

University of Oklahoma Libraries
Western History Collections

Richard Fowler Collection

Fowler, Richard Gildart (1916–1992). Papers, 1924–1980. 12 feet.

Professor. Correspondence (1924–1980); lecture notes and tests for classes in physics taught by Fowler at the University of Oklahoma; manuscripts (1958–1969) for textbooks authored by Fowler; correspondence with Fowler’s publishers; research notes (1943–1979) arranged by research project; and project histories and documentation (1952–1972) for contracted research projects conducted by Fowler.

Box 1 Correspondence

- 1 Aerospace Corporation, 1958-64
- 2 Astrophysical Consortium (important papers), 1968-79
- 3 Atkinson, 1952-80
- 4 Broncho, Charles, Ph.D. Graduate, 1952-55
- 5 Ph.D. Blais, 1968-73
- 6 Collier's Encyclopedia, 1948-73
- 7 Ordering attempts, 1959
- 8 Colloquium File, 1974-75

Box 2 Correspondence

- 9 Contracts, 1946-79
- 10 Copeland, Gary, 1964-74
- 11 Correspondence, 1946-61
- 12 Correspondence, 1961-66
- 13 Correspondence, 1966-67
- 14 Correspondence, 1967

Box 3 Correspondence

- 15 R.G. Fowler, 1967-68
- 16 R.G. Fowler, 1969
- 17 R.G. Fowler - miscellaneous, 1970
- 18 R.G. Fowler, 1971
- 19 R.G. Fowler - general, 1972
- 20 R.G. Fowler, 1973-74

Box 4 Correspondence

- 21 Correspondence - general, 1974
- 22 Correspondence, 1977
- 23 Correspondence, 1975-76
- 24 Correspondence, 1978-79
- 25 Correspondence, 1980
- 26 Crompton, Robert W., 1974-78
- 27 Dean of Arts & Science search, 1965
- 28 Division of Fluid Dynamics AP5 - official papers, 1966-74
- 29 Duffendack, 1941-65

Box 5 Correspondence

- 30 Ecker, Dr. G., 1956-72
- 31 Ph.D. Graduate, Edwards, Williams B., 1939-78
- 32 Energy Committee, 1973-78
- 33 Evaluation, 1951-52

- 34 External Examiner, 1969-78
- 35 Faculty Reports, 1959-76
- 36 Fletcher, Neville, 1970
- 37 Glass, Irving I., 1973-74
- 38 Goldman, Michael, 1972-74
- 39 MS. Graduate, Goldstein, Jack, 1946-53
- 40 Guggenheim, 1952-67

Box 6 Correspondence

- 41 Hanau, 1948-55
- 42 Handbuch Der physick - article, correspondence, 1954-59
- 43 Hanle, 1971-78
- 44 J. Hashemi, 1970-74
- 45 F.H. Hibberd, 1963-70
- 46 University of Oklahoma Pi Tau Pi, 1959-60

Box 7 Correspondence

- 47 Ph.D. Graduate Holzberlein, 1965-79
- 48 Andrew Hughes, 1967
- 49 Jayroe, Robert, 1955-73
- 50 Ph.D. Graduate, Jeffries, R.A., 1962-65
- 51 Dr. W. Schork (Shock), 1972-73
- 52 George Kirby, 1977-80
- 53 Ph.D. candidate, Jacobson, Charles, 1960

- 54 Master's graduate, Kleider, Al, 1952-58
- 55 Ph.D. graduate, Lane, Neal, 1964-65
- 56 Laporte Lecture, MSS, 1969-77
- 57 Lawson, 1950
- 58 Lee, Robert, 1949-50
- 59 Loeb, Leonard B., 1951-75
- 60 R.H. Lynch, 1966-67

