sleep-waking states in cats. *Experimental Neurology*, 1973, 41, 233-245.

Panksepp, J. The ventromedial hypothalamus and metabolic adjustments of feeding behavior. *Behavioral Biology*, 1973, 9, 65-75.

Jalowiec, J. E., Morgane, P. J., Stern, W. C., Zolovick, A. J. and Panksepp, J. Effects of midbrain tegmental lesions on sleep and regional brain serotonin and norepinephrine levels in cats. *Experimental Neurology*, 1973, 41, 670-682. February 2011 6

Zolovick, A. J., Stern, W.C., Jaloweic, E. E., Panksepp, J. and Morgane, P. J. Sleep-waking patterns and brain biogenic amine levels in cats after administration of 6-hydroxydopamine into the dorso-lateral pontine tegmentum. *Pharmacology Biochemistry & Behavior*, 1973, 1, 557-567.

1974:

Panksepp, J. and Nance, D. M. The hypothalamic 14 C differential and feeding behavior. *Bulletin of the Psychonomic Society*, 1974, 3, 325-327.

Panksepp, J. and Nance, D. M. Effects of para-chlorophenylalanine on food intake in rats. *Physiological Psychology*, 1974, 2, 360-364.

1975:

Panksepp, J. and Reilly, P. Medial and lateral hypothalamic oxygen consumption as a function of age, starvation and glucose administration in rats. *Brain Research*, 1975, 94, 133-140.

Panksepp, J., Pollack, A., Krost, K., Meeker, R. and Ritter, M. Feeding in response to repeated protamine zinc insulin injections. *Physiology & Behavior*, 1975, 14, 487-493.

Panksepp, J., Meeker, R., Reilly, P. and Villberg, T. Reversible CNS lesions and disruption of self-stimulation by inhibition of axoplasmic flow. In *Brain stimulation reward*, A. Wauquiex and E. R. Rolls (Eds.). Amsterdam: North Holland Publishing Co., 1976, pp. 118-120.

Panksepp, J. and Ritter, M. Mathematical analysis of energy regulatory patterns of normal diabetic rats. *Journal of Comparative and Physiological Psychology*, 1975, 89, 1015-1028.

Panksepp, J. and Krost, K. Modification of diurnal feeding patterns by palatability. *Physiology & Behavior*, 1975, 15, 673-677.

1976:

Panksepp, J. and Meeker, R. Suppression of food intake in diabetic rats by voluntary consumption and intrahypothalamic injection of glucose. *Physiology & Behavior*, 1976, 16, 763-770.

Panksepp, J., Bishop, P., Reilly, P., Meeker, R., Villberg, T. and Kastin, A. Effects of a-MSH on motivation, vigilance and brain respiration. *Pharmacology Biochemistry & Behavior*, Vol. 5, Suppl. 1, 1976, 59-64.

1977:

Panksepp, J., Pollack, A., Meeker, R. B. and Sullivan, A. C. (-) - hydroxycitrate and conditioned aversions. *Pharmacology Biochemistry and Behavior*, 1977, 6, 683-687.

Panksepp, J. and Meeker, R. Effects of insulin and hypothalamic lesions on glucose preference in rats. In *Food Intake and Chemical Senses*, T. Katsuli, M. Satao, S. Takagi, and Y. Oomura (Eds.). Tokyo: Tokyo University Press, 1977, pp. 343-356.

1978:

Panksepp, J., Herman, B., Conner, R., Bishop, P. and Scott, J. P. The biology of social attachments: Opiates alleviate separation distress. *Biological Psychiatry*, 1978, 13, 607-618.

Herman, B. H. and Panksepp, J. Effects of morphine and naloxone on separation distress and approach attachment: Evidence for opiate mediation of social affect. *Pharmacology, Biochemistry & Behavior*, 1978, 9, 213-220.

Panksepp, J., Villberg, T., Bean, N. J., Coy, D. H. and Kastin, A. J. Reduction of distress vocalization in chicks by opiate-like peptides. *Brain Research Bulletin*, 1978, 3, 663-667.

1979:

Panksepp, J., Najam, N. and Soares, F. Morphine reduces social cohesion in rats. *Pharmacology, Biochemistry & Behavior*, 1979, 11, 131-134.

1980:

Panksepp, J., and Meeker, R. The role of GABA in the ventromedial hypothalamic regulation of food intake. *Brain Research Bulletin*, Vol. 5, Suppl, 2, 1980, 453-460.

Panksepp, J., Meeker, R. and Bean, N. J. The neurochemical control of crying. *Pharmacology Biochemistry & Behavior*, 1980, 12, 437-443.

Panksepp, J. and DeEsquinazi, F. G. Opiates and homing. *Journal of Comparative Physiological Psychology*, 1980, 94, 650-663.

Panksepp, J. Opiates and social dependence. *Proceedings of the International Narcotic Research Conf.* New York: Pergamon Press, 1980, 194, 293-297.

Hardy, C., Panksepp, J., Rossi III, J. and Zolovick, A. J. Naloxone facilitates amygdaloid kindled seizures in rats. *Brain Research*, 1980, 194, 293-297.

Panksepp, J. and Beatty, W. W. Social deprivation and play in rats. *Behavioral and Neural Biology*, 1980, 30, 197-206.

Panksepp, J., Bean, N. J., Bishop, P., Vilberg, T. and Sahley, T. L. Opioid blockade and social comfort in chicks. *Pharmacology Biochemistry & Behavior*, 1980, 13, 673-683.

Corson, S. A., Corson, E. O., Becker, R. E., Ginsburg, B. E., Trattner, A., Conner, R. L., Lucas, L. A., Panksepp, J. and Scott, J. P. Interaction of genetics and separation in canine hyperkinesis and in differential responses to amphetamine. *Pavlovian Journal of Biological Sciences*, 1980, 15, 5-11.

Panksepp, J. Brief social isolation, pain responsivity, and morphine analgesia in young rats. *Psychopharmacology*, 1980, 72, 111-112.

1981:

Herman, B. H. and Panksepp, J. Ascending endorphinergic inhibition of distress vocalization. *Science*, 1981, 211, 1060-1062.

Jalowiec, J., Panksepp, J., Zolovick, A. J., Najam, N. and Herman, B. Opioid modulation of ingestive behavior. *Pharmacology Biochemistry & Behavior*, 1981, 15, 477-484. February 2011 8

Panksepp, J. The ontogeny of play in rats. *Developmental Psychobiology*, 1981, 72, 261-264.
Sahley, T. L., Panksepp, J., and Zolovick, A. J. Cholinergic modulation of separation distress in the domestic chick. *European Journal of Pharmacology*, 1981, 72, 261-264.

Panksepp, J. and Rossi III, J. D-glucose infusion into the basal ventromedial hypothalamus and feeding. *Behavioral Brain Research*, 1981, 3, 381-392.

Panksepp, J. and Bishop, P. An autoradiographic map of 3H diprenorphine binding in the rat brain: Effects of social interaction. *Brain Research Bulletin*, 1981, 7, 405-410.

1982:

Rossi III, J., Zolovick, A. J., Davies, R. F., and Panksepp, J. The role of norepinephrine in feeding behavior. *Neuroscience and Biobehavioral Reviews*, 1982, 6, 195-205.

Zolovick, A. J., Rossi III, J., Davies, R. F., and Panksepp, J. An improved pharmacological procedure for depletion of noradrenaline: Pharmacology and assessment of noradrenaline associated behaviors. *European Journal of Pharmacology*, 1982, 77, 265-271.

Panksepp, J., Sivi, S., Normansell, L. A., White, K. & Bishop, P. Effects of B-chlornaltexamine on separation distress in chicks. *Life Sciences*, 1982, 31, 2387-2390.

Beatty, W.W., Dodge, A.M., Dodge, L.J., Whike, K. & Panksepp, J. (1982). Psychomotor stimulants, social deprivation and play in juvenile rats. *Pharmacol. Biochem. Behav.*, 16: 417-422.

1983:

Rossi III, J., Sahley, T. L., & Panksepp, J. The role of brain norepinephrine in clonidine suppression of isolation-induced distress in the domestic chick. *Psychopharmacology*, 1983, 79, 338-342.

Davies, R. F., Rossi III, J., Panksepp, J., Bean, N. J. & Zolovick, A. J. Fenfluramine anorexia: A peripheral locus of action. *Physiology & Behavior*, 1983, 30, 723-730.

Panksepp, J., Conner, R., Forester, P. K., Bishop, P., & Scott, J. P. Opioid effects on social behavior of kennel dogs. *Applied Animal Ethology*, 1983, 10, 63-74.

1984:

Vilberg, T. R., Panksepp, J., Kastin, A. J., & Coy, D. H. The pharmacology of endorphin modulation of chick distress vocalizations. *Peptides*, 1984, 5, 823-831.

Panksepp, J., Normansell, L. A., Siviy, S., Rossi III, J., & Zolovick, A. J. Casomorphins reduce separation distress in chicks. *Peptides*, 1984, 5, 829-831.

Najam, N. & Panksepp, J. Rotation behavior induced by unilateral electrical stimulation of the nigrostriatal dopamine system. *Pakistan Journal of Zoology*, 1984, 16, 135-142.

Najam, N. & Panksepp, J. Opiate action in the central nervous system, via its effects on the nigrostriatal dopaminergic system. *Pakistan Journal of Zoology*, 1984, 16, 143-150. February 2011 9

Najam, N. & Panksepp, J. The effects of chronic opiate treatment on dopamine dependent rotational behavior in rats. *Pakistan Journal of Zoology*, 1984, 16, 151-158.

1985:

Normansell, L. A. & Panksepp, J. Effects of quipazine and methysergide on play in juvenile rats. *Pharmacology Biochemistry, & Behavior*, 1985, 22, 885-887.

Normansell, L. A. & Panksepp, J. Effects of clonidine and yohimbine on the social play of juvenile rats. *Pharmacology Biochemistry, & Behavior*, 1985, 22, 881-883.

Panksepp, J., Jalowiec, J., DeEsquinazi, F. G. & Bishop, P. Opiates and play dominance in juvenile rats. *Behavioral Neuroscience*, 1985, 99, 441-453.

Siviy, S., & Panksepp, J. Energy balance and play in juvenile rats. *Physiology & Behavior*, 1985, 35, 435-441.

Siviy, S., & Panksepp, J. Dorsomedial diencephalic involvement in the juvenile play of rats. *Behavioral Neuroscience*, 1985, 99, 1103-1113.

Siegel, M. A., Jensen, R. A., & Panksepp, J. The prolonged effects of naloxone on play behavior and feeding in the rat. *Behavioral and Neural Biology*, 1985, 44, 509-514.

1987:

Siviy, S. & Panksepp, J. Sensory modulation of juvenile play. *Developmental Psychobiology*, 1987, 20, 39-55.

Miklosovic, K. L. and Panksepp, J. Short and long-term effects of asphyxia on juvenile play. *Bulletin of the Psychonomic Society*, 1987, 25, 289-291.

Deyo, R. A., Conner, R. L. & Panksepp, J. Perinatal leupeptin retards subsequent acquisition of a visual discrimination task in chicks. *Behavioral Biology*, 1987, 47, 219-224.

Siviy, S. M. & Panksepp, J. Juvenile play in the rat: Thalamic and brain stem involvement. *Physiology & Behavior*, 1987, 39-55.

1988:

Hagemeyer, J. A. & Panksepp, J. An attempt to evaluate the role of hearing in the social play of juvenile rats. *Bulletin of the Psychonomic Society*, 1988, 26, 455-458.

1989:

Najam, N. and Panksepp, J. Effect of chronic neonatal morphine and naloxone on sensorimotor and social development in young rats. *Pharmacology Biochemistry, & Behavior*, 1989, 33, 533-538.

Knowles, P. A., Conner, R. L. and Panksepp, J. Opiate effects on social behavior of juvenile dogs as a function of social deprivation. *Pharmacology Biochemistry & Behavior*. 1989, 33, 539-543.

1990:

Normansell, L. A. and Panksepp, J. Effects of morphine and naloxone on play-rewarded spatial discrimination in juvenile rats. *Developmental Psychobiology*, 1990, 23, 75-83. February 2011 10

Panksepp, J. and Abbott, B. B. Modulation of separation distress by α -MSH. *Peptides*, 1990, 11, 647-653.

Panksepp, J. & Crepeau, L. 1990. Selective lesions of the dual olfactory system and cat smell-attenuated play fighting among juvenile rats. *Aggressive Behavior*, 16: 130-131.

Deyo, R.A., Panksepp, J. and Abbott, B. B. Perinatal decortication impairs performance on an 8-arm radial maze task. *Physiology & Behavior*, 1990, 48, 55-60.

Panksepp, J. and Normansell, L. A. Effects of ACTH (1-24) and ACTH/MSH (4-10) on isolation-induced distress vocalization in domestic chicks. *Peptides*, 1990, 11, 915-919.

Panksepp, J. and Lensing, P. Naltrexone therapy of autistic children. In *New Leads in Opioid Research*, J. M. Van Ree, A. H. Mulder, V. M. Wiegant, and T. B. Van Wimersma Greidanus (Eds). Excerpta Medica, Amsterdam, 1990, 181-182.

Deyo, R.A., Panksepp, J. and Conner, R. L. Nimodipine alters acquisition of a visual discrimination task in chicks. *Behavioral and Neural Biology*, 1990, 53, 149-152.

Panksepp, J., Yates, G., Ikemoto, and Nelson, E. Simple ethological models of depression: social-isolation induced "despair" in chicks and mice. In *Animal Models in Psychopharmacology*, B. Olivier and J. Moss (Eds), Holland: Duphar, 1991, 161-181.

1991:

Panksepp, J. and Lensing, P. Naltrexone treatment of autism: A synopsis of an open-trial with four children. *Journal of Autism and Developmental Disorders*. 1991, 21, 135-141

Yates, G., Panksepp, J., Ikemoto, S., Nelson, E., and Conner, R. Social isolation effects on the "behavioral despair" forced swimming test: effect of age and duration of testing. *Physiology & Behavior*. 1991, 49, 347-353.

