April 2, 2024

**CURRICULUM VITA**

# D.D.L. Chung (Deborah Chung)

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http://en.wikipedia.org/wiki/Deborah_Chung
https://www.buffalo.edu/news/releases/2023/04/025.html
https://heritageproject.caltech.edu/interviews-updates/deborah-chung
http://engineering.buffalo.edu/mechanical-aerospace/people/faculty/d-chung.html
http://alum.mit.edu/www/ddlchung
https://scholar.google.com/citations?user=I1m7ZW8AAAAJ
http://icue.nbcunifiles.com/icue/files/nbclearn/site/video/widget/NBC_Learn_Video_Widget2.swf?CUECARD_ID=62976
https://www.youtube.com/watch?v=u_GGEbotQAM
https://publons.com/researcher/470715/ddl-chung

## PROFESSIONAL INTEREST

Multidisciplinary research and teaching that are focused on materials science and engineering, particularly multifunctional structural materials (with functions including self-sensing, self-powering and vibration damping), electromagnetic shielding materials, and thermal interface materials (for microelectronic cooling). Other topics include three-dimensional printing, dielectric conductors and interface-derived viscoelasticity.

## SCIENTIFIC IMPACT

A. Pioneer and the foremost international leader in the field of multifunctional structural materials (without device incorporation), with the following specific contributions.
   1. Invention of smart (self-sensing) concrete and associated development of piezoresistivity-based strain sensing in cement-based and carbon fiber composites.
   2. Discovery of the function of the interlaminar interface in carbon fiber polymer-matrix composites as a sensor, thus enabling unprecedentedly high sensitivity to changes at this damage-prone interface.
   3. Development of the self-sensing in carbon fiber polymer-matrix composite beams under flexure by surface resistance measurement, with the strain at the tensile and compressive surfaces separately and sensitively determined, and with the piezoresisitivity mechanism elucidated.
   4. Development of capacitance-based self-sensing, with applications including 3D-printing monitoring (with unprecedented ability of sensing interlayer defects in the build).
   5. Development of inductance-based self-sensing, with applications including fiber-tow twist-level sensing, damage sensing, and wear sensing.
   6. First report of structural capacitors (i.e., capacitors in the form of structural materials).
   7. Pioneering the emerging field of high-permittivity electronic conductors, first determination of the electric permittivity of electronic conductors (carbons and metals), discovery of ferroelectricity in a metal, and discovery of the application in electret-based self-powering (with unprecedented self-charging capability), with the latter discovery allowing structures to be energy sources (a new untapped source of energy), and with elucidation of the dielectric behavior in terms of the carrier-atom interaction (carrier meaning the mobile charges) and polarization connectivity.
   8. Discovery of interface-derived viscoelasticity and the consequent unprecedented development of structural materials that are effective for vibration damping.

B. Pioneer and the foremost international leader in the field of thermal interface materials for microelectronic cooling, with the following specific contributions.
   1. Changing the paradigm of the design of thermal interface materials from thermal-conductivity-based design to conformability-based design, thereby resulting in the development of superior but low-cost thermal interface materials that excel due to conformability.
   2. Development of unprecedentedly effective thermal pastes with conformable solid components.

C. Pioneer and the foremost international leader in the field of materials for electromagnetic interference (EMI) shielding, with the following specific contributions.
   1. Changing the paradigm of the design of EMI shielding materials from electrical-conductivity-based design to interface-area-based design, thereby resulting in the development of an unprecedentedly effective EMI shielding material in the form of nickel-coated carbon nanofiber (originally known as nickel filament).
   2. Discovery of absorption-dominated EMI shielding in metals, the shielding of which has long been assumed to be dominated by reflection.

3. Discovery of unusually high EMI shielding effectiveness in exfoliated-graphite-based flexible graphite sheets, which are valuable for EMI gasketing.
4. Development of radio-wave reflective concrete and its application in automobile lateral guidance.

**EXPERIENCE**

UNIVERSITY AT BUFFALO, THE STATE UNIVERSITY OF NEW YORK, Buffalo, NY

*Professor of Mechanical and Aerospace Engineering (1986-present)

*Founding Director, Composite Materials Research Laboratory, 1989-present

*Niagara Mohawk Power Corp. Endowed Chair Professor, 1991-2008

CARNEGIE-MELLON UNIVERSITY, Pittsburgh, PA

*Associate Professor of Metallurgical Engineering and Materials Science (1982-1986)

*Assistant Professor of Metallurgical Engineering and Materials Science and Electrical Engineering (1977-1982)

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge, MA（1974-77）

*Visiting Scientist at the Francis Bitter National Magnet Laboratory - Research on graphite intercalation compounds under the supervision of Professor M.S. Dresselhaus

CALIFORNIA INSTITUTE OF TECHNOLOGY, Pasadena, CA（1971-73）

Research on superconducting alloys and amorphous materials under the supervision of Professor Pol E. Duwez

**EDUCATION**

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge, MA

Ph.D. Degree in Materials Science, 1977

Thesis on "The Electronic, Lattice and Structural Properties of Graphite Intercalation Compounds" under the supervision of Professor M.S. Dresselhaus

S.M. Degree in Materials Science, 1975

Thesis on "Optical Studies of Graphite Intercalated with Bromine" under the supervision of Professor M.S. Dresselhaus

CALIFORNIA INSTITUTE OF TECHNOLOGY, Pasadena, CA

M.S. Degree in Engineering Science, 1973

B.S. Degree in Engineering and Applied Science, 1973

**HONORS**

President's Medal, University at Buffalo, The State University of New York, 2024.