Box 8 Correspondence

- 61 Ph.D. graduate, McIntyre, Robert G., 1953-63
- 62 Master's graduate - general Correspondence, 1951-65
- 63 Mathews, J.T., 1944-50
- 64 Merritt, 1948-55
- 65 Ph.D. graduate - Miller, 1965-66
- 66 James I. Mills, 1968-80
- 67 Naraghi, 1969-79
- 68 NATO fellowship, 1970
- 69 NSF Panel, 1957-65
- 70 NSF, 1963-72
- 71 Physics Degrees - grad. students since 1914, 1951-65
- 72 Mid-Continent Regional Astrophysics Observatory, n.d.
- 73 Nielsen Citation and Nielsen Prize, 1971-79
- 74 Oklahoma City University, n.d.

- 75 Oklahoma Education Association, n.d.
76 Oppenheim - Berkeley, 1965
77 Oklahoma Academy of Science, 1952-78
78 Parking, 1970-78

Box 9 Correspondence

- 79 Bill Paske, 1970-78
80 G.W. Paxton, Jr., 1960-65
81 The Physics of Fluids, 1963-80
82 Porter, John W., 1947-48
83 Randall letters, 1951-70
84 Recommendations and draft board letters, 1976-78
85 Research: Coffman, 1948-50
86 Research: Floy, Smith, 1948-51
87 Research: Hall, Smith, n.d.
88 Research: Experimental Psychology, 1948
89 Research Institute, 1941-68
90 Reviews by Fowler, 1972-77
91 Research: Source Control - Hunt, n.d.
92 Research: Infrared Spectroscopy projects at O.U., 1946-50
93 R.I. Project directors problems, 1962
94 Sakuntala, 1956-70
95 Sanmann, Everett Eugene, 1974-79
96 Seay, 1955-58

Box 10 Correspondence

- 97 Seminar around the state, 1970-74
- 98 Sharp, 1973
- 99 Schaefer, 1969-74
- 100 Schriever, 1953-58
- 101 Scott, Robert P., 1946-77
- 102 G.A. Shelton, 1966-70
- 103 Masters graduate, Sims, Raymond, 1958
- 104 L.H. Snyder, 1948-52
- 105 Letters concerning Dr. Raymond Smith, 1966-71
- 106 Sommerville, J.M., 1959-63
- 107 Space technologies laboratories, n.d.
- 108 University of Sydney, Prof. Don George, 1926-70
- 109 Sleator, 1943
- 110 Texas Instruments Physics Grant, 1965-66
- 111 Texas Instruments, 1961-66
- 112 Texas Tech University, 1972-76
- 113 Richard Thompson, 1940-72
- 114 Uhlenbeck, 1924-66
- 115 University of Michigan Conference, 1960-62
- 116 University of Oklahoma Alumni Development Fund, 1960-70
- 117 Von Engle, 1955-70

- 118 Von Engle birthday greetings, 1978
119 C.N. Watson Munro, 1967-70
120 Women's Program, 1970

Box 11 Class Notes & Tests

- 121 Class notes/tests electricity and magnetism, 1938-73
122 Methods of adapting test for scoring by the bib lecture test sco. mach., 1947
123 Tests mixed Dr. Richard Fowler, n.d.
124 Class tests old, n.d.
125 Class work experiments, 1939
126 Physics 1, n.d.
127 Physics 2, 1946
128 Physics 207 data & methods, n.d.

Box 12 Class Notes & Tests

- 130 Exams 218-220, 1947-51
131 Physics 320, 1951
132 Physics 322 exams, n.d.
133 Master of Science exams, n.d.
134 General physics exams, 1944
135 Physics - differential equations, n.d.
136 Physics - electronic theory, 1949-57
137 Physics - harmonic analysis, n.d.
138 Physics - integral equations, n.d.

