**Resume**

**Allen G. Jackson, Ph.D.**

**Education:**

Ohio State University, Columbus, Ohio

BS (Physics) 1961

University of Dayton, Dayton, Ohio

MS (Physics) 1968

[Advisor: Dr. J. Michael O'Hare, Thesis:"S-Wave Calculation for B.C.C.(110) Surface Using the McRae Multiple Scattering Theory of Low Energy Electron Diffraction."]

University of Cincinnati, Cincinnati, Ohio

PhD (Materials Science & Engineering), 1983

[Advisor: Dr. John Moteff, Dissertation:"A Study of the Microstructure Developed in Rapidly Solidified Ti-5A1-2.5Sn With Additions of Si and Ge." ]

**Research interests:** applications of principles of crystallography to materials problems; crystallography; characterization methods for materials; various electron microscopies, history of science concepts.

**Affiliations:**

Microscopy Society of America,

American Physical Society,

Sigma Pi Sigma.

**Activities:**

\*Served on 2 PhD committees, 5 Masters committees

\*Assisted with GREEN program activities (2007)

\*Past Member of ASM Structures Committee,

\*Organizer and Chairman:

Fundamentals of Crystallography Tutorial, Fall TMS meeting, Cincinnati, 1991;

\*President of Electron Microscopy Society of Ohio River Valley (EMSORV), 1991-92;

\*Education Chairman of Dayton Chapter of ASM International, 1989-90;

\*Co-organizer (with W. Wade Adams) of SEMEDS project: SEM Educators project to provide electron microscopy exposure in a laboratory setting to secondary school teachers and students;

\*Co-organizer and topic editor of the electronic journal Innovations in Materials Process Design.

**Courses Taught:**

ME4620: Mechanical testing Lab/Lecture; ME3600/5600: Experimental Measurements & Instrumentation Lecture/Lab; ME4750/6750: Materials Characterization Lecture/Lab; ME480/680: Introduction to xrays; ME481/681: Characterization of Materials; ME482/682: Electron Microscopy; ME370/570: Introduction to Materials Science; ME376: Materials Testing Lab; ME212: Statics.

**Accomplishments:**

•Established international cooperative programs

Former Soviet Union scientists in Russia and Ukraine

Japan RACE effort

•Organized two international symposia

•Designed concept for NanoModeler materials design and simulation system

•Prepared and published highly successful handbook

•Introduced and applied two new techniques for materials classification

•Generated program for creating pyramidal nets

•Generated program for accomplishing rough sets analysis

•Co-Designed KnowBE dynamic knowledge base system

Semiconductor database created

•Created a symmetry recognition algorithm successfully used in electron diffraction

•Created diffraction pattern analysis program used by labs nationally in the 80s

•Generated models of various crystal structures useful for defect analysis and dislocation visualization

•In addition to the results reported in the publications, I developed quantitative methods for electron diffraction pattern analysis, methods for quantitative analysis of intensity data from intermetallic superlattices, soft x-ray analysis using light-element-sensitive diffractometer crystals in WDS microprobe, and the influence of twinning on intermetallic materials.

**Experience:**

**August, 2015-Present:** Instructor, Materials & Mechanical Engineering Department, Wright State University.

**November 2006 – June, 2005**: Program Manager, Center for Nanoscale Multifunctional Materials, Wright State University.

**July, 1990 - july, 2015**: Adjunct Professor, Materials Science, Wright State University, Dayton, Ohio.

**January, 2002 to 2005**: Consultant (semi-retired) specializing in materials data interpretation.

**January 1997-December 2001**: President, AvXm, Inc. Software development company for exploiting new methods of materials property calculation and visualization. [Company closed in January, 2002.]

**January, 1995 - December, 2001**: Sr. Scientist, Technical Management Concepts, Inc. Responsible for planning and conducting research on discovery methods in materials process design, reviews of tasks performed under delivery orders, overview of personnel assigned to tasks and assessment of new methods suitable for process control and analysis of empirical data. Last project was study of collision dynamics of hard, flat-sided, 2-dimensional objects (triangles) and calculation of second virial coefficient for such objects.

