

PRNC 22 PUERTO RICO NUCLEAR CENTER - GENERAL INFORMATION BY UNIVERSITY OF PUERTO RICO UNDER CONTRACT NO. AT (0-1)-1833 FOR U.S. ATOMIC ENERGY COMMISSION. ---Page Break--- INDEX Organization Chart Expenses Incurred and Accrued FY-1963 Budget FY-1964 Expenditures FY-1958-1963 (Graphs and Tables) Capital Investment Employment Statistics (Graphs and Tables) Student Information Scientific Papers Publications PUIG Weekly Seminars (Rio Piedras and Mayaguez) Research Activities ---Page Break--- ---Page Break--- L = nuoua xooftbaa Twriseawts 7) (a) sescogery 7 "10d" Ww (tween "a orsTAIT eaOMYD 9 havanicora ---Page Break--- mre —\$ ceefoor\$ — nga ¢ gust F — HOT © BRETE FSG 90 wessOx4 THO eT, WE TT ere wet Site TIT wextosg Moqooy TwHseasoy skate eystg feat wt9'2 13°9 ole TL madouj iovoo# TersAsoar, S9'gT T0s's ost'er 6HE isle o29toot SLL tey su@utt Tour Fo6te £S@'09 096'62 £6g¢oE age get 96992 z26'or wht Ene 9 L64'T eset Stef GONT \$F \$ MOT g G0 pup 99 omexio2a on eaBawits pwoqtong Jo wexd0ag TOI, pao Afsxounoy puy euoyasoFtdy odoxoe rorpMy soTedug UaTweH 4030004) Aoyouys9y ¥ 20U;9g TUETINH accor ¥ , Sopaieg Due uoTaMaETUTRLY Bor, 3 997330 8, 20490350 Tp ROT Tei 0 Juang REE TO wre RE STSTAD 'Teioi-ang e sTeTa930H f96r fof aur aamipoy cary GaUAINONT saBNTK ---Page Break--- WE 650'ett re OtCOEMES 2966 te Sao GE dre tte 2y0'tet Tt LUTE 6566 Sree toe melee t36%E eeeee TORR Te203-ang, 'wios axveo \$9 wmafoxs TOL 90 weaious TOK, do waxtosa Toy, So mxtoas TOY, sorshug aye prtes worIOBAZEIA WoINER Dao ---Page Break--- ---Page Break--- 50 pur 99 susforg 02 S980 peayzano Sex] spiny pousyeseun adary Fan Tea TTT ied ai | ret ~ aa voy3vonpa pur Boyuyexy - 19 wwatorg ---Page Break--- '£961 *aenSny zse*zor\$| worse] secrone] vee owen] oor | aacee] wore ¢ Porris 6 000'z1 | 00's oos'e \$} co0'z sre203, woy20¥2337q dor2nag sopekua o702g prt0s waren | eT 3c Y96t-Ak = \$0 wostorg Sre*sene sve'9as | o00*sere art'z6\$ 000'z9 00*211 000"

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A, Medina Sotillo Marto Aguayo Zayas José M. Galiano Gonsdler Bernardo Troche Ros
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1957-58 Rafael Amaral Carrillo ...cessssesses Puerto Rico. Héctor Barceis REINEEIID Puerto
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Rico Medical Society September 16, 1958 San Juan, Puerto Rico Symposium on Health 2nd.
Interamerican A for-Peace Symposium May, 1989 ~ Buenos Aires, Argentina Regional Meeting of
the American College of Physicians - Oct., 1°7 San Juan, Puerto Rico 56th Annual Meeting of the
Medical Association of P.R. = Kev, 1959 San Juan, Puerto Rico Seventh Latin American Chemical
Congress March 29-April 3, 1959 Mexico City, Mexico ---Page Break--- Author eh Dr. Victor Marcial
Cancer of the Tongue Lec. Latta

American October, 1939 - Buenos Aires, Argentina Cancer Control in P. R.- Seventh Annual
Meeting of Ten Years Experience the Medical Association of P. R. - Nov., 1959 San Juan, Puerto
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Principles by Chemical Congress Dr. Juan D. Curet the Use of Radio- March 25-April 3, 1959

Mexico City, Mexico Dr. Fred V. Soltero Training in Radio Seventh Latin American Chemistry in the Puerto Chemical Congress Rico Nuclear Center March 29-April 3, 1959 Mexico City, Mexico Dr. Iemsel Almodóvar The Thorium Isotopes Meeting of the American M. T. Py Kobman Method for Dating Marine Chemical Society Sediments September, 1960 - N.Y. Dr. I. Almodóvar An Experimental Study Meeting of the American Rev. T. Cantarell Of Fatigue in Photo- Chemical Society Multipliers Sept., 1960 - New York Meeting of the American Chemical Society Fatigue Effects Sept., 1960 - New York Dr. A. M. Andino Radioactive Iodine 10th Annual Meeting of Dr. A. L. Rodriguez Treatment in Hyper- the P. R. Chapter of the thyroidism (a review of American College of the experience of Radio- Physicians - Oct., 1960 iodine therapy in 50 San Juan, Puerto Rico cases of hyperthyroidism Dr. Victor Marcial Treatment of Cancer of Sectional Meeting P. R. the Tongue Chapter of the American College of Surgeons August, 1960 - San Juan, Puerto Rico Socio-economic Aspects Conference on Society of the Cancer Incidence Culture and Health in in Puerto Rico the N.Y. Academy of Sciences - June, 1960 New York ---Page Break--- Author Dr. Warren Miller Dr. Eddie Ortiz A. L. Rodriguez Dr. Ernesto Marchand Dr. A. L. Rodriguez Dr. John C. Bugher Rev. I. Cantarell Dr. Iemsel Almodóvar Dr. John C. Bugher Dr. J. L. Gareta de Quevedo Head Beta Spectra with Pleas, Instructional Laboratory Experiments with a Neutron Source Compton Spectra Experience with and Integration of the Diodrase Renogram summary of the experience of 70 renograms Serial In-Vitro Uptake of Fe-59 by Bone Marrow Suspensions

