

# ARRT Through the Ages



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100-Year Celebration

# ARRT Through the Ages

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- ARRT Staff Leadership
- Board Evolution
- Exam History
- Office Locations
- Organization Names

# ARRT Staff Leadership

# 100 Years: Five Staff Leaders

- H.S. Tyler
  - 1922-1923
- J.R. Bruce
  - 1923-1933
- Alfred B. Greene, R.T., FASRT
  - 1934-1965
- Roland C. McGowan, B.S., R.T., FASRT
  - 1965-1991
- Jerry B. Reid, Ph.D.
  - 1992-2022



# H.S. Tyler

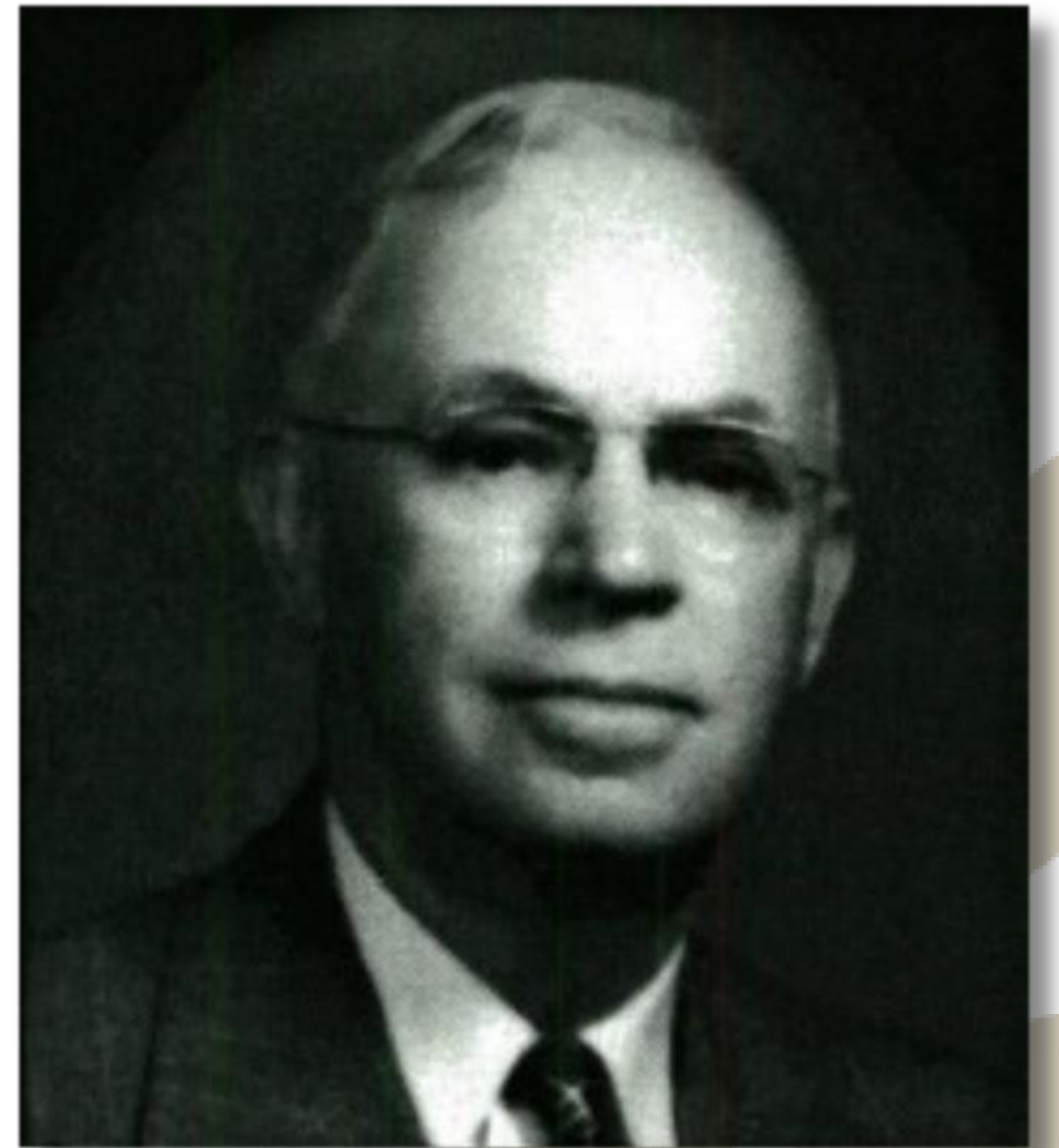
1922-1923

- Executive Secretary (part-time)
- Brother of RSNA President Dr. A.F. Tyler
- Tyler brothers published RSNA journal Radiology
- Office in Omaha, Nebraska, with Radiological Publishing Company
- Lost RSNA contract and ARRT position
- Initially refused to turn over records and relinquish job
- Some records lost in transfer and dispute

# J.R. Bruce

1923-1933

- Executive Secretary (part-time)
- President of Bruce Publishing Company
- ARRT position came with contract to publish Radiology
- Offices in St. Paul, Minnesota
- Three locations over 10 years
- Initially stabilized operations
- Economic downturn of Great Depression stressed ARRT



# Alfred B. Greene, R.T., FASRT

1934-1965

- Executive Secretary (part-time) 1934-1942
- Executive Secretary (full-time) 1942-1957
- Executive Director 1957-1965
- First R. T. to hold the position
- Member of first class of ASRT Fellows 1956
- Honored by Greene Room in current ARRT office