**December, 1992 - December, 1994**: Visiting Scientist, Materials Directorate, Wright Laboratory on applications of materials science to finding solutions to engineering problems; emphasis has been on development of dynamic knowledge bases and applications of rough sets and pyramidal nets to materials processing issues.

**November, 1992 - October, 1993**: Senior Research Associate, Case Western Reserve University. Conducted research on associative memories, neural nets, and methods for self-adaptive algorithms applied to materials.

**August, 1984 - May, 1990**: Adjunct Associate Professor, Materials Science Graduate Dept, University of Dayton, Dayton, Ohio. Courses taught: Analytical Microscopy, X-ray and Electron Spectroscopies, X-ray Crystallography.

**December, 1989 - November, 1992**: Senior Materials Scientist, Universal Energy Systems, Inc, Dayton, Ohio. Staff member assigned to define and conduct research programs on the applications and development of analytical electron microscopy techniques.

**March, 1976 - November, 1989**: Senior Materials Scientist, SRL, a Division of Arvin/Calspan, Dayton, Ohio. Project manager and Principal Investigator on a program to characterize the morphology, composition and crystallography of experimental materials developed at the AF WRDC Materials Laboratory at WPAFB, Ohio. Instruments in use included JEOL 100CX and 2000FX STEM/TEMs, JEOL 733 and 840 Microprobes, ETEC SEMs, Tracor-Northern Energy Dispersive Spectrometers (type 5500), Olympus CUE4 Image analysis and processing system, Apple Macintoshes, IBM PC ATs.

**July, 1975 - February, 1976**: Consultant on energy programs. Self employed.

**January, 1974 - July, 1975**: Manager of Technology Development, Systech, a subsidiary of SRL. Developed new business.

**April, 1972 - December, 1973**: Manager of instrumentation development, SRL. Managed a small group charged with developing one of a kind instruments.

**April, 1968 - March, 1972**: Manager of research group, SRL. Managed a number of Air Force projects related to surface studies using Auger electron spectroscopy and Low Energy Electron Diffraction; studies of thermal degradation of polymers using an MS-TGA instrument.

**March, 1965 - March, 1968**: Project scientist, SRL. Worked on AF project to study surface effects using AES and LEED.

**March, 1962 - February, 1964**: Visiting Scientist, OSU Research Foundation, at ARL, WPAFB, Ohio. Developed and built an ultrahigh vacuum system and surface potential measurement device.

**Conferences organized**:

Jackson, A.G., Iishi, K., & LeClair, S.R., Conference Session: Innovative Methods for Materials Design, Fall MRS Meeting, Boston, MA; International Invited Speakers: M.F. Ashby (Cambridge University - Great Britain), N.N. Kiselyova (Baikov Institute - Russia), N. Suh (Massachusetts Institute of Technology), Nov 94.

Jackson, A.G., & LeClair, S.R., Workshop: Innovative Methods for Materials Discovery, Wright State University, International Invited Speakers: M.F. Ashby (Cambridge University - Great Britain), N.N. Kiselyova (Baikov Institute - Russia), N. Suh (Massachusetts Institute of Technology), May 94.

EMSORV Spring and Fall meetings/conferences: 1989-1992. These required locating and inviting speakers on topics related to materials and biological subjects, usually 4-6 speakers each meeting. The locations rotated among Dayton, Cincinnati, Columbus, Indianapolis, and Lexington.

**EXTENDED SCIENTIFIC VISITS**

-LeClair, S.R., & Jackson, A.G., Engineering Design Center, University of Cambridge (materials design methods), 8 Nov 94.

-LeClair, S.R., & Jackson, A.G., Artificial Intelligence Laboratory, University of Edinburgh (materials design), 9-10 Nov 94.

-LeClair, S.R., & Jackson, A.G., A.A. Baikov Institute, Moscow, Russia (materials design and prediction using empirical methods), 22 Oct 94 - 29 Oct 94.

-LeClair, S.R., & Jackson, A.G., Institute of Applied Informatics, Kiev, Ukraine (cybernetics and logic-based classification methods), 29 Oct 94 - 3 Nov 94.