in Different Hematologic States The Puerto Rico Nuclear Center Research Reactor: Characteristics and Program Plan Fatigue in Photomultiplier Tubes and its Relationship to the Matter "Wealth Perspective of our Radioactive World" = The First Annual Bronfman Lecture La Educación y los Centros de Investigaciones 29th Conference of the American Society of Physics Teachers = Jan., 1960 = New York 29th Conference of the American Society of Physics Teachers = Jan., 1960 = New York 10th Annual Meeting of the Puerto Rico Chapter of the American College of Physicians = Oct., 1960 San Juan, Puerto Rico P.R. Medical Association Meeting = November, 1960 San Juan, Puerto Rico Symposium on the Programming and Utilization of Research Reactors October 16-21, 1961 Vienna, Austria Meeting of the American Nuclear Society = June, 1961 = Pittsburgh, Penn. Second General Session of the American Public Health Association, Eighty-Ninth Annual Meeting; Nov. 16, 1961; Detroit, Michigan IAEA, Regional Symposium on Education and Nuclear Energy = November, 1961 San Carlos, Bariloche, Argentina ---Page Break--- Author Henry J. Couberg Dr. Victor A. Marcial, on Fission, Fusion and Radiation Energy in a new Discussion Cancer of the Esophagus La Citología para el Pronóstico del Cáncer Cérvico-Uterino Radioterapia del Cáncer Avanzado: Programa de Control del Cáncer en Puerto Rico Cancer of the Tongue Carcinoma of the Esophagus Testimonio Telet Cancer Control in Puerto Rico, 12 years Experience Treatment of Cancer of the Tongue Cancer of the Esophagus Place Presented Samuel Sackett Series of lectures on Nuclear Energy (1st Lecture) ~ Oct. 1961 Chicago, Illinois Annual Meeting P.R. Chapter of the American College of Surgeons, Feb., 1961 ~ San Juan, Puerto Rico I. Congreso Nacional de Cáncer - Séptimas Jornadas Radiológicas ~ Aug., 1961 = Bogotá, Colombia I. Congreso Nacional de Cáncer - Séptimas Jornadas Radiológicas August, 1961 - Bogotá, Colombia

'American Roentgen Ray Society Meeting = Sept., 1961 - Miami, Florida, 7th Inter-American Cong. of Radiology = Sept., 1961 Sao Paulo, Brazil 7th Inter-American Cong. of Radiology - Sept., 1961 Sao Paulo, Brasil Instituto Nacional de Cáncer de Guatemala - Nov., 1961 ~ Guatemala City, XII Congreso Nacional de Medicina del Colegio de Médicos y Cirujanos de Guatemala - Nov., 1961 Guatemala City, Guatemala XIII Congreso Nacional de Medicina del Colegio de Médicos y Cirujanos de Guatemala - Nov., 1961 Guatemala City, Guatemala ---Page Break--- Dr. Victor A. Marcial! Mr. 1, Rieckhoff Dr. A. Ly Rodríguez Dr. Ravin Roig Dr. W. Hy Samant Dr. Howard J. Teas

Dr. José M. Tomé Dr. Mario Vuksanovic Dr. J.A. del Regato Melanoma of the Pancreas, 'Therapeutic Problems Common Ion Effect on Solubility ~ 4 Demonstration with Radioisotopes The Role of Calcium on the Intestinal Absorption of Vitamin B12 in Tropical Sprue The Thallous-Thallic Exchange at Various in Perch Chemistry in Latin America Application of Atomic Energy in Agriculture Carcinoma of the Anterior Two-Thirds of the Tongue Carcinoma of the skin Overlying Cartilage Place Presented Annual Meeting of the Radiological Society of North America = Nov. 1961 Chicago, Illinois Caribbean Chemistry Conference ~ April, 1961 University College of the West Indies, Kingston, Jamaica Second Annual Meeting of the University of P.R. School of Medicine Jun 1961 ~ San Juan, P.R. Caribbean Chemistry Conference ~ April, 1961 University College of the West Indies - Kingston, Jamaica 1st Inter-American Cong. of Chemical Engineers October, 1961 = San Juan, Puerto Rico Presented in Lincoln, Nebraska, October 1961 at the joint invitation of the AEC and the Governor of Nebraska Annual Meeting of the P.R. Medical Association November, 1961 - San Juan Puerto Rico 'Annual Meeting of the Radiological Society of New York = Nov. 1961 Chicago, Illinois ---Page Break--- 'Author Me, Victor Barcelos Dr. Antonie Bosch Dr. Malcola Dantale Dr. Juan Pacetti Dr. W. J. Gonberg Dr. Sexes Irtearry Dr.

Francis K.S. Koo 3962 Hele Comparison of Rod Worth by Period and Analog Computer Methods Elimination of Control Rod Vibration Caused by Water Flow Effects of L-Triiodothyronine in Altering the Response of Kidneys to Cobalt-60 Irradiation Photochemistry of Thymine Solutions Distribution of Radioactive Antimony Formed by Nuclear Transformation in Antimony Oxides Utilization of Nuclear Energy for Civilian Purposes Case Report of Patient with Carcinoma of Thyroid Treated with I-131 The Use of Resogran in the Clinical Evaluation of Carcinoma of the Cervix Uteri Polygenic Variability Induced by Thermal Neutron Irradiation Place Presented Conference on Light Water Moderated Research Reactors - June, 1962 Oak Ridge, Tennessee Conference on Light Water Moderated Research Reactor - June, 1962 Oak Ridge, Tennessee 48th Annual Meeting of the Radiological Society of N.A. - November, 1962 Chicago, Illinois Colloquium on Photochemical Transformation of Natural Products, 2nd, Int. Symposium September, 1962 Prague, Czechoslovakia Eastern Regional Meeting American Chemical Society November, 1962 Tennessee International Convention of the PAU of Engineering Societies - San Juan, Puerto Rico 59th Meeting of the P. Medical Association November 16, 1962 San Juan, Puerto Rico 4th Inter-American Symposium on the Peaceful Application of Nuclear Energy - April, 1962 Mexico City, Mexico Annual Meeting of the Radiation Research Society May, 1962 - Colorado Springs, Colorado ---Page Break--- Dr. De. Author Dusne B. Linden Frank G. Loman Victor Marcial Pablo L. Morales Victor Marcial Andrew Maretsky Vicente J. Medine Uddie Ortega Ravin Rots, Tele Effects of Ionizing Radiation on Paramita- ton Accumulation of Radio- nuclides in Marine Plankton and their Passage through Food Chain Prognostic Factors in Cancer of the Esophagus Cancer Mortality in Puerto Rico Aspects of Ascorbic Acid Metabolism in Acerola Ascorbic Acid Synthesis The Influence of Copper, Iron, and Form of Nitrogen on M029 Uptake in Cajanus indicus Inelastic Scattering of

Iron Using Neutron Source The Thallous-Thallic Exchange at Various Acidities in Perchlorate Media Place Presented Sociedad Americana de Ciencias Agrícolas October, 1962 Mayaguez, Puerto Rico 3rd International Symposium on Water Pollution - Aug., 1962 Cincinnati, Ohio Annual Meeting of the Radiological Society of P.R. and the American College of Radiology February, 1962 San Juan, Puerto Rico 59th Annual Meeting Puerto Rico Medical Association - Nov., 1962 San Juan, Puerto Rico Sociedad Americana de Ciencias Agrícolas October, 1962 Mayaguez, Puerto Rico 59th Meeting of the P.R. Medical Association November 14, 1962 San Juan, Puerto Rico Sociedad Americana de Ciencias Agrícolas October, 1962 Mayaguez, Puerto Rico Meeting of the American Physical Society January, 1962 - New York City, New York 5th Latin American Congress