1992:

Leboyer, M., Bouvard, M. P., Launay, J.-M., Abuteau, F., Waller, D., Dugas, M., Kerdelhue, B., Lensing, P., Panksepp, J. (1992). A double-blind study of naltrexone in infantile autism. *Journal of Autism and Developmental Disorders*, 22, 309-319.

Ikemoto, S. and Panksepp, J. (1992). The effects of early social isolation on the motivation for social play in juvenile rats. *Developmental Psychobiology*, 25, 261-274.

Lensing, P., Klingler, D., Lampl, C., Leboyer, M., Bouvard, M., Plumet, M.H., & Panksepp, J. (1992). Naltrexone open trial with a 5-year old boy: A social rebound reaction. *Acta Paedopsychiatrica*, 55: 169-173.

Rossi, J., III & Panksepp, J. (1992). Analysis of the relationships between self-stimulation sniffing and brain-stimulation sniffing. *Physiology and Behavior*, 51: 805-813.

1993:

Panksepp, J. (1993). How do calories count? (review of *Neurobiology of Feeding and Nutrition*) *Contemporary Psychology*, 38, 636-637.

1994:

Ikemoto, S. and Panksepp, J. (1994). The relationship between self-stimulation and sniffing in rats: Does a common brain system mediate these behaviors? *Behavioral Brain Research*, 61, 143-162.

Panksepp, J. Nelson, E., and Siviy, S. (1994). Brain opioids and mother-infant social motivation. *Acta Paediatrica*, 397, 40-46.

Panksepp, J., Normansell, L. A., Cox, J.F. and Siviy, S. (1994). Effects of neonatal decortication on the social play of juvenile rats. *Physiology & Behavior*, 56, 429-443.

Nelson, E., Panksepp, J., & Ikemoto, S. (1994). The effects of melatonin on isolation distress in chickens. *Pharmacology, Biochemistry & Behavior*, 49, 327-333.

Panksepp, J., Leboyer, M., Bovard, M., Launay, J. M. & Lensing, P. (1994). Endogenous opioids and childhood autism, *Regulatory Peptides*, Suppl. 1, 169-170.

Leboyer, M., Bouvard, M. P., Recasens, C., Philippe, A., Guilloud-Bataille, M., Bondoux, D., Tabuteau, F., Dugas, M., Panksepp, J., and Launay, M.-M. (1994). Differences between plasma N- and C-terminally directed β -endorphin in infantile autism. *American Journal of Psychiatry*, 151, 1797-1801.

1995:

Lensing, P., Schimke, H., Klimesch, W., Pap, V., Szemes, G., Klingler, D., & Panksepp, J. (1995). Clinical case report: Opiate antagonist and event-related desynchronization in 2 autistic boys. *Neuropsychobiology*, 1995, 31, 16-23.

Bouvard, M.P., Leboyer, M., launay, J.-M., Recasens, C., Plumet, M.-H., Waller-Perotte, D., Tabuteau, F., Bondoux, D., Dugas, M., Lensing, P., and Panksepp, J. (1995) Low-dose naltrexone effects on plasma chemistries and clinical symptoms in autism: A double-blind, placebo-controlled study. *Psychiatry Research*, 58, 191-201.

McBride, J. A. & Panksepp, J. (1995). An examination of the phenomenology and the reliability of ratings of compulsive behavior in autism. *Journal of Autism and Developmental Disorders*, 25, 381-395.

Panksepp, J. (1995). The emotional sources of "chills" induced by music. *Music Perception*, 15, 171-207.

1996:

Ikemoto, S. and Panksepp, J. (1996). Dissociations between appetitive and consummatory responses by pharmacological manipulations of reward-relevant brain regions. *Behavioral Neuroscience*, 110, 331-345.

Nelson, E., and Panksepp, J., (1996). Oxytocin and infant-mother bonding in rats. *Behavioral Neuroscience*, 110, 583-592.

Knutson, B., Panksepp, J. & Pruitt, D. (1996). Effects of fluoxetine on play dominance in juvenile rats. *Aggressive Behavior*, 22, 297-307.

1997:

Knutson B. & Panksepp J. (1997). Effects of serotonin depletion on the play of juvenile rats. *Annals of the New York Academy of Sciences*, 807: 475-477. February 2011 12

Bekkedal, M. Y. V. & Panksepp, J. (1997). Prolactin and modulation of social processes in domestic chicks. *Annals of the New York Academy of Sciences*, 807: 472-474.

Riters L. V. & Panksepp J. (1997). Effects of vasotocin on aggressive behavior in male Japanese quail. *Annals of the New York Academy of Sciences*. 807: 478-80.

Panksepp, J. & Bekkedal, M. Y. V. (1997). Effect of emotional music on the human EEG. *International Journal of Art Medicine*, 5: 18-27.

1998:

Bekkedal, M. Y. V., Panksepp, J. & Rossi III, J. (1998). Long-term changes in rat social behavior following treatment with trimethylolpropane. *Neurotoxicology & Teratology*, 20: 307-316.

Knutson, B., Burgdorf, J. & Panksepp, J. (1998). Anticipation of play elicits vocalizations in juvenile rats. *Journal of Comparative Psychology*, 112: 65-73.

1999:

Bekkedal, M. Y. V., Rossi III, J. & Panksepp, J. (1999). Fetal and neonatal exposure to trimethylolpropane phosphate alters rat social behavior and emotional responsivity. *Neurotoxicology & Teratology*, 21: 435-43.

Knutson, B., Burgdorf, J. & Panksepp, J. (1999). High-frequency ultrasonic vocalizations index conditioned pharmacological reward in rats. *Physiology & Behavior*, 66, 639-643.

Turner, C., Panksepp, J., Bekkedal, M., Borkowski, C. & Burgdorf, J. (1999). Paradoxical effects of serotonin and opioids in pemoline-induced self-injurious behavior. *Pharmacology, Biochemistry and Behavior*, 63, 361-366.

Panksepp, J. & Burgdorf, J. (1999). Laughing rats? Playful tickling arouses high frequency ultrasonic chirping in young rodents. In S. Hameroff, D. Chalmers & A. Kazniak, pp. 231-244, *Toward a science of consciousness III*, Cambridge, Mass.: MIT Press.

2000:

Burgdorf, J. & Panksepp, J. (2000). Anticipation of rewarding electrical brain stimulation evokes ultrasonic vocalizations in rats. *Behavioral Neuroscience*, 114: 320-327.

Panksepp, J. & Burgdorf, J. (2000). 50k-Hz chirping (laughter?) in response to conditioned and unconditioned tickle-induced reward in rats: effects of social housing and genetic variables. *Behavioral Brain Research*, 115, pp. 25-38.

2001:

Burgdorf, J. & Panksepp, J. (2001). Tickling induces reward in adolescent rats. *Physiology & Behavior*, 72: 167-173.

Burgdorf, J., Knutson, B., Panksepp, J., & Shippenberg, T. (2001). Evaluation of rat ultrasonic vocalizations as predictors of the conditioned aversive effects of drugs. *Psychopharmacology*, 155, 35-42. February 2011 13

Panksepp, J., Burgdorf, J. & Gordon, N. (2001). Toward a genetics of joy: Breeding rats for —laughter. In A. Kazniak (ed.) *Emotion, Qualia, and Consciousness*. Pp. 124-136, World Scientific: Singapore.

Burgdorf, J., Knutson, B., Panksepp, J., & Ikemoto, S. (2001). Nucleus accumbens amphetamine microinjections unconditionally elicit 50 kHz ultrasonic vocalizations in rats. *Behavioral Neuroscience*, 115: 940-944.

2002:

Nocjar, C. & Panksepp, J. (2002). Chronic intermittent amphetamine pretreatment enhances future appetitive behavior for drug-, food- and sexual-reward: Interaction with environmental variables. *Behavioural Brain Research*, 128, 189-203.

Gordon, N.S., Kollack-Walker, S., Akil, H. & Panksepp, J. (2002). Expression of *c-fos* gene activation during rough and tumble play in juvenile rats. *Brain Research Bulletin*. 57: 651-659.

Panksepp, J., Burgdorf, J., Gordon, N. & Turner, C. (2002). Treatment of ADHD with methylphenidate may sensitize brain substrates of desire. *Consciousness & Emotion*, 3: 7-19.

2003:

Scott, E. & Panksepp, J. (2003). Rough-and-tumble play in human children. *Aggressive Behaviour*. 29: 539-551.

Panksepp, J., Burgdorf, J., Gordon, N. & Turner, C. (2003). Modeling ADHD-type arousal with unilateral frontal cortex damage in rats and beneficial effects of play therapy. *Brain and Cognition*. 52: 97-105.

Gordon, N.S., Burke, S., Akil, H., Watson, J., & Panksepp, J. (2003). Socially induced brain fertilization: Play promotes brain derived neurotrophic factor expression. *Neuroscience Letters*, 341, 17-20.

Schutter, D.J.L.G., Van Honk, J., D'Alfonso, A.A.L., Peper, J.S., and Panksepp, J., (2003). High frequency rTMS over the medial cerebellum induces a shift in the prefrontal EEG gamma spectrum: A pilot study, *Neuroscience Letters*, 336: 73-76.

Panksepp, J., & Gordon, N. (2003). The instinctual basis of human affect: Affective imaging of laughter and crying. *Consciousness & Emotion*, 4: 197-206.

Davis, K.L., Panksepp, J. & Normansell, L. (2003). The affective neuroscience personality scales: Normative data and implications. *NeuroPsychoanalysis*, 5: 21-29.

2004:

Panksepp, J., Burgdorf, J., Beinfeld, M.C., Kroes, R.A. & Moskal, J.R. (2004). Regional brain cholecystinin changes as a function of friendly and aggressive social interactions in rats. *Brain Research*, 1025, 75—84.

Reuter, M., Panksepp, J., Schnabel, N., Kellerhoff, N., Kempel, P., Hennig, J. (2005). Personality and biological markers of creativity. *European Journal of Personality*, 19, 83-95.

2005:

Burgdorf, J., Panksepp, J., Brudzynski, S.M. & Moskal, J.R. (2005). Breeding for 50-kHz positive affective vocalizations in rats. *Behavior Genetics*, 35, 67-72.

Halberg, F., Cornelissen, G., Panksepp, J., Otsuka, K. & Johnson, D. (2005). Chronomics of autism and suicide. *Biomedicine & Pharmacotherapy*, 59, S100-S108.

Gordon, N.S., Panksepp, J., Dennis, M. & McSweeney, J. (2005). The instinctual basis of human affect: Affective and fMRI imaging of laughter and crying. *Neuro-Psychoanalysis*, 7, 215-217.

2006:

Kroes, R.A., Panksepp, J., Burgdorf, J., Otto, N.J., & Moskal, J.R. (2006). Social dominance-submission gene expression patterns in rat neocortex. *Neuroscience*, 137, 37-49.

Burgdorf, J. & Panksepp, J. (2006). The neurobiology of positive emotions. *Neuroscience and Biobehavioral Reviews*, 30, 173-187.

Burgdorf, J., Panksepp, J., Beinfeld, M.C., Kroes, R.A. & Moskal, J.R. (2006). Regional brain cholecystinin changes as a function of rough-and-tumble play behavior in adolescent rats. *Peptides*, 27, 172-177.

Deak, T. & Panksepp, J. (2006). Play behavior in rats pretreated with scopolamine: increased play solicitation by the non-injected partner. *Physiology & Behavior*, 87: 120-125.

2007:

Nocjar, C. & Panksepp, J. (2007). Prior morphine experience induces long-term increases in social interest and in appetitive behavior for natural reward. *Behavioral Brain Research*, 181(2): 191-199.

Kroes, R.A., Burgdorf, J., Otto, N.J., Panksepp, J., & Moskal, J.R. (2007). Social defeat, a paradigm of depression in rats that elicits 22-kHz vocalizations, preferentially activates the cholinergic signaling pathway in the periaqueductal gray. *Behavioral Brain Research*, 182(2) 290-300.

Panksepp, J., Burgdorf, J., Beinfeld, M.C., Kroes, R. & Moskal, J. (2007). Brain regional neuropeptide changes resulting from social defeat. *Behavioral Neuroscience*, 121: 1364-1371.

Burgdorf, J., Wood, P.L., Kroes, R.A., Moskal, J.R., & Panksepp, J. (2007). Neurobiology of 50-kHz ultrasonic vocalizations in rats: Electrode mapping, lesion, and pharmacology studies. *Behavioral Brain Research*, 182(2): 274-283.

2008:

Harmon, K.M., Cromwell, H.C., Burgdorf, J., Moskal, J.R., Brudzynski, S.M., Kroes, R.A., Panksepp, J. (2008). Rats selectively bred for low levels of 50 kHz ultrasonic vocalizations exhibit alterations in early social motivation. *Developmental Psychobiology*, 50, 322-231.

Burgdorf, J., Panksepp, J., Brudzynski, S.M., Beinfeld, M.C., Cromwell, H.C., Kroes, R.A., Moskal, J.R. (2008). The effects of selective breeding for differential rates February 2011 15 of 50-kHz ultrasonic vocalizations on emotional behavior in rats. *Developmental Psychobiology*, 51, 34-46.

Deak T, Arakawa H, Bekkedal MY, Panksepp J. (2008). Validation of a novel social investigation task that may dissociate social motivation from exploratory activity. *Behav Brain Res*. 2008 Dec 14. [Epub ahead of print] PMID: 18819097]

Burgdorf, J., Kroes, R.A., Moskal, J.R., Pfaus, J.G., Brudzynski, S.M. & Panksepp, J. (2008). Ultrasonic vocalizations of rats (*Rattus norvegicus*) during mating, play, and aggression: Behavioral concomitants, relationship to reward and self-administration of playback. *Journal of Comparative Psychology*, 122, 357-367. (Frank A. Beach Comparative Psychology Award, 'Presented in recognition of the best paper published in 2008 in the *Journal of Comparative Psychology*. Division 6, American Psychological Association).

