VITA

Name: Joel Peter Rosenfeld

Date of Birth: March 9, 1939

Place of Birth: New York City, New York

Education:

B.A., 1959, Columbia College, New York City; Fields: Biology, HumanitiesM.A., 1961, Columbia University, New York City; Field: English and Comp. Lit.M.A., 1969, University of Iowa, Iowa City; Field: PsychologyPh.D., 1971, University of Iowa, Iowa City; Field: Physiological Psychology

Honors:

NDEA Title IV Fellowship 1966-1969 USPHS Interdisciplinary Fellowship 1969-1970 Sigma Xi Society NATO Symposium Award 1976 Citation Paper (11th Ann. Meeting Biofeedback Society of America, 1980) Citation Paper (12th Ann. Meeting Biofeedback Society of America, 1981) Research Recognition Award; Biofeedback Society of America, 1988 World Congress Scientific Committee Member, Int. Assoc. Psychophysiol., 2004

Society Memberships:

AAAS, Society for Neuroscience, International Association for Study of Pain, American Psychological Society, Association for Applied Psychophysiology, American Psychological Association, American Pain Society, Society for Psychophysiological Research, American Polygraph Association

Professional Society Offices:

Board of Directors, Association for Applied Psychophysiology, 1985-1988 President, Association for Applied Psychophysiology and Biofeedback, 1990-1991 President, Academy of Certified Neurotherapists, 1995-2000

Psychotherapy Training:

a) Coursework: University of Iowa, 1966-1968; Chicago Institute for Psychoanalysis Continuing Education Program, 1974-1975.

b) Supervised Clinical Practicum: Northwestern University Student Health Service, Mental Health Department, Searle Hall, Evanston, IL., 1976-1979.

License:

State of Illinois: Registered Psychologist #72-1897, Licensed Clinical Psychologist #071-001897

Experience:

Professor, Department Neurobiology and Physiology, Northwestern University, 1981-.
Professor, Department of Psychology, Northwestern University, 1979-.
Associate Professor, Psychology Department, Northwestern University, 1974-1979.
Joint Appointment with Psychiatry Department, Northwestern University School of Medicine, 1975-1980.
Assistant Professor, Psychology Department, Northwestern University, 1070, 1074.

Assistant Professor, Psychology Department, Northwestern University, 1970-1974. Instructor, Psychology Department of Iowa, 1969.

Consulting and Review Panels:

Associate editor, Int. J. Psychophysiology Associate editor, Journal of Neurotherapy Editorial Board: <u>Biofeedback and Self-Regulation</u>, 1985-, Int. J. Rehabilitation and Health, Journal of Credibility assessment and Witness Psychology, Applied Psychophysiology

Consulting Editor: <u>Science</u>, Dryden Press, Prentice-Hall, Allyn and Bacon, Inc., <u>Life</u> <u>Sciences</u>, <u>Physiology and Behavior</u>, <u>Psychophysiology</u>, <u>Brain Research</u>, <u>Experimental</u> <u>Neurology</u>, <u>Pharmacology</u>, <u>Biochemistry</u>, and <u>Behavior</u>, <u>Journal of Craniomandibular</u> <u>Disorders</u>, <u>Facial and Oral Pain</u>, <u>Int. J. Psychophysiol.</u>, <u>Chemical Senses</u>, <u>Journal of</u> <u>Psychophysiology</u>, <u>The Lancet</u>, <u>Biological Psychology</u>, <u>Biological Psychiatry</u>, <u>Biological</u> <u>Psychology</u>

Outside reviewer, <u>National Science Foundation</u>, 1975-, <u>NIMH</u>, 1977-, NAMRC (Canada) 1993-

Member of Panel of Assessors, <u>National Health and Medical Research Council of Australia</u>, 1977-.

Member of Neurological Sciences Study Section, NIH, 1984-1987.