of Chemistry September, 1962 Buenos Aires, Argentina ---Page Break--- Dr. Wilten Stuck! Dr. Howard J. Teas Dr. José M. Tons Scientific Documentation in the Field of Chemistry The Structure of Beta Hydroxy sulfides obtained by the Oxidative Addition of Thiele to Olefins The Synthesis of Intramolecularly Coordinated Boron Compounds Scientific and Technological Resources of Latin America The Scientific and Technological Resources of L.A. and the Alliance for Progress An Investigation of the Carotenoid Pigments of Achira Keto Acids in Subtropical Plants Inhibition of Banana Fruit Ripening by Gamma Radiation Hodgkin's Disease: Our Experience at the Dr. I. González Martínez Oncology Hospital Seminar on Scientific Documentation in Latin America sponsored by UNESCO, September, 1962 Lina, Ferd 5th Latin American Congress of Chemistry September, 1962 Buenos Aires, Argentina 5th Latin American Congress of Chemistry September, 1962 Buenos Aires, Argentina Seminar on Chemical Industry of L.A. and the Common Market, 8th Latin American Congress of Chemistry - Sept, 1962 - Buenos Aires, Argentina The Johns Hopkins University - April, 1962 Baltimore, Maryland Sociedad Americana de Ciencias Agrícolas

October, 1962 Mayaguez, Puerto Rico Annual Meeting of the Society for Economic Botany = June, 1962 Washington, D.C. 2nd International Congress of Radiation Research = Aug., 1962 Harrogate, England 59th Annual Meeting Puerto Rico Medical Association - Nov., 1962 San Juan, Puerto Rico ---Page Break--- Author Dr. Jeanne Ubinas Dr. Jobo Villeda Dr. J. A. Wethington Dr. Charles Frazer Dr. Sergio Irtzarry Linden, Dr. Robert Ay Loe Tele Carcinoma of the Tonsil Immune Responses to Irradiated Cercariae of Schistosoma Mansoni Dosimetry from Photon Spectra and Pulse-Height Distributions 1963 Magnetic Ordering in Some Related Orthorhombic CeO₂ and Poa Structure Fat Absorption Study with I-131 Labelled Oleic Acid in Patients with Cancer of the Cervix Uterine Receiving Cobalt Radiation to the Abdomen Effects of Radiation on Paramutation Basic Mechanisms in the Radiation Chemistry of Proteins and Nucleic Acids in Aqueous Media Resonance Radiation Effects of Low-Energy Monochromatic X-rays on Catalase Place Presented Annual Meeting of the Radiological Society of Puerto Rico and the American College of Radiology, Feb., 1962 San Juan, Puerto Rico American Society of Parasitologists and the Helminthological Society ~ June, 1962 Washington, D.C. 2nd International Congress of Radiation Research = Aug., 1962 Harrogate, England Symposium on Ferroelectricity - May 30 to June 5, 1963 Leningrad, Russia Society Second Annual Meeting of the Puerto Rico Dietetic Association June 6, 1963 San Juan, Puerto Rico Eleventh Annual Meeting of the Radiation Research Society = May 27-29, 1963 Milwaukee, Wisconsin Conference on Basic Mechanisms in the Radiation Chemistry of Aqueous Media = May 8-10, 1963 Gatlinburg, Tennessee Eleventh Annual Meeting of the Radiation Research Society ~ May 27-29, 1963 Milwaukee, Wisconsin ---Page Break--- Dr. Victor Marcial Dr. Dr. Jose M. Tonti Kddte Ortiz Juan Facetti Radiotherapy in Carcinoma of Cervix Uteri High Energy Gamma Photons-Neutron Conversion Device for Half Life Measurements

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America, 1963, ---Page Break--- ---Page Break--- Now. San, Feb, 29 13 26 10 u 4 2 “ PRNG VEEFLY SEMINARS AT REACTOR BUILDING we LesmusER Dr. John C. Bugher Director# Dr. J. L. Garete de Quevedo Associate Director Dr. J. A. Wethington Reactor Division® Dr. Ronald Dy Macfarlane University of California Berkeley, California Dr. Henry J. Domverg Deputy Director# Dr. J. Villedia Medical Sciences & Radiobiology Division wee Dr. Francis Koo Agricultural Bio-Sciences Division Dr. Leopoldo B. Gerecedo School of Medicine, UPR Dr. Werminio Brau Radioisotopes Application Divisione Mr. J. Peretti Catierén Health Physics Division® Dr. Louis Frushole Dept. of Biology University of Louisville Dr. David Copson College of Agriculture & Mechanic Arts, Mayaguez 7, Puerto Rico TITS oF Lecture: Observations on Nuclear Energy Research in Europe Report on the AEA Regional Symposium on Education and Nuclear Energy Held in Argentina Neutrons Study of the n, @ Reaction with the PRNG Reactor Radiation in Control of Parasitic Disease Cycles Education and Sacrament Tumor-host Relationship Studies in vivo and in vitro Applied Research to Alcohol Technology Dosimetry of X and Gamma Radiation Aquatic Radioecology Some Aspects of Darcy's Law and Microwaves ---Page Break--- part, Feb. March April 2 28 a 28 n 18 25 LECTURER Dr. Mahendra Singh Agricultural Bio-Science Division™ Mr. F. Motor Ribsdeneire Nuclear Science & Technology Division™ Mr. Hector Baxcels Head, Reactor Division Dr. Duane B. Linden Agricultural Bio-Sciences Division® Dr. J. As Faceret Nuclear Science & Technology Division™ Dr. J. Maldonado Capriles Director, Biology Dept. came Dr. Robert A. Luse Agricultural Bio-Sciences Division® Mine M.M. Palacios Radiotherapy & Cancer Div.* Dr. Norasn B.E. Delfel Federal Experiment Station Mayaguez Dr. Rs B. Kndghe Nuclear Science & Technology Division® Dr. Frank G. Lowman Marine Biology Program* Dr. V. Y. Renan Physics Dept., College of Agriculture & Mechanic Arts Mayaguez Dr. J. Ae Rivero Biology Dept., CAMA Mayaguez, TIM oF ecrURE Effects

of Ionizing Radiation on Chromosome Aberrations Dosimetry Quality of Radiation Nucleares| Paranutation Chemiesi effects of Nuclear Transformation Studies on the Reproductive System of Anthocoridae Class Dosimetry Distribution of butazolidin in the Rat Tontzing Radiation-Effect on Sensitivity Marine Contamination Principles of Quantum Field Theory, The Role of Sound in the Behavior of Frogs ---Page Break--- June July 16 23 30 20 27 18 2 29 LECTURER Dr. D. Welker Biology Dept., CAMA Mayaguez Prof. Elser Oliviert Civil Engineering Dept. CAMA, Mayaguez Dr. M. García Morén Head, Chemistry Dept. UPR. Dr. Peter Glynn Marine Biology, CAMA Mayaguez Dr. Eddie O'Reilly Nuclear Science & Technology Division Dr. Frank G. Lowman Marine Biology Program Dr. M. García Morin Chemistry Dept., U.P.R, Dr. M. Díaz Piñero Biology Dept., CAMA Mayaguez Dr. H. Harry Senant Radioisotopes Application Division Mr. Rubén Freyre Federal Experiment Station Mayaguez Dr. M. Díaz Piñero Biology Dept., CAMA Mayaguez Dr. W. P. Stuckt Agricultural Bio-Sciences Division TENTATIVE OF LECTURE Control of Insects by Sterilization Roratgen Application of 12 Magnetic Resonance of Proton in the Determination of Molecular Structures Reproductive Cycles and the Dynamics of Marine Communities Experimental Method for Determining the Binding Energy of Deuterium Marine Contamination Application of Magnetic Resonance of Proton in the Determination of Molecular Structures Asoctactones más Comunes en la Flora Marina de la Costa Oeste de Puerto Rico Radioprotective and Radio Sensitizing Agents Research Investigation with Tephrosia Vogellii Asoctactones más Comunes en la Flora Acuática de