Member, American Academy of Arts and Sciences, elected in 2023.

Ranked 1st in the world in the field of carbon fibers (scholargps.com, 2022)

Feature article "Materials for electromagnetic interference shielding" by Chung and published in Materials Chemistry and Physics is the third most cited Materials Chemistry and Physics article in the last two years (2020-2022).

Inaugural speaker, Professor Millie Dresselhaus Memorial Lecture, MIT, 2022.

Ranked 1st in the world in the field of Building and Construction (Stanford University study, 2021)

Ranked 1st among all researchers in University at Buffalo (living/deceased, all fields combined) (Stanford University study, 2021, 2022)

Ranked 13th among 315,721 materials researchers in the world (living and deceased),10th among those that are living, and 1st among those who are female (Stanford University study, 2022).

Lan Wong and Deborah Chung Center for Science and Arts, Christian Central Academy, Williamsville, NY, building dedication in 2021.

Drs. Lan Wong and Deborah Chung Analytical Chemistry Laboratory, California State University, Northridge, laboratory dedication in 2021.

Drs. Lan Wong and Deborah Chung Distinguished Lecture Series on the Path to Professional Success, California State University, Northridge, initiated in 2021.

Drs. Lan Wong and Deborah Chung Lecture Series honoring the late Prof. M.S. Dresselhaus and the late Prof. K. Biemann, School of Science, MIT, initiated in 2021.

Drs. Lan Wong and Deborah Chung Graduate Student Scholarship Fund, School of Science, MIT, initiated in 2021.

Honoree, 4th UKIERI Concrete Congress, India, March 5-8, 2019.

Top Peer Reviewer 2019. For placing in the top 1% of reviewers in Materials Science on Publons global reviewer database. Also for placing in the top 1% of reviewers in Cross-Field on Publons global reviewer database.

Albert Nelson Marquis Lifetime Achievement Award, Marquis Who's Who, 2018.

The 2018 Publon's Global Peer Review Awards for being placed in the top 1% of peer reviewers in Materials Science (ranked 5th in the world) and for being placed in the top 1% of peer reviewers in Chemistry. These awards are based on the number of reviews of manuscripts submitted to various journals for consideration of publication.

Honoree, one of the three first alumnae of Caltech, 2018 (45th anniversary of graduation)

Pu-Woei Chen and D.D.L. Chung, "Carbon Fiber Reinforced Concrete as a Smart Material Capable of Non-Destructive Flaw Detection", Smart Mater. Struct. 2(1), 22-30 (1993). This paper is one of the 25 most cited papers in the 25-year

history of the journal *Smart Materials and Structures,* 2017.
Paper with M. Sharma honored as Editors' Choice in *Journal of Electronic Materials*, 2015.
U.S. Faculty Scholar, Vietnam Education Foundation, 2013-14.
Visiting Professor, Hefei University of Technology, Hefei, P.R. China, appointed in 2013.
One of the top ten best cited papers in *Composites B* in all times past, honored in 2012.
Honorary Doctorate Degree, University of Alicante, Alicante, Spain, 2011.
Guest Professor, Tongji University, Shanghai, P.R. China, appointed in 2010.
Top Reviewer in 2008, an international award in relation to the journal Carbon, Elsevier Pub., 2009.
Special Recognition Award, The American Carbon Society, 2007.
Hsun Lee Award, jointly awarded by Institute of Metal Research (Chinese Academy of Sciences) and Shenyang National Laboratory for Materials Science, to recognize research accomplishment in materials science and technology, 2005.
Invited Professor, Tianjin University, Tianjin, P.R. China, appointed in 2005.
Visiting Professor, Jinan University, Jinan, P.R. China, appointed in 2005.
Charles E. Pettinos Award, a triennial international award to recognize one person or one group for outstanding research accomplishments in carbon science and technology, The American Carbon Society, 2004.
Chancellor's Award for Excellence in Scholarship and Creative Activities, Academic Year 2002-2003, The State University of New York.
Outstanding Inventor, State University of New York, 2002.
Visiting Professor, Wuhan University of Technology, Wuhan, P.R. China, appointed in 2002.
Visiting Professor, Southeast University, Nanjing, P.R. China, appointed in 2002.
Visiting Professor, Beijing Technology and Business University, Beijing, P.R. China, appointed in 2002.
Fellow, American Carbon Society, conferred in 2001.
Honorary Professor, Shantou University, Shantou, Guangdong, P.R. China, appointed in 2000.
Fellow, ASM International, conferred in 1998.
Advisory Professor, Harbin Institute of Technology, Harbin, P.R. China, appointed in 1995.
"Teacher of the Year", 1992-93, awarded by Tau Beta Pi (New York Nu).
Ralph R. Teetor Educational Award, Society of Automotive Engineers, 1987, for being one of the top engineering educators in the U.S.
Robert Lansing Hardy Gold Medal for the most promising metallurgist in the U.S. in 1980, American Institute of Mining, Metallurgical, and Petroleum Engineers
One of the four first woman graduates of California Institute of Technology, 1973
Josephine de Karman Fellowship (1972-73) for graduate and senior undergraduate students of exceptional ability

**MEMBERSHIPS**

Fellow, American Academy of Arts and Sciences, elected in 2023.
Fellow, American Carbon Society, 2001-present; Member, 1979-present; Advisory Board member, 1999-2005;
Member, American Ceramic Society, 1989-1990, 1994, 2018, 2020, 2021.
Member, American Concrete Institute, 1989-1990, 1994-1996.
Member, American Society of Mechanical Engineers, 2014-18.
Fellow, ASM International (formerly known as the American Society for Metals, a professional organization for materials scientists and engineers), 1998-present; Member, 1986-present; Director of Buffalo Chapter, 1987-1994; Member of Superconductor Materials Committee, 1989-1993.
Member, Materials Research Society, 1981-2017.
Member, Society for the Advancement of Material and Process Engineering, 2007-2014.
Member, Society of Automotive Engineers, 1987-1989
Member, The Minerals, Metals & Materials Society (TMS), 1977-present. Executive Committee Member of the Three-Rivers Section of TMS-AIME, 1986. Member of the Membership Development Committee (national) of TMS-AIME, 1986-1988.