Presentations:

- (1) Operant control of auditory evoked potentials in humans. <u>Second Annual Winter</u> <u>Conference on Brain Research</u>, Aspen, Colorado, 1969. (with A.P. Rudell and S.S. Fox)
- (2) Discrete control of motor behavior by operant conditioning of evoked potentials. Tenth Annual Meeting of the <u>Psychonomic Society</u>, San Antonio, Texas, 1970. (with S.S. Fox)

- (3) Operant control of the central microcode for sensory and motor functions. <u>Third Annual</u> <u>Winter Conference on Brain Research</u>, Aspen, Colorado, 1971. (with s.S. Fox and A.P. Rudell)
- (4) Operant validation of functional coding in evoked potentials in brain. Forty-third Annual Meeting, <u>Midwestern Psychological Association</u>, Detroit, Michigan, 1971. (with A.P. Rudell and S.S. Fox)
- (5) Neural biofeedback. <u>Fourth Annual Winter Conference on Brain</u>.
- (6) Evoked Potential Conditioning. <u>Kroc-BIS Conference on the Autoregulation of the Electrical Activity of the Brain</u>, San Ynez, California, 1972.
- (7) Neural Conditioning and Novel Behavioral States. 73rd Annual Meeting, <u>Canadian</u> <u>Psychological Association</u>, Victoria, B.C., Canada, 1973.
- (8) Evoked potential control and the central code for voluntary movement. Invited colloquium, Department of Psychology, University of Illinois, Champaign-Urbana, 1973.
- (9) Brain wave control as a novel phenomenon. Invited colloquium, Department of Psychiatry, Texas Tech School of Medicine, Lubbock, Texas, 1974.
- (10) Hetzler, B.E., Rosenfeld, J.P., Birkel, P., Rudell, A.P. Operant control of central evoked potentials in unrestrained animals. <u>Society for Neuroscience</u>, NYC, N.Y., 1975.
- (11) Rosenfeld, J.P. & Vickery, J.L. Independence of the lack of effect of morphine on central nociception from stimulus parameters.
- (12) Unmediated Neural Conditioning. Invited colloquium, Illinois Pediatric Institute, March, 1976.

Presentations (cont'd):

- (13) Operant control of central evoked potentials in animals with detailed analysis of ongoing body movements. <u>Society for Psychophysiological Research</u>, San Diego, 1976. (with Bruce Hetzler)
- (14) On the mediation of evoked potential conditioning. Invited colloquium University of California, San Francisco, School of Medicine, 1976.
- (15) Mechanism of Opiate Analgesia. Invited colloquium at Lawrence University, Appleton, Wisconsin, October 28, 1977.
- (16) Trigeminal Nuclear Lesions... Second World Congress on Pain, <u>Int. Assoc. Study of</u> <u>Pain</u>, Montreal, Canada, August, 1978.
- (17) Operantly controlled evoked potentials in central pain pathways: Effects on nociception.
 (CITATION PAPER) 11th Ann. Meeting, <u>Biofeedback Society of America</u>, March 7-11, 1980, Colorado Springs, CO. (with M. Heinricher and R. Dowman)
- (18) Differential effects of systemic versus microinjected opiates, etc. 2nd meeting, <u>American</u> <u>Pain Society</u>, N.Y., 1980. (with S. Stocco)
- (19) Rostral (vs. caudal) trigeminal-thalamic projections and orofacial nociception. <u>American</u> <u>Pain Society</u>, N.Y., ;1980. (with J. Broton)
- (20) Cortical and subcortical evoked potentials and nociception. <u>American Pain Society</u>, N.Y., 1980. (with R. Dowman, M. Heinricher)
- (21) Feedback controlled pain-related cortical evoked potentials. <u>Society for Psychophysical</u> <u>Research</u>, 1980 meeting, Vancouver. (with R. Dowman)
- (22) Duplication by Lanthanum of opiate effects. 10th Annual Meeting, <u>Society for</u> <u>Neuroscience</u>, Cincinnati, 1980. (with P. Kerestez-Nagy)
- (23) Conditioning cortical pain-related evoked potentials affects nociception. 12th Annual meeting, <u>Biofeedback Society of America</u>, Louisville, 1981 (CITATION PAPER: with R. Dowman, M. Heinricher)
- (24) Biofeedback of Event-Related Brain Potentials. <u>Sixth International Congress on Event-Related Slow Potentials of the Brain</u>, Chicago, 1981.
- (25) Opiate mechanisms of pain inhibition. Universite' de Poitiers, Laboratoire de Neurophysiologie et Psychophysiologie, France, 1981.
- (26) President's (of the American Dental Association) Conference on Dentist-Patient Relationships and Management of Anxiety and Fear. Invited lecture on "Behavioral management of pain,", 1982.
- (27) Unique applications of evoked potential biofeedback. <u>Second International Conference</u> of Self-regulation of Brain Activity, Tubingen, West Germany, 1983.
- (28) Operant control of pain-related neural activity. <u>VII Bi-annual Event Related Potential</u> <u>International Conference</u>, Florence, Italy, 1983.
- (29) Brain wave conditioning and pain perception. Invited colloquium, University of Illinois, 1985.
- (30) The effects of operant somatosensory evoked potential conditioning on pain perception in rats and humans. Invited symposium, Society for Psychophysiological Research, 1985, Houston, TX.