la Costa Oeste de Puerto Rico Investigations on N₂ Excretion in Monogastric Animals ---Page Break--- Sept. 2 w 26 10 uv 4 2 % a 'MORURER Dr. O. H. Wheeler Nuclear Science & Technology Division Dr. B.C. Frazer Nuclear Science & Technology Division Mr. Gonzalo González Nuclear Science & Technology Division Mr. O. Anglers Nuclear Science & Technology

Division® Mr. Carlos Figueroa Health Physics Division* Dr. Carlos Aguayo Biology Dept., College of Agriculture & Mechanic Arts Mayaguez Mr. Raul Meclin Marine Biology Program Mr. J. Parrieta Calderón Health Physics Division® Mr. Juan G. González Biology Dept., CAMA Mayaguez, Dr. H. He Smith Biology Dept., Brookhaven National Laboratory Dr. F.S. Vazquez Nuclear Science & Technology Division* Mr. S. Pinto Vesa Nuclear Science & Technology Division TITLE OF LECTURE Isotope Effect in Chemical Kinetics Neutron Diffraction Hysteresis Terahertz in Ferro-electric Crystals Modificación de un Flujo de Neutrones que Emergen de la Parte Superior de una Columna Térmica Horizontal Radiation Safety in the Development and Use of Nuclear Energy for Rocket Propulsion Distribución de los Moluscos Terrestres de Puerto Rico y Cuba Determinación de 11^o! en Leche Shielding Against Fallout Radiation The Importance of Phytoplankton and Microscopic Algae in the Productivity of Quahog Pond, Falmouth, Mass. Comparative Cytogenetic Studies with Neurons Técnicas Empleadas en el Estudio de Resonancia en los Efectos de Radiación con Rayos X Determinación de Heterovide de Fuentes de Fotoneutrones ---Page Break--- DATE, Nov. 26 Jan. 24 30 Feb. 6 Mar. 20 28 March 28 April 3 Lectures by Dr. Morris Rockstein University of Miami Dr. Gordon Director Arecibo Ionospheric Observatory Mrs. R.J. Santiago de Morales Health Physics Division™ Dr. Philip Sadtler Pres., Sadtler Research Laboratories, Pennsylvania Dr. Joseph H. Simons Professor of Chemistry University of Florida Mr. J. Parrieta Calderón Research Associate Health Physics Division* Dr. Hy J. Gonbers, Deputy Director* Dr. David Walker Associate Professor Biology Dept., U.P.R. Dr. Frank Martin Federal Experiment Station Mayaguez Miss Milagros Miro Nuclear Science & Technology Division® Dr. John Dy Weaver Professor, Geology Section CAMA, UAPR. Mr. S. Pinto Vega Instructor, Physics Dept. UPR. TITLE OF LECTURE Aging Influenced by External Factors (Radiation, etc.) Radioastronomy and the

Terrestrial Tonosphere Determinación de Fenoles Libres y Combinados en Plantas Tradicionales Infrared - A Powerful Tool Space, Time and Energy Colorimetric Determination of Energy Absorption Buildup Factor Resonance in Radiation Effects Sterilization of Insects 'A Theory of the Physiological and Genetic Control of Unilateral Incompatibility efecto del Sulfato Cálcico en La Estabilidad del Dosímetro de Sulfato Cérico Changing Sea Levels in the Caribbean High Gamma Energies Neutron Conversion Device for Half Life Measurement ---Page Break--- pare april v 25 may 1 ° June 13, porURER De, Hobert 4. use Agricultural Bio-Sciences Division Dr. Juan Colon Avién Agronomy Dept, CAMA USPS Dr. George W. Miskinen Federal Experiment Station Maysgue; Father Ignacio Cantorel Nuclear Science & Technology Division™ Dr. Carlos Amuayo Biology Dept., CAMA UPR We. Artoro Rolloño Iavela Sub-section UPR # Puerto Rico Nuclear Center sts of Isotope Dilution in Sugarcane Research 'the Nitrogen Fraction of Soils Zoogeography of the Coleopterous Family Chauliognathidae Método para Controlar la Fatty Fen Tubon Peromultiplicadores Los Orígenes de la Fauna Antillana The Improvement of Pigeon Peat Through Breeding and Crop Management ---Page Break--- pare, Sent. bow. » 2 B 20 10 PRNG WEEKLY SEMINARS AT THE BIOMEDICAL BUILDING Reo Mecrar, Pues 9, VECTURER De. John C, Bugher Director Dr. Howard J, Hess Head, Agricultural Bio-Sciences Division De. Sergio Irizarry Reed, Clinical Applications Division De. José A. Ferrer-Honge Head, Health Physics Giv.* be. Robert As Associate Scientist Agricultural Bio-Division® or, Amador Case Associate Director Dr. Conrado F. Asenjo Dept. of Biochemistry and Nutrition, School of Medicine, J.P.R. De. Carlos

Gereta Center Dept, of Biology, UPR. Dr. Heriberto Ms Bras Radioisotopes Division Padre Ignacio Gancaret Nuclear Science & Technology Division De, Daniel Alsodover Head, Nuclear Science & Technology Division 'TITLE OF Lecture. Some Probability Considerations in Experimental Biology DFA Games ant