**Patent:**

LeClair, S.R., Pao, Y.H., Westhoven, T.E., Kamhawi, H.N., Chen, C.L.P., Jackson, A.G., Chemaly, A.C., Inductive-Deductive Process Design for Machined Parts, AF Invention #21134, Patent Applied For, #08/159,968, 24 Jul 95, Patent #5,485,390, 16 Jan 96.

**Publications:**

**In Preparation:**

“God, Kelvin and Emmy Noether”, overview of development of energy and conservation of energy principles, presentation; paper in preparation.

“Entropy – uncertain knowledge and what to do with it”, overview of entropy concepts in thermodynamics and information; presentation and paper in preparation.

**First Author:**

Book: A. G. Jackson, "Handbook of Crystallography for Electron Microscopists and Others", Springer-Verlag, 1991.

Book Chapter: A. G. Jackson, "Experimental Characterization of Nanomaterials," in *Nanoscale Multifunctional Materials, Science and Applications*, Sharmila M. Mukhopadhyay, editor, Wiley Publications, Hoboken, New Jersey, 2012, pp. 153-174.

Jackson, A.G., LeClair, S.R. & Thaler, S.L., *Discovery Approaches for New Materials Systems*, Journal of Alloys & Compounds, Elsevier Science B.V., Amsterdam, Netherlands,

Jackson, A.G., Busbee, J.D., LeClair, S.R., Liptak, D., & Jones, J.G., *Raman Spectroscopy for Control of Thin Film Thickness and Material Properties*, Proceedings of 8th International Symposium on Nondestructive Characterization of Materials, Boulder, CO, 15 June 1997.

Jackson, A.G., Benedict, M.D., & LeClair, S.R., *Modeling Thin Film Growth using Cellular Automaton-like Methods*, Proceedings of Australasia-Pacific Forum on Intelligent Processing and Manufacturing of Materials, July 14-17, 1997, Gold Coast, Australia.

Jackson, A.G., Busbee, J.D., Liptak, D. Jones, J.G., & LeClair, S.R., *Raman Spectroscopy for Control of Thin Film Thickness and Material Properties*, Proceedings of 8th International Symposium on Nondestructive Characterization of Materials, Boulder, CO, 15-20 Jun 97.

LeClair, S.R., Jackson, A. G., Benedict, M.D., Conrad, D.M., and Cao, Y., *Electronic prototyping: toward future applications of sensors in materials processing*, Proceedings of TMS Symposium on Advanced Sensors in Materials Processing, Orlando, FL, February, 1997. ASC 96-2910 ,

Busbee, J.D., Lubbers, D.P., Jackson, A.G., Biggers, R.R., Liptak, D.C., and Maartense, I., *Raman spectroscopy for determining YBCO thin film paramters in situ*, Proceedings of TMS Symposium on Advanced Sensors in Materials Processing, Orlando, FL, February, 1997.

Kiselyova, N.N., Vaschenko, N.D., Gladun, V.P., Jackson, A.G., & LeClair, S.R., *Prediction of Inorganic Compounds Promissing for Search for New Electro-Optical Materials*, Journal of Advanced Materials, Russian Ministry of Science, High Education and Technical Policy and Cambridge International Science Publishing, Cambridge, England.

\* Jackson, A.G., LeClair, S.R., Ohmer, M.C., Ziarko, W., & Al-Kamhawi, H., *Rough Sets Applied to Materials Data*, Vol 44., No. 11, Acta metallurgica et Materialia, Elsevier Sciences Ltd., Great Britain, October 1996, pp. 4475-4484.

\*A. G. Jackson, S. J. P. Laube and J. Busbee, "Sensor Methods and Principles for Measurement of Physical Properties", JOM, September,1996.