**OTHER PROFESSIONAL ACTIVITIES**

* Invited Specialist of United Nations Development Program to assist the technical development of the People's Republic of China, July 16 - August 5, 1986.
* Member, Committee on Materials for High Density Electronic Packaging, National Materials Advisory Board, Commission on Engineering and Technical Systems, National Research Council, 1987-1990.
* Member, Panel for selection of Presidential Young Investigators, Division of Materials Research, National Science Foundation, November 23, 24, 1987.
* Chairman, Symposium on Carbon Fibers and Composites, sponsored by American Carbon Society, Buffalo, NY, July 18-21, 1988.
* Symposium Organizer, Symposium on Mechanical Behavior of Electronic Materials and Structures in Microelectronics, Material Research Society Meeting, Anaheim, April 1991.
* Conference Chairman, Conference on Materials for Electronic Packaging, SUNY/ Buffalo, August 20-22, 1991.

* Conference Chairman, 21st Biennial Conference on Carbon, sponsored by American Carbon Society, SUNY/Buffalo, June 13-18, 1993.
* Consultant to National Power PLC, UK, 1995-96.
* Member, Proposal Review Panels, National Science Foundation, November 1997-present.
* Topical Area Chairman, 23rd Biennial Conference on Carbon, sponsored by American Carbon Society, Pennsylvania State University, July 13-18, 1997.
* Technical Co-Chair and Member of International Advisory Board, 5th International Conference on Composites Engineering, Las Vegas, NV, July 5-11, 1998.
* Member, Advisory Board, American Carbon Society, 1999-2006.
* Topical Area Chairman, 24th Biennial Conference on Carbon, sponsored by American Carbon Society, Charleston, SC, July 11-16, 1999
* Member, International Editorial Board, New Carbon Materials (China), 1999- present
* Member, Honorary Editorial Advisory Board, Carbon, 2001-present.
* Member, Advisory Board, Carbon Letters (formerly Carbon Science) (Korea), 2007-present.
* Member, International Editorial Board, Polymers & Polymer Composites, 2001-present.
* External Reviewer for Research Grants Council, Hong Kong, 2001-present.
* Member, International Advisory Committee, 2002 International Conference on Carbon, Beijing, China, Sept. 15-20, 2002.
* Member, Local Scientific Committee, 14th International Conference on Composite Materials, San Diego, July 14-18, 2003.
* Topical Area Chairman, Carbon 2004 International Conference, Providence, RI, July 11-16, 2004.
* Editor, Book Series on *The Road to Scientific Success: Life Experience of Prominent Researchers*, World Sci. Pub., 2004-.
* External Reviewer for State Natural Science Award, China, 2006.
* Nominator, Kyoto Prize, Inamori Foundation, Kyoto, Japan, 2007, 2011 and 2015.
* Associate Editor, Journal of Electronic Materials, 2008-.
* Associate Editor, Polymers and Polymer Composites, 2008-2019
* Reviewer for National Priorities Research Program, Qatar National Research Fund, 2009-.
* Member, International Advisory Committee, World Conference on Carbon, Biarritz, France, June 14-19, 2009, organized by the French Carbon Group (GFEC).
* Reviewer for King Abdulaziz City for Science and Technology, Saudi Arabia, 2009-.
* Member, International Advisory Committee, World Conference on Carbon, Shanghai, China, July 24-29, 2011.
* Member, International Experts Committee, new Doctorate Program on "Engineering of Materials, Structures and Terrain: Sustainable Construction", Department of Civil Engineering, University of Alicante, Alicante, Spain, 2012-13.
* Member, Advisory Committee, School of Engineering, Hong Kong University of Science and Technology, Hong Kong, 2013.
* Reviewer for National Centre of Science and Technology, Kazakhstan, 2014-
* Reviewer for Office of Science, DOE, 2014-
* Reviewer of Applications for Establishment of the Hong Kong Branches of Chinese National Engineering Research Centres, 2014.
* Editor-in-Chief, Composite Materials section of SpringerMaterials, 1/2015 - 12/2016.
* Member, Editorial Board, Functional Composite Materials (journal), Springer Nature (2017-).
* Proposal reviewer, U.S. – Israel Binational Science Foundation, 2017.
* Member, Panel on Review of In-house Laboratory Independent Research in Materials Sciences at the Army's Research, Development, and Engineering Centers, The National Academies, 2018-19.
* Member, Advisory Committee, Carbon 2019 International Conference, Kentucky, July 2019.
* Member, International Advisory Committee, Carbon 2020 International Conference, Kyoto, Japan, June 28 – July 3, 2020.
* Member, Advisory Board, Materials Chemistry and Physics (journal), Elsevier (2020-).
* Member, International Advisory Board, 2022 World Conference on Carbon, July 3-8, 2022, London, UK.
* Member, Editorial Board, World Scientific Annual Review of Functional Materials (journal), World Sci. Pub. (2022-).
* Member, Scientific Committee on the topic Carbon fibers and composites, The World Conference on Carbon 2023, Cancun, Riviera Maya, Mexico, July 16-21, 2023.
* Guest Editor, Special Issue on Carbon Films in memory of Professor Millie Dresselhaus, Materials Chemistry and Physics (2022-).
*Member, International Editorial Board, Composites Science and Technology (2024-).