2009:

Daftary, S.S., Panksepp, J., Dong, Y., & Saal, D.B. (2009). Stress-induced, glucocorticoid-dependent strengthening of glutamatergic synaptic transmission in midbrain dopamine neurons. *Neuroscience Letters*, 452, 273-276.

Nathaniel, T.I., Panksepp, J., & Huber, R. (2009). Drug-seeking behavior in an invertebrate system: evidence of morphine-induced reward, extinction and reinstatement in crayfish. *Behavioural Brain Research*, 197, 331-8.

Northoff, G., Schneider, F., Rotte, M., Matthiae, C., Tempelmann, C., Wiebking, C., Bermpohl, F., Heinzel, A., Danos, P., Heinze, H.J., Bogerts, B., Walter, M., & Panksepp, J. (2009). Differential parametric modulation of self-relatedness and emotions in different brain regions. *Human Brain Mapping*, 30, 369-382.

Mu, P., Fuchs, T., Saal, D. B., Sorg, B. A., Dong, Y., & Panksepp, J. (2009). Repeated cocaine exposure induces sensitization of ultrasonic vocalization in rats. *Neuroscience Letters*, 453, 31-35.

Deak, T., Arakawa, H., Bekkedal, M.Y., & Panksepp, J. (2009). Validation of a novel social investigation task that may dissociate social motivation from exploratory activity. *Behavioral Brain Research*, 199(2), 326-33.

2010

Burgdorf, J., Kroes, R.A., Beinfeld, M.C., Panksepp, J., & Moskal, J.R. (2010). Uncovering the molecular basis of positive affect using rough-and-tumble play in rats: A role for insulin-like growth factor I. *Neuroscience*, 168,769-777.

Fuchs, T., Iacobucci, P., MacKinnon, K.M., & Panksepp, J. (2010). Infant-mother recognition in a social rodent (*Octodon degus*). *Journal of Comparative Psychology*, 124(2), 166-175.

Mu, P., Moyer, J.T., Ishikawa, M., Zhang, Y., Panksepp, J., Sorg, B.A., Schlüter, O.M., & Dong, Y. (2010). Exposure to cocaine dynamically regulates the intrinsic membrane excitability of nucleus accumbens neurons. *The Journal of Neuroscience*, 30, 3689-3699.

Nathaniel, T.I., Panksepp, J., & Huber, R. (2010). Effects of a single and repeated February 2011 16 morphine treatment on conditioned and unconditioned behavioral sensitization in Crayfish. *Behavioural Brain Research*, 207, 310-320.

Schoene-Bake, J.C., Parpaley, Y., Weber, B., Panksepp, J., Hurwitz, T.A., & Coenen, V.A. (2010). Tractographic analysis of historical lesion surgery for depression. *Neuropsychopharmacology*, 35(13), 2553-2563. Epub 2010 Aug 25.

2011

Brudzynski, S.M., Silkstone, M., Komadoski, M., Scullion, K., Duffus, S., Burgdorf, J., Kroes, R.A., Moskal, J.R., & Panksepp, J. (2011). Effects of intraaccumbens amphetamine on production of 50 kHz vocalizations in three lines of selectively bred Long-Evans rats. *Behavioral Brain Research*, 217(1), 32-40. Epub 2010 Oct 19.

Kanarik, M., Alttoa, A., Matrov, D., Kõiv, K., Sharp, T., Panksepp, J., & Harro, J. (2011). Brain responses to chronic social defeat stress: effects on regional oxidative metabolism as a function of a hedonic trait, and gene expression in susceptible and resilient rats. *European Neuropsychopharmacology*, 21(1), 92-107. Epub 2010 Jul 24.

Mu, P., Neumann, P.A., Panksepp, J., Schlüter, O.M., & Dong, Y. (2011). Exposure to cocaine alters dynorphin-mediated regulation of excitatory synaptic transmission in nucleus accumbens neurons. *Biological Psychiatry*, 69(3), 228-235. Epub 2010 Oct 27.

Colonnello, V., Iacobucci, P., Anderson, M.P., & Panksepp, J. (2011). Brief periods of positive peer interactions mitigate the effects of total social isolation in young Octodon degus. *Developmental Psychobiology*, 2010 Dec 22. [Epub ahead of print].

REVIEWS AND THEORETICAL PAPERS

1969:

Trowill, J. A., Panksepp, J. and Gandelman, R. An incentive model of rewarding brain stimulation. *Psychological Review*, 1969, 76, 264-281.

1974:

Panksepp, J. Hypothalamic regulation on energy balance and feeding behavior. *Federation Proceedings*, 1974, 33, 1150-1165.

1975:

Panksepp, J. Metabolic hormones and regulation of feeding: A reply to Woods, Decke, and Vasselli. *Psychological Review*, 1975, 82, 158-164.

Panksepp, J. Central metabolic and humoral factors involved in the neural regulation of feeding. *Pharmacology, Biochemistry and Behavior*, 1975, Vol. 3, Suppl. 1, pp. 107-119. February 2011 17 Nance, D. M. and Panksepp, J. Neurohormonal regulation of feeding behavior. *Fogarty International Conference on Obesity*, 1975, 13-17.

Panksepp, J. Hormonal control of feeding behavior and energy balance. In *Hormonal correlates of behavior*, Vol II. B. E. Eleftherious and R.L. Sprott (Eds.). New York: Plenum Press, 1975, 657-695.

1976:

Panksepp, J. On the nature of feeding patterns —primarily in rats. *Hunger: Basic mechanisms and clinical implications*. D. Novin, (Ed). New York: Plenum Press, 1976, 369-382.

Nance, D. M., Gorski, R. A. and Panksepp, J. Neural and hormonal determinants of sex differences in food intake and body weight. *Hunger: Basic mechanisms and clinical implications*, D. Novin (Ed.) 1976, 16, 763-770.

1977:

Panksepp, J. Dietary constituents and self-selection procedures: Solid foods. In *Methods in Psychobiology*, Vol. 3. R. Myers (Ed.). New York: Academic Press, 1977, 317-333.

Panksepp, J. Review of appetite and food intake, *Dahlem Konferenze Life Sciences Report*. Brain Research Bulletin, 1977, 2, 79-82.

1978:

Panksepp, J. Analysis of feeding patterns: Data reduction and theoretical implications. Hunger models: *Computable theory of feeding control*. D. A. Booth (Ed.). London: Academic Press, 1978, 143-166.

1979:

Panksepp, J. Offense and defense vs. rage and fear: A matter of semantics? (Commentary on D. B. Adams' "Brain mechanisms for offense, defense and submission"). *Behavioral Brain Sciences*, 1979, 2, 225-226.

Kastin, A. J., Coy, D. H., Olson, R. D., Panksepp, J., Schally, A. V. and Sandman, C. A. Behavioral effects of the brain opiates enkephalin and endorphin. In *Central nervous system effects of hypothalamic hormones and other peptides*. R. Collu, A. Barbear, J. R. Ducharme, J. Rochefort (Eds.). New York: Raven Press, 1979, 273-281.

Panksepp, J., Bishop, P. and Rossi III, J. Neurohumoral and endocrine control of feeding. *Psychoneuroendocrinology*, 1979, 4, 89-106.

Panksepp, J., A neurochemical theory of autism. *Trends in Neuroscience*, 1979, 2, 174-177.

Panksepp, J., Cost-benefits of computer modeling (Commentary on F. M. Toates' "Homeostasis and drinking"), *Behavioral Brain Sciences*, 1979, 2, 114.

1980:

Panksepp, J., Herman, B. H., Vilberg, T., Bishop, P. and DeEsquinazi, F. G. Endogenous opioids and social behavior. *Neuroscience and Biobehavioral Reviews*, 1980, 4, 473-487. February 2011 18

1981:

Panksepp, J. Hypothalamic integration of behavior: Rewards, punishments, and related psychobiological process. In *Handbook of the hypothalamus, Vol. 3, Part A. Behavioral studies of the hypothalamus*. P. J. Morgane and J. Panksepp (Eds.). New York: Marcel Dekker, 1981, 289-487.

Panksepp, J. Brain opioids: A neurochemical substrate for narcotic and social dependence. In *Progress in theory in psychopharmacology*. S. Cooper (Ed.). London: Academic Press, 1981, 149-175.

1982:

Panksepp, J. Toward a general psychobiological theory of emotions. *The Behavioral and Brain Sciences*, 1982, 5, 407-467.

Panksepp, J. On medial hypothalamic control of feeding. (Commentary on J. LeMagnen's "The metabolic basis of dual periodicity of feeding in rats"). *The Behavioral and Brain Sciences*, 1982, 587-588.

Panksepp, J. The pleasure in brain substrates of foraging. (Commentary on R. A. Wise's "Neuroleptics and operant behavior: The anhedonia hypothesis") *The Behavioral and Brain Sciences*, 1982.

Panksepp, J. Anxiety viewed from the upper brain stem: Though panic and fear yield trepidation, should both be called anxiety? *The Behavioral and Brain Sciences*, 1982, 495-496.

1984:

Panksepp, J., Siviy, S., & Normansell, L. A. The psychobiology of play: Theoretical and methodological perspectives. *Neuroscience and Biobehavioral Reviews*, 1984, 8, 465-492.

1985:

Panksepp, J., Siviy, S. M., & Normansell, L.A. Brain opioids and social emotions. In *The Psychobiology of Attachment and Separation*, M. Reite and T. Fields (Eds.). New York: Academic press, 1985, 3-49.

Panksepp, J., (1985) Mood changes: In P.J. Vinken, G.W. Bruyn, & H.L. Klawans (Eds). *Handbook of Clinical Neurology* (Revised Series). Vol. 1. (45): *Clinical Neuropsychology*. Amsterdam: Elsevier Science Publishers, pp. 271-285.

1986:

Panksepp, J. The anatomy of emotions. In *Emotion: Theory, Research and Experience Vol. III. Biological Foundations of Emotions*, R. Plutchik (Ed.). Orlando: Academic Press, 1986, 91-124.

Panksepp, J. The neurochemistry of behavior. *Annual Review of Psychology*, 1986, 37, 77-107.

Panksepp, J. (1986). The psychobiology of prosocial behaviors: separation distress, play, and altruism. In *Altruism and Aggression, Biological and Social Origins*, C. Zahn-February 2011 19

Waxler, E. M. Cummings & R. Iannotti (Eds.). Cambridge, Cambridge University Press, 19-57.

Panksepp, J., & Cox, J. An overdue burial for the serotonin theory of anxiety. (Commentary on Soubrie's target article) *Behavioral and Brain Sciences*, 1986, 9, 340-341.

1987:

Panksepp, J., & Sahley, T. Possible brain opioid involvement in disrupted social intent and language development of autism. In *Neurobiological Issues in Autism*, E. Schopler & G. Mesibov (Eds.). New York: Plenum Press, 1987, 357-382.

Sahley, T. L. and Panksepp, J. Brain Opioids and Autism: An updated analysis of possible linkages. *Journal of Autism and Developmental Disorders*, 1987, 17, 201-216.

Panksepp, J. Toward a neuro-cognitive psychology of emotions (Review of P. V. Simonov's *The Emotional Brain*). *Contemporary Psychology*, 1987, 799-800.

Panksepp, J., Normansell, L. A., Cox, J. F., Crepeau, L. and Sacks, D. S. (1987). Psychopharmacology of social play. In *Ethnopharmacology of Social Behavior*, B. Olivier, J. Mos, & B.F. Brain (Eds.), Dordrecht: Martinus Nijhoff. 132-144.

1988:

Panksepp, J., Normansell, L. A., Herman, B., Bishop, P. & Crepeau, L. Neural and neurochemical control of the separation distress call. In *The Physiological Control of Mammalian Vocalizations*, J. D. Newman (Ed.). New York: Plenum, 1988, 263-300.

Panksepp, J. Brain Emotional Circuits and Psychopathologies, In *Emotions and Psychopathology*, M. Clynes and J. Panksepp (Eds.). New York: Plenum Press, 1988, 37-76.

Panksepp, J. (1988). La psicobiologia delle emozioni: la componente animale dei sentimenti umani, In *Emozioni e Specializzazione Emisferica*, C. Clatagirone and G. Gainotti (Eds.) Istituto della Enciclopedia Italiana, Rome. pp. 41-62.

Panksepp, J. (1988). Brain opioids and social affect. *Advances in Thanatology*, 6, 59-65

1989:

Panksepp, J. The neurobiology of emotions: Of animal brains and human feelings. In T. Manstead & H. Wagner (Eds.) *Handbook of Psychophysiology*, John Wiley & Sons, 1989, 5-26.

Panksepp, J. Altruism, Neurobiology. In *The Encyclopedia of Neuroscience*, Neuroscience Year, 1989, G. Adelman (Ed.). Boston: Birkhauser Boston, Inc., 7-8.

Panksepp, J. The psychobiology of emotions: The animal side of human feelings. In *Emotions and the dual brain*, *Experimental Brain Research Series* 18, G. Gainotti & C. Caltagirone (Eds.). Berlin: Springer-Verlag, 31-55.

Panksepp, J. Les circuits des emotions. *Science & Vie*, No. 168, September, 58-67.

1990:

Panksepp, J. (1990). The psychoneurology of fear: Evolutionary perspectives and the role of animal models in understanding human anxiety. In M. Roth, G.D. Burrows & R. Noyes, (Eds) *Handbook of Anxiety*. (pp. 3-58 Amsterdam) Elsevier/North-Holland Biomedical Press.

Panksepp, J. Can "mind" and behavior be understood without understanding the brain?: A response to Bunge. *New Ideas in Psychology*, 1990, 8, 139-149.

Panksepp, J. Gray zones at the emotion-cognition interface: A commentary. *Cognition and Emotion*, 1990, 4, 289-302.

Panksepp, J. (1990). A role for "Affective Neuroscience" in understanding stress: The case of Separation Distress Circuitry. In *Psychobiology of Stress*, A. Oliverio (Ed.). Dordrecht: Kluwer, 41-58.

Leboyer, M., Bouvard, M. P., Lensing, P., Launay, J. M., Tabuteau, F., Waller, D., Plumet, M. H., Recasens, C., Kerdelhue, B., Dugas, M. & Panksepp, J. (1990). The opioid excess hypothesis of autism: A double blind study. *Brain Dysfunction*, 3, 285-298.