Radiation 1 Body Counting in Metallic School and Clinical Diagnosis Chemical Changes on Leaves and Their Use in Dosimetry Enzyme Inactivation by Ultraviolet Radiation Physico-Chemical Aspects of the Interaction of Radiation with Nuclear Focal Spots and Tropical Species on the Increase of Sites for Chromosome Exchange Formation After Chromosome Duplication Applied Research in Alcohol Technology Multi-Chanpel Pulse Height Analyzer 'Tritium Labeling of Organic Compounds ---Page Break--- Date Ben. Feb. u u 1s v " 26 2 w ecruReR, Me. Alfonse Riers and Ms. Jultan Roldén Agricultural Experiment Station, Alto Piedras Cope. Cnerics R. Angel U. 3s semy Tropical Medicine Laboratory Dr. Leopoldo R. Cerecedo School of Medicine, U.P.R. be, Fawin Rote Head, Radioisotopes Application Division™ Dr. Victor Marcial Head, Radiotherapy and Cancer Division 982 Dr. Js A+ Bonnet Agricultural Experiment Station, Rfo Piedr Dr. Juan 3, Curet Dean, Faculty of Natural Sciences, UPR. Dr. W. Van Sets Depts of Physics College of Natural Sciences UPR. be. J. Oliver Gonzéler School of Medicine, U.P.R. Dr. Ragl Marcial Dept. of Pathology School of Medicine, UPR. Dr. b. del Rosario Dept. of Physics College of Natural Sciences UPR. TOILET of ecrURE Radioactive Tracers in Tropical Biological Dosimetry Tumor-host relationship studied in vivo and in vitro Kinetics of the TL (1)-TL (IL) Exchange in Perchlorate Media Exfoliative Cytology in the Evaluation of Radiation Response of Cancer of the Cervix Uteri Recent Investigations on the Maturity of Sugar Cane in Puerto Rico 'The Concept Temperature 'The Physics of Radiation Detection and Measurements Serological Diagnosis of Bilharziasis Irradiated Arteries in Injuries to Elastic Tissue Van de Graaff Generator and Its Applications ---Page Break--- Feb. March April May Some 2 6 30 B a a Pe 1 Dr. R. Garate Polintort School of Medicine, U.P.R. Miss M. Pslactos Radiotherapy & Cancer Division Dr. J. by Garafe de Quevedo Associate Director Dr. Gustavo Candolas Dept. of Biology, UPR Dr. R. Cordova Biology

Deaparcent, U.P.R, Dr. G. T. Blasint De. Ls Haddock Dep. of Medicine School of Medicine UPR De. 0, Rentres Torres Dep. of Chemistry, U.P-R. Dr. A Ponaes Dep. of Microbiology School of Medicine, U-P-R. De. J. Toae Radiotherapy and Cancer Division® De. M. By Sezant Radioisotopes Application Division® De. Leo Lathroun College of Pharmacy, U.S.P.R. Miss H. Paden Radioisotopes Application Division* 'STATE oF ncrurs Coronary Artery Disease Phosphate Gloss Documenters; Theory and Application PRNC 1 Megawace Research Reactor Mechanism involved in the association of the calls of sponges Bacterial Viruses Experimental Studies in Histoplasmosis Mode of Activation of Thyroid Hormones The Inadequacy of the Present Long Form Periodic Chart Fluorescence Techniques in Biological Research Blood Biochemical Changes in Cancer Patients Radioprotective and Reagent Seasicizing Agents Cyanogen with rigid Reagents Determination of Maximum Permissible ---Page Break--- DATE June July Aug. Sept. 15 2 3 20 10 " Fy 2 ' LECTURER, Dr. F. Ranos Moral School of Medicine, U.P.R. Mr. Jose Janer Dept, of Health of P. K. De, Ricardo Méndes Ryan Dep. of Medicine School of Medicine, U.P.R. De. R. Santint School of Medicine, U.P.R. Dr. Jose del Castillo Dep. of Pharmacology School of Medicine, U.P.R. Dr. Duane Linden Agricultural Biosciences Division® Dr. Maurice P. Heinbren Head, Medical Sciences & Radiobiology Division Dr. Frank Lowaan Agricultural Biosciences Division® Ms. B. del Came Radiotherapy & Cancer Div.* Dr. Oven Wheeler Nuclear Science & Technology Division* De. Barbera Weinbren Clinical Applications Div.* Mr. Hector Barcelé Head, Reactor Division De. R. Levins Dept. of Biology Faculty of Natural Science (TITLE OF LECTURE The Haunting of the Bilharzia Infection Demographic changes in Puerto Rico and their implications in the

socio-economic development of the Commonwealth Towards a Geography in Rheumatoid Arthritis,
Precursors of the Folic Acid Active Factors of Blood Transfusion across the Cell Junction
Paramutation Quantitative Aspects of

Single Cycle Virus Replication in a Torset Animal cycling of Elements in the Sea Fluctuations in
Sex Chronation during the Menstrual Cycle Kinetic Isotope Effect Study of the Serum Protein of
Hippopotamus Linaacus Core-Physics Studies of PRNC Sustaining Pool Reactor Optimum Genetic
Systems ---Page Break--- DATE Sept. 2 Oct. 28 W 26 6 A3 30 U an Tu br. Paul Weinorer Read,
Medical Sciences % Radiobiology Division De. José Maldonado School of Medicine, U.P.R. De. H.
Hemewole Biology Dept., Faculty of Natural Sciences, U.P.R. De, Nicolas Daniels Radioisotopes
Division Dr. Evelina Ortiz Biology Dept., Faculty of Natural Sciences, U.P.R. Miss M.M. Palacios
Radiotherapy & Cancer Div. Mrs. Graciela Candelas Dept. of Biology, U.P.R. De. H. Harry Seaant
Radioisotopes Division De. Robert Lose Agricultural Bio-Sciences Division Dr. John C. Bugher
Director Mr. F. Sanches Nieve Agricultural Experiment Station, U.P.R. Dr. Victor Marctel Head,
Radiotherapy & Cancer Division Dr. C. Gaxeta Benitez Dept. of Biology, Faculty of Natural
Sciences, U.P.R. Dr. Andrew Marezky Agricultural Bio-Sciences Division Commission of
Arthropod-borne viruses, Biological Studies on Schistosomiasis Detection of Hosts and mates by
Hegarnysae a genus of parasitic insects Radiation Chemistry of Aqueous Solution, A Survey
Pigments in Linares Analog Dosimetry 002 Fixation in Marine Invertebrates Modern Concepts of
Organic Chemistry Sucrose in Sugarcane by Isotope Dilution Intracellular Atomic Nuclear Events
and Lethality The Polarographic Determination of Dissolved Oxygen in Nectars Cancer of the Penis
CO, Effect on Chromosome Aberrations Aspects of Ascorbic Acid Metabolism in Acerola ---Page
Break--- Dec. 28 Jan. 4 18 25 15 March 1 15 29 April 5 Dr. Marcelo Uertholds Clinical Application
De. B. Toro Goy Radioisotopes Ser: Veterans Administration Hospital, San Juan De. Juan Curet
Dean, College of Natural Sciences, U.P.R. De. Ortel Alva Radiotherapy & Cancer Div. De. Joke As
Mechington Reactor Division Dr. Andrew Marezky Agricultural Bio-Sciences.