PRESENTATIONS AFTER 1985 ARE NOT YET ENTERED. THERE WERE 101

Article:

- (1) (1) Rosenfeld, J.P. and Rudell, A.P. On the validity of scalp recordings of the auditory evoked potential. <u>Perception and Psychophysics</u>, 1969, <u>6</u>, 102-104.
- (2) (2a) Rosenfeld, J.P., Rudell, A.P., and Fox, S.S. Operant control of neural events in humans. <u>Science</u>, 1969, <u>165</u>, 821-823.
- (3) b) Operant control of neural events in humans, completely reprinted in Barber et. al.
 (Eds.), <u>Biofeedback and Self-Control</u>, Chicago: Aldine and Atherton, 1971, 365-372.
- (4) (3) Fox, S.S. and Rosenfeld, J.P. Recording evoked potentials. In: R.D. Myers (Ed.), <u>Methods in Psychobiology</u>, London: Academic Press, 1972.
- (5) (4) Rosenfeld, J.P. and Fox, S.S. Movement-related macropotentials in cat cortex. Electroencephalography and Clinical Neurophysiology, 1972, 32, 75-80.
- (6) (5) Rosenfeld, J.P. and Fox, S.S. Operant control of a brain potential evoked by a behavior. <u>Physiology and Behavior</u>, 1971, <u>7</u>, 489-494.
- (7) (6) Rosenfeld, J.P. Evoked potential conditioning in neuroscience research. In: M. Chase (Eds.), <u>Operant Control of Brain Activity</u>, (<u>Perspectives in the Brain Sciences</u>, Vol. II), Brain Information Service, Brain Research Institute, UCLA, 1974.
- (8) (7) Fox, S.S., Rudell, A.P., and Rosenfeld, J.P. The operant controlled neural event: A formal and systematic approach to electrical coding of electrical activity in behavior states. <u>Electroencephalography and Clinical Neurophysiology</u>, 1970, <u>28</u>, 422.
- (9) (8) Rosenfeld, J.P., Bieneman, T., Cohen, R., & Routtenberg, A. Effects of rewarding and aversive brain stimulation on photic cortical evoked potentials.
 <u>Physiology and Behavior</u>, 1972, <u>9</u>, 527, 532.
- (10) (9a) Rosenfeld, J.P. and Owen, R.L. Instrumental conditioning of photic evoked potentials: Mechanisms and properties of late component modification. <u>Physiology</u> <u>and Behavior</u>, 1972, <u>9</u>, 851-858.
- (11) b) Instrumental conditioning of photic evoked potentials: Mechanism and properties of late component modification, completely reprinted in N. Miller et. al. (Eds.),
 <u>Biofeedback and Self-Control 1973</u>. Chicago: Aldine Publishing Co., 1974, 77-95.
- (12) (10a) Rosenfeld, J.P. and Fox, S.S. Sequential representation of voluntary movement in cortical macropotential: Direct control of behavior by operant conditioning of wave amplitude. Journal of Neurophysiology, 1972, <u>35</u>, 879-891.
- b) Sequential representation of voluntary movement in cortical macropotential: Direct control of behavior by operant conditioning of wave amplitude, completely reprinted in D. Shapiro et. al. (Eds.), <u>Biofeedback and Self-Control 1972</u>. Chicago: Aldine Publishing Co., 1973, 339-352.
- (11a) Rosenfeld, J.P. and Hetzler, B.E. Operant controlled evoked responses: Discrimination of conditioned and normally occurring components. <u>Science</u>, 1973, <u>181</u>, 767-770.
- (15) b) Operant controlled evoked responses: Discrimination of conditioned and normally occurring components, completely reprinted in N. Miller et. al. (Eds.), <u>Biofeedback</u> and <u>Self-Control 1973</u>. Chicago: Aldine Publishing Co., 1974, 71-76.
- (16) (12) Rosenfeld, J.P. and Hetzler, B.E. Discrimination versus conditioning of photic cortical potentials. <u>Physiology and Behavior</u>, 1973, <u>11</u>, 753-765.

