VITA

NAME: John J. Cowan

Date of Birth: April 3, 1948

Place of Birth: Washington, D.C.

EDUCATION:

1970	B.A.	George Washington University, Washington, D.C.
1972	M.S.	Case Institute of Technology, Cleveland, OH
1976	Ph.D.	University of Maryland, College Park, MD

PROFESSIONAL EXPERIENCE:

2002–present	David Ross Boyd Professor, University of Oklahoma,
2002–2002	Research Fellow, University of Texas, Austin, TX
1998–2002	Samuel Roberts Noble Foundation Presidential Professor, University of Oklahoma, Norman, OK
1997–1998	Big XII Faculty Fellow, University of Oklahoma
1991–1992	Visiting Professor, Department of Astronomy, Columbia University, New York, NY
1989–present	Professor, Department of Physics and Astronomy, University of Oklahoma, Norman, OK
1988–1994	Consultant and Participating Guest, Lawrence Livermore National Laboratory, Livermore, CA
1987–1988	Visiting Research Associate, Harvard-Smithsonian Center for Astrophysics, Harvard University, Cambridge, MA
1984–1989	Associate Professor, University of Oklahoma
1979–1984	Assistant Professor, University of Oklahoma
1976–1979	Postdoctoral Research Fellow, Harvard-Smithsonian Center for Astrophysics, Harvard University

PROFESSIONAL AND HONORARY SOCIETIES:

American Astronomical Society
International Astronomical Union
Phi Beta Kappa

RESEARCH INTERESTS:

Stellar evolution, supernovae, nucleosynthesis and abundances
Radio observations of supernovae and galaxies

PUBLICATIONS

J. J. Cowan and W. K. Rose, "Production of ^{17}O and ^{18}O by Means of the Hot CNO Tri-Cycle," *Astrophys. J. (Letters)* **201**, L45 (1975)

J. J. Cowan, M. Kafatos, and W. K. Rose, "Sources of Excitation of the Interstellar Gas and Galactic Structure," *Astrophys. J.* **195**, 47 (1975)

M. F. A'Hearn and J. J. Cowan, "Molecular Production Rates in Comet Kohoutek," *Astron. J.* **80**, 852 (1975)

J. J. Cowan and W. K. Rose, "Production of ^{14}C and Neutrons in Red Giants," *Astrophys. J.* **217**, 51 (1977)

J. J. Cowan and W. K. Rose, "An Interpretation of Galactic Observations of CNO Isotopes," *Astrophys. J.* **217**, 51 (1977)

J. W. Truran, J. J. Cowan, and A.G.W. Cameron, "The Helium-Driven r-Process in Supernovae," *Astrophys. J. (Letters)* **222**, L63 (1978)

J. W. Truran, J. J. Cowan, and A.G.W. Cameron, "The Helium-Driven r-Process and Possible Superheavy Element Production," in *Superheavy Elements,* ed. M.A.K. Lodhi (New York: Pergamon Press), p. 515, (1978)

J. J. Cowan and M. F. A'Hearn, "Vaporization of Comet Nuclei: Light Curves and Lifetimes," *The Moon and the Planets* **21**, l55 (1979)

M. F. A'Hearn and J. J. Cowan, "Vaporization in Comets: The Icy Grain Halo of Comet West," *The Moon and the Planets* **23**, 41 (1980)

J. J. Cowan, A.G.W. Cameron, and J. W. Truran, "Seed Abundances for r-Processing in the Helium Shells of Supernovae," *Astrophys. J.* **241**, 1090 (1980)

J. J. Cowan and M. F. A'Hearn, "Vaporization in Comets: Outbursts from Comet Schwassmann-Wachmann 1," *Icarus* **50**, 53 (1982)

J. J. Cowan, A.G.W. Cameron, and J. W. Truran, "The Thermal Runaway r-Process," *Astrophys. J.* **252**, 348 (1982)

J. J. Cowan and D. Branch, "A Search for Radio Emission from Six Historical Supernovae in the Galaxies NGC 5236 and NGC 5253," *Astrophys. J.* **258**, 31 (1982)

J. J. Cowan, A.G.W. Cameron, and J.W. Truran, "Explosive Helium Burning in Supernovae: A Source of r-Process Elements," *Astrophys. J.* **265**, 429 (1983)

A.G.W. Cameron, J.J. Cowan, H.V. Klapdor, J. Metzinger, T. Oda, and J.W. Truran, "Steady Flow Approximations to the Helium r-Process," *Astrophys. Space Sci.* **91**, 221 (1983)

A.G.W. Cameron, J.J. Cowan, and J.W. Truran, "The Waiting Point Approximation in r-Process Calculations," *Astrophys. Space Sci.* **91**, 235 (1983)

J.J. Cowan, A.G.W. Cameron, and J.W. Truran, "r-Process Production in Low Mass Stars," in *Stellar Nucleosynthesis*, eds. C. Chiosi and A. Renzini (Dordrecht:Reidel), p.141 (1984)

R.A. Perley, J.W. Dreher, and J.J. Cowan, "The Jet and Filaments in Cygnus A," *Astrophys. J. (Letters)*, **285**, L35 (1984)

J. Dreher, R. Perley, and J.J. Cowan, "Multiconfiguration VLA Maps of Cygnus A", in *Physics of Energy Transport in Extragalactic Radio Sources*, eds. A.H. Bridle and J.A. Eilek (Charlottesville: NRAO), p.57 (1985)

A.G.W. Cameron, J.J. Cowan, and J.W. Truran, "Neutron Source Requirements for the Helium r-Process," in *Nucleosynthesis:Challenges and New Developments*, ed. D. Arnett and J. Truran (Chicago:Chicago Press), p.190, (1985)

J.J. Cowan and D. Branch, "Radio Detection of Historical Supernovae and HII Regions in M83,"*Astrophys. J.*, **293**, 400 (1985)

J.J. Cowan, A.G.W. Cameron, and J.W. Truran, "r-Process Nucleosynthesis in Dynamic Helium-Burning Environments,"*Astrophys. J.*, **294**, 656 (1985)

J.J.Cowan, and D. Branch, "Radio Observations of Historical, Extragalactic Supernovae", *Lecture Notes in Physics*, **224**, 75 (1985)

D. Branch, and J.J. Cowan, "Radio Emission from the Site of Supernova 1961v in NGC 1058," *Astrophys. J. (Letters)*, **297**, L33 (1985)

J.J. Cowan, and D. Branch, "The Probable Detection of SN 1961V in NGC 1058," in *Nuclear Astrophysics*, ed. W. Hillebrandt (Munich: Max Planck Publication MPA 199), p. 66 (1985)

J.W. Truran, J.J. Cowan, and A.G.W. Cameron, "On the Site of R-Process Nucleosynthesis", in *Nuclear Astrophysics*, ed. W. Hillebrandt (Munich: Max Planck Publication MPA 199), p. 89 (1985)

J.J. Cowan, A.G.W. Cameron, and J.W. Truran, "R-Process Nucleosynthesis : The Contribution from Helium Burning Environments", in *Nuclear Astrophysics*, ed. W. Hillebrandt (Munich: Max Planck Publication MPA 199), p. 81 (1985)

L.N. da Costa, M.A. Nunes, P.S. Pellegrini, C. Wilmer, G. Chincarini, and J.J. Cowan, "Redshift Observations in the Centaurus-Hydra Supercluster Region I.," *Astron. J.*, **91**, 6 (1986)

J. J. Cowan, A.G.W. Cameron, J.W. Truran, and C. Sneden, "The Search for the Site of the r-Process", in *Advances in Nuclear Astrophysics*, eds. E. Vangioni-Flam, J. Audouze, M. Casse, J.-P. Chieze, and J. Tran Thanh Van, (Gif sur Yvette:Editions Frontieres), p. 429 (1986)

J. J. Cowan, F.-K. Thielemann, and J.W. Truran, "Recent Results in Nucleocosmochronology", in *Advances in Nuclear Astrophysics*, eds. E. Vangioni-Flam, J. Audouze, M. Casse, J.-P. Chieze, and J. Tran Thanh Van, (Gif sur Yvette:Editions Frontieres), p. 477 (1986)