\* Jackson, A.G., Ohmer, M., & LeClair, S.R., *Relationship Of The Second Order Nonlinear Optical Coefficient To Bandgap in Inorganic Non-Centro-symmetric Crystals*, Infrared Physics and Technology, Vol. 38, No. 4, pp. 233-244 (June 1997)

Jackson, A.G., Laube, S.J.P., & Busbee, J.D., *Sensors, Methods and Physical Properties*, JOM, The Minerals, Metals & Materials Society, Warrendale, PA, Vol 48, No 9, September 1996, pp. 16-23. ASC-96-1769

Jackson, A.G., *Sensor Principles and Physical Properties*, Spring Workshop on Sensors and Process Control in Aluminum Metalcasting, Metal Processing Institute, Worcester Polytechnic Institute, Worcester, MA, 29 May 1997.

A. G. Jackson, M. Ohmer, and S. R. LeClair, "Relationship Of The Second Order Nonlinear Optical Coefficient To Bandgap in Inorganic Non-Centrosymmetric Crystals", WL-TR-95-4098, Materials Directorate, Wright-Patterson AFB, Ohio, July, 1995.

\*A. G. Jackson, & LeClair, S.R., "Integration of Simulation and Analysis of Electron Diffraction Patterns", in Knowledge-Based Applications in Materials Science, Eds: J.K. McDowell and K.J. Meltsner, TMS, Warrensdale, PA, pp. 15-28, 1994.

\*A.G. Jackson, Park, J., Wood, D., & LeClair, S.R., "Development of an Automated Analyzer for TEM Diffraction Patterns", Proceedings of 51st Annual Meeting of the Microscopy Society of America, Cincinnati, OH, 1 Aug 1993.

\*A. G. Jackson, "Identification of the L6o Phase in a g-Ti-AlNb Alloy", Scripta Met. et Mat., 27, March, 1993.

\*A. G. Jackson and D. S. Lee, ”Characterization of the phases present in a Ti-45a/oAl-10a/oNb alloy,” Scripta Met et Mater., 26, 1575-1579 (1992).

\*A.G. Jackson, Park, J.B., & LeClair, S.R., "Computer Recognition of Symmetry in Selected Area Diffraction Patterns", Proceedings of 49th Annual Meeting of Electron Microscopy Society of America, San Jose, CA, 8 August 1991.

\*A. G. Jackson,"Identification of the Laue Zone Number in HCP Systems in Convergent Beam Electron Diffraction," Ultramicroscopy, 32, 181-182 (1990).

\*A. G. Jackson, "Parity Tables in Convergent Beam Diffraction," Ultramicroscopy, 30, 349-354 (1989).

\*A. G. Jackson and M. Rowe, "Direct Measurement of Electron Diffraction Pattern Intensities using an Energy Loss Spectrometer," presented at the annual EMSA meeting, August, 1989 and published in the proceedings.

\*A. G. Jackson and M. Rowe, "PC Based Diffraction Pattern Analysis Programs." . Poster Presentation at the 46th annual meeting of the Electron Microscopy Society of America, Milwaukee, WI, August 7-12, 1988 and published in the Proceedings.

\*A. G. Jackson, R. G. Rowe, M. Gutierrez, and F. H. Froes, "The Effects of Er Additions to Melt Spun Ti-V-Cr Alloys," Presented at the Sixth World Conference on Ti, Cannes, France, June 6-9, 1988.

\*A. G. Jackson, "On the Relationship Between Omega Phase and Twinning in BCC Structures." Scripta Met. 22, 313, 1988.

\*A. G. Jackson, M. Gutierrez, F. H. Froes and R. G. Rowe, "Microstructures of Rapidly Quenched Ti-V-Cr-Er Alloys," Presented at RQ6, Montreal, Aug. 1987; to be published in J. of Mat. Sci. and Eng.

\*A. G. Jackson, "Prediction of Holz Pattern Shifts in Convergent Beam Diffraction," Journal of Electron Microscopy Technique, April 1987, Vol. 5, 373 (1987).

\*A. G. Jackson, K. R. Teal, and F. H. Froes, "Microstructures of Rapidly Solidified Ti-15A1-11 Mo Alloy". Presented at the Materials Research Society Symposium on High Temperature Ordered Intermetallic Alloys, Boston, MA, December 1-5, 1986 and published as a book chapter in MRS Symp. Proc. Vol 81, 1987, p. 143-149.