# Alfred B. Greene, R.T., FASRT

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1934-1965

- Tank Commander in World War I
- Electrical Engineering Degree 1924, University of Minnesota
- Patient / Resident at Glen Lake Sanatorium due to tuberculosis
- Took interest in X-ray department
- 1929 became apprentice technician
- 1932 became ARRT Registered Technician
- 1933 became Senior Technician in Charge
- Secretary-Treasurer, President of ASR/AXRT (ASRT)



# Alfred B. Greene, R.T., FASRT

1934-1965

- 1934 hired as part-time Executive Secretary
- Glen Lake Sanatorium donated space for office
- Cost savings stabilized ARRT
- 1942 moved office to rented bungalow in Minneapolis
- 1945 rented, later bought larger house to include office
- 1954 moved office to Metropolitan Building downtown
- 1960 moved to dedicated building at 2600 Wayzata Boulevard that Greene helped design



# Alfred B. Greene, R.T., FASRT

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1934-1965

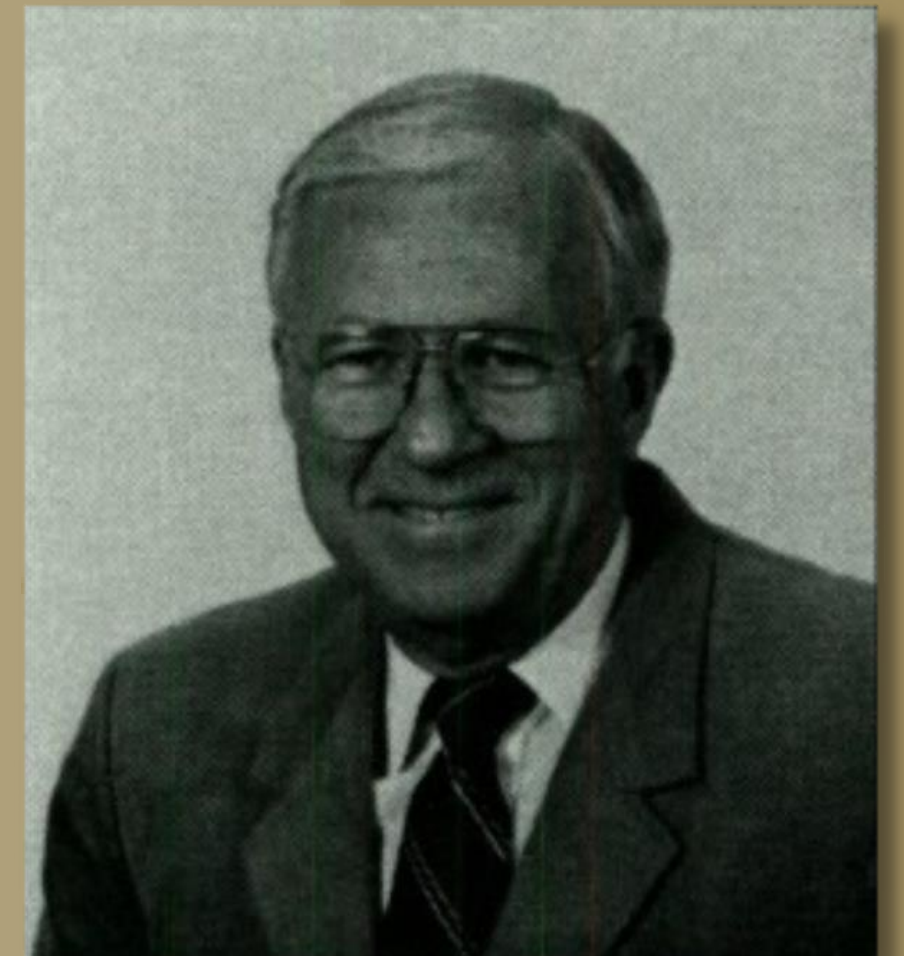
- 1958 announced retirement date of July 1, 1960
- Board convinced him to stay until 1965
- Major changes during tenure included:
  - Increasing requirements to sit for exam
  - Change of sponsorship from RSNA to ACR
  - Changes in exam format, all multiple choice 1955
  - New exams in Radioisotope Technology (Nuclear Medicine) 1963 and Radiation Therapy Technology 1964



# Roland C. McGowan, B.S, R.T., FASRT

1965-1991

- Chief Technologist, Christ Hospital, Cincinnati
- President ASRT 1964-1965
- Became ARRT Executive Director July 1, 1965
- Elevated to ASRT Fellow 1981
- Honored by McGowan Room in ARRT current office

