Appendix A

History of Georgia Tech Physics Department: 1888-1967

Foreword

I have been asked to write a personal history of the history of the Georgia Tech Physics Department during its formative years. I have decided to discuss the department until 1967 when it moved into the J.H. Howey Physics building. It is, of course, possible to simply list the faculty with its credentials for each of these years but that information is contained in the General Catalogue. Thus, in order to have some insight into the character and philosophies of the individual faculty members, I further assume that this history will be of interest only to members of the Physics Faculty. I must rely on my perception of these people. It is therefore hoped that others who have additional pertinent information will make additions and/or corrections to this history. I will make no comments on the technical competence as physicists of any faculty member. However, I feel this department has had a very important influence on the development of higher education, research, and to a lesser extent on industry in the State of Georgia. I will make a special effort to point out those individuals who made these contributions.

-- L. David Wyly

1888-1889

I.S. Hopkins, Ph.D. and D.D., President of the Georgia School of Technology and Professor of Physics.

Part of the Bulletin pertaining to the Department of Physics:

Department of Physics

The studies of this department are begun in the Apprentice Class and continue through the entire course. Every facility is offered the student to acquire a thorough knowledge of physics. The outfit in apparatus and instruments is large and varied and additions are constantly being made by purchase and manufacture in the shops of the institution. No effort will be spared to illustrate and verify by experiment the principles taught in textbooks and lectures.

> The Apprentice Class during the first term, the general properties of matter; during the second term, the laws of action and machines.

The Junior Class study during the first term hydrostatics and pneumatics. The second term is given to acoustics and magnetism.

> The Middle Class are occupied the first term with electricity – statical and dynamical; during the second term they study the subjects of heat and light.
>
> The Senior Class are engaged for the most part in the physics laboratory and in investigations under the direction of the Professor of Physics. They are taught by lectures and experiment the modes of making precise measurement, the construction, adjustment and use of instruments of precision.

1889-1890

I.S. Hopkins, Ph.D. and D.D., President and Professor of Physics.

1890-1891

I.S. Hopkins, Ph.D. and D.D., President and Professor of Physics.
Ernest E. West (Annapolis), Adjunct Professor of Physics.

1891-1892

I.S. Hopkins, Ph.D. and D.D., President and Professor of Physics.
Ernest E. West (Annapolis), Adjunct Professor of Physics.

1893-1894

I.S. Hopkins, Ph.D. and D.D., President and Professor of Physics.
M.R. McRae, Adjunct Professor of Physics.

1894-1895

I.S. Hopkins, Ph.D. and D.D., President and Professor of Physics.
M.R. McRae, Adjunct Professor of Physics.

1895-1896

Lyman Hall, Ph.D., Professor of Mathematics, is the new president of the Georgia School of Technology.
R.W. Quick, B.S. is Professor of Physics.

Professor Quick was the local authority on the use and dangers of x-rays. He was a consultant to Grady Hospital and often made the newspapers. An interview entitled "Hunting the Bullet" was published in *The Atlanta Constitution* on November 17, 1896, page 5.

Lyman Hall, a West Point graduate, was an iron-willed, highly articulate disciplinarian, addressed as Captain Hall. An excerpt from *Dress Her in White and Gold*, Robert B. Wallace, Jr., may be of some interest:

> During the January 25, 1900, meeting of the board of Trustees, President Hall was, in the words of the minutes, "asked to report the causes of the heavy decrease in the present senior class which began with 80 members and was now reduced to 14." Hall, with characteristic candor and brevity submitted this report: "left for financial reasons – 13; deaths – 1; left for bad conduct – 5; left because of no talent for the work – 5; left for not studying – 13; left for mental deficiency – 2; left to go to work – 8; left on account of bad health – 5; left for reasons unknown – 14; in attendance now – 14; total 80."

Students now start physics in the Junior class.

1896-1897

R.W. Quick, B.S. is Professor of Physics and Electrical Engineering..
J.B. Edwards, B.S., Adjunct Professor of Physics and Electrical Engineering.

Professor Edwards was the first faculty member hired who was to devote more than 40 years to the Georgia Tech Physics Department. As will be seen, "Jobby" guided the department through three decades of development. It is a sad commentary that no retirement benefits were given to the faculty at the time.

Students (electrical engineering) who choose this course will not deviate from the course in mechanical engineering until the beginning of their Senior year, when the theory of electrical machinery will take place of the steam engine, and electrical laboratory work will be substituted for shop and a portion of drawing. Work will be in dynamos and motors – A.C. and D.C. (8 hours per week). (The mother science has spawned an engineering child).

1898-1899

R.W. Quick, B.S. is Professor of Physics and Electrical Engineering..
J.B. Edwards, E. and M.E., Adjunct Professor of Physics and Electrical Engineering.

1899-1900

Ezra F. Scattergood, M.S., M.M.E., Professor of Physics and Electrical Engineering.
J.B. Edwards, E. and M.E., Adjunct Professor of Physics and Electrical Engineering.

1900-1901

Ezra F. Scattergood, M.S., M.M.E., Professor of Physics and Electrical Engineering..
J.B. Edwards, E. and M.E., Adjunct Professor of Physics and Electrical Engineering.

1901-1902

Ezra F. Scattergood, M.S., M.M.E., Professor of Physics and Electrical Engineering.
J.B. Edwards, E. and M.E., Adjunct Professor of Physics and Electrical Engineering.

1902-1903

J.B. Edwards, B.S., E. and M.E., Professor of Physics.

E.E. is now the School of Electrical Engineering. (The mother science has created an engineering school.)

1903-1904

J.B. Edwards, B.S., E. and M.E., Professor of Physics.
C.H. Kicklighter, M.S., Adjunct Professor of Physics.

A few statements from the Bulletin:

"The aim of this department is to present the fundamental principles of Physics, the experimental basis upon which they rest, and, as far as possible, the mathematical reasoning employed in the deduction of various physical formulas. The student is not only made acquainted with certain physical laws in accordance with which physical events occur, but is taught that all physical quantities can be represented by symbols, and

that certain mathematical relations exist between them in consequence of which logical deductions can be made.

The study of Physics is taken up in the Junior year in a thorough and systematic way. Numerous problems are assigned in recitations, of which there are two per week. In order to thoroughly familiarize the student with the significant and practical use of the principles which he learns, and the physical formulas which he sees deduced, one experimental lecture and two recitations per week are given in the course.

The lecture room is provided with various facilities for experimental demonstration. By means of shades the room can be darkened when needed; the lecture table is provided with a water-tank, and water, gas, and electricity from the dynamo are available; also current from a storage battery of nine choloride accumulator cells…

For laboratory work in electricity the department is supplied with a sensitive Thompson mirror galvanometer, a Siemens mirror galvanometer, a mirror galvanometer by Queen & Co., a very sensitive D'Arsonval galvanometer, a Rowland's patent galvanometer, a large coil tangent galvanometer, three small D'Arsonval galvanometers, a magnetometer, a 5-dial Wheatstone bridge, two slide wire bridges, a Weston ammeter, 10 resistance boxes of various sizes, a copper voltmeter, an earth coil, a ballistic galvanometer, a Cahart-Clark standard cell, a 1 M.F. standard condenser and a Kempe discharge key for capacity tests." (No need for property control.)

1904-1905

J.B. Edwards, B.S., E. and M.E., Professor of Physics.
C.H. Kicklighter, M.S., Adjunct Professor of Physics.

1905-1906

Kenneth G. Matheson (a Citadel graduate), Ph.D., Professor of English, is named the new President of the Georgia School of Technology.

J.B. Edwards, B.S., E. and M.E., Professor of Physics.
H.W. Haynes, B.S., Adjunct Professor of Physics.

1906-1907

J.B. Edwards, B.S., E. and M.E., Professor of Physics.
C.J. Payne, A.B., Adjunct Professor of Physics.

1907-1908

J.B. Edwards, B.S., E. and M.E., Professor of Physics.
C.J. Payne, A.B., Adjunct Professor of Physics.

1908-1909

J.B. Edwards, B.S., E. and M.E., Professor of Physics.
C.J. Payne, A.B., Adjunct Professor of Physics.

1909-1910

J.B. Edwards, B.S., E. and M.E., Professor of Physics.
C.J. Payne, A.B., Adjunct Professor of Physics. (On leave)
C.L. Swisher, A.B., Adjunct Professor of Physics.
J.P. McCormick, A.B., A.M., Adjunct Professor of Physics.

The department grows and the Bulletin has a colored picture of the campus.

Lecture demonstration equipment now includes: "A hydraulic press, a large rotary air pump, rotating apparatus with accessories; a mandrel for high speed rotation, gyroscope, balances, Hero's fountain, barometers, Holtz machine, eight-inch spark Rumkorff induction coil, Geissler and Crook's, tubes, X-Ray tubes and fluoroscope, a battery of Leyden jars, wireless telegraph apparatus, apparatus for mutual action of currents, tangent galvanometers, resistance boxes, thermopile, two large parabolic reflectors, lenses, concave and convex mirrors, apparatus for demonstrating the laws of reflection and refraction, revolving mirror and manometric capsule, several color discs, Koerig's interference apparatus for sound, organ pipes, tuning-forks, siren, sonometer, spectrometer, diffraction-gratings, prisms, and many other pieces."

1910-1911

William Henry Emerson (Naval Academy graduate), Ph.D. (John Hopkins), head of the Chemistry Department, adds the position of Dean of the Georgia School of Technology to his duties.

Jessee Boland Edwards, B.S., E., and M.E., Professor of Physics.
Charles Jackson Payne, A.B., Adjunct Professor of Physics.
Winthrop Robbin Wright, Instructor in Mathematics and Physics.

1911-1912

Jessee Boland Edwards, B.S., E., and M.E., Professor of Physics.
Charles Jackson Payne, A.B., Adjunct Professor of Physics.

Winthrop Robbin Wright, Instructor in Mathematics and Physics.

1912-1913

Jessee Boland Edwards, B.S., E., and M.E., Professor of Physics.
Charles Jackson Payne, A.B., Adjunct Professor of Physics.
Shirley Ernest Field, A.B., Instructor in Physics.

Enrollment at Georgia Tech is now 805 students, including approximately 100 in night school. The purpose of the night school was to furnish technical education for the industrial workers. The city of Atlanta had a budget item for the night school.

1913-1914

Jessee Boland Edwards, B.S., E., and M.E., Professor of Physics.
William Stockton Nelms, A.M., Ph.D., Assistant Professor of Physics.
Shirley Ernest Field, A.B., Instructor in Physics.