**BOOKS**

Authored books

1. Kenji Uchino, D.D.L. Chung and R.E. Newnham, *JME Materials Science: Introduction to Electrical Properties for*

*Ceramists* (JME Zairyo Kagaku: Seramisuto no tame no Denki Bussei Nyumon), Uchida Rokakuho Publishing Co., Ltd., Tokyo, Japan, 1990, 156 pp. Book written in Japanese. Translated from English.
2. D.D.L. Chung, P.W. DeHaven, H. Arnold and D. Ghosh, *X-Ray Diffraction at Elevated Temperatures*, VCH Publishers, 1993.
3. D.D.L. Chung, *Carbon Fiber Composites*, 1st Ed., Butterworth-Heinemann, 1994; *Carbon Composites: Composites with Carbon Fibers, Nanofibers and Nanotubes*, 2nd Ed., Elsevier, 2017, 706 pages.
4. D.D.L. Chung, *Composite Materials for Electronic Functions*, Materials Science Foundations, Vol. 12, i-iii, 1-77, Trans Tech Publications Ltd., Switzerland, 2000.
5. D.D.L. Chung, *Applied Materials Science*, CRC Press, 2001.
6. D.D.L. Chung, *Composite Materials: Functional Materials for Modern Technologies*, 1st Ed., "Engineering Materials and Processes" Book Series, Brian Derby, Series Editor, Springer, 2003; *Composite Materials: Science and Applications*, 2nd Ed., Springer, 2010.
7. D.D.L. Chung, *Multifunctional Cement-Based Materials*, *Civil and Environmental Engineering* Book Series, Mike Meyer, Series Editor, Marcel Dekker, 2003.
8. D.D.L. Chung, Book series titled *Engineering Materials for Technological Needs*, Vol. 2, *Functional Materials: Electrical, Dielectric, Electromagnetic, Optical and Magnetic Applications*, World Scientific, 2010; Vol. 4, 2nd Ed., 552 pages, 2021.
9. Rebecca Chan Chung, D.D.L. Chung, Cecilia Ng Wong, *Piloted to Serve*, Deborah Chung, 2012; Enhanced Edition, 2020.
10. D.D.L. Chung, Book series titled *Engineering Materials for Technological Needs*, Vol. 3, *Carbon Materials: Science and Applications*, World Scientific, 2018, 382 pages.

Edited books
1. Ephraim Suhir, Robert C. Cammarata, D.D.L. Chung and Masahiro Jeno, *Materials Research Society Symposium Proceedings*, Vol. 226 (Mechanical Behavior of Materials and Structures in Microelectronics), Symposium held April 30 – May 3, 1991, Anaheim, CA, Materials Research Society, Pittsburgh, PA, 1991.
2. D.D.L. Chung and E.A. Heintz, *Extended Abstracts*, 21st Biennial Conference on Carbon, American Carbon Society, 1993.
2. D.D.L. Chung, *Materials for Electronic Packaging*, Butterworth-Heinemann, Boston, MA, 1995.
3. D.D.L. Chung, Book Series titled *The Road to Scientific Success: Inspiring Life Stories of Prominent Researchers*, World Scientific Pub., Singapore, Vol. 1, 2006; Vol. 2, 2014; Vol. 3, 2023.
4. D.D.L. Chung, Book Series titled *Engineering Materials for Technological Needs*, World Scientific Pub., Singapore, 2005-. Vol. 1: *High Performance Construction Materials*, Caijun Shi and Y. L. Mo (eds.), World Scientific Pub., Singapore, 2008. Chinese translation, Chongqing University Press, China, 2011.

**PATENTS (issued)**
1. D.D.L. Chung, "Low-Density Graphite-Polymer Electrical Conductors", U.S. Patent 4,704,231 (1987).
2. D.D.L. Chung, "Composites of In-Situ Exfoliated Graphite", U.S. Patent 4,946,892 (1990), Canadian Patent 1,330,609 (1994).
3. D.D.L. Chung, "Exfoliated Graphite Fibers and Associated Method", U.S. Patent 4,915,925 (1990).
4. D.D.L. Chung, "Carbon Fiber Reinforced Cement Concrete Composites Improved by Using Chemical Agents", U.S. Patent 5,032,181 (1991).
5. D.D.L. Chung, "Superconductor-Metal Laminates and Method of Making", U.S. Patent 5,059,582 (1991).
6. D.D.L. Chung, "Carbon Fiber Composites with Improved Fatigue Resistance", U.S. Patent 5,091,242 (1992).
7. D.D.L. Chung, "Carbon Fiber Reinforced Tin Alloy as a Low Thermal Expansion Solder Preform", U.S. Patent 5,089,356 (1992).
8. D.D.L. Chung, "Phosphate Binders for Metal-Matrix Composites", U.S. Patent 5,536,686 (1996); European patent application WO 9409169 (1994).
9. Yi-Han Kao, Liwei Song, D.D.L.Chung and Kevin T. Fredette, "Halogen Doped Superconductive Fullerenes", U.S. Patent 5,380,703 (1995).
10. Yi-Han Kao, Liwei Song, D.D.L. Chung, and Kevin T. Fredette, "Inter-Halogen-Doped Superconductive Fullerenes," U.S. Patent 5,561,102 (1996).
11. D.D.L. Chung and Xiaoping Shui, "Metal Filaments for Electromagnetic Interference Shielding", U.S. Patent 5,827,997 (1998).
12. D.D.L. Chung, "Particulate Carbon Complex," U.S. Patent 5,643,670 (1997).
13. D.D.L. Chung and Weiming Lu, "Mesoporous Activated Carbon," U.S. Patent 5,990,041 (1999).
14. D.D.L. Chung, "Methods and Sensors for Detecting Strain and Stress," U.S. Patent 6,079,277 (2000).
15. D.D.L. Chung, "Composite Material Strain/Stress Sensor," U.S. Patent 5,817,944 (1998).
16. D.D.L. Chung, "Conformable Interface Materials for Improving Thermal Contacts", U.S. Patent 7,535,715 (2009); Chinese Patent CN 101416304 B (2011).
17, D.D.L. Chung and Chuangang Lin, "High-Performance Interface Materials for Improving Thermal Contacts", U.S. Patent 8,013,024 (2011).