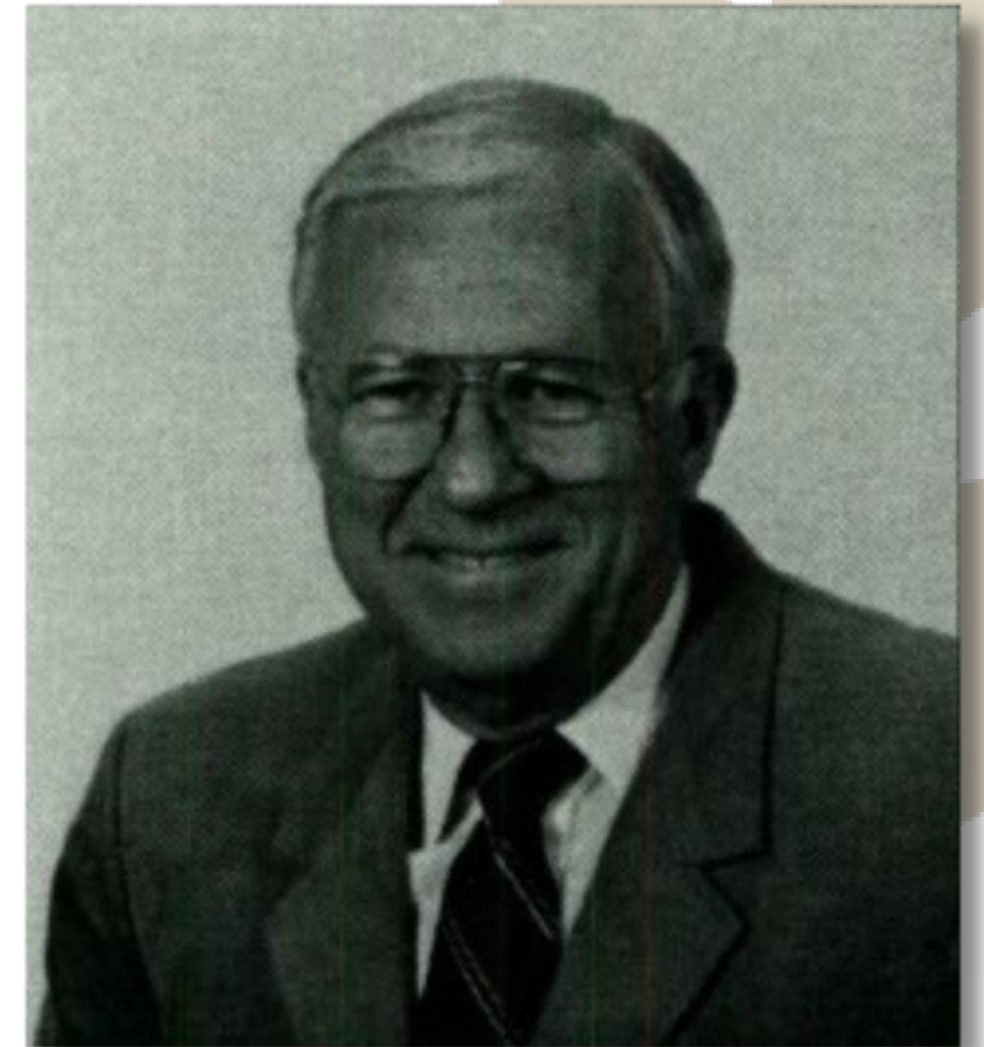


# Roland C. McGowan, B.S, R.T., FASRT

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1965-1991

- Exam development changes included:
  - Consultants to the Board in 1966
  - Physicist consultants in 1974
  - Examination committees in 1983
- Initial computerization of records in 1971, expansion of in-house computer capabilities in 1978



# Roland C. McGowan, B.S, R.T., FASRT

1965-1991

- 50th Anniversary of ARRT 1972
  - White House tea with First Lady Patricia Nixon
  - February 22, 1973
- Wayzata Boulevard office expansion 1970
- Northland Drive building opened August 1989
- New exams in Cardiovascular-Interventional Technology and Mammography 1991
- Retired: December 31, 1991



# Jerry B. Reid, Ph.D.

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1992-2022

- Director of Psychometric Services April 1, 1979
- Transformed examination development and content
  - Job (task) analysis, test specifications (content outline)
  - Improved psychometric concepts for exams
  - Standardized item writing
  - Focus on tasks required at entry level
- Promoted to Associate Executive Director



# Jerry B. Reid, Ph.D.

1992-2022

- Acting Executive Director January 1, 1992
- Acting status removed at January 1992 Board meeting
- Reorganized staff, hired replacement Director of Psychometric Services
- Continued expansion of credentials to 15
- Biennial Continuing Education requirements instituted 1995
- Regional Accreditors accepted 1995