F.-K. Thielemann, J. J. Cowan, and J .W. Truran, "Ages from Nuclear Cosmochronology", in *13^{th} Texas Symposium on Relativistic Astrophysics*, ed. M. P. Ulmer, (Singapore:World Scientific), p. 418 (1987)

J. J. Cowan, F.-K. Thielemann, and J.W. Truran, "Nuclear Chronometers from the r-Process and the Age of the Galaxy", *Astrophys. J.*, **323**, 543 (1987)

J. J. Cowan, D. Branch and R. B. C. Henry, "Radio Supernovae: The Detection of SN 1961V in NGC 1058", in *Supernova Remnants and the Interstellar Medium*, eds. R. Roger and T. Landecker (Cambridge:Cambridge University Press), p. 23 (1988)

K. K. Gilroy, C. Sneden, C. A. Pilachowski, and J. J. Cowan, "Abundances of Neutron Capture Elements in Population II Stars", *Astrophys. J.*, **327**, 298 (1988)

J. J. Cowan, R. B. C. Henry and D. Branch, "Radio and Optical Studies of Supernova 1961V in NGC 1058", *Astrophys. J.*, **329**, 116 (1988)

C. Sneden, C. A. Pilachowski, K. K. Gilroy, and J. J. Cowan, "The Distribution of r- and s-Process Elements in the Galactic Halo", in *The Impact of Very High S/N Spectroscopy on Stellar Physics*, I A U Symposium **132**, eds. G. Cayrel de Strobel and M. Spite, (Dordrecht:Kluwer), p. 501 (1988)

J. J. Cowan, F.-K. Thielemann, and J. W. Truran, "r-Process Nucleosynthesis and Cosmochronology " in *The Origin and Distribution of the Elements*, ed. G.J. Mathews, (Singapore:World Scientific), p. 556 (1988)

G. J. Mathews, J. J. Cowan and D. N. Schramm, "Evolution of Heavy-Element Abundances in the Galactic Halo and Disk", in *Dark Matter*, eds. J. Audouze and J. Tran Thank Van, (Gif-sur-Yvette:Editions Frontieres), p. 251 (1988)

G. J. Mathews and J. J. Cowan, "Prospects for Understanding the Astrophysical r-Process", in *Heavy-Ion Physics and Nuclear Astrophysical Problems*, eds. S. Kubono, M. Ishihara and T. Nomura, (Singapore: World Scientific), p. 143 (1989)

J. J. Cowan, R. D. Ekers, W. M. Goss, R. A. Sramek, D. A. Roberts and D. Branch, "G25.5+0.2 : A Very Young Galactic Supernova Remnant", *Mon. Not. R. Astr. Soc.*, **241**, 613 (1989)

F.-K. Thielemann, A. G. W. Cameron and J. J. Cowan, "Fission in the Astrophysical r-Process", in *50 Years with Nuclear Fission*, ed. J. W. Behrens, (Lagrange Park:American Nuclear Society) p. 592 (1989)

G. J. Mathews and J. J. Cowan, "New Insights into the Astrophysical r-Process", *Nature*, **345**, 491 (1990)

J. J. Cowan, F.-K. Thielemann and J. W. Truran, "The R-Process and Nucleochronology", *Physics Reports*, **208**, 267 (1991)

J. J. Cowan, F.-K. Thielemann and J. W. Truran, "Radioactive Dating of the Elements", *Ann. Rev. Astron. Astrophys.*, **29**, 447 (1991)

J. J. Cowan, W. M. Goss and R. A. Sramek, "The Radio Recovery of Supernova 1970G in M101", *Astrophys. J. Letters*, **379**, L49 (1991)

F.-K. Thielemann, J. H. Applegate, J. J. Cowan and M. Wiescher, "Production of Heavy Elements in Inhomogeneous Cosmologies", in *Nuclei in the Cosmos*, eds. H. Oberhummer and C. Rolfs (Springer Verlag: Berlin), 147 (1991)

G. J. Mathews, G. Bazan and J. J. Cowan, "Nuclear and Astronomical Constraints on the Site for r-Process Nucleosynthesis", in *Proceedings of the 7th Int. Conf. on Capture Gamma-Ray Spectroscopy*, ed. R. W. Hoff, 827 (1991)

P. C. Crane, J. R. Dickel and J. J. Cowan, "Detection of an Unresolved Nuclear Radio Source in M31," *Astrophys. J. Letters*, **390**, L9 (1992)

G. J. Mathews, G. Bazan and J. J. Cowan, "Evolution of Heavy-Element Abundances as a Constraint on Sites for Neutron Capture Nucleosynthesis", *Astrophys. J.* **391**, 719 (1992)

R. A. Sramek, J. J. Cowan, D. A. Roberts, W. M. Goss and R. D. Ekers, "A VLA Search for Young Galactic Supernova Remnants", *Astron. J.* **104**, 704 (1992)

A. G. W. Cameron, F.-K. Thielemann and J. J. Cowan, "S- and R-Process Contributions to Extinct Radioactivities," *Physics Reports*, **227**, 283 (1993)

F.-K. Thielemann, J.-P. Bitouzet, K.-L. Kratz, P. Möller, J. J. Cowan and J. W. Truran, "Operation of the R-Process and Cosmochronology," *Physics Reports*, **227**, 269 (1993)

G. J. Mathews, G. Bazan, J. J. Cowan and D. N. Schramm, "Heavy Element Nucleosynthesis and Galactic Chemical Evolution," *Physics Reports*, **227**, 175 (1993)

J.J. Cowan, "Heavy Element Abundances in Low-Metallicity Stars," in *Nuclear Physics in the Universe*, eds. M. W. Guidry and M. R. Strayer (Bristol: Institute of Physics), 203 (1993)

P. C. Crane, J. J. Cowan, J. R. Dickel and D. A. Roberts, "Variability of the Nuclear Radio Source in M31," *Astrophys. J. Letters*, **417**, L61 (1993)

T. Rauscher, J. H. Applegate, J. J. Cowan, F.-K. Thielemann and M. Wiescher, "Production of Heavy Elements in Inhomogeneous Cosmologies," *Astrophys. J.*, **429**, 499 (1994)

J. J. Cowan, D. A. Roberts and D. Branch , “Radio Observations of M83 and Its SNRs,” *Astrophys. J.*, **434**, 128 (1994)

J. J. Cowan, W. Romanishin and D. Branch, “Detection of a Nuclear Radio Source in NGC 7331: A Relatively ‘Radio Quiet’ Liner,” *Astrophys. J. Letters*, **436**, L139 (1994)

T. Rauscher, J.H. Applegate, J.J. Cowan, F.-K. Thielemann, M. Wiescher; Proc. European Workshop on Heavy Element Nucleosynthesis, Budapest 1994, eds. E. Somorjai und Z. Fülöp (Debrecen: Institute of Nuclear Research of the Hungarian Academy of Sciences), 121 (1994)

C. Sneden, G. W. Preston, A. McWilliam, L. Searle and J. J. Cowan, “A Very Metal-Poor Field Giant with Extreme r-Process Abundance Enhancements,” in *Nuclei in the Cosmos III.*, Third International Symposium on Nuclear Astrophysics, eds. M. Busso, R. Gallino and C. Raiteri (New York: American Institute of Physics), 37 (1995)

J. J. Cowan, D. L. Burris, C. Sneden, A. McWilliam and G. W. Preston, “Evidence of Heavy Element Nucleosynthesis Early in the History of the Galaxy: The Ultrametal-Poor Star CS 22892-052,” *Astrophys. J. Letters*, **439**, L51 (1995)

C. R. Eck, J. J. Cowan, D. A. Roberts, F. R. Boffi and D. Branch, “Radio Observations of the Type Ia Supernova 1986G as a Test of a Symbiotic–Star Progenitor,” *Astrophys. J. Letters*, **451**, L53 (1995)

J. J. Cowan, C. Sneden, J. W. Truran and D. L. Burris, “The First Detection of Platinum, Osmium and Lead in a Metal-Poor Halo Star: HD 126238,” *Astrophys. J. Letters*, **460**, L115 (1996)

C. Sneden, A. McWilliam, G. W. Preston and J. J. Cowan, “A Detailed Analysis of N-Capture Elements in the Ultrametal-Poor Halo Giant CS 22892-052,” in *Formation of the Galactic Halo... Inside and Out, Astron. Soc. of Pacific Conf. Ser.*, eds. H. Morrison and A. Sarajedini, **92**, 387 (1996)