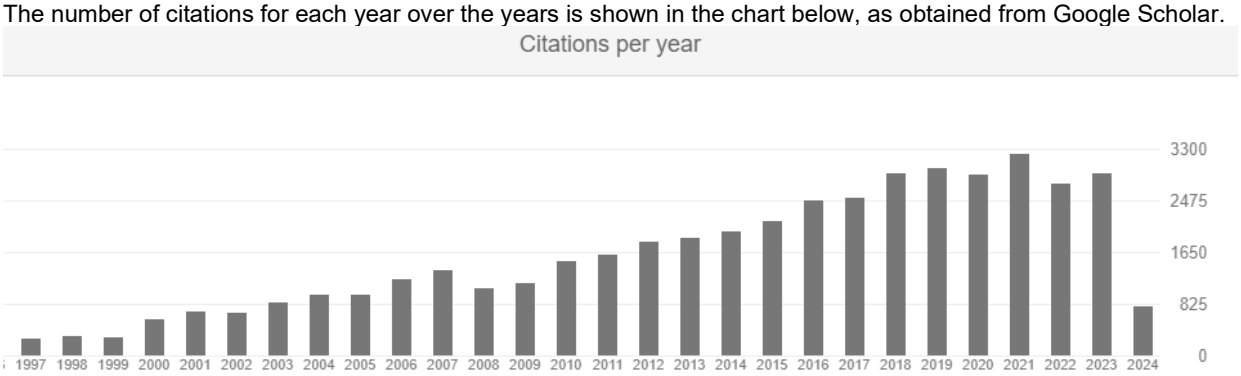
18. D.D.L. Chung and Sivaraja Muthusamy, “Cement-Graphite Composite Materials for Vibration Damping”, U.S. Patent 8,211,227 (2012).
19. D.D.L. Chung and Xiaoqing Gao, “Microstructured high-temperature hybrid material, its composite material and method of making”, U.S. Patent 9409823 (issued on Aug. 9, 2016).
20. D.D.L. Chung, “Thixotropic liquid-metal-based fluid and its use in making metal-based structures with or without a mold”, U.S. Patent 9993996 B2 (June 12, 2018); China Patent CN 105458254A (April 6, 2016).
21. D.D.L. Chung, “Systems and method for monitoring three-dimensional printing”, U.S. Patent 10449721 (Oct. 22, 2019).
22. D.D.L. Chung, “Cement-based material systems and method for self-sensing and weighing”, U.S. Patent 10,620,062 B2 (April 14, 2020).
23. D.D.L. Chung. “Electrically conductive electret and associated electret-based power source and self-powered structure”, U.S. Patent 11081285 (Aug. 3, 2021).