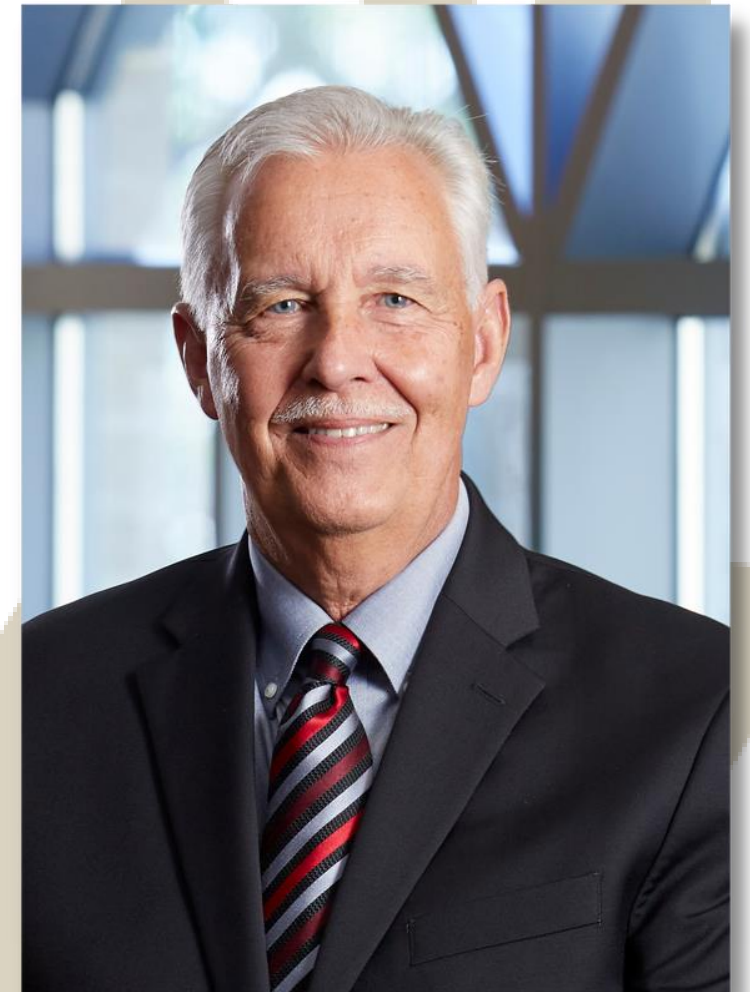


# Jerry B. Reid, Ph.D.

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1992-2022

- Radiologist Assistant developed with ASRT and ACR
  - First exams 2005, certification time limited to 10 years
- Continuing Qualifications Requirements developed
  - Apply to other modalities as of January 1, 2011
- Northland Drive building expanded in 2009
- Adjusted to remote staff and committee work due to COVID-19 pandemic



# Jerry B. Reid, Ph.D.

1992-2022

- Staff grew to about 100
- Total Registered Technologists nearly doubled
- Total certificates more than tripled
- Board expanded twice, technologist majority achieved
- Financial status greatly improved
- Title changed to Chief Executive Officer 2020
- Retirement planned end of 2022



# Board Evolution

# The RSNA Years

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1922-1935

- 1922: First Board of three radiologists appointed by RSNA
  - Drs. Edward Rowe, Byron Darling, Benjamin Orndorff
- 1932: Fourth Board member added, designated as Examiner
- No defined terms, service by calendar year
  - Lengths of service varied from one to eight years



Radiological Society  
of North America

# Independence, Technician Members

1936

- Incorporated as independent organization
- Board expanded with two technicians
  - Roy Wolcott, Thomas Lough added to Board
- Radiologists appointed for four years by RSNA
- Technicians appointed for two years by ASXT
- Terms to begin mid-year
- Dr. Ernst Pohle continues as President



# Stable Governance

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1936-1958

- Six-person Board continued through 1958
- President, Vice-President, Secretary-Treasurer always radiologists
- 1942
  - ACR replaces RSNA as sponsor, same radiologists reappointed to Board
- First women technicians on Board
  - Erminda Clarke (1943)
  - Edith Dawdy (1944)



# Technologist Equality

- 1959
  - Third technician added to Board
- 1961
  - Fourth technician added, equal to number of radiologists
- 1962
  - Technologist name replaces technician
- 1958
  - Secretary-Treasurer offices separated
- 1958-69
  - Secretary always a technologist, other officers always radiologists

1958-1969

# Leadership Equality

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1969-1993

- 1969-1970
  - Two technologist officers
    - Robert Phillips, Vice President
    - Walter Lange, Treasurer
- 1970-1971
  - Lange is first technologist President
- Presidency alternates yearly between technologists and radiologists except 1978-1980
- 1976-1977
  - Barbara Curcio first female President
- 1990
  - Dr. Nancy Whitley first female radiologist on Board, President 1992-1993

# Technologist Majority

1993-2022

- 1993
  - Fifth technologist added to Board
- 2012
  - Secretary and Treasurer offices recombined
- 2012
  - Direct appointments changed to nominations by ASRT and ACR
- 2013
  - First technologists appointed from ASRT nominations
    - Barbara Smith
    - Lisa Bartenhagen



# Technologist Majority

1969-1993

- 2014
  - Sixth technologist added to Board
- Technologist nominations accepted from organizations other than ASRT
  - Elizabeth Hackett (later Romero) appointed from nominees of SNMMI-TS
- 2022
  - SNMMI-TS nominee, Lauren Shanbrun, replaces Romero



# Exam History



# **ARRT Exam Format and Qualifications**

1922-1933

# **The Early Years: Essays and Film Evaluation**

# Qualifications

1922

- At least 21 years old
- Equivalent of two years of high school and that of “trained nurse”
  - Defined as at least two years of experience as technician under medical supervision
- Signature of three physicians, radiologists preferred
- Fee of \$10

# Exam Structure

1922

- Practical ability assessed with prescribed set of radiographs
- Essay exam of 20 questions
  - Exams scored by Ed Jerman
  - Passing grade 60%
- Sister M. Beatrice Merrigan certified December 26, 1922



# Census

1927

- 432 Registrants
- 82% Women
- 64% of Women also Nurses
- 43% of Women Catholic Sisters



# Struggles

Early 1930s

- 1930
  - Jerman retires due to health
- Board adds fourth member, assumes Examiner role
- Registrant numbers decline due to Depression
- Exam questions well-known to candidates
- Exam security weak
  - Supervision often by employer of candidate

A stylized, light beige floral pattern is visible in the background, featuring large, rounded petals and stems. A horizontal gold line is positioned between the two main text blocks.

