Angus I. Kingon
Barrett Hazeltine University Professor of Entrepreneurship and
Organizational Studies, and
Professor of Engineering
Brown University

Education

- Ph.D., Physical Chemistry, University of South Africa, 1981
- M.Sc. (Cum laude), Physical Chemistry, University of South Africa, 1977
- B.Sc. (Hons), Chemistry, University of the Witwaterstrand, 1975
- B.Sc., University of the Witwaterstrand, 1974

Professional Experience

- Professor, School of Engineering, and Barrett Hazeltine University Professor of Entrepreneurship and Organizational Studies, Brown University, 2008 – present
- Faculty Director (Brown), IE Brown Executive MBA 2009-2015
- Director, Commerce, Organizations and Entrepreneurship (currently Business, Entrepreneurship and Organizations) Program, Brown University, July 2008 – Dec 2012
- Co-Director, Program in Innovation Management and Entrepreneurship, 2008 - 2021
- Adjunct Member of faculty, Graduate School, Institute Josef Stefan, Slovenia, 2005- present
- Professor, Department of Material Science and Engineering, North Carolina State University, 1992- 2007
- Executive Director, Technology Commercialization Programs, College of Management, 2002- 2007
- Professor, Department of Management, Innovation and Entrepreneurship (ex-Business Management) 2002- 2007
- Assistant and Associate Professor, Department of Materials and Engineering, North Carolina State University, 1987-1992
- Founder Member of National Institute for Materials Research, South Africa, 1983-1987 (finished as Program Manager and Specialist Scientist)
- Post Doctoral Research, Pennsylvania State and North Carolina State Universities, 1981-1982
- Senior Chief Research Scientist and Group Leader, National Physical Research Laboratory, South Africa, 1977-1983

Honors, Awards, Distinctives

- 1983: SMM Post Graduate Research Award
- 1984: Chief of the Navy Award
- 1986: Lee-Ultraplast, award in recognition of services to industry, in the development of ultrasonic transducers
- 1991: ALCOA Research Award
- 1991: Elected Honorary Life Member: Powder Metallurgy Association of South Africa
- 1991-3: Member, review committee, ONR Program on Piezoelectric and Electrostrictive Materials
- 1992-2003: Editorial Board, Integrated Ferroelectrics
- 1993-5: Associate Editor, Journal of the American Ceramic Society
- 1993 – 2004: Advisory Committee, International Symposium on Integrated Ferroelectrics
- 1996: Elected Fellow, American Ceramic Society
- 1997 - 2006: Editorial Board, Journal of Electroceramics
- 2000 Ferroelectrics Achievement Award, International Symposium on Integrated Ferroelectrics
- 2000 – present; Member, Ferroelectrics Committee of the Ultrasonics, Ferroelectrics and Frequency Control Society of the IEEE
- Best Paper in Symposium Award, 34th International Symposium on Microelectronics, Baltimore, October 2001
- June 2002: Elected Chair of the Entrepreneurship Division of the American Society of Engineering Educators

- Fulbright Scholar Award, 2002/3
- College of Management Extension Award, 2003, 2005
- Cited – Influential SRC Research papers, 2005
- Price Foundation Award as Innovative Entrepreneurship Educator for 2006
- Fellow, Center for Innovation Management Studies, 2007 –
- 2019: Elected Correspondence Member of the Slovenian Academy of Engineering
- Fulbright Specialist Award 2019-2022
- Honorary Member, CICECO - Aveiro Institute of Materials, Portugal
- See also list of Invited lectures

Societies

- Fellow, American Ceramic Society
- Member, Materials Research Society
- Honorary Life Member, Powder Metallurgical Society of South Africa
- Member, Association "International Science and Technology FORUM BLED"
- Member, IEEE
- Chair, Entrepreneurship Division, ASEE (June 2002-June 2003)

Angus Kingon is Professor of Engineering, and Barrett Hazeltine University Professor of Entrepreneurship and Organizational Studies at Brown University as of 2008. He was recently the co-Director in the graduate Masters-level Program on Innovation Management and Entrepreneurship (PRIME) at Brown University, and academic director of the IE Brown Executive MBA

Professor Kingon undertakes research, teaching, practice and consulting in both materials science and engineering, as well as in entrepreneurship and technology commercialization.