**BOOK CHAPTERS**

1. D.D.L. Chung, "Overview of Materials for Electronic Packaging", *Materials for Electronic Packaging*, D.D.L. Chung (Ed.), Butterworth-Heinemann, Boston, MA, 1995, p. 3-39.
2. D.D.L. Chung, "Low Thermal Expansion Composite Materials for Electronic Packaging", *Materials for Electronic Packaging*, D.D.L. Chung (Ed.), Butterworth-Heinemann, Boston, MA, 1995, p. 145-152.
3. D.D.L. Chung, "Conducting Polymer-Matrix Composites", *Materials for Electronic Packaging*, D.D.L. Chung (Ed.), Butterworth-Heinemann, Boston, MA, 1995, p. 153-171.
4. Darold C. Wobschall and D.D.L. Chung, “Ohmmeters”, *The Encyclopedia of Electrical and Electronics Engineering*, Vol. 15, pp. 122-123, Wiley, 1999.
5. D.D.L. Chung, “X-Ray Diffraction for Structure Determination”, *Encyclopedia of Analytical Chemistry*, R.A. Meyers (Ed.), Wiley, Chichester, UK, 2000, Vol. 15, p. 13347-13384.
6. D.D.L. Chung and C. Zweben, “Composites for Electronic Packaging and Thermal Management”, *Comprehensive Composite Materials*, Vol. 6, Pergamon, 2000, p. 701-725.
7. D.D.L. Chung, “Graphite Intercalation Compounds”, *Encyclopedia of Materials: Science and Technology*. K.H.J. Buschow, R.W. Cahn, M.C. Flemings, B. Ilschner, E.J. Kramer and S. Mahajan (eds.), Elsevier, Oxford, Vol. 4, p. 3641-3645 (2001).
8. D.D.L. Chung, "Applications of Submicron Diameter Carbon Filaments", *Proc. NATO Advanced Study Institute*, NATO Science Series, Series E: Applied Sciences - Vol. 372 (Carbon Filaments and Nanotubes: Common Origins, Differing Applications?, Laszlo P. Biro (Ed.)), Kluwer Academic Publishers, Dordrecht, 2001, p. 275-288; also in Nanostructured Carbon for Advanced Applications, G. Benedek et al. (Ed.), Kluwer, Netherlands, 2001, p. 331-345.
9. Shoukai Wang, Sihai Wen, Victor H. Guerrero and D.D.L. Chung, “Thermoelectric Structural Composites and Thermocouples Using Them” *Materials Research Society Symposium Proceedings*, Volume 691, Issue Thermoelectric Materials 2001: Research and Applications, Materials Research Society, 2002, pp. 177-182.
10. D.D.L. Chung, “Composites, Intrinsically Smart Structures”, *Encyclopedia of Smart Materials*, ed. Mel Schwartz, Wiley, 2002, Vol. 1, p. 223-243.
11. D.D.L. Chung, "Carbon-Cement Composites", *World of Carbon* 2 (Fibers and Composites), Pierre Delhaes (Ed.), Taylor & Francis, 2003, p. 219-241.
12. D.D.L. Chung, "Functional Composite Materials", *Advances in Condensed Matter and Materials Research*, Ed. Francois Gerard, Nova Science Pub., Hauppauge, NY, 2003, p. 89-147.
13. Sihai Wen and D.D.L. Chung, "Fiber Reinforced Cement for Piezoelectricity and Pyroelectricity", ACI Special Publication SP-216, *Innovations in Fiber-Reinforced Concrete for Value*, Ed. N. Banthia, M. Criswell, P. Tatnall and K. Folliard, American Concrete Institute, Farmington Hills, MI, 2003, p. 115-128.
14. D.D.L. Chung, "Multifunctional Polymer-Matrix Structural Composites”, Annual Technical Conference - Society of Plastics Engineers, Volume 62nd, Issue Vol. 2, Society of Plastics Engineers, 2004, pp.1410-1414.
15. D.D.L. Chung, “Composite Materials”, *Kirk-Othmer Encyclopedia of Chemical Technology*, 5th Ed., Wiley, 2004.
16. D.D.L. Chung, “Composite Materials”, *Kirk-Othmer Concise Encyclopedia of Chemical Technology*, 5th Ed., Wiley, 2007.
17. D.D.L. Chung, G. Song, N. Ma and H. Gu, “Smart Materials and Structures”, *High Performance Construction Materials*, Caijun Shi and Y. L. Mo (eds.), Vol. 1 of Book Series "Engineering Materials for Technological Needs", World Scientific Pub., Singapore, 2008. Chinese translation, Chongqing University Press, China, 2011.
18. D.D.L. Chung, “Sensors in Composites”, *Wiley Encyclopedia of Composites*, 2nd Ed., edited by Luigi Nicolais, Assunta Borzacchiello and Stuart M. Lee. Wiley-Interscience, 2014.
19. D.D.L. Chung, “Composite Materials”, *Kirk-Othmer Encyclopedia of Chemical Technology*, 6th Ed., Wiley, 2016.
20. D.D.L. Chung, “Graphite Intercalation Compounds”, *The Reference Module in Materials Science and Engineering*, Saleem Hashmi, Editor, Elsevier, 2016.
21. D.D.L. Chung, “Self-Sensing Structural Composites in Aerospace Engineering”, *Advanced composite materials for aerospace engineering: processing, properties and applications*, Sohel Rana and Raul Fangueiro, Editors, Woodhead Pub., Elsevier, 2016, Ch. 10, p. 295-331.
22. D.D.L. Chung, "Carbon Fibers", *ASM Handbook*, Volume 21, 2016.

23. D.D.L. Chung, in, *Successful Women Ceramic and Glass Scientists and Engineers: 100 Inspirational Profiles*, L.D. Madsen, Wiley, 2016, ISBN: 978-1-118-73360-8.
24. D.D.L. Chung, "Carbon-Matrix Composites", *Encyclopedia of Materials: Technical Ceramics and Glasses*, Elsevier, 2020.
25. D.D.L. Chung, "Sensing Materials: Self-Sensing Materials", *Encyclopedia of Sensors and Biosensors*, Elsevier, 2023, p. 196-203.

**ARCHIVAL PEER-REVIEWED INTERNATIONAL JOURNAL PAPERS**
**Google Scholar: h-index = 112, 46,503 citations, annual citations reaching 3,224 (as viewed on April 2, 2024).**
The number of citations for each year over the years is shown in the chart below, as obtained from Google Scholar.