Division® br. J. 4. Simons Professor of Chemistry University of Florida Dr. Marcelo Bertholis
Clinical Applications Div.* Dr. Julio V. Rivera Radioscopes Service Veterans Administration
Hospital, San Juan Dr. Sergio Irizarry Head, Clinical Applications Division Dr. Antonio Bosch
Radiotherapy & Cancer Div.* Mrs. Graciela Candelas Dept. of Biology, U.P.R. 'SEILE OF
LABORATORY, Potentialities Medical Research of Autoradiography in Puerto Rico Uptake of
Radionuclide Tritium-enriched by erythrocytes uses and Litter Lon 'ink Paramagnetism of Inorganic
Salts of the Type Kix0, Radiobiology of the Eye Dosimetry from Photon Spectra and Pulse-Height
Distribution Aspects of Ascorbic Acid Metabolism in Acerola Space, The end Energy Potentialities
of Autoradiography in Medical Research in Puerto Rico Teflon Absorption Introduction to Human
Genome Radiography Nephritis Post-radiation 602 Fixation in Marine Invertebrates ---Page
Break--- CTU apr 19 Dr. Hy Geimison Chair, U.P. 26 be. B.J. Gonder Deputy Director* May 3 Mige
Zenaida Frias Radiotherapy & Cancer Div.* 8 be. I. Ys Rhenolkar Director Emeritus Tata Cancer
Research Institute, Bombay, India 17 br. Edwin Rot. Head, Radioscopes Div.* 21 Dr. Jose Me
Tome Radiotherapy & Cancer Div.* 31 Dr. Amador Gobas Associate Director* June 7 Ms. Hims
Palactos de Lozano Radiotherapy & Cancer Div.* 28 be. B.H. Samant Isotope Application
Division® 21 Dr. Richard Bled Plant Physiology Institute University of Vienna 28 be. Charles Gifford
Professor of Comparative Physiology, Alfred University New York * Puerto Rico Nuclear Center
The Photochemistry of Thymine Solutions Investigation of Resonance and Restation Effects
Strategies in Nut Shell Cancer Research in India Srilard Chelaers Reactions in Solids Hodgkin's
disease Electrical Conductivity in Organic Solids Radiotherapy Analog Delivery Organic Chemistry
Research Projects in the Radiostopes Division 'The Effects of Long-term Radiation in Plasma

Break--- ---Page Break--- PUERTO RICO NUCLEAR CENTER SUMMARY OF RESEARCH ACTIVITIES Tabulated September, 1963 Director: John C. Bugher (M. D., University of Michigan) Deputy Director: Henry J. Gonberg (Ph. D., University of Michigan) TT, MAYAGUEZ DIVISIONS AND PROGRAMS A. Nuclear Science and Technology Division - Owen H. Wheeler (Ph. D., London) 1. Hot Atom Chemistry of Organic Phosphorus Compounds - Investigator: Milagros Santos Sanchez under the guidance of Owen H. Wheeler (Ph. D., London) 2. Reactivity of Ring Compounds and the Ease of Ring Formation - Investigator: Rosita Baez Galib under the guidance of Owen H. Wheeler (Ph. D., London) (Thesis Research) 3. Bone - Investigators: John A. Wethington (Ph. D., Florida), Owen H. Wheeler (Ph. D., London), and Ferdinand Rosa Gontdle? (Thesis Research) 4. Thermal Aromatic Rearrangements - Investigator: Owen H. Wheeler (Ph. D., London) and Ileana Casanova (Thesis Research) 5. Sulfur Derivatives of Steroids - Investigator: Owen H. Wheeler (Ph. D., London) and César Reyes (Thesis Research) 6. Ferroelectric Behavior of Triglycine Sulfate - Investigators: Julio Gonzalo (Ph. D., Madrid) and Francisco Ruiz (Thesis Research) 7. Photomultiplier Fatigue - Investigator: Rev. Ignacio Centarell (Lic. Physics, Madrid) and Efrafe Rosario (Thesis Research) 8. Design of a Thermal Neutron Shutter. This will be used for irradiating experimental animals and other materials with thermal neutrons - Investigator: Eddie Ortiz (Ph. D., Texas A. and M.) and Carlos V. Wheeler (Thesis Research) 9. Effect of Radiation on the Thermal Emissivity of Graphite - Investigators: Kenneth Soderstrom (H. S., Univ. Florida) and Carlos Reoyo (Thesis Research) 10. Differential Energy Range of Fission Products on Aluminum - Investigators: Ismael Alsodévar (Ph. D., Carnegie Inst. Tech.) and Edgar Pdez (Thesis Research) 11. Range Energy Relations of Fission Products in Different Materials - Investigators: Ismael Alnodévar (Ph. D., Carnegie Inst. Tech.) and Nyole Paez (Thesis Research) 12. Gamma

Radtolysis of Organic Compounds - Investigator: Owen H. Wh (Ph. D., London) with Rafael Montalvo (Thesis Research) ---Page Break--- 13. Spin-Spin Proton Coupling in Aromatic Compounds: Wheeler (Ph. D., London) in cooperation with Dr. J. L. Mateos (National University of Mexico) 16, Compton Scattering - Investigator: Eddie Ortiz (Ph. D., Texas A. and M.) 15, Chemical Dosimetry - Investigators: Fausto Muflor (B.S.C.E, Polytech. Int Quito, Ecuador) assisted by Pedro Osorio 16. Wierasonics and Mass Transfer - Investigators: Fausto Mutloz (B.S.C.E. Polytech. Inst., Quito, Ecuador), Rafael Motor Candelario (Ph. D., Brooklyn Polytech. Inst) and David González 17. Szilard-Chalmer Reaction in Inorganic Compounds - Investigator: Juan F. Pacetti (Ph. D., Asunción) with Elisa Trabal 18. Search for New Nuclides - Investigator: Juan Pacetti (Ph. D., Asunción) with Elisa Trabal and Sigfredo Torres 19. Radiation Effects in Ferroelectric Properties of Rochelle Salt - Investigators: Kenkichi Okada (Ph. D., Kyoto), and Ricardo Vega 20. Relaxation Frequencies in Ferroelectric Crystals - Investigator: Jule Gonzalo (Ph. D., Madrid) and Kevin J. M. Brusi (Thesis Research) Neutron Diffraction Program - Principal Investigator: Lenael Almodóvar (Ph. D., Carnegie Inst. Tech.) with guest scientists Helmut Bielen (Ph. D., Bonn) and Kenkichi Okada (Ph. D., Kyoto) in cooperation with Dr. B. C. Frazer and Dr. Walter Hamilton of Brookhaven National Laboratory, Dr. J. Martinez Picé (Chemistry Department, College of Agriculture and Mechanic Arts), and Dr. Mortimer Kay (Georgia Tech.) A. Crystal Structure Determination of Inorganic Compounds 2. Magnetic Structure Determination of Compounds of Transition Metals 3. Low Temperature Crystal Structure Determination of Substances That Are Liquid at Room Temperature on Effects Program - Principal Investigator: Henry J. (Univ. Michigan) with the collaboration of Robert A. Luse (Ph. D., Univ. California), Florencio Vazquez (Ph. D., Madrid), and Rosa Santiago de