1991:

Panksepp, J., Sacks, D. S., Crepeau, L., Abbott, B. B. The psycho- and neuro-biology of fear systems in the brain. In *Aversive Events and Behavior*, M.R. Denny (Ed.). New York: Lawrence Erlbaum Assocs. Inc. Publisher, 1991, 7-59.

Panksepp, J. Affective Neuroscience: A conceptual framework for the neurobiological study of emotions. In *International Reviews of Emotion Research*, K. Strongman (Ed.). Chichester, England: Wiley, 1991, 59-99.

Panksepp, J., Lensing, P., Leboyer, M., & Bouvard, M. P. (1991). Naltrexone and other potential new pharmacological treatments of autism. *Brain Dysfunction*, 4, 281-300.

Panksepp, J., Yates, G., Ikemoto, S. & Nelson, E. (1991). Simple ethological models of depression; social-isolation induced —despair in chicks and mice. In *Animal Models in Psychopharmacology*. Eds. B. Olivier, J. Mos, & J.L. Slangen, pp. 161-181, Basel: Birkhauser-Verlag.

1992:

Panksepp, J., Newman, J. D., & Insel, T. R. (1992). Critical conceptual issues in the analysis of separation distress systems of the brain. In *International Review of Studies on Emotion*, Vol. 2, K. T. Strongman (Ed.). John Wiley & Sons, 51-72.

Panksepp, J. (1992). A critical role for "affective neuroscience" in resolving what is basic about basic emotions. *Psychological Review*, 99, 554-560.

Panksepp, J. (1992). The Brain as an endocrine organ (joint reviews of *Behavioral Aspects of Neuroendocrinology and Neuroendocrine Perspectives*. *Trends in Endocrinology & Metabolism*, 3, 104-105.

Panksepp J. and R. Hupka (1992). Historical Jealousies (review of *Jealousy, The Evolution of an Emotion in American History*. *Journal of Pop Culture*, 131-133. February 2011 21

Panksepp, J. (1992). The sterilizing effects of neonatal steroids (review of *Hormone Toxicity in the Newborn*) *Trends in Endocrinology & Metabolism*, 3, 4-5.

Lensing, P., Klingler, D., Panksepp, J., Huber, M., Saria, A., Hackenberg, B. & Adam, H. (1992). Opiathypothese zur genese der Fuhkindlichen Autismus und Fogerungen zur Psychoparhakotherapie. *Zeitschrift fur Kinder-Jugendpsychiatrie*, 20, 185-196.

Panksepp, J. (1992). Oxytocin effects on emotional processes: separation distress, social bonding, and relationships to psychiatric disorders. *Annals of the New York Academy of Sciences*, 652: 243-252.

Saria, A., Bernatzky, G., Humpel, C., Haring, C. & Skofitsch, G. Panksepp, J. (1992). Calcitonin gene-related peptide in the brain: Neurochemical and behavioral investigations. *Annals of the New York Academy of Sciences*, 657: 164-169.

1993:

Panksepp, J. (1993) Rough-and-tumble play: A fundamental brain process. In. *Parents and Children Playing*, K.B. MacDonald (Ed.). Albany, NY: SUNY Press, 147-184.

Panksepp, J. (1993) Neurochemical control of moods and emotions: Amino acids to neuropeptides. In *Handbook of Emotions*, M. Lewis & J. Haviland (Eds.). Guilford Press, pp. 87-107.

Panksepp, J. (1993). Where, when, and how does an appraisal become an emotion? "The times they are a changing." *Psychological Inquiry*, 4, 334-342.

Panksepp, J. (1993) Commentary on the possible role of oxytocin in autism. *Journal of Autism and Developmental Disorders*, 23, 567-568.

Panksepp, J. (1993) Tundmuste voolsusangid imetajate ajus. (in Estonian) *Akadeemia*, 5, 999-1009.

1994:

Panksepp, J. (1994). The role of brain emotional systems in the construction of social systems. *Politics and the Life Sciences*, 13, 10-13.

Panksepp, J., Leboyer, M., Bouvard, M. P., & Lensing, P. (1994). Naltrexone in infantile autism: Response to Black. *Journal of Autism & Developmental Disorders*, 24, 238-239.

Panksepp, J. (1994). In *Questions about Emotions*, Davidson, R. & Ekman, P. (Eds.), NY: Oxford.

- The basics of basic emotions (pp. 20-24)
- Basic emotions ramify widely in the brain, yielding many concepts that cannot be distinguished unambiguously. . . yet (pp. 86-88)
- A proper distinction between affective and cognitive processes is essential for neuroscientific progress (pp. 224-226)
- The clearest physiological distinctions between emotions will be found among the circuits of the brain (pp. 258-260)
- Subjectivity may have evolved in the brain as a simple value-coding process that promotes the learning of new behaviors (pp. 313-315) February 2011 22
- Emotional development yields lots of "stuff". . . especially mind "stuff" that emerges from brain "stuff" (pp. 367-368).
- Evolution constructed the potential for subjective experience within the neurodynamics of the mammalian brain (pp. 396-399).

1995:

Panksepp, J., Knutson, B. & Bird, L. (1995). On the brain and personality substrates of psychopathy. A Commentary on Meany. *Behavioral and Brain Sciences*, 568-570.

Panksepp, J. (1995). The emotional brain and biological psychiatry. In *Advances in Biological Psychiatry*, Vol. 1, Greenwich, CT: JAI Press, 263-286.

Panksepp J. (1995). Hypothalamic regulation of energy balance and feeding behavior. 1974 [Reprint of this classic article]. *Nutrition*. 11, 402-405.

1996:

Panksepp, J. & Miller, A. (1996). Emotions and the aging brain: Regrets and remedies. In *Handbook of Aging*, C. Magai & S. H. McFadden (Eds.). New York: Academic Press, 3-26.

Panksepp, J. (1996). Modern approaches to understanding fear: From laboratory to clinical practice. In *Advances in Biological Psychiatry*, Vol. 2, Greenwich, CT: JAI Press, 207-228.

Panksepp (1996) Affective neuroscience: A paradigm to study the animate circuits for human emotions. In G. Stanley Hall Symposium on *Emotions: An Interdisciplinary Approach*. Hillsdale, NJ: Erlbaum, 29-60. February 2011 23

1997:

Panksepp, J. (1997). Emotional circuits of the mammalian brain: Implications for biological psychiatry. In *Biological Psychiatry*, E. E. Bittar & N. Bittar (Eds.). Greenwich CT: JAI Press Inc., pp. 27-58.

Panksepp, J. (1997). Fear and anxiety mechanisms of the brain: Clinical Implications. In *Biological Psychiatry*, E. E. Bittar & N. Bittar (Eds) JAI Press Inc, Greenwich CT, pp. 157-178.

Panksepp, J., Knutson, B., & Pruitt, D. (1997). Toward a neuroscience of emotion: The epigenetic foundations of emotional development. In *What Develops in Emotional Development?* M.F. Mascolo & S. Griffin (Eds.) (pp. 53-84). New York: Plenum Press.

Panksepp, J., Nelson, E. & Bekkedal, M. (1997). Brain systems for the mediation of social separation-distress and social-reward. Evolutionary antecedents and neuropeptide intermediaries. *Annals of the New York Academy of Sciences*. 807, 78-100.

Panksepp, J. & Bekkedal, M. (1997). Neuropeptides and the varieties of anxiety in the brain. *Italian Journal of Psychopathology*, 1: 18-27.

Panksepp, J. (1997). 3 Chapters for Introductory Psychology text (by M. Doherty and J. Mynatt: **Chapter 41:** Discoveries about the brain have established a foundation for a mechanistic understanding of mind; **Chapter 42:** Psychological and behavioral processes arise from specific functions of the brain; **Chapter 43:** Neurochemical coding of prosocial and sexual behaviors. Boston: Allyn & Bacon.

1998:

Panksepp, J. (1998). The quest for long-term health and happiness: To play or not to play, that is the question. *Psychological Inquiry*, 9: 56-65.

Panksepp, J. (1998). The periconscious substrates of consciousness: Affective states and the evolutionary origins of the SELF. *Journal of Consciousness Studies*, 5: 566-582.

Panksepp, J. (1998). A critical analysis of ADHD, psychostimulants, and intolerance of childhood playfulness: A tragedy in the making? *Current Directions in Psychological Sciences*. 7: 91-97.

Nelson, E.E., & Panksepp, J. (1998) Brain substrates of infant-mother attachment: Contributions of opioids, oxytocin, and norepinephrine. *Neuroscience & Biobehavioral Reviews*, 22: 437-452.

1999:

Ikemoto, S., & Panksepp, J. (1999). The role of nucleus accumbens dopamine in motivated behavior: A unifying interpretation with special reference to reward-seeking. *Brain Research Reviews*. 31: 6-41.

Panksepp, J. (1999). Emotions as viewed by psychoanalysis and neuroscience: an exercise in consilience, and accompanying commentaries. *Neuro-Psychoanalysis*. 1, 15-89. February 2011 24

Panksepp, J. (1999). Neural systems: from animals to humans. In: Levinson D, Ponzetti Jr JJ, Jorgensen PF, eds. *Encyclopedia of Emotions*. Vol. 2. pp. 475-478, New York: MacMillan.

Panksepp J. (1999). The Brain and Emotions (by E.T. Rolls). *Neuro-Psychoanalysis*.1:263-269.

2000:

Panksepp, J. (2000). The neurodynamics of emotions: An evolutionary-neurodevelopmental view, In eds. M.D. Lewis & I. Granic, *Emotion, Self-Organization, and Development*, pp. 236-264, New York: Cambridge Univ. Press.

Panksepp J. (2000). The neuro-evolutionary cusp between emotions and cognitions: Implications for understanding consciousness and the emergence of a unified mind science. *Consciousness & Emotions*. 1: 27-56.

Panksepp J. (2000). Emotions as natural kinds within the mammalian brain. In: M. Lewis & J. Haviland, eds. *The Handbook of Emotions*. 2nd ed. pp. 137-156, New York: Guilford.

Panksepp J. (2000). Emotional circuits of the mammalian brain: implications for biological psychiatry. In: Bittar, E.E., Bittar, N., eds. *Biological Psychiatry*. pp. 27-58, Stamford, CT: JAI Press Inc.

Panksepp J.(2000). Fear and anxiety mechanisms of the brain: clinical implications. In: Bittar, E.E., Bittar, N, eds. *Biological Psychiatry*. pp. 157-178, Stamford, CT: JAI Press Inc.

Panksepp, J. (2000). On preventing another century of misunderstanding: Toward a psychoethology of human experience and a psychoneurology of affect. *Neuro-Psychoanalysis*.2: 240-255.

Panksepp J. (2000). Affective consciousness and the instinctual motor system: the neural sources of sadness and joy. In: Ellis R, Newton N, eds. *The Caldron of Consciousness: Motivation, Affect and Self-organization, Advances in Consciousness Research*. pp. 27-54, Amsterdam: John Benjamins Pub. Co.

Panksepp J.(2000). The rat will play. M. Bekoff (ed.). *Behind the Dolphin's Smile*, Discovery.

Panksepp J. (2000). The riddle of laughter: neural and psychoevolutionary underpinnings of joy. *Current Directions in Psychological Sciences*. 9: 183-186.

Panksepp, J. & Panksepp, J.B. (2000). The seven sins of evolutionary psychology. *Evolution & Cognition*: 6: 108-131.

Panksepp, J. (2000). Neural behaviorism: From brain evolution to human emotion at the speed of an action potential. *Behavioral and Brain Sciences*, 23: 212-213.

Panksepp, J. (2000). The cradle of consciousness: a periconscious emotional homunculus? *Neuro-Psychoanalysis*. 2: 24-32.

Panksepp, J. (2000). Cats: the chemistry of caring. M. Bekoff (ed.) *Behind the Dolphin's Smile*. Discovery. February 2011 25

Panksepp J. (2000). A home for the soul: the neuroanatomy of the primal self. (Review of Damasio's —The feeling of what happens: body and emotion in the making of consciousnessII). *Neuro-Psychoanalysis*, 2: 81-88.

2001:

Panksepp J. (2001). The long-term psychobiological consequences of infant emotions: prescriptions for the 21st century. *Infant Mental Health Journal*. 22: 132-173.

Panksepp J. (2001). Neuro-affective processes and the brain substrates of emotion: emerging perspectives and dilemmas. In: Kazniak A, ed. *Emotion, Qualia, and Consciousness*. Pp. 160-180, World Scientific Pub. Co.: Singapore.

Panksepp, J. (2001). Jarvilehto's seductive ideas: Provocative concepts without data? *Consciousness & Emotions*. 2: 157-171.

Panksepp, J. & Panksepp, J.B. (2001). A continuing critique of evolutionary psychology: Seven sins for seven sinners, plus or minus two. *Evolution & Cognition*. 7: 56-80.

Panksepp, J. (2001). On the subcortical sources of basic human emotions and the primacy of emotional-affective (action-perception) processes in human consciousness. *Evolution & Cognition*. 7: 134-140.

Panksepp, J. (2001). The neuro-evolutionary cusp between emotions and cognitions: Implications for understanding consciousness and the emergence of a unified mind science. *Evolution & Cognition*. 7: 141-163.

Knierim, U., Carter, C.S., Fraser, F., Gartner, K., Lutgendorf, S.K., Mineka, S, Panksepp, J. & Sachser, N. (2001). Good Welfare; Improving quality of life. In: *Coping with challenge: Welfare in animals including humans*. D.M. Broom, pp. 79-100, Dahlem University Press: Berlin.

Panksepp, J. (2001). Response to ongoing discussion., *NeuroPsychoanalysis*. 3: 75-81.

Panksepp J. (2001). The long-term psychobiological consequences of infant emotions: prescriptions for the 21st century. (reprinting) *NeuroPsychoanalysis*. 3: 140-178.

2002:

Panksepp, J., Knutson, B., & Burgdorf, J. (2002). The role of emotional brain systems in addictions: A neuro-evolutionary perspective. *Addiction*. 97: 459-469.