- 139 Physics - light, n.d.
140 Physics - spectroscopy, 1947-61

Box 13 Class Notes & Tests

- 141 Physics - Schottky theory, 1959
142 Physics - space charge theory, 1949-51
143 Class notes 6573-6583, n.d.
144 Same as 143
145 Dr. Fowler - 4203, n.d.
146 Class Notes - electronics lab/physics 4213
147 Class Notes - biophysics
148 Class Notes - complex variable
149 Class Notes - electronic laboratory
150 Class Notes - Physics 420, 5203

Box 14 Class Notes & Tests

- 151 Class Notes - Phys. 448 - plasma physics 5483
152 Cooperative tests
153 Tests - 3073, 1939
154 Notes - 3093, n.d.
155 Tests - 3183 math review
156 Tests - 3223
157 Notes - 3053 physics

Box 15 Class Notes & Tests

- 158 Notes - 1513, 1957
- 159 Class problems Physics 4203, 1956-57
- 160 Physics 4023, n.d.
- 161 Class notes 2514, 1978
- 162 Class tests 2514 final Wiggins-Fowler-Howard standardized, 1954
- 163 Class notes - mechanics 3053, 1939-40
- 164 Class notes - Mech-Relativity, 1977-78

Box 16 Class Notes & Tests

- 165 Class notes - 2960 Physics 4220, 1978
- 166 Fall 74-75, 1114 - Fowler, Physics, 1974-75
- 167 Physics 1114 spring, 1974-75
- 168 Tests - correspondence - seating chart, n.d.
- 169 ST6, 1114, 1977
- 170 1114 1st, also seating chart, 1975-76
- 171 1114 2nd

Box 17 Class Notes & Tests

- 172 1114 Fall, 1976-77
- 173 General 1114
- 174 1114, 1977-78
- 175 Physics 2520, 1955
- 176 2520, n.d.

177 Examinations for degrees, 1952-55

Box 18 Class Notes & Tests

178 Figures, 1952

179-181 Figures, 1959, 1968

Box 19 Manuscripts & Publication Material

182 Allyn and Bacon, 1956-67

183 Allyn and Bacon - pre-publication, important correspondence, 1956-58

184 Meyer - Fowler, 1956-61

185 General points about book, 1956-67

186 Allyn and Bacon, 1961-71

Box 20 Manuscripts & Publication Material

187 Pedagogical thoughts (clipping), n.d.

188 General Physics

189 Engraver plates

190 Eugene Bavinger - original figures for Fowler and Merger - plates, pamphlets, 1957-68

191 Publication material - 3rd edition mss

Box 21 Physics for Engineers and Scientists

192 Title page, preface, etc. unused scraps for chapters 1 and 2, 1958

193 Chapter 1, Fowler, n.d.

194 Lab orders chapter 2

195 Chapter 3, changing velocities

196	Laws of Force
197	Applications of Force
198	Chapter 6
199	Chapter 7, Gravitation
200	Chapter 8, Electricity
201	Chapter 9, Electricity and Matter
202	Chapter 10, Impulse, Momentum and Collisions
203	Chapter 11, The Kinetic Theory of Matter
204	Chapter 12, Structure of Matter
205	Chapter 13, Rotational Motion
Box 22	Physics for Engineers and Scientists
206	Chapter 14, Dynamics, Fluid
207	Chapter 15, the Flow of Electricity
208	Chapter 16, Magnetism, 1966
209	Chapter 17, Magnetism and Electricity, n.d.
210	Chapter 16, Unit and Review
211	Chapter 18, Harmonic Motion, 1960
212	Chapter 19, Wave Motion, n.d.
213	Chapter 20, Wave Propagation
214	Chapter 21, Other wave phenomena
215	Chapter 22, Focusing of Waves
216	Chapter 23, Transient Dynamics of Fluids and Solids

217	Chapter 25, Electromagnetic waves
218	Chapter 26, Particles and Waves
219	Chapter 27, Relative Motion
220	Chapter 28, 1964-68
221	Chapter 29, Energy and Entropy, n.d.
222	Chapter 30, Thermodynamics
223	Appendix, 1966
224	Selected Answers, n.d.

