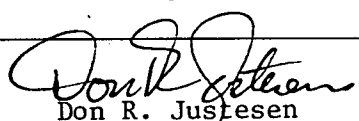


RESEARCH AND DEVELOPMENT INFORMATION SYSTEM

SSIE NUMBER (Leave blank)

PROJECT DATA SHEET (RCS 15-5)

PLACE LABEL HERE	1. HEALTH CARE FACILITY NO. (3 digits only)	2. LOCATION (City, State)	3. NAME OF PRINCIPAL INVESTIGATOR (Last, first, middle initial & degrees)
	4. SOCIAL SECURITY NO.	5. VA TITLE	
6. PROJECT NUMBER		7. TYPE OF REPORT <input type="checkbox"/> INITIAL REPORT <input checked="" type="checkbox"/> PROGRESS REPORT <input type="checkbox"/> FINAL REPORT	
8. PROJECT TITLE (Do not exceed 142 spaces) Biopsychological Studies of Microwave Irradiation			
9. NAME, DEGREE(S), SOCIAL SECURITY NUMBER, VA TITLE OF EACH CO-PRINCIPAL INVESTIGATOR AND/OR CO-INVESTIGATOR (Identify each individual's status as co-principal investigator or co-investigator) Charles L. Sheridan, Ph.D. [SSN 279-34-7915] Associate Investigator, Neuropsychology and Behavioral Radiology Laboratories, VAMC. Professor of Psychology, UMKC. Co-investigator Daniel M. Levinson, Ph.D. [SSN 332-34-3922] Research Associate, Neuropsychology and Behavioral Radiology Laboratories, VAMC. Assistant Professor of Psychology, UMKC. Co-investigator. Virginia Bruce-Wolfe, Ph.D. [SSN 046-28-1236] Associate Investigator, Neuropsychology and Behavioral Radiology Laboratories, VAMC. Assistant Prof. of Psychiatry, KUMC. Co-investigator.			
10. ABSTRACT (Should not exceed 250 words. See instructions for details to be included) A study of longevity of mice that were exposed <u>in utero</u> to near-lethal doses of 2450-MHz microwave radiation is entering its third year and, as expected, mortality is claiming increasing numbers of control and radiated animals. Spontaneous tumors have appeared in two controls (n = 81) but not in radiated mice (n = 83), a difference much too narrow to exclude chance. Acute studies have focused on distributions of thermalized energy in the brain and lower body of anesthetized rats, guinea pigs, and rabbits during brief but near-lethal exposures in a 2450-MHz multi-path field. Pre-exposure temperatures within an animal differ anatomically by 0.5 to 1 K (e.g., colonic vs. superficial cortex); radiation-induced whole-body ΔT s of 4.5 to 12 K are associated with altered thermal distributions that differ both anatomically and among species. The only apparent rule is that of thermal privilege of the brain stem. Blood cooled in the facial sinuses by inspired air (at the ambient temperature of the laboratory) appears to be preferentially routed to the Circle of Willis during microwave heating. Continuing studies of escape behavior by rats in intense 918-MHz multi-path fields have confirmed that radiation <u>per se</u> , even at levels that prove lethal within minutes, lacks the sensory saliency to promote escape learning, but that pairing of photic (and to a lesser extent, acoustic) stimuli as sensory cues with irradiation can motivate successful escape. These findings support claims by NIOSH scientists that workers exposed to intense RF fields from industrial sources experience malaise but do not attribute symptoms of illness to the stray radiation. A total of 12 pilot studies has been completed to the end of determining optimal conditions for adjuvant treatment by microwave hyperthermia of experimentally induced glioblastoma in rats.			
11. SIGNATURE OF PRINCIPAL INVESTIGATOR  Don R. Justesen			12. MONTH AND YEAR OF THIS REPORT 06-79

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