Previously, Professor Kingon was at the North Carolina State University as Professor in the Department of Management, Innovation and Entrepreneurship, Executive Director of Technology Commercialization Programs in the College of Management, and Professor of Materials Science and Engineering in the College of Engineering. Prior to his appointment at NCSU in 1987, he was Program Manager and Specialist Scientist at the National Institute for Materials Research, Pretoria, South Africa. Dr. Kingon is a Physical Chemist with many years of experience in the processing and characterization of electronic ceramics and thin films. His Ph.D. thesis topic was on piezoelectric ceramics, and his research into piezoelectric, dielectric and ferroelectric materials has continued to the present. During his time at the CSIR, Dr. Kingon was involved in contract research and the transfer of technology to industry.

Professor Kingon completed a major project funded by the National Science Foundation, to assist corporations to develop new business methods for creating value from science and technology. This project, entitled **"**National Partnership for Managing Upstream Innovation: The Case of Nanoscience and Technology," is being undertaken in conjunction with a group of major industrial companies in the USA. He and his team of colleagues nationwide also undertake projects with individual companies in the area of innovation and value creation. This includes the establishment of new corporate structures and processes for the development of corporate ventures.

Professor Kingon completed a multi-university project funded by Goldman-Sachs, entitled "Developing Technology Entrepreneurship Capacity in Africa," in partnership with the University of Cape Town. It was part of the larger Goldman-Sachs 10,000 Women Program.

Dr. Kingon recently led research projects on ferroelectric and high permittivity thin films, advanced materials for MEMS switches (Air Force MURI), integrated passive components (Industry), frequency agile dielectric materials and devices (Industry), and thermoelectric materials (NSF). Some of his research has been commercialized. In particular, his work on embedded electronic components was commercialized in conjunction with Motorola. This has allowed miniaturization and cost reduction in cellular phones and mobile devices.

Dr Kingon's current research funding is primarily from the National Science Foundation on oxide-based electronic materials, with significant funding also coming from industry.

Dr Kingon was a principal investigator of a project funded by the National Science Foundation during the period 1995-99 to develop entrepreneurial skills among science and engineering graduate students, and transfer technology from university labs into commercial ventures. He has conducted workshops on the commercialization of emergent science and engineering in many locations throughout the world.

Prof Kingon was the co-organizer of the 1990 MRS Symposium on Ferroelectric Thin Films, the session on ferroelectric films in the 1991 Electronic Materials Conference, the symposium on Ferroelectric Thin Films at the 1991 Fall MRS meeting and was Technical Program Chair for the 1992 International Symposium on the Applications of Ferroelectrics, and is on the Technical Committee for the 1996 symposium. He was the Technical Program Chair for the 1995 International Symposium on Integrated Ferroelectrics (ISIF), and was chair of the International Advisory Committee for that organization. He has co-presented short courses on ferroelectric films at eight MRS meetings, the most recent being the 2001 MRS fall meeting. Dr Kingon was an organizer of the 1998 American Physical Society symposium on ferroelectric films, the 1998 Electrochemical Society symposium on ferroelectric films, and a session chair at the 1998 International Symposium on Integrated Ferroelectrics. He was on the International Advisory Committee for the International Symposium on the Applications of Ferroelectrics held in Montreaux, Switzerland in August 1998, where he was also a tutorial lecturer. He is a member of the SRC/Sematech working group on Gate/Stack Dielectrics. Professor Kingon is on the Program Committee of the International FORUM BLED conference on Science and Technology Investment. He was the organizer of the IEEE International Symposium on the Applications of Ferroelectrics (Hawaii, August 2000), and Electrochemical Society symposia on Ferroelectric Thin Films (Boston, November 1998; and Honolulu, October 1999). Professor Kingon is an advisor to the Ceramics Research Unit, University of Aviero, Portugual. Dr Kingon was on the International Advisory Committees of the First International Meeting on Ferroelectric Random Access Memories (Gotemba, 2001), the ElectroCeramics VIII Conference (Rome 2002), and the International ElectroCeramics Conference (Boston 2003). He was on the organizing committee of the 2006 International Symposium on the Applications of Ferroelectrics. He was on the International Advisory Board for the International Conference on ElectroCeramics, 2007, as well as the 2009 conference held in India in December 2009, and the 2011 conference held in Sydney, Australia.