**628 archival peer-reviewed international journal papers categorized by material type are listed below. Only published peer-reviewed journal papers are listed.**

**CARBON (175 journal papers)**

1. D.D.L. Chung and M.S. Dresselhaus, "Magnetoreflection Study of Graphite Intercalated with Bromine," Solid State Comm. 19, 227 (1976).
2. D.A. Platts, D.D.L. Chung and M.S. Dresselhaus, "Far-Infrared Magnetoreflection Studies of Graphite Intercalated with Bromine," Phys. Rev. B15, 1087 (1977).
3. D.D.L.Chung and M.S.Dresselhaus, "Magneto-Optical Studies of Graphite Intercalation Compounds," (invited paper), Physica 89B, 131 (1977).
4. J.J. Song, D.D.L. Chung, P.C. Eklund and M.S. Dresselhaus, "Raman Scattering in Graphite Intercalation Compounds," Solid State Comm. 20, 1111 (1976).
5. D.D.L.Chung, G. Dresselhaus and M.S. Dresselhaus, "Intralayer Crystal Structure and Order-Disorder Transformations of Graphite Intercalation Compounds," Mater. Sci. Eng. 31, 107 (1977).
6. M.S. Dresselhaus, G. Dresselhaus, P.C. Eklund and D.D.L. Chung, "Lattice Vibrations in Graphite and Intercalation Compounds of Graphite," Mater. Sci. Eng. 31, 141 (1977).
7. D.D.L. Chung, "Structural Studies of Graphite Intercalation Compounds," J. Electron. Mat.7, 89 (1978).
8. J.S. Culik and D.D.L. Chung, "Calorimetric Study of the Order-Disorder Transformations in Graphite-Halogens," Mater.Sci. Eng. 37, 213 (1979).
9. D.D.L. Chung, "Nomenclature of Graphite Intercalation Compounds," Mater. Sci. Eng. 39, 283 (1979).
10. D.D.L. Chung, "Graphite-Halogens As Temperature Calibration Standards for Transmission Electron Microscopy," Rev. Sci. Instrum.51, 932 (1980).
11. J.S. Culik and D.D.L. Chung, "Thermal Gravimetric Analysis of Graphite-Bromine," Mater.Sci. Eng. 44, 129 (1980).
12. K.K. Bardhan and D.D.L. Chung, "A Kinetic Model of the First Intercalation of Graphite," Carbon 18, 303 (1980).
13. K.K. Bardhan and D.D.L. Chung, "Surface Profilometric Study of the Kinetics of the Intercalation of Graphite," Carbon 18, 313 (1980).
14. K.K. Bardhan, J.C. Wu and D.D.L. Chung, "Phase Transitions in Graphite-Halogens," Synth.Met.2, 109 (1980).
15. K.K. Bardhan, J.C. Wu, J.S. Culik, S.H. Anderson and D.D.L. Chung, "Kinetics of Intercalation and Desorption in Graphite," Synth. Met.2, 57 (1980).
16. D.D.L. Chung "Exfoliation of Graphite," Therm. Expans., [Proc. Int. Therm. Expans. Symp.], 7th 1979 (Pub. 1982), 37-44. Edited by D.C. Larsen. Plenum: New York, NY.
17. D. Ghosh and D.D.L. Chung, "Electron Diffraction Evidence of Domain Twinning in Graphite-Bromine Single Crystals," Mater. Res. Bull.18 (16), 727-33 (1983).
18. S.H. Anderson and D.D.L. Chung, "Thermodynamics of Intercalation of Bromine in Graphite," Mater. Res. Soc. Symp. Proc. 20 (Intercalated Graphite), 271-6 (1983).
19. S.H. Anderson and D.D.L. Chung, "Exfoliation of Single Crystal Graphite and Graphite Fibers Intercalated with