# **Tightening the Rules**

# **Increasing the Question Bank**

1934-1950

# Exam Revisions

1934-1950

- 1934
  - Old questions discarded
- Several hundred new questions developed
- Exam includes 10 sets of three questions
  - Examinee chooses two of each set to answer
- Passing grade raised to 75%
- Written endorsement from sponsoring physicians
- Exam supervisor cannot be employer

# Alternate Qualifications

1938-1949

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- 1938-1942
  - Technicians with 10 years of technical experience eligible without high school education
- 1940
  - Upper age of eligibility set at 50, full high school education required
- 1942
  - Two years of training/experience under supervision of “recognized radiologist”
    - Three-month Army training program equals one year
- 1949
  - Age restrictions removed

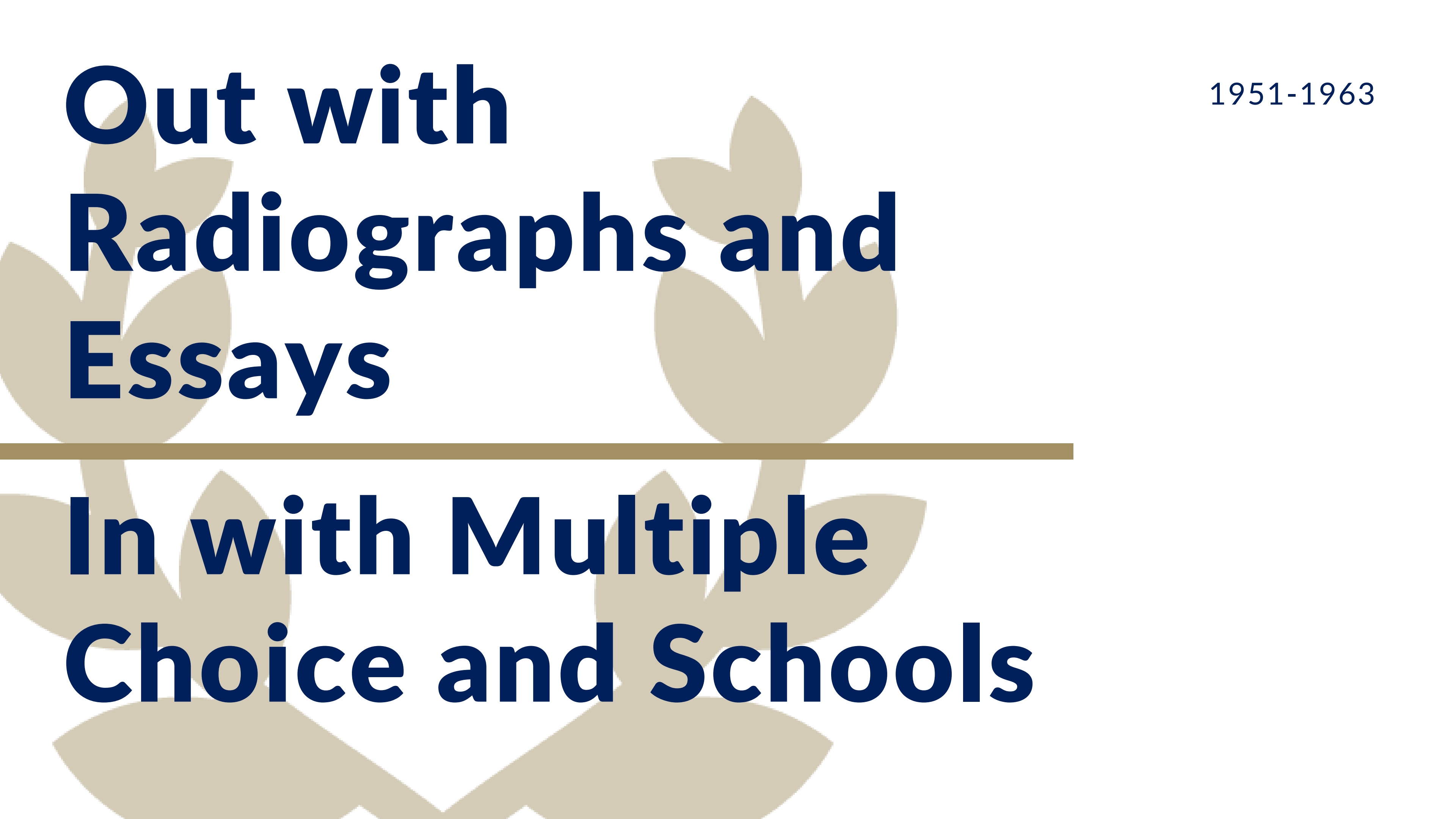
# Snapshot

1950

- Exam consisted of nine radiographs and 22 essay questions
- Written exams batch-graded by Board members
- Radiographs judged by Executive Secretary Greene
- 6445 certified technicians at start of decade



# **Out with Radiographs and Essays**



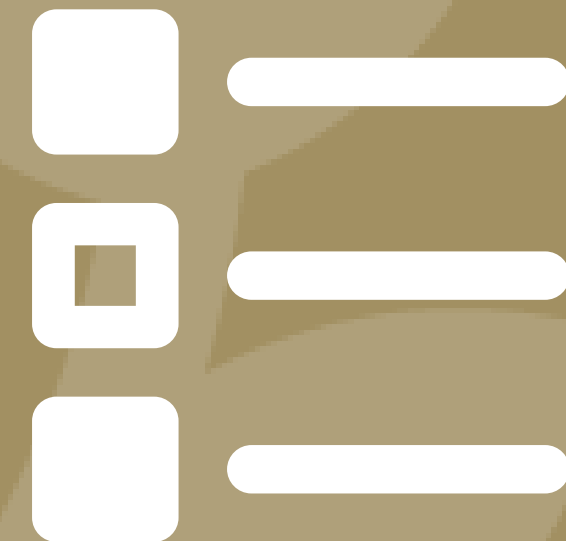
1951-1963

# **In with Multiple Choice and Schools**

# Changing the Examination

- 1952
  - 50% of exam becomes “objective”
    - True-false, matching, multiple choice
    - Nationwide group exams two times per year
    - Less than 10% of exam on therapy
- 1954
  - End of submitting radiographs
- 1955
  - Exam becomes 100% multiple choice