C. Sneden, A. McWilliam, G. W. Preston, J. J. Cowan, D. L. Burris and B. J. Armosky, “The Ultrametal-Poor, Neutron-Capture-Rich Giant CS 22892-052,” *Astrophys. J.*, **467**, 819 (1996)

C. R. Eck, J. J. Cowan, F. R. Boffi and D. Branch, “A Deep Search for Radio Emission from the Type II Supernovae 1984E and 1986E,” *Astrophys. J. Letters*, **472**, L25 (1996)

J.J. Cowan, C. Sneden, J. W. Truran, D. L. Burris, A. McWilliam and G. Preston, “R- and S-Process Signatures in Metal-Poor Halo Stars,” *Nuclear Physics A*, **A621**, 41c (1997)

J. J. Cowan, A. McWilliam, C. Sneden, and D. L. Burris, “The Thorium Chronometer in CS 22892-052: Estimates of the Age of the Galaxy,” *Astrophys. J.*, **480**, 246 (1997)

F.-K. Thielemann, C. Freiburghaus, E. Kolbe, T. Rauscher, F. Rembges, K.-L. Kratz, B. Pfeiffer, H. Schatz, M. Wiescher, Görres and J. J. Cowan, “Nuclear Physics and Astrophysics of the R- and Rp-Process,” in *Proceedings of the 9th Int. Symposium on Capture Gamma-Ray Spectroscopy and Related Topics* , eds. G. Molnar, T. Belgya and Zs. Revay (Budapest: Springer Hungarica), 521 (1998)

J. J. Cowan, C. Sneden, J. W. Truran and D. L. Burris, “GHRS Observations of Neutron-Capture Elements in Metal-Poor Halo Stars,” in ASP Conf. Ser. **143**, *The Scientific Impact of the Goddard High Resolution Spectrograph*, ed. J. C. Brandt, T. B. Ake, & C. C. Peterson (San Francisco: ASP), 350 (1998)

C. Sneden, J. J. Cowan, D. L. Burris and J. W. Truran, “HST Observations of Neutron-Capture Elements in Very Metal-Poor Stars,” *Astrophys. J.*, **496**, 235 (1998)

J. C. Wheeler, J. J. Cowan and W. Hillebrandt, “R-Process in Collapsing O/Ne/Mg Cores,” *Astrophys. J. Letters*, **493**, L101 (1998)

C. R. Eck, D. A. Roberts, J. J. Cowan and D. Branch, “The Probable Detection of SN 1923A: The Oldest Radio Supernova?,” *Astrophys. J.* , **508**, 664 (1998)

C. Stockdale, W. Romanishin and J. J. Cowan, “Discovery of a Nuclear X-ray Source in NGC 7331: Evidence for a Massive Black Hole,” *Astrophys. J. Letters*, **508**, L33 (1998)

F.-K. Thielemann, C. Freiburghaus, T. Rauscher, K.-L. Kratz, B. Pfeiffer and J. J. Cowan, “Astrophysical and Nuclear Physics Aspects of the r-Process,” in *Fission and Properties of Neutron-Rich Nuclei*, eds. J. Hamilton and A. V. Ramaya, (Singapore: World Scientific), 47 (1998)

J. J. Cowan, C. Sneden, J. W. Truran and D. L. Burris, “Stellar Abundance Observations,” in *Stellar Evolution, Stellar Explosions and Galactic Chemical Evolution*, ed. A. Metzacappa (Bristol: Institute of Physics), 621 (1998)

B. Pfeiffer, K.-L. Kratz, F.-K. Thielemann, J. J. Cowan, C. Sneden, S. Burles, D. Tytler and T. C. Beers, “R-Process Abundances and Cosmochronometers in Old Metal-Poor Halo Stars,” in *9*$^{\text{th}}$ *Workshop on Nuclear Astrophysics*, eds. W. Hillebrandt and E. Müller (Munich: Max Planck Publication MPA/P10), 168 (1998)

F.-K. Thielemann, C. Freiburghaus, T. Rauscher, E. Kolbe, B. Pfeiffer, K.-L. Kratz and J. J. Cowan, “Explosive Nucleosynthesis and the Astrophysical r-Process,” in *ENAM 98, Exotic Nuclei and Atomic Masses*, eds. B.M. Sherrill, D.J. Morrissey, C.N. Davids, AIP Conference Proc. 455, p. 837 (1999)

C. Freiburghaus, J.-F. Rembges, T. Rauscher, F.-K. Thielemann, K.-L. Kratz, B. Pfeiffer and J. J. Cowan, “The Astrophysical r-Process: A Comparison of Calculations Following Adiabatic Expansion with Calculations Based on Neutron Densities and Temperatures,” *Astrophys. J.*, **516**, 381 (1999)

J. J. Cowan, B. Pfeiffer, K.-L. Kratz, F.-K. Thielemann, C. Sneden, S. Burles, D. Tytler and T. C. Beers, “R-Process Abundances and Chronometers in Metal-Poor Stars,” astro-ph/9808272, *Astrophys. J.*, **521**, 194 (1999)

J. Cowan, “Supernova Birth for a Black Hole,” *Nature*, **401**, 124 (1999)

J. Westin, C. Sneden, B. Gustafsson and J. J. Cowan, “The r-Process Enriched Low-Metallicity Giant HD 115444,” *Astrophys. J.*, **530**, 783 (2000)

J. W. Truran, J. J. Cowan, C. Sneden, D. L. Burris and C. Pilachowski, “Neutron Capture Nucleosynthesis in Early Galactic Environments,” in *The First Stars*, eds. A. Weiss, T. Abel, & V. Hill, (Berlin; Springer), 142 (2000)

C. Sneden, J. J. Cowan, I. I. Ivans, G. Fuller, S. Burles, T. C. Beers, and J. E. Lawler, “Evidence of Multiple r-Process Sites in the Early Galaxy: New Observations of CS 22892–052,” *Astrophys. J. Letters*, **533**, L139 (2000)

C. Sneden, G. H. Smith, J. Johnson, R. P. Kraft, J. J. Cowan, and M. S. Bolte, "Neutron–Capture Element Abundances in the Globular Cluster M15," *Astrophys. J. Letters*, **536**, L85 (2000)

D. L. Burris, C. A. Pilachowski, T. Armandroff, C. Sneden, J. J. Cowan, and H. Roe, "Neutron-Capture Elements in the Early Galaxy: Insights from a Large Sample of Metal-Poor Giants," astro-ph/0005188, *Astrophys. J.*, **544**, 302 (2000)

J. W. Truran and J. J. Cowan, " On the Site of the Weak r-Process Component," in the Proceedings of the Tenth Workshop on *Nuclear Astrophysics*, eds. W. Hillebrandt and E. Müller (Munich: MPI), 64 (2000)

J. J. Cowan, J. W. Truran, and C. Sneden, " Abundances and Ages in Halo Stars," in the Proceedings of the Tenth Workshop on *Nuclear Astrophysics*, eds. W. Hillebrandt and E. Müller (Munich: MPI), 68 (2000)

C. J. Stockdale, M. P. Rupen, J. J. Cowan, and Y.-H. Chu,"The Fading Radio Emission From Type II Supernovae," in *Young Supernova Remnants: Eleventh Astrophysics Conference*, eds. S. S. Holt and U. Hwang (Melville: AIP), 77 (2001)

C. Sneden and J. J. Cowan, "The Age of the Galaxy from Thorium Cosmochronometry," astro-ph/0008185, in *The Seventh Texas-Mexico Conference on Astrophysics: Flows, Blows and Glows*, Revista Mexicana de Astronomia y Astrofisica, Serie de Conferencias, ed. William Lee and Silvia Torres-Peimbert, 221 (2001)

J. J. Cowan, C. Sneden and J. W. Truran, "Nuclear Chronometers," astro-ph/0101438, in *Cosmic Evolution*, ed. E. Vangioni-Flam, R. Ferlet and M. Lemoine, (Singapore: World Scientific Publishing), 189 (2001)

C. Sneden, J. J. Cowan and J. W. Truran, "Neutron-Capture Element Trends in the Halo," astro-ph/0101439, in *Cosmic Evolution*, ed. E. Vangioni-Flam, R. Ferlet and M. Lemoine, (Singapore: World Scientific Publishing), 179 (2001)