Knutson, B., Burgdorf, J. & Panksepp, J. (2002). Ultrasonic vocalizations as indices of affective states in rat. *Psychological Bulletin*, 128:961-977.

Panksepp, J. (2002). ADHD and the neural consequences of play and joy. *Consciousness & Emotion*, 3: 1-6.

Panksepp, J. & Bernatzky, G. (2002). Emotional sounds and the brain: the neuro-affective foundations of musical appreciation. *Behavioural Processes*, 60: 133-155

Panksepp, J., Moskal, J., Panksepp, J.B., & Kroes, R. (2002). Comparative approaches in evolutionary psychology: Molecular neuroscience meets the mind. *Neuroendocrinology Letters*, 23 (Suppl. 4): 105-115.

Panksepp, J. (2002). On the animalian values of the human spirit: the foundational role of affect in psychotherapy and the evolution of consciousness. *European Journal of Psychotherapy, Counseling and Health*, 5: 1-22.

Panksepp, J., Gordon, N., & Burgdorf, J. (2002). Empathy and the action-perception resonance of basic social-emotional systems of the brain. *Behavioral and Brain Sciences*, 25:43-44.

Panksepp, J. (2002). The MacLean legacy and some modern trends in emotion research. In G.A. Cory, Jr. & R. Gardner, Jr. Eds. *The Evolutionary Neuroethology of Paul MacLean*, Praeger, Westport, CT, pp. ix-xxvii.

Panksepp, J. & Smith Pasqualini, M. (2002). —Mindscoping|| pain and suffering. *Behavioral and Brain Sciences*, 25: 468-469.

2003:

Panksepp, J. (2003). At the interface between the affective, behavioral and cognitive neurosciences: Decoding the emotional feelings of the brain. *Brain and Cognition*. 52: 4-14.

Panksepp, J. (2003). The self and _it's' vicissitudes|| Critique of commentaries. *Neuro-Psychoanalysis*, 4:44-61.

Panksepp, J. & Burgdorf, J. 2003. —Laughing|| rats and the evolutionary antecedents of human joy? *Physiology & Behavior*, 79, 533-547.

Panksepp, J. (2003). Can anthropomorphic analyses of —separation criesll in other animals inform us about the emotional nature of social loss in humans? *Psychological Reviews*, 110: 376-388.

Panksepp, J. (2003). Postscript: Toward an open-minded comparative study of the neuro-evolutionary substrates of affect. *Psychological Review*, 110: 395-396.

Panksepp, J. (2003). The neural nature of the core SELF: implications for understanding schizophrenia. Kircher & David, *The Self in Neuroscience and Psychiatry*, pp. 197-213. Cambridge University Press, Cambridge, UK.

Panksepp, J. (2003). Commentary on —Understanding Addictive Vulnerabilityll. *Neuro-Psychoanalysis*, 5, 21-29.

Panksepp, J. & Watt, D. (2003). The ego is first and foremost a body ego. Review of Antonio Damasio's *Looking for Spinoza*. *Neuro-Psychoanalysis*, 5: 201-215.

Panksepp, J. (2003). Feeling the pain of social loss. *Science*, 302: 237-239.

Panksepp, J. (2003). Damasio's error. *Consciousness & Emotion*, 4, 111-134.

Panksepp, J. (2003). An archeology of mind: The ancestral sources of human feelings. *Soundings*, LXXXVI, 41-69.

Panksepp, J. (2003). Commentary on —Understanding addictive vulnerabilityll: Toward a comprehensive psychobiological theory of addictions. *Neuro-Psychoanalysis*, 5: 21-29. February 2011 27

Panksepp, J. (2003). Trennungsschmerz als mogliche ursache fur panikattacken— neuropsychologische Uberlegungen und Befunde. *Personlichkeitsstorungen: Theorie und therapie*, 7: 245-251.

Panksepp, J. (2003). The peri-conscious substrates of affective consciousness. *PSYCHE*, 9(15), <http://psyche.cs.monash.edu.au/symposia/mangan/panksepp.html>

2004:

Schutter, D.J.L.G., Van Honk, J., & Panksepp, J. (2004) Introducing repetitive transcranial magnetic stimulation (rTMS) and its property of causal inference in investigating the brain-function relationship. *Synthese*. 141, 155-173

Panksepp, J. (2004). Consciousness (Review of —Radiant Cool). *Journal of the American Medical Association*, 291, 1388-1390.

Panksepp, J. (2004). Affect. In W. E. Craighead & C. B. Nemeroff (Eds.). *Concise Corsini Encyclopedia of Psychology and Behavioral Science*, pp. 22-23. John Wiley & Sons, Hoboken NJ.

Panksepp, J. (2004). Biological psychiatry sketched: past, present, future. In Panksepp J (ed) *Textbook of Biological Psychiatry*, pp. 3-32. Wiley, New York.

Liotti, M., & Panksepp, J. (2004). On the neural nature of human emotions and implications for biological psychiatry. In Panksepp J (ed) *Textbook of Biological Psychiatry*, pp. 33-74. Wiley, New York.

Deak, T., & Panksepp, J. (2004). Stress, sleep and sexuality in psychiatric disorders. In Panksepp J (ed) *Textbook of Biological Psychiatry*, pp. 111-144. Wiley, New York.

Peterson, B. & Panksepp, J. (2004). The biological psychiatry of childhood disorders. In Panksepp J (ed) *Textbook of Biological Psychiatry*, pp. 393-436. New York, Wiley.

Panksepp, J. (2004). The emerging neuroscience of fear and anxiety disorders. In Panksepp J (ed) *Textbook of Biological Psychiatry*, pp. 489-520. New York, Wiley.

- Panksepp, J., Harro, J. (2004). The future of neuropeptides in biological psychiatry and emotional psychopharmacology: Goals and strategies. In Panksepp J (ed) *Textbook of Biological Psychiatry*, pp. 627-660. New York, Wiley.
- Panksepp, J. (2004). Basic affects and the instinctual emotional systems of the brain: The primordial sources of sadness, joy, and seeking. In. *Feelings and Emotions: The Amsterdam Symposium*, pp. 174-193, Edited by A.S.R. Manstead, N. Frijda, & A. Fischer, New York: Cambridge University Press.
- Panksepp, J. (2004). Affective consciousness and the origins of human mind: A critical role of brain research on animal emotions. *Impuls*, 57, 47-60.
- Panksepp, J., Nocjar, C., Burgdorf, J., Panksepp, J.B. & Huber, R. (2004), The role of emotional systems in addiction: A neuroethological perspective. In. R.A. Bevins & M.T. Bardo (eds.) *50th Nebraska Symposium on Motivation: Motivational Factors in the Etiology of Drug Abuse*, Lincoln: Nebraska. Pp. 85-126. February 2011 28
- Panksepp, J. (2004). —Affective neuroscience and the ancestral sources of human feelings. In *Fragments of mind and brain*. Edited by Henri Cohen and Bridgette Stemmer, pp. 173-188, Marquette, MI: Northern Michigan University Press.
- Panksepp, J. (2004). Altruism and helping behaviors. *Encyclopedia of Neuroscience*, 3rd edition, G. Adelman & B.H. Smith (eds.) Elsevier.
- Panksepp, J. & Zellner, M. (2004). Towards a neurobiologically based unified theory of aggression. *Revue Internationale de Psychologie Sociale/International Review of Social Psychology*. 17, 37-61.
- Panksepp, J. (1989/2004). Altruism and helping behaviors, neurobiology. In G. Adelman & B.H. Smith (Eds.) *Encyclopedia of Neuroscience, 3rd edition*. Elsevier, New York.
- Panksepp, J. & Pincus, D. (2004). Toward a taxonomy of affects, *NeuroPsychoanalysis*, 6, 199-205.
- Panksepp, J. (2004). Emotions and affective experience. In M. Bekoff (ed.) *Encyclopedia of Animal Behavior, Vol. 2*, (pp. 548-554). Greenwood Press. Westport, CT.
- Panksepp, J. & Zellner, M. (2004). Towards a neurobiologically based unified theory of aggression. *Revue Internationale de Psychologie Sociale/International Review of Social Psychology*. 17, 37-61.
- Panksepp, J. & Moskal, J. (2004). Schizophrenia: The elusive disease. (Commentary on Burns target article) *Behavioral and Brain Sciences*, 27: 863-864.
- Panksepp, J. (2004). Free will and the varieties of affective and conative selves (Commentary on Wegner target article) *Behavioral and Brain Sciences*, 27:671-672.
- 2005:**
- Panksepp, J. & Smith Pasqualini, M. (2005). Development of emotional systems. In. J. Nadel & R. Muir (Eds.). (pp. 5-30) *Emotional Development*, Oxford University Press, Oxford, UK.
- Panksepp, J. (2005). Affective consciousness: Core emotional feelings in animals and humans. *Consciousness & Cognition*, 14, 19-69.
- Ciampi, L. & Panksepp, J. (2005). Energetic effects of emotions on cognitions— complementary psychobiological and psychosocial finding. In R. Ellis & N. Newton (eds). *Consciousness & Emotions, Vol. 1*. pp. 23-55, John Benjamins, Amsterdam.
- Panksepp, J. (2005). Toward a science of ultimate concern. *Consciousness & Cognition*, 14, 70-77.

Panksepp, J. (2005). Feelings of social loss: The evolution of pain and the ache of a broken heart. In R. Ellis & N. Newton (eds). *Consciousness & Emotions*, Vol. 1. pp. 23-55, John Benjamins, Amsterdam.

Panksepp, J. (2005). Why Does Separation-distress Hurt?: A Comment on MacDonald and Leary. *Psychological Bulletin*, 131: 224-230. February 2011 29

Panksepp, J. (2005). Emotional dynamics of the organism and its parts, (Commentary on Lewis target article) *Behavioral and Brain Sciences*, 28: 212-213.

Panksepp, J. (2005). Social support and pain: How does the brain feel the ache of a broke heart. *Journal of Cancer Pain & Symptom Palliation*, 1, 59-65.

Panksepp, J. (2005). Affective and social neuroscience approaches to understanding core emotional feelings. In F. McMillan (Ed.) *Mental Health and Well-being in Animals.*, (pp. 57-76). Blackwell Publishing, Oxford, UK.

Panksepp, J. (2005). On the embodied neural nature of core emotional affects. *Journal of Consciousness Studies*, 12, 158-184.

Panksepp, J. (2005). On the primal nature of affective consciousness: What are the relations between emotional awareness and affective experience? *Neuro-Psychoanalysis*, 7, 40-55.

Panksepp, J. (2005). Commentary on —Integrating the Psychoanalytic and Neurobiological Views of Panic DisorderII: Psychobiological theories of panic attacks and panic disorders. *Neuro-Psychoanalysis*, 7, 145-150.

2006:

Panksepp, J. (2006). On the neuro-evolutionary nature of social pain, support, and empathy. In *Pain: New Essays on Its Nature & the Methodology of Its Study*. M. Aydede (ed.) pp. 367-387. The MIT Press, Cambridge, MA.

Burgdorf, J. & Panksepp, J (2006). The neurobiology of positive emotions. *Neuroscience and Biobehavioral Reviews*, 30, 173-187.

Northoff, G., Henzel, A., de Greck, M., Bermpohl, F., Dobrowolny, H., & Panksepp, J. (2006). Self-referential processing in our brain—A meta-analysis of imaging studies of the self. *Neuroimage*, 31, 440-457.

Panksepp, J. (2006). Emotional endophenotypes in evolutionary psychiatry. *Progress in Neuro-Psychopharmacology & Biological Psychiatry*. 30, 774-784.

Panksepp, J. (2006). The core emotional systems of the mammalian brain: the fundamental substrates of human emotions. In J. Corrigan, H. Payne, & H. Wilkinson (Eds.). *About a Body: working with the embodied mind in psychotherapy*. (pp. 14-32) Hove, UK & NYC: Routledge.

Panksepp, J. (2006). Examples of application of the affective neuroscience strategy to clinical issues. In J. Corrigan, H. Payne, & H. Wilkinson (Eds.). *About a Body: working with the embodied mind in psychotherapy*. (pp. 33-49) Hove, UK & NYC: Routledge.

2007:

Panksepp J. (2007). The neuroevolutionary and neuroaffective psychobiology of the prosocial brain. In R.I.M. Dunbar and L. Barrett (eds.) *The Oxford Handbook of Evolutionary Psychology* (pp. 145-162) Oxford, UK: Oxford University Press. February 2011 30

Panksepp J. (2007). Neuroevolutionary sources of laughter and social joy: Modeling primal human laughter in laboratory rats. *Behavioral Brain Research*. 182(2): 231-44.

Alcaro, A., Huber, R. & Panksepp, J. (2007). Behavioral functions of the mesolimbic dopaminergic system: An affective neuroethological perspective. *Brain Research Reviews*, 56, 283-321.

Panksepp, J., (2007). Can PLAY diminish ADHD and facilitate the construction of the social brain. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, 10: 57-66.

Stein, D.J., van Honk, J., Ipser, J., Solms, M., & Panksepp, J. (2007). Opioids: from physical pain to the pain of social isolation. *CNS Spectrum*. 2007 2(9): 669-74.

Panksepp, J. & Ciompi, L. (2007). Affective 'comets' leave swirling emotional residues in schizophrenia. *Philoctetes*, 1, 27-34.

Panksepp, J., (2007). Neurologizing the psychology of affects: How appraisal-based constructivism and basic emotion theory can co-exist. *Perspectives in Psychological Sciences*, 2, 281-296.

Panksepp, J., Fuchs, T., Garcia, V.A., Lesiak, A. (2007). Does any aspect of mind survive brain damage that typically leads to a persistent vegetative state. *Philosophy, Ethics, and Humanities in Medicine*. 2(32), doi:10.1186/1747-5341-2-32.

Panksepp, J. (2007). Neuro-psychoanalysis may enliven the mindbrain sciences. *Cortex*, 43, 1106-1107.

Bilgrami, A., Fève, A., Goldstein, R., Hustvedt, S., Panksepp, J. & Whitebook, J. (2007). Free will. *Philoctetes*, 1, 47-68.