\*A. G. Jackson, Y. R. Mahajan and S. D. Kirchoff, "Identification of Al20Ti2Gd Precipitates in an Aged RST A1-4Ti-4Gd Allov", Scripta Met. 20, (9), 1247 (1986).

\*A. G. Jackson, K. R. Teal, D. Eylon, F. Froes, and S. Savage,"Microstructure of Rapidly Solidified Ti-Al Alloys" . Presented at the Materials Research Society 1985 Fall Meeting, Symposium J,, Boston, MA, December 2-4, 1985; published in the conference proceedings entitled, Rapidly Solidified Alloys and Their Mechanical and Magnetic Properties, MRS Symp. Proc. Vol. 58.

\*A. G. Jackson, "Analytical Microscopy of Precipitates in Rapidly Solidified Alloys", J. Metals 37, 46 (February 1985).

\*A. G. Jackson, T. F. Broderick and F. H. Froes, "Microstructures of Rapidly Solidified Ti-5A1-2.5Sn with Si or Ge Additions," . Presented at the 5th International Conference on Titanium, Munich, West Germany, September 10-14, 1984; published in the conference proceedings.

\*A. G. Jackson, J. Moteff and F. H. Froes, "On the Effect of NaCl on Porosity in Elemental-Blend Powder Metallurgy Ti-5A1-2.5Sn" . Met. Trans. 15A, 2118 (1984).

\*A. G. Jackson, J. Moteff and F. H. Froes, "Dispersion Hardening of the Ti-5A1-2.5Sn Alloy Using a Powder Metallurgy Approach" . Presented at the 4th International Conference on Titanium, Kyoto, Japan, May 19-22, 1980; published in proceedings.

\*A. G. Jackson and M. B. Strope, "EDS k-Ratio Determination Using a Minimum Set of Standards" . Presented at the I1th Microbeam Analysis Society Meeting, San Antonio, TX, August 1979; published in the conference proceedings.

\*A. G. Jackson and M. P. Hooker, "Auger/LEED Investigation of the Deposition of Al onto the Mo (110) Surface" . Surf. Sci..28, 373 (1971).

\*A. G. Jackson, "Epitaxy of Ultrathin Metal Films on BCC Substrates Using LEED/Auger", Techc. Sci. Tech. 8, 14 (1971).

\*A. G. Jackson and M. P. Hooker, "Auger/LEED Study of Sn on Mo (100)" . Presented at the Physical Electronics Conference, 1970; Bull. Amer. Phys. Soc. II 15, 632 (1970) and Surf. Sci.

\*A. G. Jackson, "Simplification in Calculation of Kambe Structure Constants," Surf. Sci. 17, 482 (1969).

\*A. G. Jackson and M. P. Hooker, "02 and CO Interaction with Aluminum Films on Ta(110)" Surf. Sci. 10, 308 (1968).

\*A. G. Jackson and M. P. Hooker"A LEED Study of CO and CO2 Absorption of Mo (110)," Surf. Sci. 6. 297-(1967).

\*A. G. Jackson, M. P. Hooker, and T. W. Haas, "LEED Study of Growth of Aluminum Films on the Ta (110) Surface," . J. Appl. Phys. 38, 4998 (1967).

**Second + Author:**

F. M. Brown, Peterson, N., Jacobs, G., Jackson, A.G., & LeClair, S.R., "A Description and Analysis of Gladun's Pyramidal Net Classification Theory", Proceedings of the Adaptive Distributed Parallel Computing Symposium, Dayton, OH, 8-9 August 1996.

\*Weiss, I., Srinivasan, R., Saqib, M., Stefansson, N., Jackson, A.G., & LeClair, S.R., "Bulk Deformation of Ti-4.5Fe-6.8Mo-1.5Al wt% (Timetal® LCB) Alloy", Journal of Materials Engineering and Performance, Vol 5, Issue 3, June 1996.

LeClair, S.R., & Jackson, A.G., Window on Europe - Trip Report, WL-TR-95-4096, Materials Directorate, Wright-Patterson AFB, Ohio, July, 1995.

\*LeClair, S.R., Jackson, A.G., King, S., Wood, D., & Park, J., "A Heuristically Guided Genetic Algorithm for Predicting Protein Secondary Structure", Proceedings of American Association of Artificial Intelligence, Washington, D.C., 12 July 1993.