J. W. Truran, J. J. Cowan and B. D. Fields, "Halo Star Abundances and r-Process Synthesis," astro-ph/0101440, *Nuclear Physics A*, **688**, 330c (2001)

C. J. Stockdale, M. P. Rupen, J. J. Cowan, Y.-H. Chu and S. Jones, "The Fading Radio Emission from SN 1961V: Evidence for a Type II Peculiar Supernova?," astro-ph/0104235, *Astron. J.*, **122**, 283 (2001)

J. J. Cowan, C. Sneden and J. W. Truran, "The Early Formation, Evolution and Age of the Neutron-Capture Elements in the Early Galaxy," astro-ph/0103222, in *Relativistic Astrophysics: 20th Texas Symposium*, eds. C. Wheeler & H. Martel (New York: American Institute of Physics), 337 (2001)

J. W. Truran, S. Burles J. J. Cowan and C. Sneden, "Nucleosynthesis Clocks and the Age of the Galaxy," astro-ph/0109526, in *Astrophysical Ages and Time Scales*, eds. T. von Hippel, C. Simpson & N. Manset (San Francisco; ASP), 226, (2001)

R. Toenjes, H. Schatz, K.-L. Kratz, B. Pfeiffer, T. C. Beers, R. Cayrel, J. J. Cowan and V. Hill, "Tuning the Clock: Thorium and Uranium Chronometers Applied to CS 31082-001," astro-ph/0104335, in *Astrophysical Ages and Time Scales*, eds. T. von Hippel, C. Simpson & N. Manset (San Francisco: ASP), 376, (2001)

C. Sneden, J. J. Cowan, T. C. Beers, J. W. Truran, J. E. Lawler and G. Fuller, "Neutron-capture Element Abundances and Cosmochronometry," astro-ph/0106366 , in *Astrophysical Ages and Time Scales*, eds. T. von Hippel, C. Simpson & N. Manset (San Francisco: ASP), 235, (2001)

C. J. Stockdale, W. M. Goss, J. J. Cowan, and R. A. Sramek, "The Continuing Radio Evolution of SN 1970G," astro-ph/0108262, *Astrophys. J. Letters*, **559**, L139 (2001)

B. D. Fields, J. W. Truran and J. J. Cowan, "A Simple Model for r-Process Scatter and Halo Evolution," astro-ph/0103083, *Astrophys. J.*, **575**, 845 (2002)

C. R. Eck, J. J. Cowan and D. Branch, "A Search for Radio Emission from Supernovae with Ages from About One Week to More than 80 Years," astro-ph/0204466, *Astrophys. J.*, **573**, 306 (2002)

C. Sneden, J. E. Lawler, and J. J. Cowan, "Galactic Cosmochronometry from Radioactive Elements in the Spectra of Very Old Metal-Poor Stars," astro-ph/0109194, *Physica Scripta*, **T100**, 15 (2002)

J. J. Cowan, C. Sneden, S. Burles, I. I. Ivans, T. C. Beers, J. W. Truran, J. E. Lawler, F. Primas, B. Pfeiffer and K.-L. Kratz, "The Chemical Composition and Age of the Metal-Poor Halo Star BD +17°3248," astro-ph/0202429, *Astrophys. J.*, **572**, 861 (2002)

C. Sneden, J. J. Cowan, J. E. Lawler, S. Burles, T. C. Beers and G. M. Fuller, "Europium Isotopic Abundances in Very Metal-poor Stars," astro-ph/0201456, *Astrophys. J. Letters*, **566**, L25 (2002)

J. J. Cowan, C. Sneden and J. W. Truran, "The r-Process and Chronometers," astro-ph/0204294, in the Proceedings of the 11*th* Workshop on *Nuclear Astrophysics*, eds. W. Hillebrandt and E. Müller (Munich: MPI), 176 (2002)

H. Schatz, R. Toenjes, K.-L. Kratz, B. Pfeiffer, T. C. Beers, J. J. Cowan and V. Hill, "Thorium and Uranium Chronometers Applied to CS 31082-001," *Astrophys. J.*, **579**, 626 (2002)

J. W. Truran, J. J. Cowan, C. A. Pilachowski and C. Sneden, "Probing the Neutron-Capture Nucleosynthesis History of Galactic Matter," astro-ph/0209308, *Pub. Astr. Soc. Pac.*, **114**, 1293 (2002)

C. Sneden and J. J. Cowan, "The Genesis of the Heaviest Elements in the Milky Way Galaxy," *Science*, **299**, 70 (2003)

C. Sneden, J. J. Cowan and J. E. Lawler, "Observations of Neutron-Capture Elements in the Early Galaxy," astro-ph/0210125, *Nucl. Phys. A*, **718**, 29c (2003)

J. J. Cowan and C. Sneden, "r-Process Abundance Signatures," astro-ph/0212149, in the Proceedings of the 3rdInternational Conference on *Fission and the Properties of Neutron-Rich Nuclei* eds. J. H. Hamilton, A. V. Ramaya and H. K. Carter (Singapore:World Scientific), p. 353 (2003)

C. Sneden, J. J. Cowan, J. E. Lawler, et al., " The Extremely Metal-Poor, Neutron-Capture Rich Star CS 22892–052: A Comprehensive Abundance Analysis, " astro-ph/0303542, *Astrophys. J.*, **591**, 936 (2003)

C. Sneden, G. W. Preston and J. J. Cowan, "Binary Blue Metal-Poor Stars: Evidence for AGB Mass Transfer" astro-ph/0304064, *Astrophys. J.*, **592**, 504 (2003)

E. A. Den Hartog, J. E. Lawler, C. Sneden and J. J. Cowan, "Improved Laboratory Transition Probabilities for Nd II and Application to the Neodymium Abundances of the Sun and Three Metal-Poor Stars," *Astrophys. J. Supp.*, **148**, 543 (2003)

J. J. Cowan, "Elements of Surprise," *Nature*, **423**, 29 (2003)

J. J. Cowan and C. Sneden, "Advances in r-Process Nucleosynthesis," astro-ph/0309802, in *Carnegie Observatories Astrophysics Series, Vol. 4: Origin and Evolution of the Elements*, ed. A. McWilliam & M. Rauch (Cambridge: Cambridge Univ. Press), 27 (2004)

C. Travaglio, R. Gallino, E. Arnone, J. J. Cowan, F. Jordan and C. Sneden, "Galactic Evolution of Sr, Y, Zr: a multiplicity of stellar neutron capture components," astro-ph/0310189, *Astrophys. J.*, **601**, 864 (2004)

K.-L. Kratz, B. Pfeiffer, J. J. Cowan and C. Sneden, "R-Process Chronometers," *New Astronomy Reviews* **48**, 105 (2004)

J. E. Lawler, C. Sneden and J. J. Cowan, "Improved Atomic Data for Ho II and New Holmium Abundances for the Sun and Three Metal-Poor Stars," *Astrophys. J.*, **608**, 850 (2004)

J. J. Cowan and C. Sneden, "Abundances: The r-Process and Supernovae," in *3-D Signatures in Stellar Explosions*, ed. P. Hoeflich, P. Kumar, & J. C. Wheeler (Cambridge: Cambridge Univ. Press), 255 (2004)

Y.-H. Chu, R. A. Gruendl, C. J. Stockdale, M. P. Rupen, J. J. Cowan and S. W. Teare, "The Nature of SN 1961V," astro-ph/0402473, *Astron. J.*, **127**, 2850 (2004)

J. Simmerer, C. Sneden, J. J. Cowan, J. Collier, V. Woolf and J. Lawler, "The Rise of the s-Process in the Galaxy," astro-ph/0410396, *Astrophys. J.*, **617**, 1091 (2004)

J. J. Cowan, "A Sprinkling of Stardust," *Nature*, **428**, 369 (2004)

J. J. Cowan and C. Sneden, "Halo Star Abundances and Heavy Element Nucleosynthesis," astro-ph/0405423, in the Proceedings of the 12*th* Workshop on *Nuclear Astrophysics*, ed. E. Müller and H. Thomas Janka (Munich: MPI), 41 (2004)