Engineering Physics courses are Physics 9, Mech and Heat; Physics 10, Heat, Sound, and Electricity; Physics 11, Electricity and Magnetism. The laboratory numbers are Phys 14 and 15, 17 (for E.E.'s), four hours per week, Phys 20, Slide Rule.

1914-1915

Jessee Boland Edwards, B.S., E., and M.E., Professor of Physics.
William Stockton Nelms, A.M., Ph.D., Assistant Professor of Physics.
Daniel Stanley Elliot, A.B.,A.M., Ph.D., Instructor in Physics.
Jessey Columbus Reed, Student Assistant in Physics and E.E.

1915-1916

Jessee Boland Edwards, B.S., E., and M.E., Professor of Physics.
William Stockton Nelms, A.M., Ph.D., Assistant Professor of Physics.
Daniel Stanley Elliot, A.B., A.M., Ph.D., Assistant Professor of Physics.
John Lawrence Metcalf, Student Assistant in Physics.

1916-1917

Jessee Boland Edwards, B.S., E., and M.E., Professor of Physics.
Daniel Stanley Elliot, A.B., A.M., Ph.D., Associate Professor of Physics.
Harold Lord Hazeltine, Ph.D., Instructor in Physics.
William James Wren, Student Assistant in Physics.

1917-1918

Jessee Boland Edwards, B.S., E., and M.E., Professor of Physics.
Daniel Stanley Elliot, A.B., A.M., Ph.D., Associate Professor of Physics. (On leave with the School of Military Aeronautics.)
Walter White Steffey, A.B., Instructor in Physics.
Otis Ott Rae, Student Assistant in Physics.

1918-1919

Jessee Boland Edwards, B.S., E., and M.E., Professor of Physics. (On leave.)
Daniel Stanley Elliot, A.B., A.M., Ph.D., Acting Professor of Physics.
William Emera Godfrey, A.M., Assistant Professor of Physics.
William Roy Mackay, S.B., Instructor in Physics.

1919-1920

Jessee Boland Edwards, B.S., E., and M.E., Professor of Physics.
Daniel Stanley Elliot, A.B., A.M., Ph.D., Associate Professor of Physics.
Robert Wells Boreman, M.E. in E.E., Assistant Professor of Physics.
George A. Scott, B.S., Assistant Professor of Physics.
Robert E. Robinson, B.S. in E.E., Instructor in Physics.

1920-1921

Jessee Boland Edwards, B.S., E., and M.E., Professor of Physics.
Robert Neal Thompson, B.S., Assistant Professor of Physics.
Niel F. Beardsley, B.S., M.S., Assistant Professor of Physics.
Roy B. Hunter, B.A., M.A., Sc.D., Assistant Professor in Physics.
James Russell Jenness, B.S., Assistant Professor in Physics.
Alex F. Samuels, M.A., Assistant Professor in Physics.

1921-1922

Jessee Boland Edwards, B.S., E., and M.E., Professor of Physics.
James Russell Jenness, B.S., Associate Professor in Physics.
Robert Neal Thompson, B.S., Assistant Professor of Physics.
Niel F. Beardsley, B.S., M.S., Assistant Professor of Physics.
Alex F. Samuels, M.A., Assistant Professor in Physics.
Earle E. Bortell, B.S. in Eng., Instructor in Physics.

Earle Bortell was the first faculty member hired who was still a faculty member of the department when the first Ph.D. degree in Physics was awarded. For generations of Georgia Tech Alumni, George Griffin, D.M. Smith, and "Shorty" Bortell were the fond memories of Georgia Tech. A man who for forty years was the "spark plug" (never walk

when you can run and never less than two steps at a time on stairs) in the department deserves some special mention. The students claimed he wrote with one hand while he erased with the other, and if that wasn't fast enough he used his coat sleeve. It is true his clothes always looked as if he had just used them to erase the board. He should be listed in the Guinness Book of Records as the fastest two finger typist. He left a trail of half smoked cigars behind him (even in his coat pocket). He was forever picking up one of these old stogies and lighting it. Every class he ever had was the worst class he had ever had. His office looked the most disorganized that has ever graced the Physics Department, but he had the uncanny ability to reach in the middle of an arbitrary stack of paper (of x years) and pull out your requested paper. We would all be richer if we had followed his investment advice. One of his aims in life was to turn in his Income Tax at 11:59 P.M. on April 15. Stones from the Old Shop Building form part of his self built flood control efforts on his property. He was furious that the I.R.S. would not allow him "flood Control Expenses." He was the tennis coach for thirty years, I expect often operated out of his own pocket. One of the great days of his life was the day he received permission to have one tennis player on scholarship. The Tennis Center is named in his honor. He had a great affection for the students, his "bark was worse than his bite"; he was truly elated when he was inducted into the ANAK Society.

Part of the resolution approved at the 1975 SESAPS Meeting: "… Earle Bortell had an intense interest in teaching. His enthusiastic presentation of subject matter, coupled with his genuine concern for his students, earned him the admiration of thousands of students with whom he had contact. The warmth of his personality and the fullness of his life provided a constant inspiration for his many faculty colleagues."

1922-1923

Martin Luther Brittain, Ph.D. (University of Chicago) is named the new President of the Georgia School of Technology.

Jessee Boland Edwards, B.S., E., and M.E., Professor of Physics.
James Russell Jenness, B.S., Associate Professor in Physics.
Robert Neal Thompson, B.S., Assistant Professor of Physics.
Niel F. Beardsley, B.S., M.S., Assistant Professor of Physics.
Alex F. Samuels, M.A., Assistant Professor in Physics.
Earle E. Bortell, B.S. in Eng., Instructor in Physics.

Some changes in course scheduling are necessary to accommodate the "Co-Ops."

1923-1924

Jessee Boland Edwards, B.S., E., and M.E., Professor of Physics.
James Russell Jenness, B.S., Associate Professor in Physics.

Robert Neal Thompson, B.S., Assistant Professor of Physics.
Niel F. Beardsley, B.S., M.S., Assistant Professor of Physics.
Alex F. Samuels, M.A., Assistant Professor in Physics.
Earle E. Bortell, B.S. in Eng., Instructor in Physics.
Gaylord B. Estabrook, B.S., Ch.E., M.E., Instructor in Physics.

1923-1924

Professor Edwards; Associate Professors Jenness and Thompson, Assitant Professors Beardsley and Samuels; Instructors Bortell and Estabrook.

"The department of Physics occupies a new building, constructed especially for work in Physics. The building is 100 feet by 110 feet and four stories high. It contains lecture rooms, offices, and a workshop.

The ground floor is arranged for general laboratory work, each room being equipped with electric lights, gas, water, compressed air, and storage battery circuits. The main lecture room of the department occupies the central portion of the first floor. It has a seating capacity of two hundred and eighty, the seats being raised so as to allow students a clear view of the lecture table.

Five recitation rooms, library, and offices are on the first floor. Two classrooms, a laboratory, and research rooms are on the second floor, the remaining space being occupied temporarirally by the department of Civil Engineering. The third floor is occupied by the department of jArchitecture." (It required twenty years for the department to get the whole building. It is interesting that the department continued to use the building essentially as originally planned for over forty years.)

1924-1925

William Vernon Skiles, B.S. (University of Chicago), M.A. (Harvard University), Sc.D. (University of Georgia), becomes the Dean of Faculties of the Georgia School of Technology.

Professor Edwards; Associate Professors Jenness and Thompson, Assistant Professors Beardsley, Samuels, Bortell and Estabrook.

Dean Skiles, a strict disciplinarian, believed in absolute maintenance of academic standards. Every faculty member who served during Dean Skiles twenty-three years' "reign" has an interesting tale to tell about his encounters with Dean Skiles. After he started using a hearing aid he would terminate conversations by turning off his hearing

aid. He was a major molder of the academic atmosphere at Georgia Tech. He also had a warmer side and another quote from Dress Her in White and Gold *is appropriate:*

> *Dean Skiles believed that teaching was the best of all of the professions. "What is finer than working with young men?" he would query. Then he would answer his own question, "The teaching profession has the advantage over all the others. The doctor sees the boy when he is sick, the lawyer sees him when he is in trouble, but the teacher sees him when he is young, ambitious and happy."*

1925-1926

Professor Edwards; Associate Professors Jenness, Thompson, and Beardsley; Assistant Professors Samuels, Bortell, and Estabrook.

1926-1927

Professor Edwards; Associate Professors Thompson, and Beardsley; Assistant Professors Samuels, Bortell, Estabrook and Utterback.

Clinton L. Utterback, B.S., M.S., Ph.D. Assistant Professor of Physics.

1927-1928

Professor Edwards; Associate Professor Beardsley; Assistant Professors Samuels, Bortell, Estabrook and Becker; Instructor Strout.

Arthur Lynn Becker, A.B., M.A., Ph.D., Assistant Professor of Physics.
Roger S. Strout, M.S., Instructor in Physics.

Roger Strout, a vegetarian, had a yen to see the beautiful fjords of south western New Zealand. So Roger set to work in Savannah to build his own boat of 37 feet and 13 tons. In June 1934, he and his wife set sail from Jacksonville, Florida in the "Igdrasil" for a trip around the world. They returned exactly three years later. Roger then earned his living on the lecture circuit telling of his adventures in many "off beat" lands.

1928-1929

Professor Edwards; Associate Professor Beardsley; Assistant Professors Samuels, Bortell, Estabrook (on leave), Becker, Strout, Herod, and Null; Instructorl Prosser and Maupin.

Newton Samuel Herod, B.A., M.A., Ph.D., Assistant Professor of Physics.
Fay Edison Null, B.A., M.A., Ph.D., Assistant Professor of Physics.

Edward Theron Prosser, M.A., Instructor in Physics.
Ray Maupin, A.B., M.S., Instructor in Mathematics and Physics.

N.S. Herod was a controversial man. He was dearly loved by all the children of the physics faculty. He was the classic example of "you can take the boy off of the farm but you can't take the farm out of the boy". Herod Road locates the position of the farm which he owned between Atlanta and Marietta. He was on the faculty of several units of the University System.