- (17) (13) Rosenfeld, J.P. and Rudell, A.P. Mediation of operant controlled neural activity. In: D. Mustovsky (Ed.), <u>Behavior Control and Modification of Physiological</u> <u>Activity</u>, New York: Appleton-Century-Crofts, 1976.
- (18) (14) Rosenfeld, J.P. Conditioning changes in the evoked response. In: G.E. Schwartz and J. Beatty (Eds.), <u>Biofeedback: Theory and Research</u>. New York: Academic Press, 1977, 377-388.
- (19) (15) Ruth, R., Rosenfeld, J.P., Harris, D., and Birkel, P. Effects of aversive and rewarding electrical brain stimulation on auditory evoked responses in albino rat tectum. <u>Physiology and Behavior</u>, 1974, <u>13</u>, 729-735.
- (20) (16a) Rosenfeld, J.P., Hetzler, B.E., & Kosnik, W. Operant photic evoked potential control, unmediated by selective orientation. <u>Physiology and Behavior</u>, 1974, <u>13</u>, 479-482.
- (21) b) Operant photic evoked potential control, unmediated by selective orientation completely reprinted in <u>Biofeedback and Self-Control: 1974</u>. Chicago: Aldine Publishing Co., 1975.
- (22) (17) Rosenfeld, J.P. and Kowatch, R. Differential effect of morphine on central versus peripheral nociception. <u>Brain Research</u>, 1975, <u>88</u>, 181-185.
- (23) (18) Hetzler, B.E., Rosenfeld, J.P., Ripekj, A., and Kosnik, W. Factors affecting planktonic behavior in <u>Hydra Viridus</u>. <u>American Midland Naturalist</u>, 1975, <u>94</u>, 462-468.
- (19a) Rosenfeld, J.P., Hetzler, B.E., Birkel, P., Antoinetti, D., and Kowatch, R.
 Operant conditioned potentials, centrally evoked at random intervals. <u>Behavioral Biology</u>, 1976, <u>16</u>, 305-317.
- (25) b) Operant conditioned potentials, centrally evoked at random intervals, completely reprinted in J. Kamiya et. al. (Eds.), <u>Biofeedback and Self-Control: 1976/77</u>. Chicago: Aldine Publishing Co., 1977.
- (26) (20) Rosenfeld, J.P. and Vickery, J.L. Differential effects of morphine on trigeminal nucleus versus reticular aversive stimulation: Independence of negative effects from stimulation parameters. <u>Pain</u>, 1976, <u>2</u>, 405-416.
- (27) (21) Rosenfeld, J.P. and Holzman, B.S. Differential effect of morphine on stimulation of primary versus higher order trigeminal terminals. <u>Brain Research</u>, 1977, <u>124</u>, 367-372.
- (28) (22) Ruth, R.E. and Rosenfeld, J.P. Dependence of photic cortical effects of aversive central gray stimulation on reticular activation. <u>International J. Neuroscience</u>, 1977, <u>7</u>, 165-173.
- (29) (23a) Ruth, R.A. and Rosenfeld, J.P. Tonic reticular activating system: Relationship to aversive brain stimulation effects. <u>Experimental Neurology</u>, 1977, <u>57</u>, 41-56.
 b) Ruth, R.R. and Rosenfeld, J.P. Digest of "Tonic reticular activating system..." <u>J.</u>
 - Contin. Educ. in Neurology, 1978, 9-19. (24a) Hetzler, B.E., Rosenfeld, J.P., Birkel, P.A., and Antoinetti, D.N. Characteristics
- (30) (24a) Hetzler, B.E., Rosenfeld, J.P., Birkel, P.A., and Antoinetti, D.N. Characteristics of operant control of centrally evoked potentials in rats. <u>Physiology and Behavior</u>, 1977, <u>19</u>, 527-534.
- (31) b) Characteristics of operant control of centrally evoked potentials in rats, completely reprinted in <u>Biofeedback and Self-Control: 1977-1978</u>. Chicago: Aldine Publishing Co., Inc. Press, 1978.