J. J. Cowan and F.-K. Thielemann, "The r-Process in Supernovae," *Physics Today*, **57**, 47 (2004)

F.-K. Thielemann D. Argast, D. Mocelj, T. Rauscher, J. J. Cowan, K.-L. Kratz and B. Pfeiifer, "The r-Process in Supernovae," in the Proceedings of the Workshop on *The r-process: the astrophysical origin of the heavy elements and related Rare Isotope Accelerator Physics* ed. Y.-Z. Qian, H. Schatz, E. Rehm and F.-K. Thielemann (Singapore: World Scientific), 1 (2004)

L. A. Maddox, J. J. Cowan and C. J. Stockdale, "Preliminary Radio Analysis from an X-Ray/Radio Survey of Nearby Spiral Galaxies," in *"X-Ray and Radio Connections"*, ed. Sjouwerman, L.O. & Dyer, K.K., http://www.aoc.nrao.edu/events/xraydio (2005)

E. A. Den Hartog, T. M. Herd, J. E. Lawler, C. Sneden, J. J. Cowan and T. C. Beers, "Improved Laboratory Transition Probabilities for Pt I and Application to the Platinum Abundances of BD+17 3249 and the Sun," *Astrophys. J.*, **619**, 639 (2005)

R. E. Kilgard, J. J. Cowan, M. R. Garcia, et al., "A Chandra Survey of Nearby Spiral Galaxies I. Point Source Catalogs," *Astrophys. J. Suppl.*, **159**, 214 (2005)

J. J. Cowan and C. Sneden, "Neutron-Capture Element Abundances in Halo Stars," astro-ph/0409552, in ASP Conf. Ser., *Cosmic Abundances as Records of Stellar Evolution and Nucleosynthesis*, ed. T. Barnes and F. Bash (San Francisco: ASP), 313 (2005)

J. Simmerer, C. Sneden, J. J. Cowan, J. Collier, V. M. Woolf and J. E. Lawler, "La and Eu Abundances in Galactic Disk and Halo Stars," in ASP Conf. Ser., *Cosmic Abundances as Records of Stellar Evolution and Nucleosynthesis* , ed. T. Barnes and F. Bash (San Francisco: ASP), 359 (2005)

J. J. Cowan et al., "HST Observations of Heavy Elements in Metal-Poor Galactic Halo Stars," astro-ph/0502591, *Astrophys. J.*, **627**, 238 (2005)

I. I. Ivans, C. Sneden, R. Gallino, J. J. Cowan and G. W. Preston, "Near-UV Observations of CS2947-030: New Constraints on Neutron-Capture Nucleosynthesis Processes," astro-ph/0505002, *Astrophys. J.*, **627**, L145 (2005)

I. I. Ivans, C. Sneden, R. Gallino, J. J. Cowan, G. W. Preston and Bisterzo, S. , "CS2947-030 Abundance Constraints on Neutron-Capture Nucleosynthesis Processes," in *From Lithium to Uranium: Elemental Tracers of Early Cosmic Evolution*, ed. V. Hill, P. Francois and F. Primas (Cambridge: Cambridge University Press), 467 (2005)

R. E. Kilgard, J. J. Cowan, et al., Erratum: "A Chandra Survey of Nearby Spiral Galaxies. I. Point Source Catalogs" *Astrophys. J. Supp.*, **163**, 424 (2006)

J. W. Truran, C. Sneden, F. Primas, J. J. Cowan and T. Beers, "HST Abundance Studies of Low Metallicity Stars" in *Planets To Cosmology: Essential Science In Hubble's Final Years* ed. M. Livio and S. Casertano (Cambridge: Cambridge Press), 57 (2006)

I. I. Ivans, J. Simmerer, C. Sneden, J. E. Lawler, J. J. Cowan, R. Gallino and S. Bistzerzo "Near-UV Observations of HD 221170: New Insights Into the Nature of r-Process-Rich Stars," astro-ph/0604180, *Astrophys. J.*, **645**, 613 (2006)

J. E. Lawler, E. A. Den Hartog, C. Sneden and J. J. Cowan, "Sm Transition Probabilities and Abundances," astro-ph/0510585, *Astrophys. J.*, **162**, 227 (2006)

J. E. Lawler, E. A. Den Hartog, C. Sneden and J. J. Cowan, "Transition Probabilities for Sm II," *VizieR On-line Data Catalog:* J/ApJS/162/227 (2006)

K.-L. Kratz, K. Farouqi, B. Pfeiffer, J. W. Truran, C. Sneden and J. J. Cowan, "Explorations of the r-Process: Comparisons between Calculations and Obsevations of Low Metallicity Stars," *Astrophys. J.*, in press (2007)

J. J. Cowan and C. Sneden, "Heavy Element Synthesis in the Oldest Stars and the Early Universe," *Nature*, **440**, 1151 (2006)

L. A. Maddox, J. J. Cowan, R. Kilgard, C. K. Lacey, A. Prestwich, C. J. Stockdale and E. Wolfing, "A Study of Compact Radio Sources in Nearby Face-on Spiral Galaxies. I. Long Term Evolution of M83," astro-ph/0603850, *Astron. J.*, **132**, 310 (2006)

C. J. Stockdale, L. A. Maddox, J. J. Cowan, A. Prestwich, R. Kilgard, S. Immler and M. Krauss, "A Radio and X-ray Study of Historical Supernovae in M83," astro-ph/0511202, *Astron. J.*, **131**, 889 (2006)

J. J. Cowan, J. E. Lawler, C. Sneden, E. A. Den Hartog and J. Collier, "Nucleosynthesis: Stellar and Solar Abundances and Atomic Data," astro-ph/0605137, in the *Proceedings of the NASA Laboratory Astrophysics Workshop*, ed. P. F. Weck, V. Kwong, & F. Salama (Washington, DC: NASA) 82 (2006)

E. A. Den Hartog, J. E. Lawler, C. Sneden and J. J. Cowan, "Gd Transition Probabilities and Abundances," astro-ph/0609487, *Astrophys. J. Supp.*, **167**, 292 (2006)

L. A. Maddox, J. J. Cowan, R. Kilgard, E. Schinner, and C. J. Stockdale, "A Study of Compact Radio Sources in Nearby Face-on Spiral Galaxies. II. Multiwavelngth Analyses of Sources in M51," *Astron. J.*, in press (2006)

J. J. Cowan and J. W. Truran, "In Memory of Al Cameron," astro-ph/0611824, To appear in the *Proceedings of the International Symposium on Nuclear Astrophysics – NIC-IX*, ed. A. Mengioni (2006)

J. J. Cowan, C. Sneden, J. E. Lawler and E. A. Den Hartog, "r-Process Enhanced Halo Stars," astro-ph/0610412, To appear in the *Proceedings of the International Symposium on Nuclear Astrophysics – NIC-IX*, ed. A. Mengioni (2006)

J. E. Lawler, E. A. Den Hartog, Z. E. Zabby, C. Sneden, J. J. Cowan and I. I. Ivans, "Improved Laboratory Transition Probabilities for Hf II and Hafnium Abundances in the Sun and 10 Metal-Poor Stars," astro-ph/0611036, *Astrophys. J. Supp.*, in press (2007)

F. Montes, T. Beers, J. Cowan, T. Elliot, K. Farouqi, R. Gallino, M. Heil, K.-L. Kratz and H. Schatz, "Multiple Neutron Capture Processes in the Early Galaxy," *Astrophys. J.* submitted (2006)

ABSTRACTS OF PAPERS PRESENTED

J.J. Cowan and W.K. Rose, “Production of ^{14}C and Neutrons in Red Giants,” *Bull. Am. Astron. Soc.* **8**, 320 (1976).

J.J. Cowan, A.G.W. Cameron, and J.W. Truran, “Further Studies of the Helium-Driven r-Process,” *Bull. Am. Astron. Soc.* **10**, 437 (1978).

M.F. A'Hearn and J.J. Cowan, “Evaporation Lifetimes of Comets,” *Bull. Am. Astron. Soc.* **10**, 613 (1978)).

A.G.W. Cameron, J. J. Cowan, and J. W. Truran, “The Triggering Supernova and Isotopic Anomalies in Meteorites,” *Lunar and Planetary Science* **9**, l46 (1978).

M.F .A'Hearn and J.J. Cowan, “Evidence for Two Different Ices in Comet sive helium burning in supernovae - A source of r-process elements429-442 West,” *Bull. Am. Astron. Soc.* **11**, 455 (1979).