Panksepp J. (2007). Affective Consciousness. In M. Velmans and S. Schneider (eds.) *The Blackwell Companion to Consciousness*. (pp. 114-129) Malden, MA: Blackwell Publishing, Ltd.

Bivin, L. & Panksepp, J. (2007). Emotion-cognition mind/brain interpretation in empathy (Commentary on Watt's —Toward a Neuroscience of Empathy). *Neuro-Psychoanalysis*, 9, 141-146.

Panksepp, J. (2007). Criteria for basic emotions: Is DISGUST a primary —emotion? *Cognition and Emotion*, 21, 1819-1828.

Biven, L., & Panksepp, J. (2007). Commentary on —Toward a neuroscience of empathy: Integrating affective and cognitive perspectives." *Neuro-Psychoanalysis*, 9, 141-146.

Panksepp, J. (2007). Emotional feelings originate below the neocortex: Toward a neurobiology of the soul. *Behavioral and Brain Sciences*, 30, 101-103.

2008:

Panksepp, J. (2008). The affective brain and core-consciousness: How does neural activity generate emotional feelings? In M. Lewis, J.M. Haviland & L.F. Barrett February 2011 31 (Eds.) *Handbook of emotions*, (pp. 47-67) New York: Guilford.

Panksepp, J. & Moskal, J. (2008). Dopamine and SEEKING: Subcortical —reward systems and appetitive urges. In A. Elliot, (ed.) *Handbook of approach and avoidance motivation*, (pp. 67-87) New York: Taylor & Francis Group, LLC.

Zinken, J., Knoll, M. & Panksepp, J. (2008). Universality and diversity in the vocalization of emotions. In K. Izdebski (ed.) *Emotions in the human voice, Vol. 1. Foundations*. (pp. 185-202). San Diego, CA: Plural Publishing Inc.

Gallagher, S. & Panksepp, J. (2008). How to undress the affective mind: An interview with Jaak Panksepp. *Journal of Consciousness Studies*, 15, 89-119.

Panksepp, J. (2008). The power of the word may reside in the power of affect. *Integrative Physiological and Behavioral Science*, 42, 47-55.

Northoff, G. & Panksepp, J. (2008). The trans-species concept of self and the subcortical-cortical midline system. *Trends in Cognitive Sciences*, 12: 259-264.

Panksepp, J. (2008). Simulating the primal affective mentalities of the mammalian brain: A fugue on the emotional feelings of mental life and implications for AI-robotics. In D. Dietrich, G. Fodor, G. Zucker & D. Bruckner (Eds.) *Simulating the mind: A technical neuropsychanalytic approach*. (pp. 149-177. Vienna/New York: Springer.

Panksepp, J. (2008). Motivation. In L. Swartz, C. de la Rey, N. Duncan & L. Townsend (Eds). *Psychology: An Introduction*. (pp. 215-226). Cape Town, South Africa: Oxford University Press.

Panksepp, J. (2008). Cognitive Conceptualism—Where have all the affects gone? Additional corrections for Barrett et al. (2007). *Perspectives on Psychological Science* 3, 305-308.

Panksepp, J., (2008). PLAY, ADHD and the construction of the social brain: Should the first class each day be recess? *American Journal of Play*, 1: 55-79.

Krueger, J.M., Rector, D.M., Roy, S., Van Dongen, H.P., Belenky, G., & Panksepp, J. (2008). Sleep as a fundamental property of neuronal assemblies. *Nature Reviews Neuroscience*, 9: 910-919.

Panksepp, J. (2008). Commentary on —Is there a drive to love? *Neuro-Psychoanalysis*, 10, 166-169.

Panksepp, J. (2008). Carving —natural emotions: —Kindly from bottom-up but not top-down. *Journal of Theoretical and Philosophical Psychology*. 28, 395-422.

2009

Bohland, J. W., Wu, C., Barbas, H., Bokil, H., Bota, M., Breiter, H. C., et al. (2009). A proposal for a coordinated effort for the determination of brainwide neuroanatomical connectivity in model organisms at a mesoscopic scale. *PLoS Computational Biology* 5(3), e1000334.

Brown, N. & Panksepp J. (2009). Low-dose naltrexone for disease prevention and quality of life. *Medical Hypotheses*. 2009 72: 333-7. February 2011 32

Panksepp, J. (2009). Primary process affects and brain oxytocin. *Biological Psychiatry*, 65, 725-727.

Watt, D.F. & Panksepp, J. (2009). Depression: an evolutionarily conserved mechanism to terminate separation-distress? A review of aminergic, peptidergic, and neural network perspectives. *Neuropsychanalysis*, 11, 5-104.

Panksepp, J. & Northoff, G. (2009). The trans-species core self: The emergence of active cultural and neuro-ecological agents through self related processing within subcortical-cortical midline networks. *Consciousness & Cognition*, 18, 193-215.

Panksepp, J. (2009). Brain emotional systems and qualities of mental life: From animal models of affect to implications for psychotherapeutics. In Fosha, D., Siegel, D.J. & Solomon, M.F. (Eds.) *The healing power of emotion: Affective neuroscience, development & Clinical practice*. (pp. 1-26) Norton, New York City.

Panksepp, J. & Trevarthen, C. (2009). Motive impulse and emotion in acts of musicality and in sympathetic emotional response to music. In S. Maloch & C. Trevarthen (Eds.), *Communicative Musicality*. (pp. 105-146) Oxford, UK: Oxford University Press.

Vandekerckhove, M. & Panksepp, J., (2009). The flow of anoetic to noetic and auto-noetic consciousness: A vision of unknowing (anoetic) and knowing (noetic) consciousness in the remembrance of things past and imagined futures. *Consciousness & Cognition*, 18, 1018-28.

Panksepp, J. (2009/2010). The emotional antecedents to the evolution of music and language. Special Issue of *Musicae Scientiae*, devoted to "Music and Evolution" pp. 229-259.

Panksepp, J. (2009). A non-reductive physicalist account of affective consciousness. In S.J. Wood, N.B. Allen & C. Pantelis (Eds.). *The neuropsychology of mental illness*. (pp. 399-407), Cambridge University Press, Cambridge, UK.

Panksepp, J. (2009). Affective consciousness and the psychiatric comfort zones of experienced life. In S.J. Wood, N.B. Allen & C. Pantelis (Eds.). *The neuropsychology of mental illness*. (pp. 416-420), Cambridge University Press, Cambridge, UK.

Panksepp, J. (2009). Understanding affects: toward a neurobiology of primary process mentalities. In S.J. Wood, N.B. Allen & C. Pantelis (Eds.). *The neuropsychology of mental illness*. (pp. 425-427), Cambridge University Press, Cambridge, UK.

Panksepp, J. (2009). Core consciousness. In T. Bayne, A. Cleeremans & P. Wilken (Eds.) *The Oxford companion to consciousness*. (pp. 198-200). Oxford University Press, Oxford, UK

2010:

Panksepp, J., (2010). The basic affective circuits of mammalian brains: Implications for healthy human development and the cultural landscapes of ADHD. In C.M. February 2011 33

Worthman, P.M Plotsky, D.S. Schechter & C.A. Cummings (Eds.) *Formative experiences: The interaction of caregiving, culture, and developmental psychobiology*, (pp. 470-502). New York: Cambridge University Press.

Alcaro A, Panksepp J, Witczak J, Hayes DJ, Northoff G. (2010). Is subcortical-cortical midline activity in depression mediated by glutamate and GABA? A cross-species translational approach. *Neuroscience & Biobehavioral Reviews*. 34(4): 592-605.

Panksepp, J. (2010). Emotional causes and consequences of social-affective vocalization. In Brudzynski, S.M. (Ed.) *Handbook of Mammalian Vocalization*, (pp. 201-208). Oxford, UK: Academic Press.

Panksepp, J. (2010) Evolutionary substrates of addiction: The neurochemistries of pleasure seeking and social bonding in the mammalian brain. In J.D. Kassel (Ed.) *Substance abuse and emotion*, (pp.137-168) American Psychological Association, Washington, DC.

Panksepp, J. (2010). The evolutionary sources of jealousy: Cross-species approaches to fundamental issues. In S.L. Hart & M. Lagerstee (eds.) *Handbook of Jealousy: Theory, Research, and Multidisciplinary Approaches*. (pp. 101-120) New York: Wiley-Blackwell.

Panksepp, J. (2010). Energy is delight: The affective pleasures and pains of brain system for eating and energy regulation. In, L. Dube, A. Bechara, A. Drewnowski, J. LeBel, P. James & R.Y. Yada (Eds.) *Obesity Prevention Handbook*. (pp. 5-14). Academic Press, London, UK.

Panksepp, J., (2010). Foreword: Perspectives on passages toward an affective neurobiology of mind? In G. Koob, M., Le Moal, R. Thompson (Eds.) *Encyclopedia of Behavioral Neuroscience*. Elsevier.

Panksepp, J., (2010). Emotion. In G. Koob, M., Le Moal, R. Thompson (Eds.) *Encyclopedia of Behavioral Neuroscience*. Elsevier.

Panksepp, J., (2010). Play. In G. Koob, M., Le Moal, R. Thompson (Eds.) *Encyclopedia of Behavioral Neuroscience*. Elsevier.

Panksepp, J. (2010). The neurobiology of social loss in animals: Some keys to the puzzle of psychic pain in humans. In Jensen-Campbell, L.A. & MacDonald, G. (Eds.) *Social pain: Neuropsychological and health implications of loss and exclusion*, (pp. In press) American Psychological Association, Washington, DC.

Panksepp, J. (2010). Affective consciousness in animals: Perspectives on dimensional and primary-process emotion approaches (A commentary on Mendl, Burman & Paul, 2010). *Proceedings of the Royal Society B*, 277, 2905-2907.

Panksepp, J. (2010). Affective neuroscience of the emotional BrainMind: evolutionary perspectives and implications for understanding depression. *Dialogues in Clinical Neuroscience*, 12, 533-545.

Guerra, D.J., Colonnello, V., & Panksepp, J. (2010). The neurobiology of rage and anger & psychiatric implications with a focus on depression. In Pahlavan, F. February 2011 34 (Ed.), Multiple facets of anger: getting mad or restoring justice? (pp. 81-103). New York: Nova Science Publishers, Inc.

2011:

Panksepp, J. (2011). The neurobiology of social loss in animals: Some keys to the puzzle of psychic pain in humans. In Jensen-Campbell, L.A. & MacDonald, G. (Eds.) Social pain: Neuropsychological and health implications of loss and exclusion, (pp. 11-51). American Psychological Association, Washington, DC.

Panksepp, J., Fuchs, T., & Iacabucci, P. (2011). The basic neuroscience of emotional experiences in mammals: The Case of subcortical FEAR circuitry and implications for clinical anxiety. *Applied Animal Behaviour Science*, 129, 1-17.

Panksepp, J. & Watt, J. (2011). Why does depression hurt? Ancestral primary-process separation-distress (PANIC) and diminished brain reward (SEEKING) processes in the genesis of depressive affect. *Psychiatry*, 74, 5-14.

Bos, P.A., Panksepp, J., Bluthé, R.M., & Honk, J.V. (2011). Acute Effects of Steroid Hormones and Neuropeptides on Human Social-Emotional Behavior: A Review of Single Administration Studies. *Frontiers in Neuroendocrinology*. 2011 Jan 20. [Epub ahead of print].

Zellner, M.R., Watt, D.F., Solms, M., & Panksepp, J. (2011). Affective neuroscientific and neuropsychanalytic approaches to two intractable psychiatric problems: Why depression feels so bad and what addicts really want. *Neuroscience & Biobehavioral Reviews*. Jan 15. [Epub ahead of print].

Northoff, G., Wiebking, C., Feinberg, T., & Panksepp, J. (2011). The 'resting-state hypothesis' of major depressive disorder-A translational subcortical-cortical framework for a system disorder. *Neuroscience & Biobehavioral Reviews*. 2010 Dec 28. [Epub ahead of print].

Coenen, V.A., Schlaepfer, T.E., Maedler, B., & Panksepp, J. (2011). Cross-species affective functions of the medial forebrain bundle-Implications for the treatment of affective pain and depression in humans. *Neuroscience & Biobehavioral Reviews*. 2010 Dec 22. [Epub ahead of print].

Huber, R., Panksepp, J.B., Nathaniel, T., Alcaro, A., & Panksepp, J. (2011). Drug-sensitive reward in crayfish: An invertebrate model system for the study of SEEKING, reward, addiction, and withdrawal. *Neuroscience & Biobehavioral Reviews*. 2010 Dec 21. [Epub ahead of print].

Burgdorf, J., Panksepp, J., & Moskal, J.R. (2011). Frequency-modulated 50kHz ultrasonic vocalizations a tool for uncovering the molecular substrates of positive affect. *Neuroscience & Biobehavioral Reviews*. 2010 Dec 7. [Epub ahead of print].

Solms, M. & Panksepp, J. (2011). Why depression feels bad, in: Perry, E., Collerton, D., LeBeau, F., Ashton, H. (Eds.), New Horizons in the Neuroscience of Consciousness. (pp. 169-178) John Benjamins, Amsterdam. February 2011 35

BOOKS

- Morgane, J. P., and Panksepp, J. (Eds.). (1979). *Handbook of the Hypothalamus: Vol. 1 : Anatomy of the Hypothalamus* New York: Marcel Dekker, Inc.
- Morgane, J. P., and Panksepp, J. (Eds.). (1980). *Handbook of the Hypothalamus: Vol. 2 : Physiology of the Hypothalamus* New York: Marcel Dekker, Inc.