\*S.R. LeClair, A.G. Jackson, S. King, D. Wood, and J. Park, "A Heuristically Guided Genetic Algorithm for Predicting Protein Secondary Structure", Proceedings of American Association of Artificial Intelligence, Washington, D.C., 12 July 1993.

\*P. M. Hazzledine, K. S. Kumar, D. B. Miracle, and A. G. Jackson, "Synchroshear of Laves Phases," MRS Symposium, Boston, MA, December, 1992.

\*D. Simon Shong, A. G. Jackson and Y-W. Kim, "Formation of Ti3Al + TiAl Lamellar Microstructure in Cast and Heat Treated Titanium Aluminides." Presented at 1988 TMS-AIME Meeting, 25-29 September 1988, Chicago, IL and to be published in a special issue of Metallurgical Transactions.

\*I. Weiss, A. G. Jackson, G. Welsch, D. Eylon and F. H. Froes, "Morphology of Alpha Phase in Rapidly Solidified and Wrought Ti-6Al-4V Alloy During Isothermal Annealing," Presented at the Sixth World Conference on Ti, Cannes, France, June 6-9, 1988.

\* R. Sundaresan, A. G. Jackson, S. Krishnamurthy and F. H. Froes, "Study of the Formation of the Amorphous Phase in Metallic Systems by Mechanical Alloying," Mat. Scie. & Eng. 97 115, 1988.

\*E. Robertson, A. G. Jackson and R. E. Omlor, "Characterization of Sub-Micron Precipitates in Rapidly Solidified Mg-20 Nd," Presented at the 1988 Pacific Regional Meeting of The Metallurgical Society, entitled "Micrometallurgy '88," Lake Tahoe, NV, March 1988.

\*S. Krishnamurthy, A. G. Jackson, H. Jones, and F. H. Froes, "Beta-Eutectoid Decomposition in Rapidly Solidified Titanium-Nickel Alloys," Met. Trans. A, 19A, 23, 1988.

\*G. Venkataraman, A. G. Jackson, K. R. Teal and F. H. Froes, "The Influence of Nb Addition on Structure and Properties of Rapidly Solidified Intermetallics," Presented at RQ6, Montreal, August 1987; J. of Mat. Sci. and Eng.

\*M. Rowe, E. Harper and A. G. Jackson, "A Computer Controlled Electropolishing System," Presented at the IMS Annual Meeting, Monterey, CA, August, 1987. Invited presentation at the ASM International Advanced Techniques in Optical Metallography Seminar, September 16, 1987, Metals Park, Ohio.

\* R. Omlor, P. Lloyd, R. Brodecki, and A. Jackson, "Sample Preparation of Rapidly Solidified Powder Particles for Analytical Electron Microscopy," Presented at the 22nd Annual MAS Conference held in Kona, Hawaii, July 13-17, 1987; Published in the conference proceedings.

\* F. Hehmann, S. Krishnamurthy, E. Robertson and S. J. Savage, and A. G. Jackson, "Mechanical Properties and Corrosion Behavior of Rapidly Solidified Mg-Ca-Cu and Mg-Ca-Ni Alloys," Presented at the International Powder Metallurgy Conference 1986, Dusseldorf, West Germany, July 7-11, 1986; published in the conference proceedings.

\* Y-W Kim and A. G. Jackson, "Phases and Orientation Relationships in a Rapidly Solidified A1-6Fe-6Ni Alloy," Scripta Met. 20, 777 (1986).

\*M. Porvaznik, B. Gray, D. Mattie, A. G. Jackson and R. Omlor, "The Ultrastructural Localization of Tri-N-Butyl in in Human Erythrosyte Membranes during Shape Transformation Leading to Hemolysis," Laboratory Investigation 54 (3), (1986).

\*S. Krishnamurthy, D. Eylon, 1. Wiess, A. G. Jackson and F. H. Froes, "Aging Response of Rapidly Solidified Titanium-Tungsten Alloy with Nickel and Silicon Additions" Presented at the ASM RS Conference, San Diego, CA, February 3-5, 1986; published in the conference proceedings.