J.J. Cowan, A.G.W. Cameron, and J.W. Truran, “The Extent of s-Processing in Pre-Supernova Stars Based on r-Process Calculations,” *Bull. Am. Astron. Soc.* **11**, 727 (1980).

J.J. Cowan and M.F. A'Hearn, “Are Outbursts in P/Schwassmann-Wachmann I Explosive?” *Bull. Am. Astron. Soc.* **12**, 511 (1980).

J.J. Cowan, A.G.W. Cameron, and J.W. Truran, “An Unconventional Site for the r-Process,” *Bull. Am. Astron. Soc.* **13**, 528 (1981).

J.J. Cowan and M.F. A'Hearn, “Vaporization and Outbursts in Comets,” *Abstracts of VI International Symposium on Physics and Chemistry of Ice*, 139, (1982).

J.J. Cowan, “r-Process Production in Supernovae,” *Transactions of the International Astronomical Union* **XVIIIB**, 259 (1982).

R.A. Perley, J.J. Cowan, and J.D. Dreher, “Discovery of a Jet and Filaments in Cygnus A,” *Bull. Am. Astron. Soc.* **15**, (944-14.09), (1983).

J.J. Cowan and D. Branch, "Radio Observations of Supernova 1957d in M83," *Bull. Am. Astron. Soc.* **15**, 954 (1983).

J.J. Cowan and D. Branch, "Radio Detections of Extragalactic Historical Supernovae Using the VLA," *Bull. Am. Astron. Soc.* **16**, 540 (1984).

J.J. Cowan, and D. Branch, "Probable Detection of Radio Emission from the Peculiar Supernova 1961V in NGC 1058 ," *Bull. Am. Astron. Soc.* **17**, 565 (1985)

J.J. Cowan, "Recent Results in Understanding the r-Process: Dynamical r Process Calculations", *Am. Chem. Soc. Abstr. Pap.* **191: NUCL**, 40 (1986).

J.J. Cowan, F.-K. Thielemann and J.W. Truran, "R-Process Nucleosynthesis and Cosmochronology", *Am. Chem. Soc. Abstr. Pap.* **194: NUCL**, 131 (1987).

C. Sneden, K.K. Gilroy, C.A. Pilachowski, and J.J. Cowan, " Abundances of Very Heavy Elements in Extreme Population II Stars," *Bull. Am. Astron. Soc.* **19**, 1026 (1987).

G.J. Mathews, J.J. Cowan, and D.N. Schramm, "On the Galactic Chemical Evolution of s-Process and r-Process Elements", *Bull. Am. Phys. Soc.* **33**, 1031 (1988).

J.J. Cowan, R.D. Ekers, W.M. Goss, R.A. Sramek, D.A. Roberts and D. Branch, "Observations of G25.5+0.2: A Young Galactic Supernova Remnant", *Bull. Am. Astron. Soc.* **20**, 1104 (1988).

C. M. Simmons, J. J. Cowan, R. B. C. Henry and D. Branch, "Radio and Optical Studies of NGC 4214", *Bull. Am. Astron. Soc.* **22**, 863 (1990).

John Cowan, "The Formation of Heavy Elements in Exploding Stars," *Bull. Am. Phys. Soc.* **37**, 975 (1992).

F. A. Primini, E. Alfaro, J. Cowan, P. Crane, J. Dickel, G. Hasinger, W. H. G. Lewin, E. Magnier, W. Pietsch, D. Roberts, and J. van Pardijs, "Monitoring the X-ray Sources in the Bulge of M31," *Bull. Am. Astron. Soc.* **26**, 1485 (1994).

D. L. Burris, J. J. Cowan, C. Sneden and J. W. Truran, “Heavy Element Abundances in a Metal-Poor Halo Star: A Comparison Between Theory and HST Observations, ” *Bull. Am. Astron. Soc.* **27**, 840 (1995).

C. Sneden, A. McWilliam, G. W. Preston and J. J. Cowan, “The r-Process Enriched Halo Star CS22892-052,” *Bull. Am. Astron. Soc.* **27**, 841 (1995).

C. R. Eck, D. A. Roberts, J. J. Cowan, F. R. Boffi and D. Branch, “Radio Observations of the Type Ia SN 1986G and Constraints on the Symbiotic-Star Scenario,” *Bull. Am. Astron. Soc.* **27**, 878 (1995).

J. J. Cowan, C. Sneden, J. W. Truran and D. L. Burris, “HST GHRS Detections of Platinum, Osmium and Lead in a Metal-Poor Halo Star,” *Bull. Am. Astron. Soc.* **27**, 1432 (1995).

R. A. Perley, J. W. Dreher and J. J. Cowan, “The Jet and Filaments in Cygnus A,” NCSA Astronomical Digital Image Library (1995)

C. Stockdale, W. Romanishin and J. J. Cowan, “A Comparison of X-ray and Radio Observations in NGC 7331,” *Bull. Am. Astron. Soc.* **28**, 1287 (1996).

D. L. Burris, J. J. Cowan, C. A. Pilachowski, T. Armandroff and C. Sneden, “Neutron Capture Element Abundances in Galactic Halo Stars,” *Bull. Am. Astron. Soc.* **29**, 1230 (1997).

C. R. Eck, J. J. Cowan and D. Branch, “The Probable Detection of SN 1923A: The Oldest Radio Supernova or the Youngest Supernova Remnant?,” *Bull. Am. Astron. Soc.* **29**, 1265 (1997).

G. J. Mathews, J. J. Cowan and R. B. C. Henry, “Extragalactic Abundance Gradients, Self-Regulated Star Formation and the Initial Mass Function,” *Bull. Am. Astron. Soc.* **29**, 1407 (1997).

J. J. Cowan, “R-Process Signatures from Stars,” *Bull. Am. Phys. Soc.* **43**, 1183 (1998).

C. Stockdale, J. J. Cowan and W. Romanishin, "ROSAT Observations of the Field Near NGC 1058 & SN 1961V," *Bull. Am. Astron. Soc.* **30**, 1260 (1998).

J. Westin, C. Sneden, B. Gustafsson, B. Edvardsson and J. J. Cowan, "Another r-Process-Enriched Halo Star: HD 115444," *Bull. Am. Astron. Soc.* **30**, 1317 (1998).

J. J. Cowan, B. Pfeiffer, K.-L. Kratz, F.-K. Thielemann, C. Sneden, S. Burles, D. Tytler and T. C. Beers, "The R-Process and the Radioactive Ages of Stars," *Bull. Am. Astron. Soc.* **30**, 1318 (1998).

C. Sneden, G. M. Fuller, S. Burles, T. C. Beers and J. J. Cowan, "A New Exploration of the Spectrum of CS 22892–052," *Bull. Am. Astron. Soc.* **30**, 1319 (1998).

J. J. Cowan,C. Sneden, I. Ivans, S. Burles, T. C. Beers and G. M. Fuller, "Abundances in the Ultra-Metal-Poor Halo Giant CS 22892–052: Implications for the Production of Neutron-Capture Elements in the Early Galaxy," *Bull. Am. Astron. Soc.* **31**, 930 (1999).

C. Sneden, R. French, J. J. Cowan, J. E. Lawler, F. Primas, T. C. Beers and J. W. Truran, " Neutron-Capture Elements in Low Metallicity Halo Giants," *Bull. Am. Astron. Soc.* **31**, 1434 (1999).

J. W. Truran and J. J. Cowan, "The Helium r-Process and Neutron-Capture Element Abundances in Low Metallicity Stars," *Bull. Am. Astron. Soc.* **32**, 683 (2000).

R. S. French, C. Sneden, J. J. Cowan, J. E. Lawler, F. Primas, T. C. Beers and J. W. Truran, "Neutron-Capture Elements in Very Metal-Poor Halo Stars," *Bull. Am. Astron. Soc.* **32**, 738 (2000).

C. Sneden, J. J. Cowan, T. C. Beers, S. Burles, G. M. Fuller, I. I. Ivans and J. E. Lawler, "Neutron-Capture Element Distributions in Metal-Poor Stars: Examination of a New Star with New Atomic Data," *Bull. Am. Astron. Soc.* **32**, 1475 (2000).