1952-1955



# Changing the Passing Standard

1955-1958



- 1955
  - Passing grade decreased to 60%
    - Percent failing must be less than 30%
- 1956
  - Set failure rate to 25%
- 1958
  - Passing grade set on a curve
    - Percent failing near but not less than 20%
    - Scaled score instituted, passing score = 75

# Toward Approved Radiography Schools

- 1953
  - ARRT Board proposes minimum one year of training in approved school
    - ACR Board rejects proposal
- Mid-1950s
  - Defined curriculum and AMA accreditation requirements
- 1959
  - Schools must be at least two years in length
- 1966
  - Must graduate from AMA-approved school

1953-1966



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# **New Examinations**

1963-1978

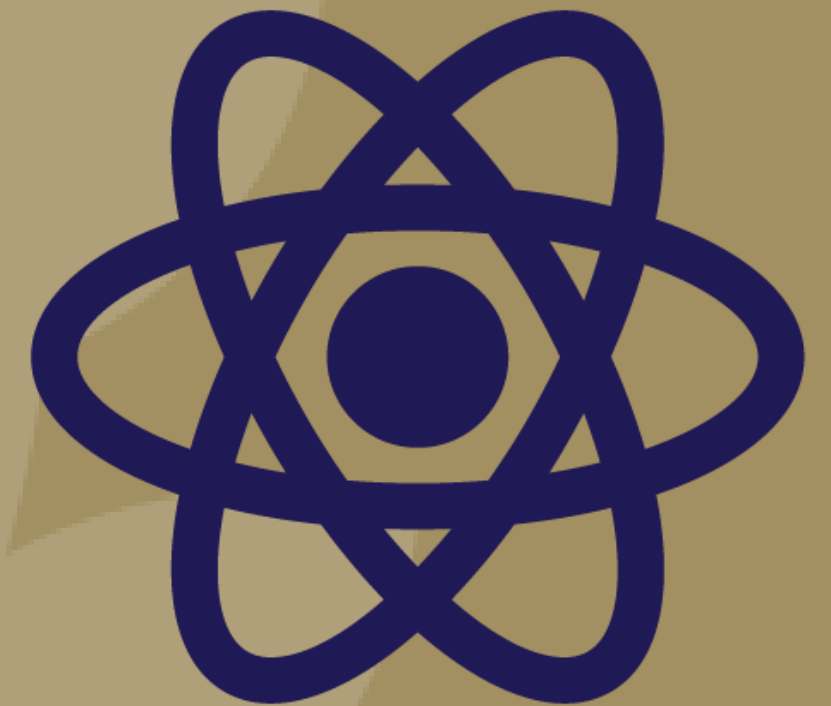
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## **Exam Consultants and Committees**

# New Examinations

1963-1976

- 1963
  - Radioisotope Technology
    - Later called Nuclear Medicine Technology
  - Minimum 13-week radioactive isotope course
  - Gradual increase in requirements
- 1976
  - Specific formal training programs



# New Examinations

1964-1979

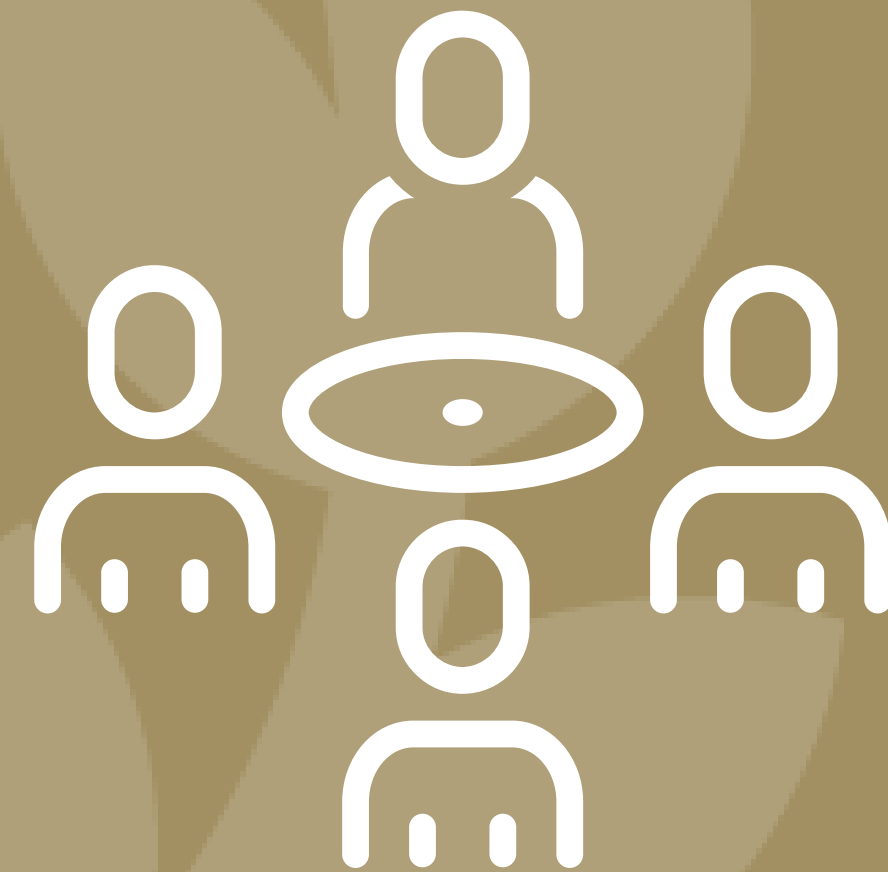
- 1964
  - Radiotherapy Technology
    - Later called Radiation Therapy Technology, now Radiation Therapy
- 1966
  - Completion of dedicated educational program required
- 1974
  - Graduation from AMA-approved school required
- 1979
  - No therapy on Radiography exam