Dr Kingon is an advisor to the national organization, COTEC, in Portugal, on the development and implementation of national strategies to enhance innovation and economic development in the country.

Dr. Kingon has authored or co-authored approximately 350 refereed papers, had >20 patents granted, co-edited seven books or journal volumes and seven book chapters. The recent research into oxide thin films and other topics has led to over 150 invited presentations (see below) and several research awards. Web of Science indicates that he has over 11,500 citations to his papers (>19,900 in Google Scholar). He was the co-winner of the Price Foundation Award as Innovative Entrepreneurship Educator for 2006. He is a Fellow of the Center for Innovation Management Studies, and a Fellow of the American Ceramic Society.

Invited and plenary presentations (1991- present only); MRS Spring 1991; American Ceramic Society Annual Meeting 1991; American Ceramic Society Fall Meeting 1991; 1991 Gordon Research Conference on Ceramics; Philips Research, Eindhoven 1991; Siemens Research, Munich, 1991; Ecole Polytechnic-Lausanne, 1991; International Symposium on Integrated Ferroelectrics 1991; Texas Instruments, July, 1991; IBM Yorktown Heights, December 1991; MRS Spring Meeting, April, 1992 (two); International Workshop on Integrated Ferroelectrics, London, April 1992; Defense Sciences Council Meeting, La Jolla, July 1992; International Symposium on the Applications of Ferroelectrics, Greenville, SC, August 1992; MRS Spring meeting, San Francisco, April 1993; International Symposium on Integrated Ferroelectrics, Colorado Springs,CO, April 1993; 1993 Gordon Conference on Crystal Growth, Oxnard, CA March 1993; Eighth International Meeting on Ferroelectricity, Gaithersburg, MD, August 1993; Electrochemical Society Annual Meeting, New Orleans, LA, October 1993; US-Japan Workshop on Dielectric Ceramics (plenary), Hawaii, November 1993; Invited presentations in Korea, January 1994; Sixth International Symposium on Integrated Ferroelectrics, Monterey, CA, March 1994; Materials Research Society Spring Meeting, San Francisco, CA, April 1994; NATO Advanced Study Institute, Sapri, June 1994; Gordon Research Conference on Crystal Growth, Andover, NH, June 1994; Microscopy Society of America, New Orleans, LA, July 1994; International Symposium on the Applications of Ferroelectrics, State College, PA, August 1994; American Vacuum Society Meeting, Denver,CO, October 1994; Materials Research Society Meeting, Boston, MA, November 1994; ISHM, Atlanta, February 1995; International Conference on Solid State Devices and Materials, Osaka, August 1995; Texas Instruments, 19 September 1995; Pennsylvania State University, September 21, 1995; Sandia National Labs, October 24, 1995; Motorola, Phoenix, October 25, 1995; US-Japan Seminar on Dielectric and Piezoelectric Ceramics, Tsukuba, November 15-17, 1995; GEC-Marconi, Caswell, England, December 1, 1995; FORUM Bled (Industry -Government-Academia Interactions), Bled, Slovenia, December 4-6, 1996; European Union COST Project Workshop, Madrid, March 4-5, 1996; American Physical Society Meeting, St Louis, March 22, 1996; Nagoya Institute for Research in Inorganic Materials, Nagoya, March 26,1996; Materials Research Society Spring Meeting (Ferroelectric Thin Films V), April 9, 1996; Polar Dielectrics, Bled, Slovenia, September 26-28, 1996; ElectroCeramics 4, Portugal,