- (32) (25) Rosenfeld, J.P. and Holzman, B.S. Effects of morphine on medial thalamic and medial bulboreticular aversive stimulation thresholds. <u>Brain Research</u>, 1978, <u>150</u>, 436-440.
- (33) (26) Rosenfeld, J.P., Broton, J.G., and Clavier, R.M. A reliable facial nociception device for unrestrained awake animals. <u>Physiology and Behavior</u>, 1978, <u>21</u>, 287-290.
- (34) (27) Rosenfeld, J.P., Clavier, R.M., and Broton, J.G. Bilateral and unilateral antinociceptive effects of rostral trigeminal nuclear complex lesions in rats. <u>Brain</u> <u>Research</u>, 1978, <u>157</u>, 147-152.
- (35) (28) Rosenfeld, J.P. and Hetzler, B.E. Significance and mediation of neural and other biofeedback. <u>International Journal of Neuroscience</u>, 1979, <u>8</u>, 233-250.
- (36) (29) Hetzler, B.E., Rosenfeld, J.P., and Birkel, P.A. Analysis of body movements during operant control of central evoked potentials. <u>Physiology and Behavior</u>, 1978, <u>21</u>, 1047-1050.
- (37) (30) Rosenfeld, J.P. and Rice, P.E. Diurnal rhythms in nociceptive thresholds in rats. <u>Physiology and Behavior</u>, 1979, <u>23</u>, 419-420.
- (38) (31) Rosenfeld, J.P. and Rice, P.E. Effects of naloxone on aversive trigeminal and thalamic stimulation, and on peripheral nociception: A hypothesis of selective action and variability in naloxone testing. <u>Brain Research</u>, 1979, <u>178</u>, 609-612.
- (32a) Rosenfeld, J.P., Heinricher, M., and Dowman, R. Operantly controlled evoked potentials in central pain pathways. In <u>Consolidation and New Dimensions</u>: <u>Proceedings of Biofeedback Society of America 11th Ann. Meet.</u>, 1980. Denver: Biofeedback Society, p. 138-141.
- (40) b) Operantly controlled evoked potentials in central pain pathways. Reprinted in <u>Biofeedback and Self-Regulation</u>, 1980, <u>5</u>, 160-164.
- (41) (33) Rosenfeld, J.P. and Keresztes-Nagy, P. Differential effects of intracerebrally microinjected enkephalin analogs on centrally versus peripherally induced pain, and evidence for a facial versus lower body analgesic effect. Pain, 1980, 9, 171-182.
- (42) (34) Rosenfeld, J.P. and Stocco, S. Differential effects of systemic versus intracranial injection of opiates on central, orofacial and lower body nociception: Somatotypy in bulbar analgesia systems. <u>Pain</u>, 1980, <u>9</u>, 307-318.
- (43) (35) Keresztes-Nagy, P. and Rosenfeld, J.P. Naloxone-reversible duplication by lanthanum of differential opiate analgesic effects on orofacial versus lower body versus central nociception. <u>Brain Research</u>, 1981, <u>208</u>, 234-239.
- (44) (36) Rosenfeld, J.P. and Stocco, S. Effects of midbrain, bulbar, and combined morphine microinjections and systemic injections on orofacial nociception and rostral trigeminal stimulation: Independent midbrain and bulbar opiate analgesia system? <u>Brain Research</u>, 1981, <u>215</u>, 342-348.
- (45) (37) Rosenfeld, J.P., Stamm, J., Roger, M., Birbaumer, N., Rockstroh, B., and Elbert, T. Biofeedback of event-related potentials. In: Karrer, R., Cohen, J., and Tueting, P. (Eds.), <u>Brain and Information: Event-Related Potentials</u>, Proc. VI Int. Conf. on Event-Related Slow Potentials of the Brain. N.Y. Acad. Sci., Monograph #12, 1983, 653-666.
- (46) (38) Heinricher, M.M., Rosenfeld, J.P., and Dowman, R. Operant conditioning of trigeminal nuclear evoked potentials. <u>Brain Research Bulletin</u>, 1981, <u>7</u>, 353-358.