C. Stockdale, J. J. Cowan, M. Rupen and Y.-H. Chu, "Radio and X-Ray Observations of SN 1961V: A Type II Supernova? ," *Bull. Am. Astron. Soc.* **32**, 1260 (2000).

C. Stockdale, J. J. Cowan, L. A. Maddox, C. K. Lacey, M. P. Rupen, A. H. Prestwich, R. Kilgard, M. I. Krauss and A. Zezas, "Radio Counterparts to X-ray Sources in M83," *Bull. Am. Astron. Soc.* **33**, 1338 (2001).

J. J. Cowan, C. Sneden, I. I. Ivans, S. Burles, T. C. Beers, J. W. Truran, J. E. Lawler, F. Primas, G. M. Fuller, B. Pfeiffer and K.-L. Kratz, "The Abundances and Age of the Galactic Halo Star BD +17°3248," *Bull. Am. Astron. Soc.* **33**, 1512 (2001).

C. Sneden, J. J. Cowan, J. W. Truran, T. C. Beers, J. E. Lawler, "HST-STIS Spectra of the r-Process-Rich Halo Giant CS 22892–052," *Bull. Am. Astron. Soc.* **33**, 1513 (2001).

C. Sneden, J. E. Lawler, J. J. Cowan, and H. L. Dinerstein, "Atomic Data and Stellar Chemical Compositions," *NASA Laboratory Astrophysics Workshop, Book of Abstracts of the NASA LAW* held in NASA-Ames Research Center, Moffett Field, California 94035, May 1-3 2002, Farid Salama, Editor (2002)

J.J. Cowan, " The r-Process: Observations, models and unresolved issues", *Bull. Am. Phys. Soc.* **47**, 14 (2002).

C. Sneden, G. W. Preston and J. J. Cowan, "Discovery of a Lead-Enriched Blue Metal-Poor Field Star," *Bull. Am. Astron. Soc.* **34**, 1129 (2002).

C. Sneden, J. J. Cowan, T. C. Beers, F. Primas, J. W. Truran and S. Burles, "Germanium, Osmium and Platinum in Low Metallicity Halo Giants," *Bull. Am. Astron. Soc.* **35**, 1344 (2003).

L. A. Maddox, C. J. Stockdale and J. J. Cowan, "Long Term Study of Radio Point Sources in M83," *Bull. Am. Astron. Soc.* **35**, 1396 (2003).

J. J. Cowan, "Stellar Abundance Observations and Heavy Element Formation," *Bull. Am. Astron. Soc.* **37**, 504 (2005).

S. P. Krzyzewski, C. J. Stockdale, D. Homan and J. J. Cowan, "VLBI Observations of J0253+3835: A Ring-angle Bent Jet Quasar," *Bull. Am. Astron. Soc.* **37**, 1296 (2005).

J. J. Cowan, K.-L. Kratz, B. Pfeiffer, K. Farouqi, C. Sneden and J. W. Truran, "The Natures of the Two r-Processes," *Bull. Am. Astron. Soc.* **37**, 1369 (2005).

L. A. Maddox, R. E. Kilgard, E. Schmimmerer, C. J. Stockdale, J. J. Cowan, and A. H. Prestwich, "Multiwavelength Observations of the Nearby Galaxy M51," *Bull. Am. Astron. Soc.* **37**, 1452 (2005).

J. W. Truran, F.-K. Thielemann, and J. J. Cowan, "Obituary: Alastair Graham Walker Cameron, 1925-2005," *Bull. Am. Astron. Soc.* **37**, 1547 (2005).

C. Sneden, J. E. Lawler, E. A. Den Hartog, Z. E. Labby, J. J. Cowan and I. I. Ivans, "Hafnium and the R-Process in the Sun and Metal-Poor Stars," *Bull. Am. Astron. Soc.* **38**, 1137 (2006).

I. U. Roederer, C. Sneden, , J. E. Lawler, J. S. Sobeck, C. A. Pilachowski, and J. J. Cowan, "Isotopic Abundances of Eu, Ba, and Sm in Metal-Poor Stars," *Bull. Am. Astron. Soc.* **38**, 1138 (2006).

INVITED TALKS AND WORKSHOP PRESENTATIONS

“The Synthesis of Elements in the Universe”, invited colloquium, AAPT and SPS Annual Meeting, Kansas State University, Manhattan, Kansas (November 1979)

“The r-Process”, Workshop on the *Origin and Distribution of the Elements*, University of California at Santa Cruz, Santa Cruz, California (July 1980)

“The Synthesis of Heavy Elements in Supernovae”, invited colloquium, University of Nevada at Las Vegas, Las Vegas, Nevada (May 1982)

“Comets : Clues to the Origin of the Solar System”, invited colloquium, University of Nevada at Las Vegas, Las Vegas, Nevada (May 1982)

“r-Process Production in Low Mass Stars”, Workshop on *Stellar Nucleosynthesis*, Erice, Sicily (May 1983)

“Radio Observations of Historical Extragalactic Supernovae”, Workshop on *Supernovae as Distance Indicators*, Harvard Center for Astrophysics, Cambridge, Massachusetts (September 1984)

“Radio Detections of Historical Extragalactic Supernovae”, invited colloquium, University of Texas at Austin, Austin, Texas (October 1984)

“Understanding the r-Process : The Past, the Present, and the Future”, invited colloquium, University of Texas at Austin, Austin, Texas (October 1984)

“Radio Observations of Historic Extragalactic Supernovae”, invited colloquium, University of Illinois, Champaign, Illinois (May 1985)

“Recent Results in Understanding the r-Process”, Symposium on *Nuclear Dynamics and Nuclear Astrophysics*, New York, N.Y. (April 1986)

“Radio Supernovae”, invited colloquium, Max-Planck-Institute fur Physik und Astrophysik, Garching bei Munchen, West Germany (July 1986)

"VLA Observations of Extragalactic Supernovae", invited talk, The Very Large Array, Socorro, New Mexico (August 1987)

"r-Process Nucleosynthesis and Cosmochronology", invited talk, *Symposium on The Origin and Distribution of the Elements*, New Orleans, LA (September 1987)

"r-Process Nucleosynthesis and the Age of the Galaxy", invited talk, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA (November 1987)

"The Age of the Galaxy and the Universe: Evidence from r-Process Nuclear Chronometers", invited colloquium, University of Oklahoma, Norman, OK (September 1988)

"Ages from Nuclear Chronometers", invited talk, Aspen Winter Physics Conference on *Observational Constraints in Primordial and Early Galactic Nucleosynthesis*, Aspen, Colorado (January 1989)

"Observations of Very, Very Young Supernova Remnants : Galactic and Extragalactic", invited colloquium, University of Illinois, Urbana, IL (March 1989)

"Observations of Very Young Supernova Remnants", invited talk, *Astronomy Program 25th Birthday Symposium*, University of Maryland, College Park, MD (June 1989)

"A History of Galactic r-Process Nucleosynthesis", Workshop on *Supernovae*, University of California at Santa Cruz, Santa Cruz, CA (July 1989)

"A Search for Very Young Supernova Remnants", Workshop on *Supernovae*, University of California at Santa Cruz, Santa Cruz, CA (July 1989)

"Observations of Intermediate-Age Supernovae", invited seminar, Lawrence Livermore National Laboratory, Livermore, CA (August 1991)

"Observations of Intermediate-Age Supernovae", invited colloquium, Columbia University, New York, NY (September 1991)

"The r-Process and the Age of the Galaxy", invited colloquium, Bartol Research Institute and University of Delaware, Newark, DE (December 1991)

“Radio Supernovae”, invited talk, The Very Large Array, (National Radio Astronomy Observatory), Socorro, New Mexico (January 1992)

“The Age of the Galaxy: Evidence from Heavy Element Nucleosynthesis,” invited colloquium, State University of New York at Stony Brook, Stony Brook, New York (April 1992)

“The Age of the Galaxy,” invited colloquium, Drexel University, Philadelphia, PA (April 1992)

“The Formation of Heavy Elements in Exploding Stars,” invited talk, APS/AAPT Meeting, Washington, DC (April 1992)

“Observational Constraints on the r-Process and Galactic Chemical Evolution,” invited talk, workshop on *Galactic Chemical Dynamics*, Clemson, SC (May 1992)