Ed Prosser was the second faculty member hired who was still of member of the faculty when it awarded its first Ph.D. The first summer his teaching assignment was two classes of Physics 9 and two classes of Physics 10 every morning and one lab every afternoon. Summer school was only eight weeks, if that is any consolation. He was a man with a phenomenal memory (he was reputed to know the license plate number on every car on the Tech campus in the thirties). He tackled every job with careful though and extreme precision. He was the co-author with Howey on most of the Physics Laboratory Manuals. He was a man of exacting standards for his life: a B meant 80-89. His blackboard technique was superb; his drawings (in color) in optics were often far superior to those in the text. Any instructor who followed Ed in the same course in the same room always requested Ed not to erase the board. During the World War II years it was often necessary to hire faculty who were no Physics majors. Dr. Howey arranged a special course for the new instructors. One of the new instructors reported that Ed Prosser was absolutely the best teacher he had ever had.

1929-1930

Professor Edwards; Associate Professors Beardsley (on leave) and Herod; Assistant Professors Bortell, Estabrook (on leave), and Strout; Instructors Prosser, Blake and Woodyard.

Archie Blake, S.B., Instructor in Physics.
O.C. Woodyard, B.A., M.S., Instructor in Physics.

Advanced courses in Physics now include:

- *Phys 90: High Temperature Measurement, Senior Ch.E., second term, on hour lecture and one laboratory period per week.*
- *Phys 102: Kinetic Theory of Gases. Two hours per week during the second term. (Open to graduate students only). (Undoubtedly taught by Herod. He was a thesis student of Loeb's at the University of California.)*
- *Phys. 150: Introduction to Modern Physics. Two hours per week during the first term.*

1930-1931

Professors Edwards and Herod; Assistant Professors Bortell, Strout, and Prosser; Instructors Woodyard and Tracy.

Fred W. Tracy, M.A., Instructor in Physics.

1931-1932

Professors Edwards and Herod; Associate Professor Bortell; Assistant Professors Prosser and Tracy; Instructors Ewalt and Johnson.

Walter P. Ewalt, A.B. and M.A., Instructor in Physics.
Lawrence V. Johnson, B.S. and M.S. in Physics, Instrucor in Physics.

Walter Ewalt was the third member of the triumverate of Ewalt, Bortell, and Prosser who formed the nucleus of faculty for the engineering courses for several decades. Very few engineering students went through Tech without having at least one of these professors for physics. Walter is a talker, one of his favorite stories tells how he was hired to come to Tech. It seems he and Bea were returning to Hastings, Nebraska after a visit to their home in Michigan. They got caught in a blizzard on the way and doubted if they would reach Hastings. Prof. Edwards called that night and offered Walter a job. Walter accepted without even asking the salary. Another faculty member once remarked: "Ask any student in Walter's course what he thinks of his instructor. He will tell you that Ewalt is too hard. As him the next year and he will tell you that Ewalt is the best instructor he has had." Walter was motivated by what he thought was the best education for the students. He fought many battles for changes in the curriculum. Fortunately, he often won. He took a particular delight in demonstrating the "Monkey Shot." The engineering physics courses at Tech were exceptionally good because of the dedication of three exceptional teachers.

Larry Johnson was another astute and careful investor. In addition to his teaching (1939-1943) he served as Civil Aeronautics War Training Service Coordinator for Georgia Tech and Southern Airways. This program certified 1105 air cadets for commercial, instructor, and instrument pilot ratings. (He spent two months on loan to the University to reorganize its Navy Flight School to insure its operating efficiency and continuance of their contract.) From 1942-1947, he served as Assistant Professor, Associate Professor, and acting Head of Georgia Tech's Daniel Guggenheim School of Aeronautics. He was on leave from Georgia Tech from 1945-1946, during which time he served as Professor of Electrical Engineering at the Biarritz American University in France.

Southern Tech grew out of dialogue between President Van Leer and Georgia industrial leaders. Larry was on the study committee. From 1959 to 1970 he was Director of Southern Technical Institute. It is undoubtedly true that whatever Southern Tech is today, it is due to the devotion and zealous drive of Larry Johnson. He is a recognized authority on such many schools interested in technical education. From 1959 to 1970 he was Director of the Engineering Extension Division, which included Continuing Education, Industrial Education, Georgia Fire Institute, as well as Southern Tech. From 1970 until his retirement he was Associate Dean of Engineering for Technology and Extension.

1932-1933

All State Boards on Georgia State Colleges were abolished and the Board of Regents was installed.

Professors Edwards and Herod; Associate Professor Bortell; Assistant Professor Prosser; Instructors Ewalt and Johnson.

Graduate Courses in Physics are:

- *Phys. 201: Advanced Mechanics*
- *Phys. 202: Kinetic Theory of Gases.*
- *Phys. 205: Introduction to Modern Physics.*

1933-1934

School still has a Standing Committee on Absences: Perry, Skiles, and Fulmer.

Professors Edwards and Herod; Associate Professor Bortell; Assistant Professor Prosser; Instructors Ewalt and Johnson.

Sophomore text is Randall, Williams, and Colby. (I wonder if any of the present Physics staff recognizes this text.)

1934-1935

Professors Edwards and Herod; Associate Professor Bortell; Assistant Professor Prosser; Instructors Ewalt, Johnson, and Rosselot.

Gerald A. Rosselot, A.B., M.A., Ph.D. (1935), Instructor in Physics.

Gerry had an infectious laugh. Particularly when telling tales like the one about the wasp flying up his (Gerry's) pants leg while driving down the highway. Gerry was the only person in his family who drove so his schedule was often dictated by the retirement to pick up and deliver his children. His work schedule was unpredictable and long. He apparently could work efficiently with very little sleep. In 1939 he got a $100 a year raise because Dr. Howey said Gerry was his most valuable man (money was taken from the budget allotted to hire a new man.) In 1941 Gerry mad e a trip to conduct some E.E.S. business, visit with his relatives, and buy a new car. In the middle of one afternoon he went to the dealer to haggle about the prices. Some four hours later, about dark, they were still $25 apart; so Gerry left and started back to Atlanta. Sometime in the wee hours he pulled off to the side of the road for his 3 hours sleep before continuing to Atlanta in his same old car. He had an early interest in the development of the Engineering Experiment station and was the Director from 1942 to 1952 when he went to Bedix in Detroit.

1935-1936

Professors Edwards, Herod, and Howey; Associate Professor Bortell; Assistant Professors Prosser and Boyd; Instructors Ewalt, Johnson, Beatty, and Rosselot (in Math).

Joseph Herman Howey, Ph.D. Professor of Physics.
James Emory Boyd, Ph.D. Assistant Professor of Physics.
Fred Beatty, B.S. in E.E., M.S. in E.E. Instructor in Electrical Engineering and Physics.

The year 1935 was an important milestone in the development of the department because of the addition of two faculty members who would have great influence on the development of the department and the future of higher education in the State of Georgia.

James E. Boyd, B.S. (University of Georgia), Ph.D. (Yale University), Faculty West Georgia College 1933-1935. Boyd joined the faculty in the summer of 1935 (originally hired to teach in the Math Department). When Boyd requested permission to offer a course in Vector Analysis his request was refused, but finally President Brittain ruled that he could offer the course if he did it on his own time. Some faculty and future Vice-Presidents of the school were in that class. In 1940 Boyd gave the course in Electricity and Magnetism. The text was Harnwell and the auditor (L.D.W.) enjoyed it. After serving in the Navy during World War II, Dr. Boyd returned to the campus. Starting in 1950 when he became Head of the Physics Division at the Engineering Experiment Station his teaching load decreased. From 1953-1956 he was Assistant – Associate Director Engineering Station. From 1957-1961 he was Director of the Station. During this period he gave very active support to the research in the School of Physics which was necessary to put the Ph.D. program on a firm foundation. In August 1961, he became President of West Georgia College, a position he held until March 1971. In April 1971 he assumed the newly created position of Vice-Chancellor for Academic Development for the University System of Georgia; a position he held until his retirement in 1974. From May 1971 until April 1972 he was Acting President of Georgia Tech. It certainly was nice to have a president with whom one could really talk. It is evident that Dr. Boyd exerted a tremendous influence on the development of higher education in the State of Georgia. Not only has he served this state well as an educator but he was also one of the prime movers in the establishment of Scientific Atlanta.

1936-1937

Professors Howey, Edwards, and Herod; Associate Professor Bortell; Assistant Professors Prosser, Boyd, Ewalt, Johnson, and Rosselot.

This is the year Dr. Howey became Head of the Department of Physics. It is difficult to adequately describe his influence on the development of a "bona fide" physics department at Georgia Tech. At the time he came the department only offered a limited number of courses (3) aboute the level of the service courses—Introductory Physics Courses – called sophomore courses by one and all. When he retired some thirty years

later, the department offered B.S., M.S., and Ph.D. degrees. The number of undergraduate physics majors made the dpartment one of the five largest undergraduate physics programs in the country. Between 1965 and 1975 the department granted approximately 50 B.S. Degrees in physics per year. Undergrauates from this department wer gladly accepted by all other Physics departments and performed exceptionally well in almost every case. This was Dr. Howey's goal and he pursued it with meticulous care.

Dr. Howey was a man of many interests and abilities. At one time every laboratory experiment in the Engineering Physics courses had been designed by him, much of the equipment was built in the physics department shop. He wrote (E.T. Prosser collaborated on some of them) the lab manuals for the students. His lecture demonstration equipment for these three courses was outstanding. The demonstrations were always available on the scheduled day for all instructors in their particular course. Few schools have such a wide and good selection of demonstrations. Many of these demonstrations were very novel and even today one occasionally finds an article in the American Journal of Physics that shows someone else has "rediscovered" one of his experiments. At one time, the texts for these three courses were all written by Dr. Howey. He put great emphasis on the quality of the instruction in these courses. It was an unpardonable sin for a faculty member to miss one of these classes. AS young Ph.D.'s were hired to work primarily in developing the graduate program, he was not reluctant to point out to them the "pitfalls" and "best methods" of teaching the "sophomores". He required these "young turks" to attend planning sessions for a particular "sophomore" course. It was his belief that these faculty members should improve the quality of the service course teaching – that one of the benefits of the graduate program was the improvement of the undergraduate program. I believe he made it so.

Dr. Howey would not hire anyone he felt would not be compatible and congenial with the other members of the faculty; he insisted on cooperation. At times he failed to hire very technically competent and promising employees for the above reason. In the progress towards the offering of the Ph.D. program it became necessary for everyone, at all levels, to carry more than normal load; this cooperation was given freely for the "good" of the department. Dr. Howey could be autocratic but almost all (two or three exceptions) the faculty he hired for permanent staff have stayed and have not even looked for better salaried jobs. In the fifties two or three years was a long time for a physicist to stay in a job. The department was a congenial, happy, and a pleasant place to work. Other Georgia Tech faculty members have told me that this atmosphere was widely recognized on our campus. (If I may add a personal word, I do not believe it would be possible today to build such a department in thirty years – the paperwork and bureaucratic interruptions from above would make such progress impossible.)