Box 23 Physics for Engineers and Scientists

225	Index
226	Corrections for Fowler-Meyer text
227	Engineers and Scientists - Chapter 21 original
228	Chapter 23, 2nd version
229	Chapter 25, 1932
230	Chapter 26, 4th version, Light and Matter, n.d.
231	Chapter 26, 5th version, 1956
232	Chapter 27, original, Optics, n.d.
233	Chapter 27, 4th version, Atoms
234	Chapter 30, 2nd version
235	Reviews, 1958

Box 24 Research

- 236 Research Institute Project 87 (two books), Simmons, Gustavus A. - Thesis "An Investigation of Exact Solutions for Two-Dimensional Steady Irrotational Isentropic Flow of a Polytropic Gas.", 1958
- 237 Energy balance in the electric shock, 1965
- 238 Electron density vs. time (Gene L. Ackerman), 1965-68
- 239 Crab Nebula, n.d.
- 240 Contract surface destruction by diffusion
- 241 History of breakdown wave project, 1964-72
- 242 B-L Blais Analysis - breakdown waves, n.d.
- 243 Glow to ARC transition
- 244 AFOSR Lifetimes Project History
- 245 Continuing problems of Budget Council, 1977-79

Box 25 Research

- 246 Precursor Project (1601), 1960-72
- 247 Fire Research Conference at Woods Hole, 1961-62
- 248 Weber Problem correspondence with Laporte (published later), 1965
- 249 Sakuntala problem, 1958-62
- 250 Shock wave determinant, n.d.
- 251 Shock driver heating, 1963
- 252 Shock radiation, n.d.
- 253 Who should pay Ph.D.?
- 254 Squall line theory, 1960
- 255 Distribution lists, n.d.
- 256 Recombination, 1920-55

Box 26 Research

- 257 Error term estimates in amfipolan theory, n.d.
- 258 Plasma oscillations, 1949-53
- 259 Langmuir sheath theory, 1966
- 260 Lifetimes, 1970
- 261 Linearization of diffusion equations, 1953-54
- 262 Concerns about the profession, 1950-58
- 263 Essays, 1953-72
- 264 Grading practices in physics, 1957-61
- 265 Excitation of helium, 1943

Box 27 Research

- 266 Excitation of helium, C-52
- 267 Abel inversion
- 268 Abel inversion
- 269 Amplifying circuits for ultraviolet pyrometry, two projects 87 summary reports, 1946-57

Box 28 Research

- 270 University of Oklahoma Research Institute, original record of research - calibration oscillator - p.m. characteristics
- 271 Original record of research - Book 2, prog. 1294
- 272 Original record of research - Book 1
- 273 Original record of research - Book 2, prog. 1418

Box 29 Research

- 274 Original Record of Research - Book 2, prog. 1418, 1964
- 275 Original Record of Research - R. Jayroe - Project 1418-1 ARC calibration, 1965
- 276 Original Record of Research - Project 1358, 1964

Box 30 Research

- 277 Original Record of Research - Project 1358, 1962-64
- 278 Original Record of Research - S.D. Gardner/H₂ opacity 13, 1955-60
- 279 Original Record of Research - M. Mochizuke/Hg diffusion, 1961-62
- 280 Original Record of Research - A. Wayne Johnson/Proj. 1588

Box 31 Research

- 281 Original Record of Research - Holzberlein/Experiment; 1418-1, 1965-67
- 282 Original Record of Research, 1972
- 283 University of Oklahoma Research Institute, Original Record of Research, G.E. Copeland, Molecular Lifetimes - Book I, 1968
- 284 Original Record of Research - S. Kwinski Anderson, 1968-69

Box 32 Thesis Material and British Army - A History

- 285 History of Electric Shock Tubes, n.d.
- 286 Notes and notions on thesis, Fowler Richard (film and neg.), 1968-84
- 287 Fowler thesis 1.2, 1928-38
- 288 Correspondence with O.U. Department of Physics officials re. acceptability of thesis 1.3, 1936
- 289 British Army, A History 1.4, n.d.