September 2-4, 1996; FORUM BLED, International Symposium on Science, Technology and Education, Slovenia, October 13-15, 1996; International Symposium on Integrated Ferroelectrics (plenary), Sante Fe, March 2-5, 1997; American Ceramic Society Annual Meeting, Cincinnatti, Ohio, May 5-7, 1997; American Vacuum Society (South Western Chapter), Phoenix, Arizona, May 13, 1997; Invited Tutorial, International Meeting on Ferroelectrics, Seoul, Korea, August 25-29, 1997; Ferroelectric Thin Films VI, Symposium at the Materials Research Society Fall Meeting, Boston, December 1, 1997; Distinguished Visiting Scientist, Fujitsu R+D Labs (Otsugi, Japan, March 9-13, 1998); American Ceramic Society Annual Meeting, May 3 - 6, 1998; Electrochemical Society Meeting, San Diego, May 4 - 8, 1998; American Society of Engineering Education, Seattle, Washington, June 30, 1998; International Symposium on the Applications of Ferroelectrics, Montreaux, Switzerland, August 23 - 27, 1998; Advanced Metallization Conference (Colorado Springs, October 5, 1998; tutorial); IBM T J Watson Research Center, October 20, 1998; Gate Stack Engineering Workshop, Austin, November 1998; Second Asian Meeting on Ferroelectricity, Singapore, December 1998; EPFL Ceramics Department Workshop, Chateau d'Oer, Switzerland, February, 1998; International Symposium on Integrated Ferroelectrics, Colorado Springs, March 1999; Materials Research Society Spring Meeting, San Francisco, April 1999; European COST Workshop on Ferroelectric Films, Aachen, Germany, April 1999; IMEC, Leuven, Belgium, June 1999; FORUM BLED, International Symposium on Science, Technology and Academia, Slovenia, June 1999; Panelist, VLSI Symposium, Kyoto, June 1999; MRS Fall Meeting, Boston, December 1999; Japanese Workshop on Very Thin Oxides, Gotemba, Japan, January 21-22, 2000; Plenary Presentation, 12th International Symposium on Integrated Ferroelectrics, Aachen, Germany, March 12- 14, 2000; Electrochmeical Society Annual Meeting, Toronto, May 15-19, 2000; International Workshop on Gate Dielectrics, New Orleans, June 1-2, 2000; International Conference on Solid State Devices and Materials, Sendai, Japan, August 28-31, 2000; Electoceramics VI, Portoroz, Slovenia, September 3-6, 2000; IBM Yorktown Heights, September 12, 2000; Ceramics Society, Electronics Division Meeting, Clemson, SC, October 9-11, 2000; NSF/CIMS Intellectual Property Workshop, Raleigh, November 14, 2000; Materials Research Society Fall Meeting, Boston Nov 29, 2000; Electrochemical Society Meeting, Washington DC, March 27, 2001; Israeli Vacuum Society Meeting (plenary), Tel Aviv, June 27, 2001; International Workshop on Gate Insulators, Tokyo, October 2001, First International Meeting on Nonvolatile Memories, Gotemba, Japan, November 2001; Institute Lecture, Institute Josef Stefan, Slovenia, January 18, 2002; Advanced Institute of Science and Technology, Nagoya, Japan, May 27, 2002; NATO Advanced Study Institute, Algarve, Portugal, October 2002; MRS Fall Meeting, December 2002; Institute Josef Stefan, Ljubljana, Slovenia, January 2003; International Business School Bled, Slovenia, January 2003; Emerging Issues Forum, Raleigh NC February 2003; Biannual Meeting of the Portuguese Materials Society (Materiais 2003), Lisbon, Portugal, April 2003; Gordon Conference on Ceramics, 10-15 August, 2003, University of Porto, Portugal, October 15, 2003; Materials Research Society Fall Meeting, Boston, December 2003; International Symposium on Integrated Ferroelectrics, Geongju, Korea, April 7, 2004, International Workshop on Dielectric Thin Films, Tokyo, Japan, May 26-28, 2004; University of Coimbra, Portugal, June 2, 2004; Entrepreneurship Education Workshop, Lisbon, Sept 6-7, 2004; Presentation to COTEC Companies, Porto, Portugal, 27 January 2004; Innovation Fair, Lisbon, Portugal, 9 Sept 2004; French Vacuum Society Workshop on New High Permittivity Oxides and Integration with Semiconductors, Autrans, France, 30 Jan-2 Feb, 2005; US Army Workshop on Advanced Active Thin Film Materials for the Next Generation of Meso-Micro Scale Army Applications, Destin, Florida,10-12 May 2005; Workshop on Integrated Electroceramic Functional Structures, Berchtesgaden, Austria, 7-8 June 2005; International Conference on Electroceramics, Seoul, Korea, 13-15 June, 2005; Challenges in Multifunctional Materials, Jackson Hole, Wy, 17-20 July, 2005; Workshop on the Commercialization of University Technology, University of Pretoria, South Africa, 25 July 2005; First National Meeting of Economists, Porto, Portugal, 27-28 October, 2005; Institute Lecture, Josef Stefan Institute, Ljubljana, Slovenia, 20 December 2005; Sematech, Austin, Texas, 16 February, 2006; Samsung ElectroMechanics, Korea, 20 April 2006; Korean Ceramic Society, Korea, 21 April 2006; CIMTEC, Sicily, 5 June 2006; ISFD, Dresden, Germany, 26-30 June 2006; Commercializing Nanotechnology Conference, Pittsburg, PA, 18-20 September, 2006; MS&T'06 joint ASM/TMS Meeting, Cincinnati, OH, 15-19 October 2006; Materials Research Society Fall Meeting, Symposium W, Boston, MA, 27 November-1 December, 2006; Kellogg School, Northwestern University Workshop on Sustainable Innovation, 4-5 May 2007; IBM Zurich, 26 June 2007; International Conference on Electroceramics (Plenary), Arousha, Tanzania, 31 July – 3 August 2007; GATIC, Hawaii, 27-28 September,2007; INFORMS, Seattle, Washington, 3-5 November 2007; INMI Symposium, Brown University, 5-7 May 2008; Panel on Innovation, Porto, Portugal, 2 June 2008; Institute Josef Stefan, Ljubljana, Slovenia, 12 January 2009; Osaka Prefecture University, Osaka, Japan, 21-22 July 2009; NSF Engineering Research Centers grantees meeting, Bethesda, Maryland, 3 December 2009; International Conference on Electroceramics, New Dehli, India, 13-17 December, 2009; Kauffman Workshop on Technology Commercialization, Georgia Institute of Technology, Atlanta, Georgia,