When Dr. Howey stepped down to the Associate Director's position, having first the foresight to pick Vernon Crawford as Director, he took over the planning and associated work on the new Physics building. The chief architect, Ed Moulthrop, was a war-time instructor in the department, his wife had been secretary. Ed and Dr. Howey were close personal friends. Dr. Howey worked very hard to prevent mistakes of any kind and of course many of his ideas are incorporated in the building. He insisted on

proper lighting but failed in his attempt to get the blackboards at the proper height. It is only fitting that the building should bear his name.

1937-1938

Professors Howey, Edwards, and Herod; Associate Professor Bortell; Assistant Professors Prosser, Boyd, Ewalt, Johnson, and Rosselot; Instructor Mallory.

Eugene Cobb Mallory, M.S., Instructor in Physics.

"It is the aim of this department to present work in physics in such a way that it will develop habits of accurate thinking and scientific reasoning, as well as give the student a thorough understanding of a body of organized knowledge which is fundamental to all types of engineering."

1938-1939

Professors Howey, Edwards, and Herod; Associate Professors Bortell and Boyd; Assistant Professors Prosser, Ewalt, Johnson, and Rosselot; Instructors Mallory and Wills.

James Edward Wills, M.A., Instructor in Physics (Part-time).

"Courses which may be used in meeting the requirements for the Masters Degree in Physics are given below and in the Graduate Section, page 188."

Department of Physics Graduate Courses:

- *Phys. 200: Thesis*
- *Phys. 203: Kinetic Theory of Gases. 2-0-2.*
- *Phys. 250: Atomic Physics. 3-0-3.*
- *Phys. 252: Speical Topics in Atomic Physics. 3-0-3.*
- *Phys. 262: Theoretical Dynamics. 3-0-3.*
- *Phys. 268: Theory of Electricity and Magnetism. 3-0-3.*
- *Phys. 280: Contemporary Physics. 3-0-3.*

1939-1940

School of Physics
(Approved to grant B.S. Degree)

Professors Howey, Edwards, and Herod; Associate Professor Bortell, Boyd, and Rosselot; Assistant Professors Prosser, Ewalt, and Johnson; Instructors Whitcomb and Wyly.

Stuart Estes Whitcomb, Ph.D., Instructor in Physics.
L. David Wyly, M.A., Instructor in Physics.

"Students may obtain a B.S. degree specializing in Physics by taking a B.S. degree in General Engineering option No. 3. A student who completes this course of study will be qualified to take a position in industry as an Engineering Physicist, or to take graduate work in Physics at a University. Students must have the approval of the Physics Department at the beginning of the Junior Year to continue this course of study after the Sophomore Year."

It might be of some interest to the reader to know how the department operated at this time. The bulk of the teaching load was in the calculus based sophomore courses with relatively few non-calculus students. (The first summer I failed a large fraction of the football team in the non-calculus course. Not a single person ever said one word to me about it.) The regular students were on the semester system but the "Co-Ops" were on the quarter system; this arrangement made for some master juggling of faculty schedules if everyone was to get to teach the "Co-Ops" at some time. The summer schedule was a "real mess." One of the real pleasures of teaching was to teach a class of "Co-Ops." They were smart, dedicated, and motivated. If you asked if the class would like an extra hour, the answer was always yes! And every last one would come. For the regular students, the "recitation" instructor was in charge (grades, absences, etc.) of his section of about 20 students. At a given hour there might be four sections in a given course; e.g. mechanics. All sections at that hour met together once a week (sometimes twice) for demonstration which were always given by an "experienced" faculty member. All these sections took the same hour quizzes. The quizzes were written and graded by the same faculty member on a rotating basis. Consider the neophyte instructor trying to explain to a class problems which he had never "dreamed of." All students in a given course took the same final and all the faculty in this particular course would gather in a single room to grade finals; a practice which continued into the fifties. Dr. Howey usually looked at the final grade distribution and would sometimes make a decision to move the "D" down to 55; such decisions always upset Ed Prosser. Students who flunked out of Day School had to pass ("C" or better) flunked courses in Night School to return to Day School. About three-fourths of the faculty supplemented their incomes by teaching in Night School. The pay was poor, often about $2.00 per hour. In addition some of the faculty ran coaching classes. One faculty member, reportedly, would pass the hat every hour and those who wished to stay would put in the required amount (say $0.50). No faculty member coached courses he was currently teaching. The courses at Tech were very difficult as compared to most colleges in the South. The students really learned to work. I know most of the employers were delighted with their

Georgia Tech graduates because they performed. Let me add a personal note: I believe the courses in Physics were of high quality and generally well taught. I believe the Alumni share this view.

1940-1941

Professors Howey, Edwards, and Herod; Associate Professor Bortell, Boyd, and Rosselot; Assistant Professors Prosser, Ewalt, and Johnson; Instructors Whitcomb, Wyly, and Wheeler.

George F. Wheeler, M.S., Instructor in Physics.

George was a lover of cars. He had a 1939 Mercury Touring car which was the pride of his life. I would not be surprised to learn he still has it and probably his Simca. Unfortunately George had feelings on the need for racial equality. He sometimes made the mistake of expressing these views to his Congressman. He is presently (1983) on the faculty at Oglethorpe.

It seemed, at the time, that a degree from Ohio State was a prerequisite for a job in physics (Johnson, Rosselot, Mallory, Whitcomb, and Wheeler) or at least be a native "buckeye" (Prosser and Howey).

Undergraduate Courses now include:

- *Phys. 50: Instruments for Measurement and Control. 1-3-2.*
- *Phys. 65: Advanced Laboratory. 0-3-1. (of particular interest to Chemical Engineers)*
- *Phys. 93-94: Special Problems. 0-4-1; 0-8-2.*
- *Phys. 101: Theoretical Mechanics. 3-0-3.*
- *Phys. 107: Electricity and Magnetism. 3-0-3.*
- *Phys. 110: Light. 3-0-3.*
- *Phys. 113: Experimental Physics I. 1-6-3.*
- *Phys. 114: Experimental Physics II. 1-6-3.*
- *Phys. 115: Experimental Physics III. 1-6-3.*
- *Phys. 116: Experimental Physics IV. 1-6-3.*

1941-1942

Professors Howey, Edwards, and Herod; Associate Professor Bortell, Boyd, and Rosselot; Assistant Professors Prosser, Ewalt, and Johnson; Instructors Whitcomb, Wheeler, Scarborough, and Feldstein.

Henry B. Scarborough, A.B., M.A., Instructor in Physics.
Cyril Feldstein, B.A., M.A., Instuctor in Physics.

"The department offers a curriculum leading to the degree of Bachelor of Science in Engineering Physics in addition to the fundamental courses in physics which are required in other engineering curricula. Elementary French or German are required for graduation in Physics. Courses which may be used in meeting the requirements for the Master's Degree in Physics are given at the end of this section and in the Graduate Section, page 194."

1942-1943

Professors Howey, Edwards, and Herod; Associate Professor Bortell, Boyd (on leave), Rosselot, and Lowance; Assistant Professors Prosser, Ewalt, Brown, and Kincaid; Instructors Wheeler, Moulthrop, and Sturgis.

Franklin E. Lowance, Ph.D. Associate Professor of Physics.
J. Carlton Brown, B.S. in E.E., B.C.S. Instructor in Physics and Assistant Professor of Economics and Social Science.
Walter Kincaid, B.S., M.S., Assistant Professor of Physics.
Edward Allen Moulthrop, B.Arch., M.F.A., Instructor in Physics and Instructor in Architecture.
Horace W. Sturgis, B.S., M.S., Instructor in Physics.

F.E. Lowance, the "Iron Duke," can best be described as suave. He was competent and efficient. It was evident that he was destined for other pastures. He taught at Centenary College before he came to Tech. His greatest contribution to the future development of the physics department was that he brought us J.Q. Williams.

Ed Moulthrop pursued a successful career as an architect with Roberts and Co. As mentioned above, he was the chief architect for the Howey Physics Building. He now has an international reputation for the very large wooden bowls that he creates.

Horace Sturgis was a teacher at North Fulton High School when he took a course in meteorology from Larry Johnson in the Civilian Pilot Training (CPT) Program. This eventually led to his "number two" position in the CPT program. When Larry went to Aeronautical Engineering, Horace was hired in Physics. Horace had a B.S. in Math and Chemistry, and a M.A. in Education. Multiple choice questions are not the result of the computer age; Horace and Walter Ewalt made up hundreds of multiple choice questions in mechanics. These were to be used for transfer credit, as well as regular quizzes. The teaching loads were very heavy during the war and not much time was available for making up quizzes. After his military service he retuned to physics and shortly thereafter started helping in the Registrar's Office. In 1948 he was full time in the Registrar's Office (1/3 time overload in physics). In 1950 he took leave to pursue his Ph.D. He returned to the Registrar's office while doing his thesis by studying the effectiveness of various teaching methods with physics students. Ewalt, Wike, and Simpson were the collaborators. In July 1965 he was chosen to start and become President of Kennesaw

Junior College. Kennesaw became a Senior College in 1978. Horace retired in 1980 after having served the state in almost every level of education.

1943-1944

Cherry L. Emerson, B.S. in M.E., B.S. in E.E. (Georgia School of Technology), vice president and chief engineer of Robert and Company, and president of the Georgia Tech National Alumni Association, is named Vice President of the Georgia School of Technology.

Blake Ragsdale Van Leer, B.S. in E.E. (Purdue University), M.S. in M.E. (University of California), M.S. (Purdue), Dr.S. (Washington Jefferson)., becomes President of the Georgia School of Technology. Colonel Van Leer was dean of engineering at North Carolina State College at the time of his appointment.

The first Bachelor of Science degrees in Physics were awarded on Oct. 29, 1943 to Ernest Hungerford, Frank P. Lincoln, and LeRoy A. Woodward. A giant step for the School of Physics.

Professors Howey, Edwards, Herod, and Lowance; Associate Professor Bortell, Boyd, (on leave), Herrerman (part time), and Prosser; Assistant Professors Ewalt, Kincaid, and Moulthroup (part time); Instructors Meadows and Sturgis.

1944-1945

Cherry L. Emerson is named Dean of Engineering.
Lloyd W. Chapin is named Dean of General Studies.