# Exam Consultants and Committees

1966-1975

- 1966
  - Consultants added in Radiation Therapy and Nuclear Medicine
- 1968
  - First consultant Physicist
- 1974
  - First item writing committees
- 1975
  - First exam committees



# Outsourcing of Exams

- November 1972
  - Exams administered and scored by Educational Testing Services (ETS)
- 1973
  - Scores based on failing 17% of candidates
    - Inconsistent raw score to pass
- ETS introduces “equating”
  - 40 common questions to adjust passing score
- 1976
  - High quality radiographs added to exam



# Psychometric-Based Revisions

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1979-1990

# Psychometric-Based Revisions

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- Jerry Reid, Ph.D., Director of Psychometrics
  - Job analysis for content of exams
  - Detailed test specifications, consistent exams
  - Edit and computerize item banks
- New philosophy
  - Knowledge and cognitive skills underlying intelligent performance of tasks required at entry level

1979

# Examination Changes

- 1981
  - Administered three times per year
- 1982
  - ETS contract ends; ARRT administers exams at test centers, scores internally
- 1980-85
  - 250 questions on Radiography exam
- 1985
  - Standard setting begins
    - Pass/fail based on knowledge, not on curve
- 1986
  - Positioning photos added to exams

A stylized, light tan background graphic of a plant with several leaves and a small flower-like shape at the top, positioned behind the text.

# **Discipline Expansion**

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1991-2022

# **Computer-Based Administration**

# New Certifications/Exams

- 1991
  - Cardiovascular-Interventional Technology
- 1991
  - Mammography
- 1995
  - Computed Tomography
- 1995
  - Magnetic Resonance Imaging
- 1997
  - Quality Management
    - Discontinued 2018
- 2000
  - Sonography

1991-2000



# New Certifications/Exams

- 2001
  - Bone Densitometry
- 2001
  - Vascular Sonography
- 2003
  - Cardiovascular-Interventional Technology replaced by:
    - Cardiac Interventional Radiography
    - Vascular Interventional Radiography
- 2004
  - Breast Sonography

# Radiologist Assistant Developed

- 2003
  - ASRT, ACR develop Radiologist Assistant
- 2005
  - ARRT exam for Registered Radiologist Assistant (R.R.A.)
    - Exam is 75% multiple choice, 25% essay
    - Essays migrate to short answers over time
- 2023
  - Case studies to replace essays

# Computer-Based Administration

- 1999
  - First computer-based exam in Mammography
- 2000
  - All exams computer-based
    - Pilot items added
    - Group examinations end (except R.R.A.)
- 1999-2003
  - Administered by Sylvan Prometric
- 2004-present
  - Administered by Pearson VUE