25-27 February, 2010; Center for Nanoscale Science and Innovation, UCLA, Los Angeles, 12 March, 2010; Department of Institutional Studies, Metropolitan Autonomous University, Campus Cuajimalpa, Mexico City, 20-21 October 2010; Institute lecture, Institute Josef Stefan, Ljubljana, Slovenia 21 January 2011; Center for Innovation Management Studies, NC State University, Raleigh, NC, 12-14 April, 2011; NSF Career Development Workshop, NSF Arlington VA, 23-24 May 2011; 9th International Meeting of Pacific Rim Ceramic Societies, Cairns, Australia 10-14 July 2011; Australian Centre for Entrepreneurship Research, Queensland University of Technology, Brisbane, Australia, 15 July 2011; 4th International Workshop on Smart Materials and Structures, Agadir, Morocco, 13-16 September, 2011; European Commission Meeting on Research Policy within the European Cohesion Unit, Brdo, Slovenia, 17-18 November, 2011; NSF Engineering Research Centers annual meeting, Arlington VA, 30th November, 2011; NSF Distinguished Lecture, NSF, Arlington, VA, 21st May 2012; Academy of Management, Boston, August 2012; ACEEES, Kona, Hawaii, 14-18 December 2012; Council for Scientific and Industrial Research (CSIR), Pretoria, South Africa, 22 January 2013; ADEM, Holland, 26 April 2013; American Vacuum Society, Long Beach, California 27 October, 2013; Institute Josef Stefan, Ljubljana, Slovenia, 11 June 2013; 3rd ACITE-CII University-Industry Congress & 5th Global Higher Education Summit, New Delhi, India, 7-8 November 2013; Osaka Prefecture University, (Kickoff Meeting for System-Inspired Materials Science) 24th January 2014; COHiTEC Panel on Technology Entrepreneurship, Porto, Portugal, 1st July 2014; Workshop on Technology Entrepreneurship and Commercialization Development, Koc Univiversity, Istanbul, Turkey, 16-17 October, 2014; Workshop on Entrepreneurship, AVS Annual Meeting, Baltimore, 9 Nov 2014; Workshop on Technology Entrepreneurship, Osaka Prefecture University, 18 May 2015; LINC Technology Commercialization Workshop, Seoul, 20 August 2015; Workshop on Identifying Commercial Opportunities from Emerging Science and Technology, ForschingZentrum Julich, Germany, 15-17 Sept 2015; Workshop on Understanding and Challenges in Materials, Science, Engineering, and Society; Villars-sur-Ollon, Switzerland, 27-29 Sept 2016; UTEN Technology Commercialization Workshop, Lisbon, Portugal, 5-7 Dec 2016; Research Seminar, Graduate School of Business, University of Cape Town, 26 January 2017; (Invited Paper) Materiais 2017, University of Aveiro, 10 April 2017; (Plenary Presentation) Materiais 2017, University of Aveiro, 12 April, 2017; US-Japan Workshop on Dielectric and Piezoelectric Materials, Santa Fe, NM, 5-8 Nov 2017; Invited Workshop ULACIT, San Jose Costa Rica, 14 March 2018; Plenary lecture at CICMET, Aveiro, Portugal, April 2018; International Materials Research Congress, Cancun, Mexico, 22 August 2018; Department of Materials Science and Engineering, University of Connecticut, 28 September, 2018; Invited Workshop on Entrepreneurship, Lubljana, Slovenia, 3 October, 2018; Taiwan - SungKyunKwan University International Collaborative Student Design Innovation Workshop, Seoul and Suwon, 12-13 November 2018; Osaka Prefecture University 7 November 2019; Tokyo Institute of Technology 8 November 2019; Workshop on Design Thinking for Researchers, University of Aveiro, Portugal, 18th March 2022;