School of Physics

Professors Howey, Edwards, Herod, and Lowance; Associate Professor Bortell, Boyd, (on leave), Rosselot, and Prosser; Assistant Professors Ewalt and Moulthroup; Instructors Sturgis and Koza.

Robert W. Koza, A.B. Instructor in Physics.

1945-1946

Professor Joseph H. Howey, Department Head; Professors James E. Boyd (on leave), William A. Edson, and Franklin E. Lowance; Associate Professors Earle E. Bortell and Edward T. Prosser; Assistant Professors Densil Cooper, Walter P. Ewalt, Harold H. Herreman, and L. David Wyly, Jr.; Instructors William O. Alston, Robert W. Koza, Horace W. Sturgis, Charles W. Tope, and J. Quitman Williams.

William A. Edson, Dr. Sci., Professor of Physics.
Densil Cooper, B.S., M.A., Ph.D., Assistant Professor of Physics.
William Ott Alston, M.S., Instructor in Physics.
Charles Wilders Tope, B.S., M.S., in C.E., Instructor in Physics.
Joel Quitman Williams, B.S., Instructor in Physics.

Ethel E. Hembree, A.B, A.B. in Library Science, Cataloguer-Library. The first Annual Physics Department Picnic was given by Mrs. Williams in her home as a party for the Physics faculty. She has continued to be in charge of this annual event.

"The course of study for a degree in physics is planned to give a thorough general training. This will meet the needs of those who wish to enter the engineering profession in fields involving complex instruments and equipment. It is particularly suited to those who are interested in engineering or scientific research work because of the unlimited scope of the fundamental subject matter. The course is also planned to serve as a basis for graduate work in physics and subsequent specialization in any one filed of physics. Student must have the approval of the Physics Department at the beginning of the Junior year to continue the course of study after the Sophomore Year."

The Bulletin no longer gives a register of the students.

1946-1947

Professor Joseph H. Howey, Department Head; Professors James E. Boyd and Franklin E. Lowance; Associate Professors Earle E. Bortell and Edward T. Prosser; Assistant Professors Walter P. Ewalt, Harold H. Herreman, J. Elmer Rhodes, Horace W. Sturgis, George F. Wheeler, and O.B. Wike; Instructors William O. Alston, Frank B. Brown, Jr., David M. Barton, Robert W. Koza, Marion L. Meeks, Charles W. Tope, and J. Quitman Williams.

J. Elmer Rhodes, Ph.D. Assistant Professor of Physics.
Oscar B. Wike, M.S., Assistant Professor of Physics.
David M. Barton, B.S., Instructor in Physics.
Frank B. Brown, Jr., B.S., Instructor in Physics.
Marion L. Meeks, B.S., Instructor in Physics.

J. Elmer Rhodes was a man of diverse interests. He believed if you wanted a house you built it yourself and that one should be able to survive under any conditions by your own abilities. Elmer thought that only knowledge which one gained by his own efforts was of value. Thus, his teaching methods were often misunderstood by most of his students; but he was an outstanding success with those who understood his objectives. He was an expert in all fields of pre-1920 physics but he understood and used Quantum Mechanics when needed. He taught a course in automotive engineering when the M.E. professor died. Elmer spent most of his time at Tech either consulting with or working for the E.E.S.

Oscar Wike was paid by Georgia Tech but he thought he was a Bulldog (University of Georgia). However, the Tech athletes got much help and special attention from Oscar. He tried to know each one of his students personally. He was responsible for carrying a large portion of the service course load until his retirement. The sophomore students believed that all instructors whose name started with "W" were good instructors (Weatherly, Wike, Woolf, Woodward, Williams, and Wyly).

David M. Barton and Ernest Timmons Hungerford received the first Master Degrees in Physics awarded by The Georgia School of Technology.

1947-1948

Professor Joseph H. Howey, Department Head; Professors James E. Boyd and Franklin E. Lowance; Associate Professors Earle E. Bortell, R.W. Boydston, Harold H. Herreman, J. Elmer Rhodes, Horace W. Sturgis, George F. Wheeler, and O.B. Wike; Instructors William O. Alston, Robert E. Arnold, Frank B. Brown, Jr., James W. Hall, J. Quitman Williams, R. A. Hall, and LeRoy A. Woodward.

R.W. Boydson, B.S., M.S., Assistant Professor of Physics.
Robert E. Arnold, B.S., Instructor in Physics.
R.A. Hall, B.S., M.S., Instructor in Physics.

LeRoy Woodward came to Physics, went to the E.E.S., and then to Scripto, then back to Physics. He was another instructor who took great delight in knowing each student personally. He also encouraged the athletes to perform. He was particularly interested in the courses in Astronomy and Optics which he taught. He played many stringed musical instruments and started the course in the Physics of Music. He retired in 1982.

1948-1949

Director

- Joseph Herman Howey, Ph.D. (Yale University)

Professors

- James Emory Boyd, Ph.D. (Yale University). Research Staff member of Engineering Experiment Station. (on leave)
- Franklin E. Lowance, Ph.D. (Duke Univeristy). (on leave)

Associate Professors

- Earle E. Bortell, B.S. in Eng., M.S. (Emory University)
- Walter P. Ewalt, A.B., M.A. (University of Michigan)
- Edward Theron Prosser, A.B., M.A. (Ohio Wesleyan University)

Assistant Professors

- R.W. Boydston, B.S., M.S. (State University of Iowa)

- Harold M. Herreman, A.B., M.A. (University of California)
- J. Elmer Rhodes, Ph.D. (John Hopkins University)
- Charles Wilders Tope, A.B. (Duke University)
- O.B. Wike, M.A. (University of Georgia)

Instructors

- William O. Alston, M.S. (Emory University)
- Frank B. Brown, B.S. (University of South Carolina)
- Henry David Geigerman, B.S. in ChE. (Georgia Institute of Technology)
- James W. Hall, A.B. (Susquehanna University)
- Hugh D. Ivy, B.S. in Physics (Georgia Institute of Technology)
- LeRoy A. Woodward, B.S., M.S. (University of Michigan)

1949-1950

The administration of the Georgia Institute of Technology is reorganized by Colonel Van Leer:

Cherry Emerson – Vice President
Phil Narmore – Executive Dean
Loyd W. Chapin – Dean of Faculties

School of Physics

Director

- Joseph Herman Howey, Ph.D. (Yale University)

Professors

- James Emory Boyd, Ph.D. (Yale University). (on leave). Research Staff member of Engineering Experiment Station. (on leave)

Associate Professors

- Earle E. Bortell, B.S. in Eng., M.S. (Emory University)
- Vernon Crawford, Ph.D. (University of Virginia)
- Walter P. Ewalt, A.B., M.A. (University of Michigan)
- Harold M. Herreman, A.B., M.A. (University of California)
- Edward Theron Prosser, A.B., M.A. (Ohio Wesleyan University)
- J. Elmer Rhodes, Ph.D. (John Hopkins University)*
- L.D. Wyly, Ph.D. (Yale University)

Assistant Professors

- Andrew E. McArthy, M.S. (University of Michigan)
- Charles Wilders Tope, A.B. (Duke University)
- O.B. Wike, M.A. (University of Georgia)
- LeRoy A. Woodward, B.S., M.S. (University of Michigan)*

Instructors

- Frank B. Brown, B.S. (University of South Carolina)

- Martin L. Gursky, B.S. (Georgia Institute of Technology)
- James W. Hall, A.B. (Susquehanna University)
- Clement F. Kent, B.S. (Georgia Institute of Technology)
- W.C. Simpson, M.S. (University of Kentucky)
- J.Q. Williams, M.S. (Georgia Institute of Technology)

*Research members E.E.S.

One of his Majesty's subjects comes to the State of Georgia to eventually lead the State's Higher Education program. For over a decade Vernon Crawford was one of the primary teachers of the senior physics students. He had the misfortune to have Deaver, Ford, Stanford, and Burrus in the same class. He also had the misfortune to have the front end of his new Chevrolet land on top of the garbage cans at the Callaway Apartments. Vernon is an excellent public speaker and his remarks often appear to be extemporaneous but, as is the usual case, good jobs require hard work. In 1959 he became head of the Physics Branch of the E.E.S. IN 1961 he became Associate Director of the School of Physics and in 1964 Director of the School of physics. As Director he had one particularly admirable trait: if a faculty member came to Vernon with a request, Vernon paid very careful attention to the arguments given and tried to understand the faculty member's point of view. No matter the decision, the faculty member always felt he was fairly treated. He certainly had the loyal support of his staff. In 1963 he presided at the Ground Breaking Ceremonies for the new Physics Building. This ceremony was one of Chancellor Simpson's first official duties as Chancellor. In 1968 he became Dean of the General College. In 1969 he took on the job of Acting President of the Georgia Institute of Technology. From 1969-1979 he was Vice President for Academic Affairs of the Georgia Institute of Technology. During 1979-1980, he served as Acting Chancellor of the Board of Regents of the State of Georgia and he has served that body as Chancellor since 1980. The history of the University System of Georgia seems to be fraught with trying times. Let us wish him particular success to solve another crisis.

Dave Wyly first joined the faculty in 1939. His return with his Ph.D. degree from Yale in hand was the precursor to the tone of the post World War II development of the department, with serious emphasis on scholarship, research, and graduate education, but with continuation of high quality and careful attention to the undergraduate level work, including the growing service teaching at the introductory level. His attitudes and influence may be characterized by two facts: he served as the principal thesis advisor for the first doctoral student graduated by the School (and the first doctoral degree in physics awarded by any unit of the University System), and he chaired the committee which extensively revised and updated the Bachelor of Science in Physics degree program, producing a program which is essentially the one in effect now. The role played by Wyly was recognized when he was appointed the department's first Regents' Professor in 1959. Notwithstanding his effective efforts over a period of decades in the progress of the School, he is known to entertain some pessimistic views. Upon retirement in 1983, he was described as never encountering a silver lining so bright that he could not find a dark cloud to overwhelm it. (C.H.B., Editor).

1950-1951

Jesse W. Mason – Dean of the Engineering College
Ralph Hefner – Dean of the General College

School of Physics
(Established 1939)

Director-- Joseph H. Howey; Professor -- James E. Boyd; Associate Professors-- Earle E. Bortell, Vernon Crawford, Harold M. Herreman, Edward T. Prosser, J. Elmer Rhodes, L.D. Wyly; Assistant Professors -- Andrew E. McArthy, Charles W. Tope, O.B. Wike, LeRoy A. Woodward; Instructors – Harold R. Brewer, Thomas Lefler, Jr., W.C. Simpson, J.Q. Williams (on leave).