Morales (M. S., U.P.R.) Agricultural Bio-Sciences Division - John C. Bugher (M. D., Univ. Michigan) 1. Acerola Metabolism - Investigator: Andreu Mareteki (Ph. D., Penn State) 2. Mechanism of Back Mutation - Investigators: Francis K. S. Koo (Ph. D., Univ. Minnesota) and Edith Robles de Irizarry (Thesis Research) ---Page Break--- 3. Sucrose Enzymes - Investigators: Robert A. Luse (Ph. D., Univ. California) and W. Harry Senent (Ph. D., Purdue Univ.) 4. Biochemistry of Sugar Cane - Investigator: Robert A. Luse (Ph. D., Univ. California) & Insect Control by Induced Sterility - Investigator: David Walker (Ph. D., Washington State Univ.) 5. Rearing and Radiation Studies of *Diatraea saccharalis* - Investigators: David Walker (Ph. D., Washington State Univ.) and Adela V. de Aleassy and Miguel Figueroa (Thesis Research) 6. Telling Indigo Project - Investigator: Jean Arcta (Ph. D., Univ. Wisconsin) 7. Radioisotope Applications in Plant Study - Investigator: Robert A. Luse (Ph. D., Univ. California) and Fernando Luna 8. Paramutation Research Program - Investigator: Duane B. Linden (Ph. D., Univ. Minnesota) 1. Survey of South American Races of Maize for Paramutation Ability - Investigators: Duane B. Linden (Ph. D., Univ. Minnesota) and Vicente Rodríguez (Thesis Research) 2. Radiation Effects on Paramutation - Investigators: Duane B. Linden and José Cuevas Ruiz (Thesis Research) 3. Marine Biology Program - Principal Investigator: Frank G. Lowman (Ph. D., Univ. Washington) 1. Biological Productivity by Metabolism 2. Stable Trace Element Analysis in Seawater, Marine Organisms, and Bottom Sediments - Investigators: Milagros Miré (M. S., College of Arts and Sciences), Lydia Quinones, and Vilma Rondón de Vega 3. Uptake Studies of Marine Organisms - Investigators: Iraida Oliver de Padovani, Edgar Ranos 4. Background Radiation Levels in the Marine Environment - Edgar Ranos Seda and Carlos Folch 5. Background Oceanographic Measurements - Investigator: (Ph. D., Univ.

Washington) and Edcar Ramos Seda, Environment - Investigators: Frank G. Lowman & Bincén Ecological Studies - Investigators: Robert A. Stevenson (Ph. D., Univ. Hawaii) and Frank C. Loman (Ph. D., Univ. Washington) ---Page Break--- 98 Ferrer Monge (Ph. D., Louisiana State Univ.) Pediatric Exposure to the Gonads During Diagnostic Investigation: Analia Vélez Paradis under the guidance of Parrille Galderén (M.S., College of Agr. and Mech. Arts) (Thesis Research) 2. Determinal background Radiation Levels in the Vicinity of the Reactor Site - Investigator: José Ferrer Monge (Ph. D., Louisiana State Univ.) with the assistance of Pedro Cruz (M. S., College of Agr. and Mech. Arts), Fernando Vallecillo, and Maria Luisa Crot 3. Biological Study of the Electron Zone of Puerto Rico - Principal Investigator: José Ferrer Monge (Ph. D., Louisiana State Univ.) 'Theoretical Study of Reactor Engineering - Investigator: J. Parrille Calderón (M.S., College of Agr. and Mech. Arts) H. Reactor Division - Investigator Barcelé (M. S., College of Agr. and Mech. Arts) 1. Reactor Development and Monitoring Studies - Investigator: Héctor Barcelé, College of Agr. and Mech. Arts 'TL, RIO PIEDRAS DIVISION AND PROGRAM A. Radioisotopes Division - Edwin Roig (Ph. D., Univ. Penn.) 1. Organic Chemistry Research - Principal Investigator: H. Harry Samant (Ph. D., Purdue Univ.) 4. Synthesis of Organic Boron Compounds - Potential Use in Neutron Activation Therapy - (1) Derivatives of Boric Acid - Investigator: A. Carrasquillo (2) Derivatives of Diboron - Investigator: J. P. Pazos b. Substitution of Hydroxyl Groups in Polyfunctional Alcohols - Potential as Antimetabolites (Q) Indicate Reactions - Investigator: E. P. Olavarría (2) Reactive Dichloro Compounds - Investigator: L. Ortiz. Organic Sulfur Compounds - Potential Use as Radiation Protective Agents (1) Beta-hydroxy sulfoxides - Investigator: J. J. Rigue (2) Reduction of Sulfoxides - Investigator: O. Cox (G) Association of Sulfoxides - Investigator: R. Figueroa (4) Sulfocarbene Reaction - Investigator: L. Fernández ---Page

Break--- (5) Sulfocarbene Reaction - Investigator: R. Cabrera 4. Chromic Acid Oxidation of Hydrocarbons Project approved - Research Assistant not appointed so far fe, Solvent Effects in Chemistry (1) Wolff-Kishner Reaction - Investigator: M. Ronda (2) Absorption Spectra -

Investigator: Y. Vaillant 2, Photochemistry and Radiation Chemistry* - Principal Investigator: Malcolm Daniels (Ph. D., Durham) 4, Photochemistry of Aqueous Nitrate Solutions at 3130 Å - Investigator: R. Vicki Meyers (M. S., Wisconsin) b. Absorption Spectrum and Photochemistry of Periodate - Investigator: B. V. Belardo (B. S., Philippines) and J. J. Rabelo (B. S., U.P.R.) c. Photochemistry and Radiation Chemistry of Alkaline Permanganate - collaborator to be appointed 4. Construction and Testing of Flash Photolysis Apparatus - Investigator: Ronald Collins (Honor Program Physics, U. R.) e. Photochemistry of Thymine at 2537 Å and 1849 Å - Investigators: Alec Grimison (Ph. D., London) and A. Ronda de Sandoval (B. S., U.P.R.) f. Photochemistry of Uracil and Cytosine - Investigator: Alec Grimison (Ph. D., London) and Marie Adele Mouaked (U.P.R.) g. Hyperchromicity and Viscosimetric Studies on D.N.A. - Investigators: Alec Grimison (Ph. D., London), A. Lugo Vazquez, and German Santi (U.P.R.) h. Fluorescence and Phosphorescence Studies on Pyrimidines and D.N.A. - Investigator: B. V. Belardo (B. S., Philippines) temporary. Full-time collaborator to be appointed. These activities are supported by A.E.C. program divisions and the D.N.A. work is supported by an N.I.H. grant to the University of Puerto Rico. 3. Solution chemistry of Thallium - Principal Investigator: Edwin Roig (Ph. D., Univ. Penn.) with the collaboration of Raúl Figueroa (B. S., U.P.R.) 4. Solid State Physics of Organic Crystals - Principal Investigators: Amador Gobas (Ph. D., Columbia Univ.) and H. Harry Samant (Ph. D., Purdue Univ.) with the collaboration of Concepción Zuazaga (B. S., U.P.R.) ---Page Break--- B. Clinical Applications Division - Sergio Irizarry (M. D., Univ. Buffalo) 1. Study of