\*S. Krishnamurthy, D. Eylon, I. Weiss, A. G. Jackson, and F. H. Froes, "Aging Response of Rapidly Solidified Titanium Tungsten Alloys" Presented at the Third Israel Materials Engineering Conference, Haifa, Israel, December 1985; published in Titanium-Rapid Solidification Technology (eds., F. H. Froes, D. Eylon, and S. M. L. Sastry), (TMS Publications, Warrendale, PA, 1986).

\* T. F. Broderick, A. G. Jackson, H. Jones, and F. H. Froes, "The Effect of Cooling Conditions on the Microstructure of Rapidly Solidified Ti Alloys" Met. Trans. 16A (1985).

\*S. J. Savage, A. G. Jackson, and F. H. Froes, "Investigation of a Rapidly Solidified Al-Lanthanide Alloy" Presented at the RQ5 Conference, Wurzburg, West Germany, 1984; published in proceedings.

\*S. Krishnamurthy, D. Eylon, B. Boyer, A. G. Jackson, and F. H. Froes, "Rapidly Solidified Microstructures of Titanium Alloys Containing Eutectoid Forming Additions" Presented at 5th International Conference on Titanium, Munich, West Germany, 1984; published in proceedings.

\*S. J. Savage, A. G. Jackson, Y. R. Mahajan, and F. H. Froes, "Microstructures and Properties of a Rapidly Solidified Aluminum-Gadolinium Alloy" Presented at the 5th International Conference on Rapidly Quenched Metals, Wurzburg, West Germany, September 3-7, 1984; published in the conference proceedings.

\*S. Krishnamurthy, D. Eylon, R. R. Boyer, A. G. Jackson, and F. H. Froes, "Rapidly Solidified Microstructures and Precipitation in a Ti-5.5 w/o Ni Alloy" Presented at the 5th International Conference on Rapidly Quenched Metals, Wurzburg, West Germany, September 3-7, 1984; published in the conference proceedings.

\*T. F. Broderick, A. G. Jackson, and F. H. Froes, "Cooling Rate Effects on Ti-6A1-4V and Beta III Titanium Alloys" Presented at MRS Symposium on Rapidly Solidified Metastable Materials, Boston, MA, 14-17 November, 1983; published in the conference proceedings.

\*P. R. Frausto, A. H. Clauer,J. L. McCall, and A. G. Jackson, "Metallographic Studies of Consolidated Rapidly Solidified Titanium Alloys" in Microstructural Science, Vol. 10 (Eds., W. White, J. Richardson, and J. McCall) (Elsevier Publishing Co., New York, 1982), p. 103.

\* T. F. Broderick, A. G. Jackson, F. H. Froes, and J. Moteff, "Effect of Aging on the Microstructure of Rapidly Cooled Ti-5A1-2.5Sn with Si Additions" Presented at the Third Conference on Rapid Solidification Processing, Gaithersburg, MD, December 6-9, 1982; published in the conference proceedings.

\*R. E. Omlor, A. G. Jackson, F. H. Froes, and J. Moteff, "TEM Characterization of Aged Ti-5A1-2.5Sn Powder Metallurgy Alloys with Si and with Ge Additions" Presented at the EMSA Annual Meeting, Atlanta, GA, August 10-14, 1981.

\*A. G. Jackson, J. Moteff and F. H. Froes, "Advanced Titanium Alloy Development via Powder Metallurgy" Presented at the 109th AIME Meeting/Ti Powder Metallurgy Symposium, Las Vegas, NV, February 24-28, 1980; published in the proceedings.

\*T. W. Haas, J. T. Grant, G. J. Dooley, III, A. G. Jackson, and M. P. Hooker, "A Bibliography of LEED and Auger Electron Spectroscopy" In Progress in Surface Science 1, Part 2 (1971), p. 155.

\*T. W. Haas, A. G. Jackson, and M. P. Hooker, "Adsorption on Nb (110), Ta (110), and V (110) Surfaces," J. Chem. Phys. 46, 3025 (1967).