Harold R. Brewer, B.S. (Georgia Institute of Technology)
Thomas S. Lefler, Jr., B.S. (Georgia Institute of Technology)

1951-1952

Director-- Joseph H. Howey; Professor -- James E. Boyd; Associate Professors-- Earle E. Bortell, Vernon Crawford, Walter P. Ewalt, Harold M. Herreman, Edward T. Prosser, J. Elmer Rhodes, Thomas L. Weatherly, L.D. Wyly; Assistant Professors – Charles H. Braden, Andrew E. McArthy, M.L. Meeks, Charles W. Tope, O.B. Wike, J.Q. Williams; Instructors – Axel Meyer and Berry O. Pyron.

Thomas L. Weatherly, Ph.D. (Ohio State University), Associate Professor of Physics.
Charles H. Braden, Ph.D. (Washington University), Assistant Professor of Physics.
Marion L. Meeks, Ph.D. (Duke University), Assistant Professor of Physics and Associate Research Scientist E.E.S.
Axel Meyer, B.M.E., B.E.E (City College of New York), Instructor in Physics.
Berry O. Pyron, B.S. (Georgia Institute of Technology), Instructor in Physics.

This was an important year in the development of the Ph.D. program in physics with the addition of Braden, Weatherly, and Williams.

Charlie Braden may have been the single greatest influence in the department in getting the Ph.D. program underway when it did. Charlie is a person capable of analyzing any problem and then proceeding with deliberate speed to carry out the solution. He knew we needed thesis students, thesis problems, and approval to award the degree. Fortunately there was a backlog of good prospective students waiting for the Program. Charlie immediately started building electronic equipment for research in nuclear physics. He was the primary author of the request for approval for the School of Physics to offer the Ph.D. Degree. He and David Wyly formed another pair which contributed a large fraction of the early Ph.D. theses. Vincent Weymore Shiel, a student

in the nuclear program, received the first Ph.D. in Physics awarded in the State of Georgia in 1957. Charlie was active in curriculum revision at both the undergraduate and graduate levels: he believed the department had to offer the fundamentals in every basic branch of physics. Charlie is particularly good at working out an understanding of any physics problem by starting with his group of basic principles. In the nuclear program he was the theoretician and carefully read and corrected the theses. Charlie is a master letter writer. He can write a letter with glowing praise of the addressee but somehow the result is to tell the recipient that he doesn't know what he is doing. He has been Chairman of the Chancellor's Committee on Regent's Tenure Policy since 1973. He was Associate Director of the Department of Physics from 1972-1980. He was Interim Director of the Department of Physics from 1980-1982. It is difficult to conceive of a chairman who would be better liked by his staff. Charlie won "The Teacher of the Year Award" in 1970. He was inducted into the ANAK Society in 1983, the second member of the physics faculty to be so honored. He has recently entertained himself with mathematical models of socio-economic systems.

Tom Weatherly was another left-hander (Bortell and Prosser) who was most meticulous in everything he did. He was born at the age of forty. Even after thirty years, he prepared every lecture, sophomore included, as if it were his first. He was a strong candidate for a Teacher of the Year award the year he died. One of his former Ph.D. students gave an anonymous gift of $10,000 to the department to be used in support of the graduate program in memory of Tom. He and J.Q. developed a very active program in microwave spectroscopy which was one of the larger theses programs in the department. He was a good theorist, and he and J.Q. were good experimentalists so they made an effective pair. Everything that was published (paper, theses, etc.) was read word-by-word and line-by-line by the two together. He was a careful thinker and the loss of his steadying influence was a great loss to the department.

J.Q. Williams returned from his labors to obtain his Ph.D. at Duke University where he had worked under Walter Gordy. He immediately started putting the microwave equipment together for the microwave spectroscopy research program he and Tom conducted. He has a good understanding of the operation of both mechanical and electronic equipment so there is a continuous stream of faculty, students, the man on the street, as well, to his office. He has infinite patience, even with the inventors of perpetual motion machines. Very few faculty members have not profited from J.Q.'s handy home help, digging basements, building porches, fixing cars, cutting trees, or you name it. One faculty member returned to Tech because he knew if he fell off a ladder and hollered for help J.Q. would be there to catch him before he hit the ground. He has an exceptional understanding of classical physics and often, in faculty arguments, wins with a basic principle. He says he did most of his graduate E. and M. courses that way. The physics department will be dull, dull, dull after his retirement in 1983.

Lit Meeks taught very little in the physics department; most of his work was at the Station. He is perhaps best remembered for an episode which made the newspapers. After an afternoon cloud burst he and a friend went canoeing in Peachtree Creek. They lost their boat and had to be rescued some hours later from a tree branch in the creek.

1952-1953

Director-- Joseph H. Howey; Professor -- James E. Boyd and L. David Wyly; Associate Professors-- Earle E. Bortell, Vernon Crawford, Walter P. Ewalt, Harold M. Herreman, Edward T. Prosser, J. Elmer Rhodes, Thomas L. Weatherly; Assistant Professors – Charles H. Braden, M.L. Meeks, Charles W. Tope, O.B. Wike, J. Quitman Williams; Instructors – Edwin H. Davidson; Secretary – Alice L. McSloy; Machinist – R.E. Anderson.

Edwin H. Davidson, B.S. (Emory University), Instructor in Physics.

1953-1954

Director-- Joseph H. Howey; Professor -- James E. Boyd and L. David Wyly; Associate Professors-- Earle E. Bortell, Charles H. Braden, Vernon Crawford, Walter P. Ewalt, Harold M. Herreman, Edward T. Prosser, J. Elmer Rhodes, Thomas L. Weatherly; Assistant Professors – Harold R. Brewer, Harold A. Gersch, M.L. Meeks, Charles W. Tope (on leave), O.B. Wike, George F. Wheeler; Secretary – Alice L. McSloy; Machinist– R.E. Anderson.

Harold A. Gersch, Ph.D. (John Hopkins University), Assistant Professor of Physics.

Hal Gersch was also a former undergraduate of the department. He was a good theoretician and had most of the theoretical thesis students during this decade. A seminar speaker was in serious trouble (whether he knew it or not) when Hal would say: "Listen Feller, tell me what physics problem you are trying to solve. Explain it to me in terms of sophomore physics." Hal is certainly one of the clearest lecturers the department has ever had. He is another who believes all problems should be started with first principles. Hal also possesses an attribute uncommon among theoretical physicists: a willingness and ability to explain diverse problems in a down-to-earth manner that enables him to function as a "house theorist" in support of experimental physics programs.

1955-1956

New administration:

Paul Weber – Dean of Faculties
Jesse W. Mason – Dean of the Engineering College
Ralph Hefner – Dean of the general College

School of Physics

Director-- Joseph H. Howey; Professor -- James E. Boyd and L. David Wyly; Associate Professors-- Earle E. Bortell, Charles H. Braden, Vernon Crawford, Walter P. Ewalt, Harold M. Herreman, Edward T. Prosser, J. Elmer Rhodes, Thomas L. Weatherly, and J. Quitman Williams; Assistant Professors – Harold R. Brewer, Harold A. Gersch, M.L. Meeks, Charles W. Tope (on leave), O.B. Wike, George F. Wheeler; Instructors – Edward L. Beeson, Eugene T. Patronis, Jr., Vincent W. Shield; Secretary – Alice L. McSloy; Machinist– R.E. Anderson.

E.L. Beeson, M.S. (Emory University), Instructor in Physics.
Eugene T. Patronis, Jr., B.S. (Georgia Institute of Technology), Instructor in Physics.
Vincent W. Shiel, B.S. (Emory University), Instructor in Physics.

Gene Patronis became an important member of the research work in the School while a student. He was an electronics expert and designed much of the fast electronics necessary for the research in the nuclear program. He managed to serve his army tour in a research group at Brookhaven National Laboratory. He was an early user of transistor technology. Because of the language requirement for the Ph.D. he may hold the record for time elapsed between completion of thesis and award of degree. Gene is a most loyal Tech Alumnus and was ashamed of the sound system used at graduation. He designed a system which would allow everyone to understand the Commencement speaker. (Is that desirable?). He has made outstanding sound systems for Grant Field, Clemson's Stadium, University of South Carolina's stadium, as well as several basketball field houses for other schools. He has made it possible to hear at The Civic Center. But Gene is best known to the faculty of the physics department because he will fix any piece of personal electronic equipment for one square bottle with the proper color (or lack thereof) label.

1955-1956

Paul Weber, Ph.D. (Purdue University), is Acting President of the Georgia Institute of Technology. (January 1956).

School of Physics

Director-- Joseph H. Howey; Professor -- James E. Boyd, Vernon Crawford, and L. David Wyly; Associate Professors-- Earle E. Bortell, Charles H. Braden, Walter P. Ewalt, Harold M. Herreman, Edward T. Prosser, Thomas L. Weatherly, and J. Quitman Williams; Assistant Professors – Harold A. Gersch, M.L. Meeks, William K. Pursley, O.B. Wike; Instructors – Clifford Bailey, Edward L. Beeson, Eugene T. Patronis, Jr., Vincent W. Shield; Secretary – Mrs. Verma Wear; Machinist– R.E. Anderson.

William K. Pursley, Ph.D. (University of Michigan), Assistant Professor of Physics.
Clifford Baily, B.S. (Howard College), Instructor in Physics.

Pursley was a very quiet and unassuming man. Unfortunately his tragic death, in a mugging, brought home the crime situation in Atlanta to all of us. For a number of years after his death the Senior Physics Class awarded the William K. Pursley award to the outstanding senior in the senior class. Glen Burdick was the first recipient of this award.

1956-1957

Director-- Joseph H. Howey; Professor -- James E. Boyd, Vernon Crawford, and L. David Wyly; Associate Professors-- Earle E. Bortell, Charles H. Braden, Walter P. Ewalt, Harold M. Herreman, Harold A. Gersch (on leave), Edward T. Prosser, Thomas L. Weatherly, and J. Quitman Williams; Assistant Professors – William K. Pursley and O.B. Wike; Instructors – Edward L. Beeson, Harry G. Dulaney, Nisbet S. Kendrick, Eugene T. Patronis, Jr., Vincent W. Shield, A.L. Stanford; Secretary – Mrs. Verma Wear; Machinist– R.E. Anderson.

Harry G. Dulaney, B.S. (Georgia Institute of Technology), Instructor in Physics.
Nisbet S. Kendrick, M.S. (Emory University), Instructor in Physics.
A.L. Stanford, B.S. (Georgia Institute of Technology), Instructor in Physics.