- (47) (39) Rosenfeld, J.P., Pickrel, C., and Broton, J.G. Analgesia for orofacial nociception produced by morphine microinjection into the trigeminal complex. <u>Pain</u>, 1983, <u>15</u>, 145-155.
- (40) Dowman, R.J., Rosenfeld, J.P., and Heinricher, M. Operant conditioning of trigeminally evoked cortical potentials: Correlated effects on facial nociception. Brain Research, 1983, 269, 111-118.
- (49) (41) Rosenfeld, J.P. and Gribben, D. A new, reliable lower body nociception device for unrestrained animals. <u>Physiology and Behavior</u>, 1983, <u>31</u>, 1-6.
- (50) (42) Rosenfeld, J.P. and Hammer, M. Antagoanism of opiate-like, lanthanum-induced analgesia by naloxone, 2 mg/kg, in rats. <u>Brain Research</u>, 1983, <u>268</u>, 189-191.
- (51) (43) Rosenfeld, J.P. Behavioral management of pain: Operant conditioning of painrelated neural activity. In: R. Moretti and W.A. Ayers, (Eds.), <u>The President's</u> <u>Conference on the Dentist-Patient Relationship</u>. American Dental Association, Chicago: 1983, 68-72.
- (52) (44) Rosenfeld, J.P., Diaz-Clark, A., and Olson, R.E. Response to painful electrical stimulation in MPD Syndrome Patients. Journal of Dental Research, 1983, <u>62</u>, 259-260.
- (53) (45) Rosenfeld, J.P., Diaz-Clark, A., and Olson, R.E. MPD Syndrome patient response to aversive heat and aversive sound. Journal of Dental Research, 1983, <u>62</u>, 249-259.
- (54) (46) Rosenfeld, J.P., Dowman, R., Heinricher, M., and Silvia, R. Operantly controlled somatosensory evoked potentials: Specific effects on pain processes. In: <u>Self-Regulation of the Brain and Behavior</u>, Ed. by B. Rockstroh, T. Elbert, W. Lutzenberger and N. Birbaumer, Berlin: Springer-Verlag, 1984, pp. 164-179.
- (55) (47) Broton, J.G. and Rosenfeld, J.P. Rostral trigeminal projections signal perioral facial pain. <u>Brain Research</u>, 1982, <u>243</u>, 395-400.
- (56) (48) Heinricher, M.M. and Rosenfeld, J.P. Microinjection of morphine into nucleus reticularis paragigantocellularis of the rat supresses spontaneous activity of nucleus raphe magnus. <u>Brain Research</u>, 1983, <u>272</u>, 382-386.
- (57) (49) Rosenfeld, J.P., Silvia, R., Weitkunat, R., and Dowman, R. Operant Control of Human Somatosensory Evoked Response Alters Experimental Pain Perception. <u>Advances in Neurology</u>, Vol. 9, (Raven Press), 1985, 343-348.
- (58) (50) Dowman, R. and Rosenfeld, J.P. Operant conditioning of somatosensory evoked potential (SEP) in rats. I. Specific changes in SEP amplitude and a naloxonereversible, somatotopically sepcific change in facial nociception. <u>Brain Research</u>, <u>333</u> (1985) 201-212.
- (59) (51) Dowman, R. and Rosenfeld, J.P. Operant conditioning of somatosensory evoked potential (SEP) in rats. II. Associated changes in reflex and continuous nontimelocked movements. <u>Brain Research</u>, <u>333</u> (1985) 213-222.
- (60) (52) Broton, J.G. and Rosenfeld, J.P. Effects of Trigeminal Tractotomy on Facial Thermal Nociception in the Rat. <u>Brain Research</u>, <u>333</u> (1985) 63-72.
- (61) (53) Dowman, R. and Rosenfeld, J.P. Evidence for opioid modulation of innocuous somatosensory activity. <u>Experimental Neurology</u>, <u>89</u> (1985) 9-23.