- Morgane, J. P., and Panksepp, J. (Eds.). (1980). *Handbook of the Hypothalamus: Vol. 3 : Part A. Behavioral Studies of the Hypothalamus* New York: Marcel Dekker, Inc.
- Morgane, J. P., and Panksepp, J. (Eds.). (1981). *Handbook of the Hypothalamus: Vol. 4 : Part B. Behavioral Studies of the Hypothalamus*. New York: Marcel Dekker, Inc.
- Clynes, M. and Panksepp, J. (Eds.) (1988). *Emotions and Psychopathology*, New York, Plenum Press.
- Panksepp, J (Ed.) (1995). *Advances in Biological Psychiatry, Vol. 1*, Greenwich, CT: JAI Press.
- Panksepp, J (Ed.) (1996). *Advances in Biological Psychiatry, Vol. 2*, Greenwich, CT: JAI Press.
- Panksepp, J. (1998). *Affective Neuroscience: The Foundations of Human and Animal Emotions*. New York: Oxford University Press. ISBN 0-19-509673-8.
- Panksepp, J. (Ed.) (2004) *A Textbook of Biological Psychiatry*, New York, Wiley. ISBN 0-471-43478-7.
- Panksepp, J. (1998/2005). *Affective Neuroscience: The Foundations of Human and Animal Emotions*. New York: Oxford University Press. ISBN 0-19-517805-X (Pbk.).

PUBLISHED SOCIETY OF NEUROSCIENCE ABSTRACTS

1971:

Panksepp, J. The elucidation of hypothalamic control of feeding with C14 tracer techniques. First annual meeting of Society for Neuroscience, Program and Abstracts, 1971, p. 67.

1977:

Vilberg, T., Bean, N., Bishop, P., Porada, K., and Panksepp, J. Possible relations between brain opiates and social behaviors. *Neuroscience Abstracts*, 1977, 3, 303.

1978:

Panksepp, J., Herman, B., Vilberg, T. An opiate excess model of childhood autism. *Neuroscience Abstracts*, 1978, 4, 500.

1979: February 2011 36

Panksepp, J. The regulation of play: Neurochemical controls. *Neuroscience Abstracts*, 1979, 5, 172.
DeEskinazi, F. G. and Panksepp, J. Opiates lead to persistence of spatial habits with social rewards. *Neuroscience Abstracts*, 1979, 5, 315.

1980:

Bishop, P., Panksepp, J., Sahley, T. L. Opiate effects on social comfort and imprinting. *Neuroscience Abstracts*, 1980, 6, 105.

Najam, N., Herman, B. H. and Panksepp, J. Evidence for ascending endorphinergic inhibition of distress vocalization. *Neuroscience Abstracts*, 1980, 6, 361.

Jalowiec, J. E., Panksepp, J., DeEskinazi, F., Bishop, P. Opioid control of play and social dominance. *Neuroscience Abstracts*, 1980, 6, 856.

1981:

Beatty, W. W., Dodge, A. M., Dodge, L. J., White, K. and Panksepp, J. Psychomotor stimulants, social isolation, and play in young rats. *Neuroscience Abstracts*, 1981, 7, 204.

Bishop, P. & Panksepp, J. Reduction of long-term food intake following ventricular infusion of ethanolamine-o-sulphate. *Neuroscience Abstracts*, 1981, 7, 385.

Rossi III, J., Davies, R. F., Zolovick, A. J. & Panksepp, J. Pharmacological depletion of norepinephrine and feeding behavior in the rat. *Neuroscience Abstracts*, 1981, 7, 386.

1982:

Normansell, L. A., Siviyy, S., White, K., Panksepp, J. Naloxone increases social need. *Neuroscience Abstracts*, 1982, 8, 592.

Siviy, S., Davies, G., Najam, N., Rossi III, J., Panksepp, J. Food deprivation, naloxone and play. *Neuroscience Abstracts*, 1982, 8, 605.

1983:

Siviy, S., Panksepp, J., White, K. Neuroanatomical substrates of juvenile play in rats. *Neuroscience Abstracts*, 1983, 9, 535.

Rossi III, J. and Panksepp, J. The relationship between electrically elicited sniffing and self-stimulation in the rat. *Neuroscience Abstracts*, 1983, 9, 564.

Panksepp, J., Normansell, L. A., Siviy, S., Buchanan, A., Zolovick, A., Rossi III, J., and Conner, R. A cholinergic command circuit for separation distress. *Neuroscience Abstracts*, 1983, 9, 979.

1984:

Siviy, S. M. and Panksepp, J. Dorsomedial diencephalic control of juvenile play in the rat. *Neuroscience Abstracts*, 1984, 10, 612.

Panksepp, J., Sahley, T. L., and Normansell, L. A. Cholinergic control of social play. *Neuroscience Abstracts*, 1984, 10, 1177. February 2011 37

Cox, J., Schoen, L., Normansell, L. A., Rossi III, J., Siviy, S., and Panksepp, J. Dopaminergic substrates of play. *Neuroscience Abstracts*, 1984, 10, 1177.

Normansell, L. A. & Panksepp, J. Play in decorticate rats. *Neuroscience Abstracts*, 1984, 10, 612.

1985:

Siviy, S. M., and Panksepp, J. Somatosensory modulation of juvenile play in the rat. *Neuroscience Abstracts*, 1985, 11, 288.

Cox, J., Strobe, T., and Panksepp, J. Amphetamine-induced rebound in play. *Neuroscience Abstracts*, 1985, 11, 718.

Normansell, L. A., Bishop, P. and Panksepp, J. Anatomy of affective vocalizations in chicks. *Neuroscience Abstracts*, 1985, 11, 1171.

Deyo, R. A., Conner, R., Panksepp, J. and Moskal, J. R. Effects of a monoclonal antibody against rat hippocampal dentate cells on REM activity in five-day-old rat pups. *Neuroscience Abstracts*, 1985, 11, 838.

1986:

Deyo, R., Lowery, J., Mendelson, W., Panksepp, J., Conner, R., and Moskal, J., Intracerebral injection of an antihippocampal monoclonal antibody elevates activated sleep (REM) in rats. *Neuroscience Abstracts*, 1986, 12, 154.

Crepeau, L., Normansell, L. A., and Panksepp, J. Effects of chronic chlordiazepoxide and morphine on separation distress in domestic chicks. *Neuroscience Abstracts*, 1986, 12, 914.

Sacks, D. S., and Panksepp, J. Neonatal capsaicin increases play deficits produced by xylocaine. *Neuroscience Abstracts*, 1986, 12, 940.

1987:

Panksepp, J., Crepeau, L., and Clynes, M. Effects of CRF on separation distress and juvenile play. *Neuroscience Abstracts*, 1987, 13, 1320.

Sacks, D. S. and Panksepp, J. Electrical stimulation of the lateral hypothalamic fear/flight sites in rats produces conditional freezing. *Neuroscience Abstracts*, 1987, 13, 452.

Crepeau, L. and Panksepp, J. Effects of chlordiazepoxide and morphine on CER attenuated juvenile rat play. *Neuroscience Abstracts*, 1987, 13, 1323.

Normansell, L. A., Zeisloft, D., and Panksepp, J. Effect of glutamate agonists and antagonists on calling in domestic chicks. *Neuroscience Abstracts*, 1987, 13, 763.

1988:

Panksepp, J. Posterior pituitary hormones and separation distress in chicks. *Neuroscience Abstracts*, 1988, 14, 287.

Abbott, B. B. and Panksepp, J. α -MSH effects on separation-induced distress vocalizations in chicks. *Neuroscience Abstracts*, 1988, 14, 287.

Sacks, D. S. and Panksepp, J. ESB of lateral hypothalamic fear/flight sites in rats produces conditioned place avoidance. *Neuroscience Abstracts*, 1988, 14, 1104.

Crepeau, L. and Panksepp, J. Selective lesions of the dual olfactory system and cat-smellattenuated play behavior among juvenile rats. *Neuroscience Abstracts*, 1988, 14, 1104.

Normansell, L. A., Zeisloft, D. and Panksepp, J. Effects of kainic acid on emotional and sensorimotor behavior in domestic chicks. *Neuroscience Abstracts*, 1988, 14, 1105.

1989:

Crepeau, L. & Panksepp, J. The influence of early handling and prior play experience on open field & elevated plus maze exploration, and on brain & adrenal weights in juvenile rats. *Neuroscience Abstracts*, 1989, 15, 57.

Normansell, L. A. and Panksepp, J. ACTH effects on isolation-induced distress calling in chicks, *Neuroscience Abstracts*, 1989, 15, 58.

Panksepp, J., Lensing, P. and Bernatzky, G. Delta and kappa opiate receptor control of separation distress. *Neuroscience Abstracts*, 1989, 15, 845.

1990:

Homan, R., Panksepp, J., McSweeney, J., Badia, P., Borroughs, E., Chapman, L. and Conner, R. d-Amphetamine effects on language and motor behaviors in a chronic stroke patient. *Neuroscience Abstracts*, 1990, 16, 439.

Normansell, L. A. & Panksepp, J. 5HT_{1A} receptor modulation and separation distress in domestic chicks. *Neuroscience Abstracts*, 1990, 16, 599.

Panksepp, J., Yates, G., Nelson, E., Ikemoto, S. & Conner, R. Social-isolation induced despair in chicks and mice: simple animal models of reactive depression. *Neuroscience Abstracts*, 1990, 16, 599.

1991:

Nelson, E., Panksepp, J. & Ikemoto, S., Melatonin modulation of separation distress, social play and affect. *Neuroscience Abstracts*, 1991, 17, 878.

1992:

Ikemoto, S. & Panksepp, J. Examination of relations between self-stimulation and sniffing pathways. *Neuroscience Abstracts*, 1992, 18, 711.

Panksepp, J., Klimesch, W., Nelson, E. and Nocjar, C. Effects of amantadine on play and other social emotional processes. *Neuroscience Abstracts*, 1992, 18, 872.

1993:

Panksepp, J., Lensing, P., Klimesch, W., Schimke, H. & Vaningan, M. (1993). Event related desynchronization (ERD) analysis of rhythmic brain functions in normal and autistic people. *Neuroscience Abstracts*, 19, p. 1885.

Bernatsky, G., Panksepp, J., Nelson, E. & Saba, A. (1993). Modulation of opiate tolerance on social behaviors by MK-801. *Neuroscience Abstracts*, 19, 1787.

Ikemoto, S. & Panksepp, J. (1993). Dissociation of appetitive and consummatory motivation by systemic injections of dopamine (DA) antagonists or microinjections of DA or muscarinic antagonist in the nucleus accumbens of rats. *Neuroscience Abstracts*, 19, 812.

1994:

Nelson, E., Bird, L., Deak, T., Vaningan, M. & Panksepp, J. (1995). Social Behavior in the young, vasopressin deficient Brattleboro rat. *Neuroscience Abstracts*, 20, 366.

Panksepp, J. (1995). Prolactin reduces separation distress in young domestic chicks. *Neuroscience Abstracts*, 20, 811.

1995:

Knutson, B., & Panksepp, J. (1995). Clomipramine pretreatment blocks the development of schedule-induced polydipsia in rats. *Neuroscience Abstracts*, 21, 1671.

Nelson, E. & Panksepp, J. (1995). Central oxytocin antagonism blocks preweanling rat pups' acquisition of preference for maternally associated odor. *Neuroscience Abstracts*, 21: 756.

Nocjar, C., Panksepp, J., & Conner, R.L. (1995). Effect of chronic psychostimulant and opiate treatment on subsequent long-term appetitive behaviors for drug, sexual and food reward: Interaction with environmental variables. *Neuroscience Abstracts*, 21: 1466.

Rossi III, J., Nocjar, C., Vaningan, M.Y., Moore, T. J., Ademujohn, C.Y., Ritchie, G. D., & Panksepp, J. (1995). Neurobehavioral assessment of the effects of subconvulsive doses of a potent convulsant (TMPP) in three rat strains. *Neuroscience Abstracts*, 21: 1475.

Vaningan, M., & Panksepp, J. (1995). Cortical arousal patterns in response to emotional and neutral auditory stimuli. *Neuroscience Abstracts*, 21: 951.

Walhoer, M., Panksepp, J., Pruitt, D., Vaningan, M., McKee, D., Rossi III, J., & Lindsey, J. (1995). An animal model of auditory integration training (AIT). *Neuroscience Abstracts*, 21: 736.

1996:

Panksepp, J., Bekkedal, M. Y., & Walter, M. (1996). Potent suppressive effects of the putative satiety agent GLP-1 on social-emotional behaviors. *Neuroscience Abstracts*, 22: 16.

Knutson, B., Panksepp, J., Narayanna, T. K., & Rossi III, J. (1996). Early central serotonin damage increases "anxious" behaviors in juvenile rats. *Neuroscience Abstracts*, 22: 446.

Bekkedal, M.Y., Rossi III, J., & Panksepp, J. (1996). Chronic changes in social behaviors of the rat following short-term treatment with a bridged organophosphate. *Neuroscience Abstracts*, 22: 1136.

Walter, M. & Panksepp, J. (1996). Behavioral assessment of MK-801 induced neuropathy as a model of schizophrenia. *Neuroscience Abstracts*, 22: 1675.

Rossi III, J., Bekkedal, M.Y., Knutson, B., Ritchie, G. D., & Panksepp, J. (1996). Long-term behavioral sensitization induced by a bridge organophosphate. *Neuroscience Abstracts*, 22: 2091.

1997:

Bekkedal, M.Y., Panksepp, J. & Rossi III, J. (1997). Changes in frontal EEG activity in response to auditory emotional stimuli. *Neuroscience Abstracts*, 23:

Bernatzky, G., Panksepp, J., Rossi III, J. and Narayanan, T. K. (1997). Effects of music on neurochemical parameters in the avian brain. *Neuroscience Abstracts*, 23: .

Burgdorf, J., Walter, M. J., Turner, C., Borkowski, C., Bekkedal, M.Y.V., Secor, A., Hennessey, M. & Panksepp, J. (1997). Developmental effects of central oxytocin on the neonatal rat. *Neuroscience Abstracts*, 23:

Knutson, B., Burgdorf, J. & Panksepp, J. (1997). High frequency ultrasonic vocalizations mark amphetamine preference in rats. *Neuroscience Abstracts*, 23:

Panksepp, J., Burgdorf, J., Turner, C., & Walter, M. (1997). A new animal model for ADHD: Unilateral frontal lobe damage in neonatal rats. *Neuroscience Abstracts*, 23:

Walter, M., Bekkedal, M.Y.V., Borkowski, C.M., Panksepp, J. & Rossi III, J. (1997). Early exposure to trimethylolpropane phosphate affects emotional and social responsivity in rats. *Neuroscience Abstracts*, 23:

1998:

Panksepp, J. & Burgdorf, J. (1998). Laughing Rats? Playful tickling arouses 50KHz ultrasonic chirping in rats. *Neuroscience Abstracts*, 24: 691.