“Galactic Chronometers,” invited talk, workshop on *Galactic Chemical Dynamics*, Clemson, SC (May 1992)

“Heavy Element Abundances in Low-Metallicity Stars,” invited talk, *The First Symposium on Nuclear Physics in the Universe*, Oak Ridge, TN (September 1992)

“Nuclear Astrophysics,” invited series of lectures, *The Third Nankai Summer School on Frontier Topics in Theoretical Astrophysics*, Nankai University, Tianjin, China (September 1993)

“The Formation, Evolution and Age of the Heavy Elements,” invited colloquium, The Observatories of the Carnegie Institution of Washington, Pasadena, CA (October 1993)

“Heavy Element Abundances in Very Low-Metallicity Stars,” invited talk, *Particle and Nuclear Astrophysics and Cosmology in the Next Millennium*, Snowmass, CO (July 1994)

“Stellar Heavy Element Abundances and the Age of the Galaxy,” invited colloquium, Michigan State University, East Lansing, MI (April 1996)

"Abundances in Metal-Poor Stars," invited talk, *Supernovae: Their Causes and Consequences*, Santa Barbara, CA (August 1997)

"Heavy Element Synthesis and Stellar Abundances," invited colloquium, Notre Dame University, South Bend, IN (September 1997)

"Stellar Element Abundances," invited talk, *Second Symposium on Atomic and Nuclear Physics in the Universe*, Oak Ridge, TN (December 1997)

"R- and S-Process Signatures in Stars," invited seminar, University of Texas, Austin, TX (March 1998)

"R- Process Signatures from Stars," invited talk, 1998 Joint APS/AAPT Meeting, Columbus, OH (April 1998)

"Nuclear Physics, Stellar Abundances and the Age of the Galaxy," invited talk, Nuclear Symposium, American Chemical Society Meeting, Anaheim, CA (March 1999)

"Hi-Yo Silver! The Further Adventures of CS 22892–052," invited seminar, University of Texas, Austin, TX (February 2000)

"Abundances and Ages of Metal-Poor Halo (and Globular Cluster) Stars," Tenth Workshop on *Nuclear Astrophysics*, Ringberg Castle at Lake Tegernsee, Germany (March 2000)

"Stellar Heavy Element Abundances and Ages," invited talk, Nucleosynthesis 2000, American Chemical Society Meeting, Washington, DC (August 2000)

"Signatures of the r-Process," invited plenary talk, Long Range Plan for Nuclear Science Town Meeting: Astrophysics, Oakland, CA (November 2000)

"Nuclear Chronometers," invited talk, International Conference on *Cosmic Evolution* to celebrate the 60th birthday of Jean Audouze & James W. Truran, Paris, France (November 2000)

"The Formation, Evolution and Age of the Neutron-Capture Elements in the Galaxy," invited talk, Texas Symposium on Relativistic Astrophysics, Austin, TX (December 2000) "r-Process Abundances in Halo Stars and the Age of the Galaxy," invited colloquium, Argonne National Laboratory: Workshop on *Frontiers in Nuclear Astrophysics*, Chicago, IL (February 2001)

"r-Process Abundances in Low-Metallicity Stars," invited talk, *International Symposium on Nuclear Astrophysics 2001*, Darmstadt, Germany (May 2001)

"r-Process Abundances in Low Metallicity Stars," invited seminar, University of Mainz, Mainz, Germany (May 2001)

"The r-Process and Chronometers," Eleventh Workshop on *Nuclear Astrophysics*, Ringberg Castle at Lake Tegernsee, Germany (February 2002)

"Abundances and Ages of the Oldest Stars," invited colloquium, University of North Carolina, Chapel Hill, NC (March 2002)

"r-Process and Nucleochronology," invited talk, *Low Z at Low z and High z: Early Chemical Evolution*, Minneapolis, MN (March 2002)

"Neutron-Capture Elements Abundances in Halo Stars and the Age of the Galaxy," invited colloquium, MIT, Cambridge, MA (April 2002)

"Abundances and Ages of Galactic Halo Stars," invited seminar, Institute for Nuclear Theory, Seattle, WA (June 2002)

"Abundances and Ages of Galactic Stars," invited seminar, University of Texas at Austin, Austin, TX (September 2002)

"The r-Process: Observations, models and unresolved issues," invited talk, *Workshop on Nuclear Astrophysics at the Limits of Stability*, 2002 Fall Meeting of the Division of Nuclear Physics Meeting of the American Physical Society, East Lansing, MI (October 2002)

"The r-Process, stellar abundances and ages, and unanswered questions," invited talk, *JINA Workshop on The r-process – New experimental, theoretical and observational opportunities*, Gull Lake, MI (October 2002)

"R-Process Abundance Signatures," invited talk, *Third International Conference on Fission and Properties of Neutron-Rich Nuclei*, Sanibel Island, FL (November 2002)

"Advances in r-Process Nucleosynthesis," invited talk, *The Origin and Evolution of the Elements*, Pasadena, CA (February 2003)

"Astrophysics of the r-Process: Observations," Workshop on *The Nuclear Physics of Core Collapse Supernovae*, Aspen, CO (May 2003)

" Halo Star Abundances and Heavy Element Nucleosynthesis," invited talk, *Twelfth Workshop on "Nuclear Astrophysics"* , Ringberg Castle at Lake Tegernsee, Germany (March 2004)

"Stellar Abundances, Supernovae and Heavy Element Nucleosynthesis," (http://mocha.phys.washington.edu/∼int_talk/WorkShops/int_04_2/), invited talk, *Supernova Theory and Nucleosynthesis*, Institute for Nuclear Theory, Seattle, WA (July 2004)

"Probing the Nucleosynthesis Products of the First Stars," invited talk, *Chemical Enrichment of the Early Universe*, Santa Fe, NM (August 2004)

"Stellar Abundances, the r-Process and the Age of the Galaxy," invited seminar, the University of Chicago, Chicago, IL (January 2005)

"Stellar Abundance Observations and the r-Process," invited talk, *JINA r-Process Workshop*, Notre Dame, IN (January 2005)

"R-Process Abundance Signatures in Halo Stars," invited talk, *2nd Vistars Workshop on Nuclear Astrophysics*, Russbach, Austria (March 2005)

"Stellar Abundances, Heavy Element Nucleosynthesis and the Age of the Galaxy," invited colloquium, University of Oklahoma, Norman, OK (March 2005)

"Abundance Observations and Heavy Element Nucleosynthesis in Stars," invited colloquium, Michigan State University, East Lansing, MI (April 2005)

"Stellar Abundance Observations and the Formation of the Heavy Elements," invited colloquium, Carnegie Observatories, Pasadena, CA (April 2005)

"Stellar Abundance Observations and Heavy Element Formation," invited plenary talk, American Astronomical Society, Minneapolis, MN (June 2005)

"Nucleosynthesis: Stellar and Solar Abundances and Atomic Data," invited talk, NASA Laboratory Astrophysics Workshop, Las Vegas, NV (February 2006)

"Rare Isotope Science: Astronomy and Astrophysics," invited presentation, Rare Isotope Science Assessment Committee Meeting, Irvine, CA (February 2006)

"Explorations of the Weak and Main r-Processes," invited talk, *3rd Vistars Workshop on Nuclear Astrophysics*, Russbach, Austria (March 2006)

"Cosmochronometers," invited talk, *3rd Vistars Workshop on Nuclear Astrophysics*, Russbach, Austria (March 2006)

"Stellar Abundances, Heavy Element Formation and the Chemical Evolution and Age of the Galaxy," inivted colloquium, University of Illinois, Urbana, IL (April 2006)

"Stellar Heavy Element Abundances and the Nature of the r-Process," invited seminar, http://www.int.washington.edu/talks/WorkShops/int_06_2a/, *The First Stars and the Evolution of the Universe*, Institute for Nuclear Theory, University of Washington, Seattle, WA (June 2006)

"In Memory of Al Cameron," invited talk, http://indico.cern.ch/conferenceTimeTable.py?confId=059, *Nuclei in the Cosmos-IX*, CERN, Geneva, Switzerland (June 2006)

"r-Process Enhanced Halo Stars," invited talk, http://indico.cern.ch/conferenceTimeTable.py?confId=059, *Nuclei in the Cosmos-IX*, CERN, Geneva, Switzerland (June 2006)