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- (62) (54) Heinricher, M.M. and Rosenfeld, J. Peter. Microinjection of morphine into nucleus reticularis pargigantocellularis of the rat: Preferential supression of spontaneous, rather than noxious evoked, activity of nucleus raphe magnus neurons. <u>Brain Res.</u>, <u>359</u> (1985), 388-391.
- (63) (55) Kasman, G. and Rosenfeld, J.P. Differential effect of microinjected versus systemically administered morphine does not depend on dose or behavioral test. <u>Brain Res., 383</u> (1986), 271-278.
- (64) (56) Weitkunat, R. and Rosenfeld, J.P. Pain control by biofeedback of somatosensory evoked potentials. In: <u>Topics in Behavioral Medicine</u>, edited by Vinck et al. Berwyn: Swets North America Inc., 1986, 31-47.
- (65) (57) Rosenfeld, J.P. The response of individual nucleus raphe magnus neurons to microinjections of met-enkephalin at midbrain and at bulbar loci: Evidence for midbrain-bulbar convergence on individual raphe neurons. <u>Int. J. Neurosc.</u>, 33, 1987, 165-173.
- (66) (58) Pickoff, J., Broton, J., and Rosenfeld, J.P. Lesions of the mid-spinal trigeminal complex are effective in producing perioral thermal hypoalgesia. <u>Brain Res.</u>, <u>382</u> (1986), 291-198.
- (67) (59) Broton, J. and Rosenfeld, J.P. Cutting rostral trigeminal nuclear complex projections preferentially affects perioral nociception in the rat. <u>Brain Res.</u>, <u>397</u> (1986), 1-8.
- (68) (60a) Rosenfeld, J.P., et al. Late vertex positivity as a guilty knowledge indicator: A new method of lie detection. Int. J. Neurosc., 34, 1987, 125-129.
- (69) b) Late vertex positivity etc. Completely reprinted in <u>Polygraph</u>, December, 1987.
- (70) (61) Douros, C., Karrer, R., and Rosenfeld, J.P. Effects of attention and slow potential shifts on self-regulation of event-related potentials. <u>Biofeedback and Self-Regulation</u>, 12, 1987, 39-50.

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- (71) (62) Broton, J.G. and Rosenfeld, J.P. Automated tests of facial somatic sensation in the awake, minimally-restrained rat. Applicability for use in long-term deafferentation studies. In: <u>Effects of Injury on Spinal and Trigeminal</u> <u>Somatosensory Systems</u>, L.M. Pubols and B.J. Sessle (Eds.), A.R. Liss, NY, 1987.
- (72) (63) Rosenfeld, J.P. Can Clinical Biofeedback be Clinically Validated? <u>Biofeedback</u> <u>and Self-Regulation</u>, 12, 1987, 217-222.
- (73) (64) Rosenfeld, J.P. et al. A modified, event-related potential-based guilty knowledge test. Int. J. Neurosc., <u>42</u>, 1988, 157-161.
- (74) (65) Rosenfeld, J.P. Response to Stowell. <u>Int. J. Neurosc.</u>, <u>42</u>, 1988, 163-165.
- (75) (66) Rosenfeld, J.P. Pain and Analgesia Mechanisms in <u>Self-Regulation and Health</u> ed. by J. Carlson and R. Siefert, N.Y.: Plenum, 1991, 239-254.
- (76) (67) Xia, L.Y. and Rosenfeld, J.P. Acupuncture mechanisms in <u>Self Regulation and</u> <u>Health</u>, ed. by J. Carlson and R. Siefert, N.Y.: Plenum, 1991, 267-279.
- (77) (68) Nasman, V.T. and Rosenfeld, J.P. Parietal P3 amplitude as an indicator of response categorization. <u>Psychophysiology</u>, <u>27</u>, 1990, 338-350.