Nisbet was a real addition to the experimental programs in the department. He was a master in constructing mechanical and electrical systems out of "whatever was available." Most of the experimental programs profited from his ability to design equipment. He was a leader in Southeastern schools in automatic data recording. He was an advocate of small computers for research and became an expert in interfacing computers to physical measuring devices. He stayed at Tech because he wanted to be with students but he finally left us for the monetary appreciation which industry is willing to pay to those who can produce. Neb was a real talker and provided many interesting tales to the "lunch group."

1957-1958

Edwin D. Harrison, B.S. (Naval Academy), M.S. (Virginia Polytechnic Institute), Ph.D. (Purdue University) is the new President of the Georgia Institute of Technology.

Director-- Joseph H. Howey; Professor -- James E. Boyd, Vernon Crawford, and L. David Wyly; Associate Professors-- Earle E. Bortell, Charles H. Braden, Harold R. Brewer, Walter P. Ewalt, Harold M. Herreman (on leave), Harold A. Gersch (on leave), Earl McDaniels, Edward T. Prosser, Thomas L. Weatherly, M.L. Meeks, and J. Quitman Williams; Assistant Professors – David W. Martin, William C. Simpson, James R.

Stevenson, Arthur E. Williamson, and O.B. Wike; Instructors – Edward L. Beeson, H. Griffin Carmichael, Harry G. Dulaney, Nisbet S. Kendrick, John H. Meeks, Eugene T. Patronis, Jr., Wenton M. Prichard, Marvin E. Wallace, A.L. Stanford; Secretary – Mrs. David Phelps; Clerk Typist – Miss Sybil Parker; Machinist– R.E. Anderson.

Harold R. Brewer, B.S. Ph.D. (University of North Carolina), Associate Professor of Physics and Research Associate Professor Engineering Experiment Station.

Earl W. McDaniel, B.S., Phd.D. (University of Michigan), Associate Professor of Electrical Engineering, Associate Professor of Physics, and Research Associate Professor Engineering Experiment Station.

David W. Martin, Ph.D. (University of Michigan), Assistant Professor of Physics and Research Assistant Professor Engineering Experiment Station.

William C. Simpson, Ph.D. (University of Virginia),l Assistant Professor of Physics and Research Associate Professor Engineering Experiment Station.

James R. Stevenson, Ph.D. (University of Missouri), Assistant Professor of Physics.

H. Griffin Carmichael, A.B. (Emory University), Instructor in Physics.

Wenton M. Prichard, M.S. (North Carolina State College), Instructor in Physics.

Marvin E. Wallace, B.S. (Georgia Institute of Technology), Instructor in Physics.

Hal Brewer returned from the University of North Carolina where he received his Ph.D. We owe Hal a debt of gratitude because he kept us from acquiring a white elephant – the 63-inch cyclotron which Oak Ridge wanted very much to give us. Hal had a broad knowledge of the various fields of physics; he was a good bet to answer questions in any specialized area. He was the "in house" conservative and considered by most of the rest of the physics faculty "bubble headed liberals." He was outspoken for his point of view. He had a sharp tongue which he did not always reserve for just the physics faculty. His untimely death removed one of the personalities that made the physics department a pleasant place to work.

Earl McDaniel and Dave Martin became effective in the graduate research program soon after their arrival on campus. However their influence in shaping the destiny of the department became more pronounced after they moved into the Physics Building. I will leave it to the next chronicler to evaluate their role in the development of the department. Earl became a particularly strong force.

Jim Stevenson became a world traveler with a year in Ghana and a summer in Germany. He owns the biggest house ever owned by a member of the physics faculty. He was the Director of the School of Physics from 1968-1978. He tried to give the

department more national visibility by serving on national physics committees and trying to get the faculty to do likewise. He encouraged more cooperation with other groups or the Tech Campus. The number of graduate and undergraduate students reached a maximum during this period. The Applied undergraduate and graduate programs were also introduced. He was Acting Vice President for Academic Affairs, Georgia Institute of Technology 1979-1981 and since 1981 has been Executive Assistant to the President, Georgia Institute of Technology.

The Graduate Bulletin listed the following graduate Physics Courses:

Physics 611: Mechanics of Continuous Media, 3-0-3.
Physics 616: Statistical Mechanics I, 5-0-5.
Physics 621: Theoretical Mechanics, 5-0-5.
Physics 624: Nuclear Physics, 5-0-5.
Physics 627: Introduction to Quantum Mechanics, 5-0-5.
Physics 628: Electromagnetic Theory I, 5-0-5.
Physics 630: Principles of Modern Physics I, 3-0-3.
Physics 631: Principles of Modern Physics II, 3-0-3.
Physics 675: Principles of Nuclear Physics, 3-3-4.
Physics 680: Principles of Neutron and Reactor Physics
Physics 682: Plasma Physics and Thermonucleonics, 3-0-3.
Physics 707: Solid State Physics, 3-0-3.
Physics 716: Statistical Mechanics II, 3-0-3.
Physics 721: Advanced Classical Mechanics, 3-0-3.
Physics 724: Theoretical Nuclear Physics, 5-0-5.
Physics 727: Quantum Mechanics II, 5-0-5.
Physics 728: Electromagnetic Theory II, 5-0-5.
Physics 731: Molecular Spectra and Structure, 5-0-5.
Physics 734: Introduction to Relativity, 5-0-5.
Physics 735: Quantum Field Theory, 3-0-3.

1958-1959

Director-- Joseph H. Howey; Regents' Professor -- L. David Wyly; Professor -- James E. Boyd, Vernon Crawford, and Charles H. Braden; Associate Professors—R. Martin Ahrens, Earle E. Bortell, Harold R. Brewer, Walter P. Ewalt, Harold M. Herreman (on leave), Harold A. Gersch (on leave), Earl McDaniels, Edward T. Prosser, Thomas L. Weatherly, and J. Quitman Williams; Assistant Professors – David W. Martin, William C. Simpson, James R. Stevenson, Arthur E. Williamson, and O.B. Wike; Instructors – Edward L. Beeson, H. Griffin Carmichael, Harry G. Dulaney, Nisbet S. Kendrick, William M. Hubbard, Billy R. Livesay, Eugene T. Patronis, Jr., Wenton M. Prichard, Marvin E. Wallace, A.L. Stanford, James M. Tanner; Secretary – Mrs. Helen Daugherty; Clerk Typist – Mrs. Lottie Hand; Machinist– R.E. Anderson.

William M. Hubbard, B.S. (Georgia Institute of Technology), Instructor in Physics.
Billy R. Livesay, M.A. (University of Texas), Instructor in Physics.
James M. Tanner, B.S. (Georgia Institute of Technology), Instructor in Physics.

"Physics is primarily known as a basic science but in recent years it has become increasingly important as an applied science in industry and government laboratories and scientific discoveries lead so quickly to practical applications that industry needs physicists to work side by side with engineers. There are also many industrial fields so new or so highly specialized that no specific engineering training is available and for these physics offers the necessary background of high-level technical training. All of these factors along with the increasing complexity of industrial and military equipment, calls for education of engineers with more fundamental training in physics."

1959-1960

Director-- Joseph H. Howey; Regents' Professor -- L. David Wyly; Professor -- James E. Boyd, Vernon Crawford, and Charles H. Braden; Associate Professors—R. Martin Ahrens (on leave), Earle E. Bortell, Harold R. Brewer, Walter P. Ewalt, Harold M. Herreman (on leave), Harold A. Gersch (on leave), Earl McDaniel, Edward T. Prosser, Thomas L. Weatherly, and J. Quitman Williams; Assistant Professors – David W. Martin, William C. Simpson, James R. Stevenson, Arthur E. Williamson, Eugene T. Patronis, Jr., and O.B. Wike; Instructors – William S. Barnes, Edward L. Beeson, H. Griffin Carmichael, Harry G. Dulaney, Nisbet S. Kendrick, Daryl Leiter, William M. Hubbard, Billy R. Livesay, Wenton M. Prichard, A.L. Stanford, James M. Tanner; Secretary – Mrs. Helen Daugherty; Clerk Typist – Mrs. Lottie Hand; Machinist– R.E. Anderson.

William S. Barnes, M.A. (Emory University), Instructor in Physics.

A summary of the developments and attitudes in the department during the fifties might be of some interest. At the beginning of the decade the after effects of World War II were still with us; the students were more mature, anxious to graduate and go to work. Motivation of these students was no problem. Much of the effort of the department was given to building the graduate program research and courses. Many sections of "sophomores" were taught by graduate students who were working on graduate degrees. May I hasten to add that in spite of a common misconception, some of these instructors were quite competent and conscientious (e.g. Patronis and Tanner). During the mid-fifties the enrollment at the Institute declined and there was some concern as to the future of the department. Sputnik to the rescue! Because Math majors were required take some junior-senior physics course, some of these courses would have 50-60 students enrolled (78 in Physics 301 one quarter). The Ph.D. program was approved. Because of a rather strange set of individual circumstances, the first dozen or so Ph.D. candidates were exceptionally "bright" and capable. Most would have been good graduate students in the "best" physics departments in the country. Being a member of such a successful,

growing department, with outstanding graduate and undergraduate students was "an emotional high". Everyone worked hard but enjoyed every minute; no wonder none of the faculty looked for "better paying jobs." The pay did improve dramatically. The first half of the next decade saw the student growth continue. The quality of education given to Physics and Math majors (some others too) was second to none. Georgia Tech was the best educational bargain in the U.S.A. Approximately 50 B.S. degrees in Physics were awarded per year and the official rolls listed about ninety seniors.

1960-1961

Director-- Joseph H. Howey; Regents' Professor -- L. David Wyly; Professor -- James E. Boyd, Vernon Crawford, and Charles H. Braden; Associate Professors—R. Martin Ahrens (on leave), Earle E. Bortell, Harold R. Brewer, Walter P. Ewalt, Harold M. Herreman (on leave), Harold A. Gersch (on leave), Earl McDaniel, Edward T. Prosser, Thomas L. Weatherly, and J. Quitman Williams; Assistant Professors – David W. Martin, William C. Simpson, James R. Stevenson, Arthur E. Williamson, Eugene T. Patronis, Jr., and O.B. Wike; Instructors – William S. Barnes, Edward L. Beeson, H. Griffin Carmichael, Harry G. Dulaney, Nisbet S. Kendrick, Daryl Leiter, William M. Hubbard, Billy R. Livesay, George Slayton, Wenton M. Prichard, A.L. Stanford, James M. Tanner; Secretary – Mrs. Helen Daugherty; Clerk Typist – Miss Ruby Palmer; Machinist– R.E. Anderson.