\*T. W. Haas, A. G. Jackson, and M. P. Hooker, "Production of Ultrahigh Vacuum by Flashed Getters," J. Vac. Sci. Tech. 4, 42 (1967).

\*T. W. Haas, A. G. Jackson, "Low Energy Diffraction Study of Molybdenum (110) Surfaces" J. Chem. Phys. 44 (8) (1966).

\* T. W. Haas and A. G. Jackson, "On the Use of Diffusion Pump Oil in Mechanical Pumps," J. Vac. Sci. Tech. 3 (1966).

\* T. W. Haas and A. G. Jackson, "On the Use of Molybdenum in Getter Ion Pumps," J. Vac. Sci. Tech. 3 (2) (1966).

Presentations:

A. G. Jackson and N. Kiselyova, "Finding compound property patterns in empirical data sets using discovery methods", IUCr XVII Congress and General Assembly, Seattle, Washington, August 8-17, 1996.

A. G. Jackson, "Analysis of Semiconductor Data using Discovery Methods", (invited) Fourth International Conference "Information Theories and Applications", May 12-22, 1996, Troyan and Sofia, Bulgaria.

A.G. Jackson, and S.R. LeClair, "Discovery Approaches for Material Systems", presented at the Japan International SAMPE Symposium and Exhibition: Innovations in Materials Design Session, Tokyo, Japan, September, 1995.

Jackson, A. G., "Applications of Knowledge-Bases in Materials Science", (invited) Industrial Liaison Program, 16th Annual Conference at the University of California, Berkeley Campus, Berkeley, CA, March 9, 1994.

W. Ziarko, and A.G. Jackson, "Materials Knowledge bases and Rough Sets", MRS Symposium Application of Innovative Knowledge Bases in Materials Design, Boston, MA, Nov 28, 1994.

D. Ress, A.G. Jackson, and K. Currie, "KnowBE: A Materials and Process Discovery System", MRS Symposium Application of Innovative Knowledge Bases in Materials Design, Boston, MA, Nov 28, 1994.

Jackson, A. G., Applications of Knowledge-Bases in Materials Science, Industrial Liaison Program, 16th Annual Conference at the University of California, Berkeley Campus, Berkeley, CA, March 9, 1994. ASC-94-0530

A. G. Jackson, and S.R. LeClair, "Integration of Simulation and Analysis of Electron Diffraction Patterns", Symposium on Knowledge-Based Applications in Materials Science, TMS Annual Meeting, San Francisco, Feb 28, 1994.

A. G. Jackson, "Systematics of Diamond-Like Semiconductors: Structures," (invited) presented at the Materials Directorate Electro-Optical Materials Workshop, Dayton, Ohio, 1994.

A. G. Jackson, J. Park, D. Wood, and S. LeClair, "Development of an Automated Analyzer for TEM Diffraction Patterns," Proc. 51st MSA meeting, August 1-6, 1993, Cincinnati, Ohio.

A. G. Jackson and J. Woodhouse, "Prediction of TEM Stage Goniometer Angles," presented at the Spring meeting of EMSORV, Dayton, Ohio, May 15, 1992.

A. G. Jackson, "Symmetry Recognition by Computer", presented at Spring meeting of EMSORV, Indianapolis, IN, May 18, 1991.

A. G. Jackson, and M. Saqib,"Orientations of Consecutive Gamma Plates in 43 a/o Cast Ti Aluminide," presented (poster) at the Fall TMS High Temperature Materials Symposium, October 1989.

A. G. Jackson, "Electron Microscopy and Crystallography." Invited presentation to the local chapter of the Ohio Section of the American Vacuum Society, Dayton, OH, June 24, 1988.

A. G. Jackson, "Crystallography of Omega Phase and Twinning in BCC Structures." Presented at the Metallurgical Society Annual Meeting, Phoenix, AZ, January 25-28, 1988.

G. Venkataraman, A. G. Jackson, K. R. Teal, and F. H. Froes, "Characterization of Rapidly Solidified Ti3Al Base Alloys," Presented at the International Conference on Powder Metallurgy and Related High Temperature Materials held in Bombay, India, Fall 1987.

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