# Office Locations

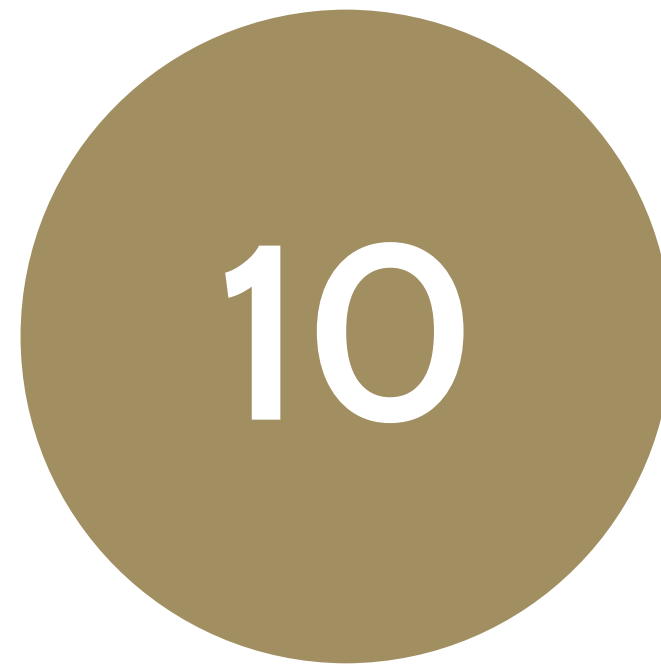
Offices

Offices  
**ARRT Offices**

Offices



**Years**



**Locations**



**Metropolitan  
Areas**

# Early Offices

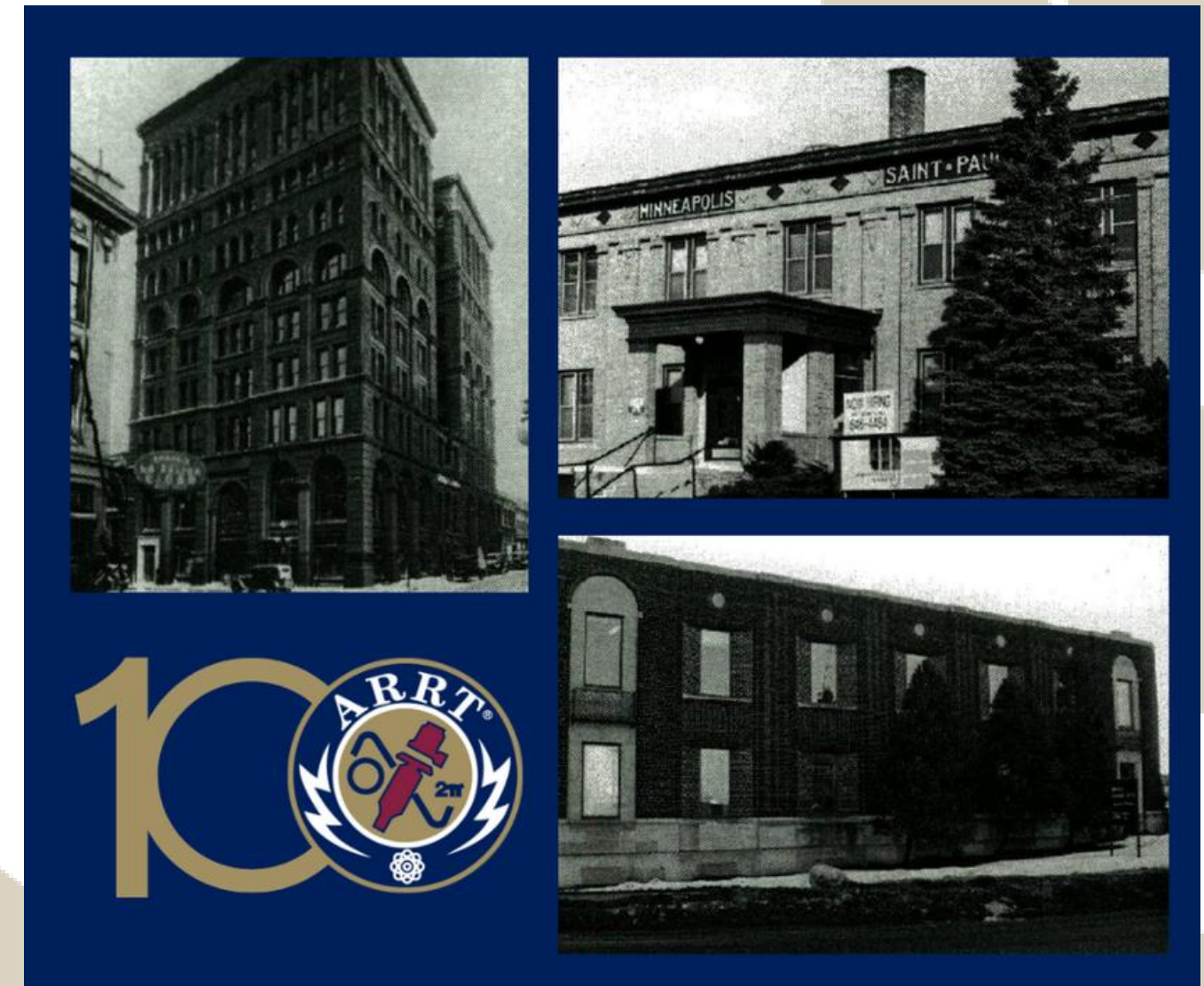
- First Executive Secretaries were publishers of RSNA journal Radiology
- ARRT “office” was part of publisher’s office
- 1922-1923
  - 305 Arthur Building, Omaha, Nebraska
- 1923-1933
  - St. Paul, Minnesota offices

# St. Paul Years

1923-1934

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- St. Paul Offices of Bruce Publishing Co.
  - 1923-1926
    - Guardian Life Building
  - 1926-1932
    - 2429 University Avenue
  - 1933
    - 2642 University Avenue



# Working from Home

- Offices in the “home” of Executive Secretary Alfred Greene
- 1934-1942
  - Glen Lake Sanatorium, Oak Terrace, Minnesota (just west of current I-494)
    - Donated space in medical facility
- • 1943-1954
  - Greene’s Minneapolis homes
    - 1943-1945
      - 2909 Raleigh Avenue
    - 1945-1954
      - 2900 East Minnehaha Parkway



# First Office Building

- 1954-1960
  - Metropolitan Life Building
- Historic “skyscraper,” downtown Minneapolis
- Built in about 1880
- Registry on 11th floor
- Scheduled for demolition during urban renewal



# A Home of Our Own

- 1960-1989
  - 2600 Wayzata Boulevard, Minneapolis
- Office partly designed by Greene
- Expanded in 1970
- Outside storage space later rented
- Registry outgrew space by late 1980s



# Out to the Suburbs

- 1989-present
  - 1255 Northland Drive,  
Mendota Heights, Minnesota
- Built in an office park setting
- St. Paul address improved mail service
- Location convenient to airport and hotels
- Major expansion in 2009
  - Rear entrance: 1256  
Mendota Heights Road



# Organization Names

A stylized, light tan background graphic of a plant with several leaves and a small flower-like shape at the top, positioned behind the text.

# **Organization Names**

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**ARRT and ASRT  
Through the Years**

# ARRT Names

- 1922-1936
  - American Registry of Radiological Technicians (ARRT)
- 1936-1962
  - American Registry of X-Ray Technicians (ARXT)
- 1962-present
  - American Registry of Radiologic Technologists (ARRT)

# ASRT Names

- 1920-1930
  - American Association of Radiological Technicians (AART)
- 1930-1934
  - American Society of Radiographers (ASR)
- 1934-1964
  - American Society of X-Ray Technicians (ASXT)
- 1964-present
  - American Society of Radiologic Technologists (ASRT)

# Comparison by Acronyms

Years	Registry	Society	Years
1922-1936	ARRT	AART	1920-1930
--	--	ASR	1930-1934
1936-1962	AXRT	ASXT	1934-1964
1962-present	ARRT	ASRT	1964-present

Note that names and acronyms have generally mirrored each other.

**A special thank you to Paul Larson, M.D., FACR,  
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