Thyroid Gland Function Under the Influence of a Combination of Estrogenic and Progestational Substances in Puerto Rican Women - Investigators: Sergio Irizarry (M.D., Univ. Buffalo), Dr. Gregory Pincus (Director of Research, Worcester Foundation for Experimental Biology), Dr. Manvel E. Paniagua (P.R. Family Planning Association) and Mr. José L. Janer (Biostatistics Div., School of Public Health, School of Medicine, U.P.R.), and Zenaida Frias (MPH, Univ. Michigan) 2 Isotope Lithium Studies - Investigator: Sergio Irizarry (M.D., Univ. Buffalo) Equipment Modification >, Tumor Localization and Organ Visualization 3. Eat Absorption Studies: Intestinal Absorption of Patients Undergoing Radiotherapy - Investigators: Victor Havtait (M.D., Harvard), and A. A. Cintrén Rivera (M.D., Univ. Michigan) b, Triple Simultaneous Measurement of Intestinal Absorption with Vitamin A, Hagic-Oleic Acid, and Xylose - Investigators: Sergio Irizarry (M.D., Univ. Buffalo) and A. A. Cintrén Rivera (M.D., Univ. Michigan) + The Effect of the Unblocked Hyperthyroid Gland on Radio-Oleic Acid Levels (Absorption Curve) - Investigator: Sergio Irizarry (M.D., Univ. Buffalo) 4, Studies on the Use of In Vitro Tests for the Assessment of Thyroid Function Investigator: Weinbren (B.N.B.Ch., London) and Sergio Irizarry (M.D., Univ. Buffalo) 5. Renogram Follow Up Studies Cancer of the Cervix - Investigator: Sergio Irizarry (M.D., Univ. Buffalo) 6. Studies of Blood Biochemical Changes in Patients Undergoing Radiation - Investigators: Barbara Weinbren (B.N.B.Ch., London), Sergio Irizarry (M.D., Univ. Buffalo), and Victor Marctal (M.D., Harvard) 7. Thyroid Function Studies With In Vitro Techniques Using Red Cells and Hestin for the Uptake of 1-131 Triiodothyronine - Investigator: Barbara Weinbren (B.N.B.Ch., London) 8. Experimental Exudative Gastritis in Dogs Induced by "Diol" - Investigators: Dr. A. Rodríguez Olleros (Prof. of Biochemistry, Univ. Buffalo) 9. Comparative Study of In Vitro Thyroid.

Function Test Using Resin Uptake Method and Red Cells Triiodothyronine and Uptake by Red Cells - Investigators: Dr. E. Toro Goyco (Biochemistry Dept., Veterans' Administration Hospital) and Sergio Irizarry (M.D., Univ. Buffalo) ---Page Break--- ©. Radiotherapy and Cancer Division - Victor A. Marcial (M.D., Harvard Univ.) 1. Evaluation of Radiation Response in Cases with Cancer of the Cervix Uteri Treated with Radiotherapy by Means of Exfoliative Cytology - Investigators: Victor A. Marcial (M.D., Harvard Univ.) 2. Use of Fluorodis for Radiation Dosimetry - Investigator: María P.

Lozano (Univ. Rochester) 3. Leukemia Study - Investigator: Victor Marcial (M.D., Harvard Univ.) in collaboration with the Department of Epidemiology of the School of Public Health, Harvard University 4. Irradiation of the Eye - Investigator: Oriol Alva (M.D., Univ. Buenos Aires) 5. The Influence of Whole Body Radiation on the Enzyme Activity of the Intestine - Investigators: Victor Marcial (M.D., Harvard Univ.), José M. Tomé (M.D., Spain), Antonio Bosch (M.D., Mexico) in collaboration with M. Decquisty (Lt. Colonel, H.C., of the U.S.A. Tropical Research Medical Laboratories) 6. Study of the Changes Detectable in the Serum of Cancer Patients Receiving Irradiation to the Lower Abdomen, With Special Reference to Lipid and Protein Levels - Investigators: Barbara Weinbren (B.N.B., London), Sergio Irizarry (M.D., Univ. Buffalo), Victor Marcial (M.D., Harvard Univ.), Zenaida Frias (HPH, Univ. Michigan), Leonor Gilestra, and Carmen Viliodas 7. Cancer of the Esophagus - Investigators: Victor Marcial (M.D., Harvard Univ.) in collaboration with Dr. Pablo Morales (Div. of Radiology, Dr. I. Gousdles Martinez Oncologic Hospital), and Dr. Radl Marcial Rojas (Head of Department of Pathology, School of Medicine, U.P.R.) 8. Hodgkin's Disease - Investigators: José M. Tomé (M.D., Spain) with the collaboration of Dr. Eduardo de León (Pathology Department, School of Medicine, U.P.R.) 9. Carcinoma of the Anterior Two-Thirds of the Tongue - Investigators: José M. Tomé

(1. D., Spain) and Victor Marcial (1. D., Harvard) Investigators: José M. (Univ.) 10. Irradiation of the Kidney - Investigators: Antonio Bosch (M. D., Mexico) with the collaboration of Dr. William Caldwell (Rodriguez Army Hospital) 11. Fractionation in Radiotherapy of Cancer of the Oral Cavity - Investigators José M. Tomé (M. D., Spain), Antonio Bosch (M. D., Mexico), and Orley Ales (1. D., Univ. Buenos Aires) D. Medical Sciences and Radiobiology Division - Paul Weinbren (H. D., Univ. of Witwatersrand, S. A.) The Mechanisms of Antigen-Antibody Reactions Following the Inoculation of Mice with Irradiated and Normal Schistosoma mansoni Cercariae - Investigators Paul Weinbren (H. D., Univ. of Witwatersrand, S. A.) and John B. Villedia (Ph. D., Univ. Michigan) ---Page Break--- 2. Intracellular Effects of Neutron Capture Reactions - Investigators: John C. Bagher (G. D., Univ. Michigan) and Paul Weinbren (H. D., Witwatersrand, S.A.) 43. The Study of Human Chromosomes in Normal and Irradiated Subjects and Those Having Sprue - Investigators: N. Dacquisto (Ph. D., Univ. Vermont) and Paul Weinbren (H. D., Witwatersrand, S.A.) with the collaboration of José Tomé (M. D., Zaragoza, Spain) 4. The Response of Selected Small Intestine Enzymes to Ionizing Radiation - Investigator: N. Dacquisto (M. D., Univ. Vermont) with the collaboration of Antonio Bosch (M. D., Univ. Mexico) 5. Ethology of Obscure Acute Neurological Syndromes in Children - Principal Investigator: Dolores Méndez Cashion (M. D., Univ. Virginia). Virus isolation program of this research project is being carried out by the staff of this Division 2. Terrestrial Ecology Program - Part I - Radioecology of a Tropical Rain Forest at El Verde, Puerto Rico - Principal Investigator: Howard T. Odum (Ph. D., Yale Univ.) 5. Terrestrial Ecology Program - Part II - Radiation Induced Variability in Pathogens of Arthropod-Borne Animal Viruses of Puerto Rico - Principal Investigator: Paul Weinbren (H. D., Witwatersrand, S. A.) ---Page Break--- ---Page Break---