Gordon, N., Panksepp, J., Secor, A., Burgdorf, J., Turner, C., & Bingman, V. (1998). Peripherally administered kainic acid induced brain damage effects on social and non-social behaviors. *Neuroscience Abstracts*, 24: 691.

Bernatzky, G., Panksepp, J., Burgdorf, J., Nordholm, A. & Jung, A. (1998). Neurochemical consequences of daily music on young socially-housed and isolated chicks. *Neuroscience Abstracts*, 24: 1199.

1999-2010: (about 3 per year, no longer listed, available by request)

Selected Presentations at Major International Meetings and Symposia (Presentations at domestic, national and regional meetings, which number over 250, are not summarized).

1. IV International Conference on the Regulation of Food and Water Intake
Cambridge, England, August 1971
"Ventromedial Hypothalamic Regulation of Food Intake"
2. 57th Annual Meeting of the Federation of Societies for Experimental Biology: Symposium on Control of Feeding and the Regulation of Energy Balance
Atlantic City, New Jersey, April 1973
"Hypothalamic Regulation of Energy Balance and Feeding Behavior"
3. International Symposium on the Physiology of Food and Fluid Intake
Chateau D'Ermenonville, Paris, France, October 1974
"Effects of Insulin, Obesity and Diabetes on Glucose Preference in Rats"
4. International Symposium on the Physiology of Food and Fluid Intake
Jerusalem, Israel, October 1974
"Modification of Daily Feeding Rhythms by Palatability"
5. XXVI International Congress of Physiological Sciences
New Delhi, India, October 1974
"The Medial Hypothalamus and Metabolic Control of Feeding Behavior"
6. Joint U.S. / Japan Seminar on Central Neural Control of Eating and Obesity
Honolulu, Hawaii, January 1975
"Central Metabolic Factors Involved in the Neural Regulation of Feeding"
7. International Brain Research Association Conference on Hunger
Pacific Palisades, California, January 1975
"Mathematical Analysis of Feeding Patterns"

8. First International Conference on Brain Stimulation Reward
Beerse, Belgium, April 1975
"Reversible Disruption of Self-Stimulation by Inhibition of Axoplasmic Flow"
9. Symposium of the International Society for the Study of Chemical Senses
Fukuoka, Japan, September 1976
"Effects of Insulin and Hypothalamic Lesions on Glucose Preference"
10. Neuropeptide Conference of International Society for Psychoneuroendocrinology
Philadelphia, Pennsylvania, June 1976
"Effects of α -MSH on Motivation, Vigilance and Brain Respiration"
11. VI International Conference on the Physiology of Food and Fluid Intake
Paris, France, July 1977
"The Role of GABA in Ventromedial Hypothalamic Regulation of Feeding"
12. International Narcotic Research Conference
North Falmouth, Massachusetts, June 1979
"Opiates and Social Dependence"
13. International Symposium on GABA and Other Inhibitory Neurotransmitters
Myrtle Beach, South Carolina, November 1979
"GABAminergic Control of Food Intake"
14. Society for Research on Child Development Symposium on Altruism & Aggression
Washington, D. C., June 1982
"The Psychobiology of Prosocial Behavior"
15. International Narcotic Research Conference, North Falmouth, Massachusetts, July 1982
"Brain Opioids and Social Bonding"
16. Animal Behavior Society, Symposium for J. P. Scott
Lewisburg, Pennsylvania, June 1983
"Brain Opioids and Separation Distress"
17. International Society for *Developmental Psychobiology*
Baltimore, Maryland, October 1984
"Opioid Modulation of Juvenile Social Behavior"
18. International Society for The Study of Aggression
Symposium on the Ethnopharmacology of Social Behavior
Chicago, Illinois, July 1986
"Pharmacological Modulation of Social Play"
19. International Society for the Study of Emotions, Symposium on the Biology of Emotions
Amsterdam, Holland, August 1986
"Neurological Organization of Emotive Processes"
20. Giuseppe Moruzzi Memorial Symposium on Emotions and Hemispheric Specialization
Rome, Italy, November 1986
"The Psychobiology of Emotions: The Animal Side of Human Feelings"
21. International Society for the Study of Emotions
Symposium on the Psychobiology of Emotions
Worcester, Massachusetts, August 1987
"Brain Mechanisms of Emotions"
22. NATO Advanced Research Workshop on the Psychobiology of Stress

Sorrento, Italy, August 1988

"The Neuroanatomical and Neurochemical Control of Separation Distress"

23. International Society for the Study of Emotions

Paris, France, March 1989

"Posterior Pituitary Hormones and Separation Distress"

24. International Meeting on Experimental Biology and The Autistic Syndromes

Durham, England, March 1989

"The Theoretical and Empirical Basis for the Opioid Excess Theory of Autism"

25. International Society for Research on Aggression

Szomathey, Hungary, June 1989

"Opiate Antagonists: Effects on the Social Aggression of Rats and Autistic Children"

26. Conference on the Role of Animal Models in Psychopharmacology

Amsterdam, Holland, June 1990

"Ethological Models of Depression"

27. International Narcotic Research Conference

Nordwijerhout, Holland, June 1990

"Naltrexone Therapy of Autistic Children"

28. New York Academy of Science Conference on Oxytocin in Maternal & Social Behavior

Washington, D. C., June 1991

"Oxytocin: Separation Distress and Confidence"

29. OASI Conference on Biological Aspects of Autism

Troina, Italy, September 1991

"Naltrexone and Other New Pharmacotherapies for Autism"

30. Wener-Gren Symposium on Mother-Infant Interactions

Stockholm, Sweden, November 1991

"Role of Opioids in the Regulation of Early Social Behaviors"

31. Keynote Address, European Animal Caretakers Association

Salzburg, Austria, September, 1992

"The Role of Emotions in Animal Welfare"

32. American Association for the Advancement of Science

Symposium on Natural Coding in Musical Linguistics and Musicality

Boston, Massachusetts, January 1993.

"Music and Brain Mechanisms of Emotionality."

33. International Narcotics Research Conference

Skovde, Sweden, July 1993

"The Role of Opioids in Emotional Behavior and Childhood Autism"

34. Karajan Symposium on Brain and Music

Vienna, Austria, June 1994

"The Emotional Basis of Skin Orgasms Induced by Music"

35. 4th International Behavioral Neuroscience Society Conference

Santiago, Spain, May 1995

"Oxytocinergic Control of Social Bonding"

36. Rudolf Buchheim Conference of Neuropharmacology

Tartu, Estonia, May 1995

"Neuropeptide Control of Emotions in the Brain."

37. New York Academy of Science Conference on The Integrative Neurobiology of Affiliation
Washington, D. C., March, 1996
"Brain Mechanisms of Social Reward."

38. International Society for the Study of Emotions
Toronto, Canada, August 1996
"Neurochemical Control of Emotional Processes"

39. International Congress of the Society for MusicMedicine
San Antonio, Texas, October 1996
"Emotional Effects of Music as Measured by EEG and 'Chill' Responses"

40. Meeting of the International Behavioral Neuroscience Society.
Santiago de Compostella, Spain May 1997.
"Brain Mechanisms for Separation Distress and Social Bonding"

41. Toward a Science of Consciousness 1998: Tuscon III
Tuscon, Arizona April, 1998
"Affective Consciousness and the neural origins of the self: The case of animal laughter"

42. University of Geneva Emotion Week:
Geneva, Switzerland, May 1998
"The Cerebral Consequences of Happy and Sad Music as Measured by the EEG"

43. International School of Cybernetics meeting on —Emotions, Consciousness & Qualiall
Naples and Ischia, Italy, October 1998
—*Neurochemical Control of Moods and Emotions"*
—*The Role of Early Social Emotions on the Learning of Social Behaviors."*

44. Psychological Trauma: Maturation Processes and Interventions (Boston, March 2000)
*"How the brain comes to make maps of the world by integrating emotions and cognitions:
Implications for treatments."*

45. First International Congress on Neuro-Psychoanalysis (London, July, 2000).
"The Brain, Emotions and Affective Processes"

46. 15th International Society of Human Ethology (Salamanca, Spain, August, 2000).
"Affective neuroscience and socioemotional systems of the brain."

(About a dozen international talks a year since the turn of the millennium) The ones for 2005 were as follows:

1. February 21, 2005 (with Jeff Burgdorf): Title *"The Neurobiology of Positive Emotions."* to be presented at The VI. Göttingen Conference of the German Neuroscience Society Symposium on "The acoustics of emotions in nonhuman mammals and man".
2. March 14, 2005: Keynote Title: *Brain substrates of autism and attention deficit disorders.* Child Neuropsychiatry Conference, Malmö, Sweden 2005.
3. March 17, 2005: Keynote Title: *The affective neuroscience of socio-emotional actions and feelings,* 56th Annual Meeting of the German College for Psychosomatic Medicine in Dresden, Germany.
4. March 20, 2005: Chimpanzee FACS Symposium, University of Portsmouth, UK.
5. May 27, 2005: Keynote Title: *The Archeology of Mind: The Brain Substrates of Affect.* Keynote at: German Biological Psychology Congress (Psychologie & Gehirn), Bochum, Germany.

6. June 20, 2005: Title: *The Affective Substrates of Reinforcement*. for Symposium on Motivation and Action Selection in Conditioned Behaviour, University College London.
7. June 20, 2005: Title: *Affective Neuroscience and its Implications For Psychiatry*, II Thematic Conference of Psychiatry, 2005, Rome, Italy.
8. July 24-27, 2005, Title: *The SEEKING System and the Basic Neuropsychological Substrates of Schizophrenia*. 6th International Neuro-Psychoanalysis Congress, on Dreams and Psychosis, Rio de Janeiro, Brazil.

Not completed since 2005

Invited Colloquium Presentations

During the past 20 years, invited Colloquia have been presented at: University of Sussex, Worcester Foundation for Experimental Biology, McGill University, University of Michigan (twice), Brandeis University, University of Texas, Ohio Drug Studies Institute, UCLA, University of Toronto, Rutgers University (twice), Purdue University, State University of New York at Geneseo, University of Pittsburgh, University of Toledo (twice), Esalen Institute (Big Sur, CA), Stanford University, Ohio State University (three times), Oberlin College (twice), Lafayette Clinic (Detroit), Dortha Dix Hospital (NC), University of Ottawa, Miami University, Kent State University, Wayne State University, University of Kentucky, Addiction Research Foundation (Lexington, KY), Southern Illinois University, Michigan State University, Dalhousie University, Medical College of Ohio (four times), National Institute of Mental Health, John's Hopkins University, Dartmouth College, Gettysburg College, University of Bordeaux, University of Paris, Cambridge University, University of Edinburgh, University of Rome, University of Utrecht, University of Amsterdam, University of Dusseldorf, University of Salzburg (five times), University of Linz, University of Ulm, University of Munich, University of Graz, University of California Berkley, University of Virginia, Konrad Lorenz Institute, Animal Behavior Institute (Rutgers), Denison University, University of Kuwait, Montana State University, New York Psychoanalytic Institute (twice), Oxford University, Heidelberg University (Germany), University of Wales, University of Maryland, University of South Carolina Medical School, Heidelberg University (Tiffin, Ohio), Open University (UK), East London University, University of Portsmouth, Cambridge University (UK), University of Heidelberg (Germany), Columbia University, University of Rochester, University of Tennessee, Washington University, University of Oklahoma Medical Center, University of Cincinnati, Cornell University Medical School, University of Bielefeld, University of Lisbon, University of Giessen, Kenyon College, Cornell University Medical School, Simon Fraser University, University of California, Davis, University of British Columbia.

Other Professional Activities

1. Invited reviewer for the following journals: *Science / Nature / Physiological Psychology / American Journal of Physiology / Physiology & Behavior / Behavioral Neuroscience / Pharmacology / Biochemistry and Behavior / Aggressive Behavior / Psychoneuroendocrinology / Comparative Physiology / Journal of the Autonomic Nervous System / Neuroscience and Biobehavioral Reviews / Developmental Psychology / Developmental Psychobiology / Behavioral Brain Research / Journal of Abnormal Psychology / Psychological Bulletin / Psychological Reviews / The Behavioral and Brain Sciences / Life Sciences / Neuro-Psychoanalysis / Research in Developmental Disabilities / Research / Music Perception / European Journal of Neuroscience / Neuroscience / Cognitive, Behavioral and Affective Neuroscience / Consciousness & Cognition / Consciousness & Emotion / Biological Psychiatry / Neuropsychopharmacology / Neuroscience Letters / Genes, Brain and Behavior.*
2. Regular invited reviewer for study sections of NSF and NIH and member of Biopsychology Study Section, the National Institute of Health (1980 - 1984).
3. Series Editor: Handbook of the Hypothalamus (Marcel Dekker, Inc.); *Advances in Biological Psychiatry*, (JAI Press, Greenwich, CT). Newsletter Producer: *Lost & Found, Quarterly Perspectives on Brain, Emotions, and Culture (1994-1999)*. (Member of the editorial board for: *Evolutionary Psychology, Cognitive, Behavioral and Affective Neuroscience / Neuro-Psychoanalysis / Consciousness & Emotion*. . . and half a dozen others in the past).

4. Director, Memorial Foundation for Lost Children—a non-profit foundation for integrating information related to childhood neurological disorders and providing regional outreach services for autistic children.

Membership in Professional or Scholarly Societies

- American College of Neuropsychopharmacology
- Society for Biological Psychiatry
- Society for Neuroscience
- International Society for the Study of Emotion
- International Society for Behavioral Neuroscience
- International Society for Neuro-Psychoanalysis
- International Behavioral and Neuro-Genetic Society
- International Society for Human Ethology