Publication Record and Analysis

Approximately 350 refereed publications, co-editor of seven books or journal volumes and eight book chapters, and >20 patents granted. Approximately 250 contract reports. Over 12,500 citations in Web of Science (h-index 55) and over 20,000 citations in Google Scholar (h-index 70; i10 Index of 224). The citation rates are about 550 per year (Web of Science) and 900 per year (Google Scholar).

PUBLICATIONS

Books (partial listing)

Mat. Res. Soc. Symp. Proc. Vol. 200, "Ferroelectric Thin Films", Eds. E.R. Myers and A. I. Kingon, MRS, Pittsburgh, 1990.

Mat. Res. Soc. Symp. Proc. "Ferroelectric Thin Films II", Eds. A. I. Kingon, E.R. Myers and B. Tuttle MRS, Pittsburgh, 1992.

Guest Editor, Integrated Ferroelectrics Volumes 9 and 10, 1995.

Proceedings of the 1992 International Symposium on the Applications of Ferroelectrics, Eds A I Kingon and G Haertling, published by IEEE, 1992.

Ferroelectric Thin Films XII, Materials Research Proceedings Vol 784. Eds S. Hoffmann-Eifert, H. Funakubo, A.I. Kingon, I. Koutsaroff, V. Joshi. Published by the Materials Research Society, Spring 2004. (ISBN 1-55899-722-9).

"Scanning Probe Microscopy: Characterization, Nanofabrication and Device Application of Functional Materials", Eds P Vilarinho, Y Rossenwaks, and AI Kingon, NATO Advanced Study Institute Proceedings, published by Kluwer Academic, 2005. (ISBN 1402030177)

Book chapters

H.N. Al-Shareef and A.I. Kingon, "Electrode Materials for Ferroelectric Thin Film Capacitors and Their Effect on the Electrical Properties," Chapter 7 of *Ferroelectric Thin Films: Synthesis and Basic Properties, eds*. C.A. Paz de Araujo, J.F. Scott, and G.W. Taylor (Gordon and Breach, 1996).

Angus I Kingon, Robert F Davis and Michael M Thackeray, "Engineering Properties of Multicomponent and Multiphase Oxides", pages 758-774 in *Engineered Materials Handbook Volume 4: Ceramics and Glasses* (ASM International, 1991) (ISBN 0-87170-282-7)

H. Schroeder and A. I. Kingon, "*High-Permittivity Materials for DRAMs*," Chapter 21 of Nanoelectronics and Information Technology, Ed. by R Waser, Wiley-VCH Verlag GmbH & Co., 2003. ISBN 3-527-40363-9. Pages 539-563.

Stephen K Markham and Angus I Kingon, "Turning Technical Advantage into Product Advantage" Chapter 3 of the PDMA ToolBook2 for New Product Development: Organizational, Process and Portfolio Tools. Eds Paul Belliveau, Abbie Griffin, Stephen Somermeyer. Wiley, September 2004.