George Slayton, M.S. (Emory University), Instructor in Physics.

1961-1962

Director-- Joseph H. Howey; Associate Director – Vernon Crawford; Neely Professor – Michael K. Wilkinson; Regents' Professor -- L. David Wyly; Professor -- Charles H. Braden, J. Quitman Williams, Thomas L. Weatherly; Associate Professors—R. Martin Ahrens, Earle E. Bortell, Harold R. Brewer, David W. Martin, Walter P. Ewalt, Joseph Ford, Harold A. Gersch, Edward T. Prosser, James R. Stevenson, M.L. Meeks (on leave), William C. Simpson; Assistant Professors – Arthur E. Williamson, Eugene T. Patronis, Jr., and O.B. Wike; Instructors – William S. Barnes, Edward L. Beeson, H. Griffin Carmichael, Harry G. Dulaney, Nisbet S. Kendrick, William M. Hubbard, Billy R. Livesay, George Slayton, Robert E. Willoughby, Allen A. Wolf; Secretaries – Mrs. Helen Daugherty, Miss Ruby Palmer; Machinist– R.E. Anderson.

Michael K. Wilkinson, Ph.D. (Massachusetts Institute of Technology), Neely Professor.
Joseph H. Ford, Ph.D. (John Hopkins University), Associate Professor of Physics.
H. Griffin Carmichael, A.B. (Emory University), Instructor in Physics.
Robert E. Willoughby, M.S. (Georgia Institute of Technology), Instructor in Physics.
Allen A. Wolf, M.A. (Vanderbilt University), Instructor in Physics.

Mike Wilkinson, on leave from the Solid State Division at the Oak Ridge National Laboratory, spent a year with us in the newly established Neely Chair. Mike nominated several of the faculty as Fellows in the American Physical Society. His presence added dignity and professionalism to the department. The contacts made with him have endured through the years as cooperative efforts with members of the faculty and as help to graduate students who wish to do theses at Oak Ridge.

Joe Ford was one of our undergraduates so I feel a word about his philosophy is appropriate. Joe believes absolutely that the faculty knows nothing about teaching – maybe no one does – and that a student must have the self-motivation to dig it out for himself, a procedure which worked well with him. He is a man with an enormous ego that drives him to work hard and productively. He has great sympathy for his fellow faculty members. As an introducer of seminar speakers he is without peer. Many a speaker has been left gasping for his breath and his subject after one of Joe's pacing introductions with Coke thermos in hand.

1962-1963

Director-- Joseph H. Howey; Associate Director – Vernon Crawford; Regents' Professor -- L. David Wyly; Professor Emeritus -- Earle E. Bortell; Professor -- Charles H. Braden, J. Quitman Williams, Michael Wilkinson, Thomas L. Weatherly, Harold A. Gersch, Walter P. Ewalt; Associate Professors— Eugene T. Patronis, Jr., R. Martin Ahrens, Harold R. Brewer, Edward T. Prosser, David W. Martin, Joseph Ford, Howard D. Edwards, James R. Stevenson, William C. Simpson; Assistant Professors – Harry G. Dulaney, LeRoy A. Woodward, and O.B. Wike; Instructors –H. Griffin Carmichael, , Nisbet S. Kendrick, William M. Hubbard, R.V. Gentry, William E. Woolf, George Slayton, Allen A. Wolf; Secretaries – Mrs. Helen Daugherty, Miss Ruby Palmer; Machinist– R.E. Anderson.

Howard D. Edwards, Ph.D. (Duke University), Associate Professor of Physics.
Robert V. Gentry, M.S. (University of Florida), Instructor in Physics.
William E. Woolf, M.A. (Emory University), Instructor in Physics.

1963-1964

Director-- Vernon Crawford; Associate Director– Joseph H. Howey; Regents' Professor -- L. David Wyly; Professor Emeritus -- Earle E. Bortell; Professor -- Charles H. Braden, J. Quitman Williams, Michael Wilkinson, Thomas L. Weatherly, Harold A. Gersch, Walter P. Ewalt; Associate Professors— Eugene T. Patronis, Jr., R. Martin Ahrens, Harold R. Brewer, Edward T. Prosser, David W. Martin, Joseph Ford, Howard D. Edwards, James R. Stevenson, William C. Simpson; Assistant Professors – H. Griffin Carmichael, Harry G. Dulaney, Nisbet S. Kendrick, Ian R. Gatland, LeRoy A. Woodward, and O.B. Wike; Instructors -- William E. Woolf, George Slayton, Allen A.

Wolf; Secretaries – Miss Anna Ruth Hale and Mrs. Ruby Mainor; Machinist– R.E. Anderson.

Robert A. Young, Ph.D. (Polytechnical Institute of Brooklyn), Professor of Physics and Head Crystal Physics Branch E.E.S.

Ian R. Gatland, Ph.D. (Imperial College, London, England), Assistant Professor of Physics.

Augustus L. Stanford, Ph.D. (Georgia Institute of Technology), Assistant Professor of Physics.

Gus, the prodigal son, has returned. Anyone who can avoid getting "kicked" out of the Navy on three separate occasions, can talk a judge out of a fine for going 85 mph on the downtown expressway, and measures the distance to the crosshairs in a telescope by inserting a meter stick is at least prodigal. Gus has an insatiable thirst for knowledge, subject unimportant. He has probably taken more English courses than any member of the English Department Faculty. In the day of the C.B. his "handle" was "the know it all." Need I say more?

"Physics is a pure science. The goal of physicist is to gain understanding of the natural world. The techniques by which such understanding is gained include observation, controlled experiment, inductive reasoning, and the formulation of principles susceptible to experimental testing. A physicist is seldom concerned with exploiting the practical application of his discoveries; he may not even be interested in whether or not such applications exist. Curiosity is his driving force, and satisfaction is his priniciple reward.

Because the science of physics is fundamental to most technology, and underlies many of the other sciences, the study of physics is a basic part of almost all undergraduate curricular in science and technology. The Georgia Tech School of Physics provides introductory courses for all students, and advanced elective courses as requested by other schools of the Institute. The courses provide a knowledge of physical principle on which science and engineering students can build an understanding of their own disciplines."

1965-1966

E.A. Trabant, Ph.D. (California Institute of Technology) is Vice-President for Academic Affairs.

Robert E. Steimke, M.S. (University of Wisconsin) is Acting Dean of Engineering.

Director-- Vernon Crawford; Associate Director– Joseph H. Howey; Regents' Professor -- L. David Wyly; Professor Emeritus -- Earle E. Bortell; Professor -- Charles H. Braden, J. Quitman Williams, Robert A. Young, Michael Wilkinson, Edward J. Scheibner,

Thomas L. Weatherly, Harold A. Gersch, David W. Martin, Earl W. McDaniel, Walter P. Ewalt; Associate Professors— LeRoy A. Woodward, Eugene T. Patronis, Jr., R. Martin Ahrens, Harold R. Brewer, Edward T. Prosser, Don S. Harmer, Joseph Ford, James R. Stevenson; Assistant Professors – H. Griffin Carmichael, Harry G. Dulaney, Nisbet S. Kendrick, Ian R. Gatland, Augustus L. Stanford, Edward T. Thomas, and O.B. Wike; Instructors -- William E. Woolf, Samuel H. Fowler, Charles P. Frahm; Secretaries – Miss Anna Ruth Hale and Mrs. Ruby Mainor; Machinist– R.E. Anderson.

Edward J. Scheibner, Ph.D. (Illinois Institute of Technology), Professor of Physics.
Samuel H. Fowler, B.S. (Georgia Institute of Technology), Instructor in Physics.
Charles P. Frahm, B.S. (Georgia Institute of Technology), Instructor in Physics.

1966-1967

Arthur G. Hansen, Ph.D. (Case Institute of Technology) is Dean of Engineering.

Director-- Vernon Crawford; Associate Director– Joseph H. Howey; Regents' Professor -- L. David Wyly; Professor Emeritus -- Earle E. Bortell; Professor -- Charles H. Braden, Harold R. Brewer, J. Quitman Williams, Robert A. Young, Joseph Ford, Michael Wilkinson, Edward J. Scheibner, Thomas L. Weatherly, Harold A. Gersch, David W. Martin, Earl W. McDaniel, Walter P. Ewalt; Associate Professors— Don S. Harmer, LeRoy A. Woodward, Augustus L. Stanford, Ian R. Gatland, Eugene T. Patronis, Jr., James R. Stevenson; Assistant Professors – H. Griffin Carmichael, Harry G. Dulaney, Nisbet S. Kendrick, William E. Woolf, Donald W. Forester, Edward T. Thomas, and O.B. Wike; Instructors – Kenneth R. Allen, John J. Brannen, Grayson H. Walker; Secretaries – Miss Anna Ruth Hale and Mrs. Ruby Mainor; Machinist– R.E. Anderson.

Donald W. Forester, Ph.D. (University of Tennessee), Assistant Professor of Physics.
Kenneth R. Allen, B.S. (Georgia Institute of Technology), Instructor in Physics.
John J. Brennan, M.S. (Worchester Polytechnic Institute), Instructor in Physics.
Grayson H. Walker, M.S. (University of Illinois), Instructor in Physics.

In the fall of 1967 the School of Physics moved to the J.H. Howey Physics Building.

The Value of the Graduate Program in Physics

The value of education is in the enrichment of the lives of the recipients; however, there are cases where the benefits to the public in improved economy, living conditions, and technological advances are evident; e.g. the effects of the G.I. Bill after World War II. Some of the effects of the graduate program in physics are worth mentioning. One of the founders and the president for many years of Scientific Atlanta was a graduate student in Physics; he is now president of E-Tech. The Vice-President for Research at

Scientific Atlanta has always been the same man; a Ph.D. graduate of this department. One of the former directors of the Georgia Institute of Technology Engineering Experiment Station was another Ph.D. from this department. At present there are at least ten Senior Research Scientists or Principle Research Scientists at the Engineering Experiment Station who have graduate degrees from this department. Many of the departments on this campus have former students in physics on their faculties. One former Associate Dean of Engineering was an undergraduate in Physics. Several colleges and universities in the state have faculty members from this department. Graduates of this department are chairmen and faculty members in schools across this continent, and in other parts of the world as well. The research done by former graduate students has contributed effectively to industry, the government research programs and to the military.