- 290 British Army, A History 1.5
291 British Army, A History 1.6
292 British Army, A History 1.7
293 Memorabilia British Army, A History 1.8
294 Kirkland Report, figures and charts 1.9

Box 33 History

- 295 Electronically energized shock tubes (2), 1963
296 Technical report - Air Force, 1963-66
297 Final Report - electronically energized shock tubes - ONR 1087
298 History - project 1162 NSF, 1953-58
299 NSF - Project 1390, G.P. 475 history, 1957-62

Box 34 History

- 300 NSF - Project 1411, history, 1960-64
301 History - Project 1411 AF, 1956-60
302 Proposal - Kirkland Project 1418 - series of Kirkland proposed, 1964-66
303 History - Kirkland AFR-Project 1418A, 1963-66
304 Fowler - Capital equipment property receipts, 1966-72

Box 35 History

- 305 Fowler - Executive Committee requests and purchases, 1966-72
306 Experimental study of resonance radiation transfer - Dr. Mochizuki - Fowler misc. - NCA photos - graphs, 1964

- 307 "A Possible Dependence of Recombination on Magnetic Field," *Phy. letters.*, n.d.
- 308 Interferometric study of the interaction of an ionizing shock wave with a transverse magnetic field - William J. Loubsky
- 309 History - Project 52 ONR, 1949-53
- 310 Papers, 1964
- Box 36 **History****
- 311 Papers - 1087 ONR, 1961-62
- 312 Papers - 1087 ONR, 1956-60
- 313 Papers - 1087 ONR, 1952-56
- 314 Addresses (Desil list finder)
- 315 Obituary, August 1993 *Physics today*.

FOWLER, RICHARD Collection

*Folder	Description:
8	Kirtland Report figures and charts.
9	Memorabilia; i.e., incomplete reports, briefs, and ID forms.

***MATERIALS IN PHOTO ARCHIVES AND OUTSIZE MATERIALS STORAGE**

Layout album compiled August 1967. Contains photographs and charts and diagrams of cathodes, spectrums, etc. Compiled by hand.

Cardboard chart of photographs with explanations alongside. Subject: Broadening, atom frequencies. Hand-lettered. Size, approx. 20x15.

Cardboard chart detailing schematic arrangement of 5cm diameter of a 6-section shock tube. Size, approx. 17x22.

Cardboard chart detailing driver gas current. Size, approx. 17x21.

Broadside photograph of machine. Size, approx. 16x19.

Broadside photograph of machine. Size, approx. 16x19.

Broadside photograph of technician manning machine console. Size, approx. 19x16

Broadside photograph of machine. Size, approx. 16x19.

Broadside poster detailing the development of lifetime research at Oklahoma University. Size, approx. 28x20.

Layout album compiled Sept. 1964. Block diagram detailing timing sequence within an induction heater null, of an master timing pulse generator. Size, approx. 20x17.

Layout album of photographs detailing spectrographs. Size, approx. 21x18.

Cardboard chart detailing interface between tube, photographic film, revolving mirror, and condenser. Size, approx. 17x13.

Cardboard chart detailing the electric tube, at instant of discharge and later. Size, approx. 13x17.

Cardboard chart detailing along the tube. Size, approx. 13x16 $\frac{1}{2}$

Broadside photograph detailing a typical apparatus used in the study of plasma driven shock tubes. Size, approx. 22x32.

Film negatives, uncounted small rolls.

Negatives charts. Most mounted upon paper. 86 negatives.

Electrically energized shock tubes in plate fashion. 30 plates.

Electrically energized shock tubes in proofs. 44 proofs.

Negatives of photographs. Approx. 3x5. 18 negatives.

Electric shock tubes. Various sizes. 6 tubes.

***PHOTOS:** Seven photos were sent to Photographic Archives.