A I Kingon, P Muralt, N Setter and R Waser, Chapter 8 entitled "*Electroceramic Thin Films for Microelectronics and Microsystems*", published in "Electronic Ceramics," ed by RC Buchanan. Marcel Dekker, 2004

A I Kingon, "*Scaling of Silicon-Based Devices to Submicron Dimensions*," Chapter 2 in "Scanning Probe Microscopy: Characterisation, Nanofabrication and Device Application of Functional Materials", NATO Advanced Study Institute Proceedings, published by Kluwer, 2005.

Angus I Kingon, Ted Baker and Roger Debo, "Scientists behaving badly? Conflicts in multidisciplinary commercialization project teams," Chapter 3 in the series entitled: *Advances in the Study of Entrepreneurship, Innovation, and Economic Growth, Volume 21: Spanning Boundaries and Disciplines: University Technology Commercialization in the Idea Age, p59-86.* Emerald Publishing, UK, 2010.

U Schroeder, H Schroeder, HS Hwang, AI Kingon, S Summerfelt and U Bottger, "*Capacitor-based Random Access Memories,*" Chapter 27 of Nanoelectronics, Ed. By R Waser, Wiley-VCH Verlag GmbH & Co. (2012).

Refereed Scientific Publications (List not fully complete)

[Note: in general, some conference proceedings papers are included if they were subject to at least a one referee plus editor review process].

1. Sungbin Im, Sam Yeon Cho, Jae-Hyeon Cho, Geon-Tae Hwang, Angus I. Kingon, Sang Don Bu, Wook Jo, Seung-Hyun Kim, Chang Kyu Jeong, "Study on relaxor polymer interface matrix for piezoelectric nanocomposite generators, *Applied Surface Science,* Volume 613, 15 March 2023, 156031
2. Paula M. Vilarinho, Tiago Ribeiro, Ricardo Laranjeira, Jorge Pinho, Angus I. Kingon, M. Elisabete Costa, "Performance of piezoelectric actuators in gas microvalves: An engineering case study," *Sensors and Actuators A: Physical*, Volume 344, 1 September 2022, 113703

3. Jingfeng Song, Yubo Qi, Zhiyong Xiao, Kun Wang, Dawei Li, Seung-Hyun Kim, Angus I. Kingon, Andrew M. Rappe & Xia Hong. “Domain wall enabled steep slope switching in MoS_2transistors towards hysteresis-free operation,” *npj 2D Mater Appl* **6**, 77 (2022). https://doi.org/10.1038/s41699-022-00353-1

4. Won, SS; Lee, J; Shim, IB; Kingon, AI; Kim, SH, “Domain Dynamics and Local Level Switching Behaviors of Sol-Gel Nanopowder-Derived Lead-Free Piezoelectric $Bi_{0.5}(Na_{0.78}K_{0.22})_{0.5}TiO_3$ Ceramics,” *ACS Applied Electronic Materials*, **3** [12] 5641-5650 (2021) (**DOI** 10.1021/acsaelm.1c01121 28 Dec 2021)

5. S.S. Won, M. Kawahara, H. Kim, J. Lee, C.K. Jeong, Angus I. Kingon, and Seung-Hyun Kim, “Anomalous nano-interfacial layer effect on dielectric and piezoelectric responses in chemical solution-derived lead-free alkaline niobate-based thin films,” *ACS Applied Materials and Interfaces* **13** (18), pp.22047-22058 (2021).

6. Nicholas Mostovych; Sung Sik Won; Ill Won Kim; Seung-Hyun Kim; and Angus I Kingon, “Understanding the Large Strain Behavior in the Lead-Free Doped Bi1/2(Na0.78K0.22)1/2TiO3 - BiMg1/2Ti1/2O3 (BNKT-BMT) Piezoelectric System" *AIP Advances* **Vol 10** [4], **DOI:** 10.1063/1.5143947, April 1, 2020.