- (78) (69) Rosenfeld, J.P. Real time processing of event related potentials. In: <u>Digital</u> <u>Signal Processing</u>, ed. by R. Weitkunat, Amsterdam: Elsevier, 1991, 279-290.
- (79) (70) Rosenfeld, J.P. Applied Psychophysiology and Biofeedback of Event-Related Potentials (Brain Waves): Historical Perspective, Review, Future Directions. Biofeedback and Self-Regulation, 15, 1990, 99-120.
- (80) (71) Rosenfeld, J.P., Huang, K.H., and Xia, L.Y. Effects of single and simultaneous combined nanoinjections of met-enkephalin into rat midbrain and medulla on activity of differentially noci-responsive ventral medullary neurons. <u>Brain Research</u>, 508, 1990, 199-209.
- (81) (72) Xia, L.Y. and Rosenfeld, J.P. Effects of single nanoinjections of Met-enkephalin in the minimally anaesthetized rat brainstem on trigeminal nuclear neurons. <u>Brain</u> <u>Research</u>, 541, 1991, 181-192.
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Current Research Interests

- 1. Brain mechanisms of deception: cognitive, emotional, physiological attributes of deception.
- 2. Brain mechanisms of memory illusions, false memories.
- 3. Use of P3 event-related potentials in diagnosis and understanding of malingered cognitive deficit in head injury.
- 4. Psychophysiological correlates of emotion.
- 5. Mechanisms and effects of brain wave and other biofeedback.

Radio and Television Appearances, Media Coverage:

1. 5 and 10 o'clock News, WMAQ-TV, Channel 5, Chicago, 1977.

- 2. 4:30 News, Channel 7, Chicago, 1981.
- 3. Reviewing Stand, August 2, 1981, WMAQ-AM Chicago, and Mutual Broadcasting Network later.
- 4. Katherine Catolin Show, Nov. 16, 1984, WGN-AM Chicago.
- 5. <u>Pain and the Brain</u>, by Mary Travis, Psychology Today, December, 1984: (story on research of J.P. Rosenfeld)
- 6. Lie Detection with Brain Waves. TV spots: <u>CNN News</u>, <u>Today Show</u>, August-November, 1988; Numerous other radio appearances, stories from AP News Release, 1988.
- 7. Major coverage in "Why We Lie", BBC/.BBC, Discovery Channel. December 16, 2000.

Research Support:

1. NSF grant BNS75-17770: Operant neural control: A novel operant, \$42,600; 1975-1978. P.I.

2.

Research Support (continued):

- 2. NIH grant GM23696-01: Morphine and nociceptive brain stimulation, \$55,652; 1975-1978. P.I.
- 3. NIMH grant MH31966-01: Pilot Lesion: Study of Trigeminal Pain Models, \$7,800; 1978-1979. P.I.
- 4. NIH grant GM23696-03: Morphine and nociceptive etc., RENEWAL, \$68,266; 1978-1980. P.I.
- 5. NIH grant DE05205: Operant neural control in trigeminal pain systems, \$68,000; 1979-1981. P.I.
- 6. NIH grant GM23696-05-08: Morphine and nociceptive brain-stimulation, RENEWAL, \$195,091; 1981-1985. P.I.
- 7. NIH grant E05204-03-06: Operant neural control in trigeminal pain systems, RENEWAL, \$153,250; 1981-1985. P.I.
- 8. NIH grant T32NS07223: Sensory physiology training grant (participant).
- 9. NIH grant DE07905: Single neuronal activation by multiple opiate substrates, 1986-1989. \$210,000.
- 10. NIDA grant DA06971: Single neuronal activation by multiple opiate substrates, 1990-1993, \$349,142.
- 11. DOD/ONR grant DODPI98-P-0001: Scaled P300 Scalp Profiles in Detection of Deception, 1998-1999, \$140,000
- 12. Extension of Item 11, \$70,000 to August, 2001.