7. Zhang, Y ; Kim, H ; Wang, Q; Jo, W ; Kingon, Angus I ; Kim, SH ; Jeong, CK, “Progress in lead-free piezoelectric nanofiller materials and related composite nanogenerator devices,” *Nanoscale Advances* Vol **2**[8] 3131-3149 (2020)

8. Won, SS; Kawahara, M; Ahn, CW; Lee, Joonhee; Lee, Jinkee; Jeong, CK; Kingon, AI; Kim, SH, “Lead-Free $Bi_{0.5}(Na_{0.78}K_{0.22})_{0.5}TiO_3$ Nanoparticle Filler-Elastomeric Composite Films for Paper-Based Flexible Power Generators,” *Advanced Electronic Materials*, Vol: 6 Issue: 2 Article Number: 1900950 Published: FEB 2020

9. S.S. Won, H. Seo, M. Kawahara, S. Glinsek, J. Lee, Y. Kim, C.K. Jeong, A.I. Kingon, and S-H. Kim, “Flexible vibrational energy harvesting devices using strain-engineered perovskite piezoelectric thin films”, *Nano Energy* **55**,182-192 (2019) (and erratum Vol **57**, page 924)

4. H. Khassaf, S.K. Yadavalli, Y. Zhou, N.P. Padture, and A.I. Kingon, “The Effect of Grain Boundaries on the Charge Transport in Methylammonium Lead Iodide Perovskite Thin Films,” *The Journal of Physical Chemistry C*. DOI: 10.1021/acs.jpcc.9b00538 (2019).

5. H. Khassaf, S.K. Yadavalli, O.S. Game, Y. Zhou, N.P. Padture, and A.I. Kingon, "Comprehensive Elucidation of Ion Transport and Its Relation to Hysteresis in Methylammonium Lead Iodide Perovskite Thin Films," *The Journal of Physical Chemistry C* Volume: **123** Issue: 7 Pages: 4029-4034 DOI: 10.1021/acs.jpcc.8b11285 (2019).

6. “Low loss tunable dielectric BaNd2Ti5O14- (Ba0.5Sr0.5)TiO3 composite thick films”, Vilarinho, Paula M.; Fu, Zhi; Kingon, Angus I.; et al. *SCRIPTA MATERIALIA* Volume: **155** Pages: 160-163 (2018).

7. C.K. Jeong, C. Baek, A.I. Kingon, K-I. Park, and Seung-Hyun Kim, “Lead-free perovskite nanowire-employed piezopolymer for highly efficient flexible nanocomposite energy harvesters”, *Small* **14**[19] Article Number: 1704022 (2018).

8. H.J. Lee, S.S. Won, K.H. Cho, C.K. Han, N. Mostovych, A.I. Kingon, Seung-Hyun Kim, and H.Y. Lee, “Flexible high energy density capacitors using La-doped $PbZrO_3$ anti-ferroelectric thin films.” Applied Physics Letters **112**, 092901 (2018).

9. Theodore F. Morse, Nicholas Mostovych, Rajiv Gupta, Timothy Murphy, Peter Weber, Nerine Cherepy, Bernhard Adams, Thomas Bifano, Brian Stankus, Adil Akif, Angus I. Kingon, “Demonstration of a high resolution x-ray detector for medical imaging,” Proceedings Volume 10763, Radiation Detectors in Medicine, Industry, and National Security XIX; 107630C (2018)

doi.org/10.1117/12.2320723. (SPIE Optical Engineering + Applications, 2018, San Diego, California, United States)

10. Theodore F. Morse, Nicholas Mostovych, Rajiv Gupta, Timothy Murphy, Peter Weber, Nerine Cherepy, Bernhard Adams, Thomas Bifano, Brian Stankus, Adil Akif, Angus I. Kingon, "Digital image capture for high-resolution medical x-ray diagnostics," Proceedings Volume 10763, Radiation Detectors in Medicine, Industry, and National Security XIX;107630E (2018) doi.org/10.1117/12.2321166 (SPIE Optical Engineering + Applications, 2018, San Diego, California, United States)
11. Sung Sik Won, Masami Kawahara, Lindsay Kuhn, Vineeth Venugopal, Jiyeon Kwak, Ill Won Kim, Angus I. Kingon, and Seung-Hyun Kim, "$BiFeO_3$-doped $(K_{0.5},Na_{0.5})(Mn_{0.005},Nb_{0.995})O_3$ ferroelectric thin film capacitors for high energy density storage applications," *Applied Physics Letters* Vol.**110** [15] DOI: 10.1063/1.4980113 (2017)
12. O.S. Game, G.J. Buchsbaum, Y. Zhou, N.P. Padture, and A.I. Kingon, "Ions Matter: Description of the Anomalous Electronic Behavior in Methylammonium Lead Halide Perovskite Devices," *Advanced Functional Materials*, (15 March 2017) DOI: 10.1002/adfm.201606584.
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