Halogens," Synth.Met.8, 343-9 (1983).
20. D. Ghosh and D.D.L. Chung, "Effect of Intercalate Desorption on the Two-Dimensional Structure of Graphite-Bromine," Synth. Met.7, 283-8 (1983).
21. D. Ghosh and D.D.L. Chung, "Two-Dimensional Structure of Bromine Intercalated Graphite," Mater. Res. Bull.18 (10), 1179-89 (1983).
22. S.H. Anderson and D.D.L. Chung, "Exfoliation of Intercalated Graphite," Carbon 22 (3), 253-63 (1984).
23. S.H. Anderson and D.D.L. Chung, "Intercalate Displacement and Exchange in Graphite," Synth. Met.7, 107-15 (1983).
24. J.S. Culik and D.D.L. Chung, "Calorimetric Study of the Rate of the 277 K Phase Transition in Graphite-Bromine," Carbon 22 (1), 102-3 (1984).
25. D. Ghosh and D.D.L. Chung, "Synchrotron X-Ray Diffraction Study of the Room Temperature Incommensurate Phase in Graphite-Bromine Intercalation Compound," J. Phys. Lett.44 (18), 761-9 (1983).
26. D. Ghosh, R. Gangwar and D.D.L. Chung, "Superlattice Ordering in Graphite-ICl Single Crystals and Fibers," Carbon 22 (3), 225-33 (1984).
27. S.H. Anderson and D.D.L. Chung, "Graphite Ribbons Formed From Graphite Fibers," Carbon 22 (6), 613-4 (1984).
28. Edward Beam III, D. Ghosh and D.D.L. Chung, "Calorimetric Study of the Phase Transitions in Graphite Intercalated with Iodine Monochloride," Mater.Lett.2 (6A&B), 515-8 (1984).
29. J.S. Culik and D.D.L. Chung, "Calorimetric Evidence for Two-Step Melting in Graphite-Bromine," Carbon 23 (4), 459-60 (1985).
30. D. Ghosh and D.D.L. Chung, "Synchrotron X-ray Diffraction Study of the Incommensurate Graphite-Bromine Compound: Change in the c-axis Repeat Distance During the Incommensurate-Commensurate Transition," Mater. Lett.3 (4), 161-4 (1985).
31. D.D.L. Chung, "Structure and Phase Transitions of Graphite Intercalated with Bromine," Phase Transitions 8, 35-57 (1986).
32. D.D.L. Chung and Lan W. Wong "Effect of Exfoliation on the Electrical Resistivity of Intercalated Graphite," Synth. Met.12, 533-538 (1985).
33. D.D.L. Chung and C.G. Woychik, "Searching the Evidence for the Intercalation of Coal," Fuel 66, 799-802 (1987).
34. D.D.L. Chung and Lan W. Wong, "Dependence of the Electrical Resistance of Intercalated Graphite Fibers on Electric Power," Carbon 24(4), 443-445 (1986).
35. D.D.L. Chung and Lan W. Wong, "Electromechanical Behavior of Graphite Intercalated with Bromine," Carbon 24(5), 639-647 (1986).
36. J.L. Feldman, W.T. Elam, A.C. Ehrlich, E.F. Skelton, D.D. Dominguez, D.D.L. Chung and F.W. Lytle, "Polarized X-ray Absorption Studies of Graphite Intercalated Bromine Compounds," Phys. Rev. B 33(12), 7961-7982 (1986).
37. S.H. Anderson Axdal and D.D.L. Chung, "A Theory for the Kinetics of Intercalation of Graphite," Carbon 25(3), 377-389 (1987).
38. S.H. Anderson Axdal and D.D.L. Chung, "Kinetics and Thermodynamics of Intercalation of Bromine in Graphite: I. Experimental," Carbon 25(2), 191-210 (1987).
39. S.H. Anderson Axdal and D.D.L. Chung, "Kinetics and Thermodynamics of Intercalation of Bromine in Graphite: II. Theory," Carbon 25(2), 211-218 (1987).
40. D.D.L. Chung, "Intercalate Vaporization During the Exfoliation of Graphite Intercalated with Bromine," Carbon 25(3), 361-365 (1987).
41. D.D.L. Chung and Lan W. Wong, "Measurement of Thermal Stress in Graphite Intercalated with Bromine," Int. J. Thermophysics 9(2), 279-282 (1988).
42. D.D.L. Chung, "Exfoliation of Graphite," J. Mater. Sci. 22(12), 4190-98 (1987).
43. Jeng-Maw Chiou, C.T. Ho and D.D.L. Chung, "Effect of Bromination on the Oxidation Resistance of Pitch-Based Carbon Fibers", Carbon 27(2), 227-231 (1989).
44. C.T. Ho and D.D.L. Chung, "Structure of Brominated Thornel P-100 Carbon Fibers", Carbon 27, 603-609 (1989).
45. M.S.A. Baksh, R.T. Yang and D.D.L. Chung, "Composite Sorbents by Chemical Vapor Deposition on Activated Carbon", Carbon 27(6), 931-934 (1989).
46. C.T. Ho and D.D.L. Chung, "Carbon Fibers Brominated by Electrochemical Intercalation", Carbon 28, 521 (1990).
47. C.T. Ho and D.D.L. Chung, "Inhibition of the Oxidation of Carbon-Carbon Composites by Bromination", Carbon 28(6), 815-824 (1990).
48. C.T. Ho and D.D.L. Chung, "Bromination of Graphitic Pitch-Based Carbon Fibers", Carbon 28(6), 831-837 (1990).
49. C.T. Ho and D.D.L. Chung, "Kinetics of Intercalate Desorption from Carbon Fibers Intercalated with Bromine", Carbon 28(6), 825-830 (1990).
50. D.D.L. Chung, "Intercalated Graphite as a Smart Material for High-Stress, High-Strain, Low-Electric-Field Electromechanical Switching", Smart Mater. Struct.1, 233-236 (1992).
51. L.W. Song, K.T. Fredette, D.D.L. Chung and Y.H. Kao, "Superconductivity in Interhalogen-Doped Fullerenes", Solid State Comm. 87(5), 387-391 (1993).
52. Xiaoping Shui, D.D.L. Chung and Christine A. Frysz, "Hairy Carbon Electrodes Studied by Cyclic Voltammetry and Battery Discharge Testing", J. Power Sources 47(3), 313-320 (1994).
53. Christine A. Frysz, Xiaoping Shui, and D.D.L. Chung, "Electrochemical Behavior of Porous Carbons," Carbon

35(7), 893-916 (1997).
54. Christine A. Frysz, Xiaoping Shui, and D.D.L. Chung, "Effect of Chemisorbed Oxygen on the Electrochemical Behavior of Graphite Fibers," Carbon 32(8), 1499-1505 (1994).
55. Xiaoping Shui, Christine A. Frysz, and D.D.L. Chung, "Solvent Cleansing of the Surface of Carbon Filaments and Its Benefit to the Electrochemical Behavior," Carbon 33(12), 1681-1698 (1995).
56. Christine A. Frysz, Xiaoping Shui, and D.D.L. Chung, "Carbon Filaments and Carbon Black as a Conductive Additive to the Manganese Dioxide Cathode of a Lithium Electrolytic Cell," J. Power Sources 58(1), 41-54 (1996).
57. Christine A. Frysz, Xiaoping Shui, and D.D.L. Chung, "Use of Carbon Filaments in Place of Carbon Black as the Current Collector of a Lithium Cell with a Thionyl Chloride-Bromine Chloride Catholyte," J. Power Sources 58(1), 55-66 (1996).
58. Xiaoping Shui and D.D.L. Chung, "High-Strength High-Surface-Area Porous Carbon Made From Submicron-Diameter Carbon Filaments," Carbon 34(6), 811-814 (1996); 34(9), 1162 (1996).
59. Xiangcheng Luo and D.D.L. Chung, "Electromagnetic Interference Shielding Reaching 130 dB Using Flexible Graphite," Carbon 34(10), 1293-1294 (1996).
60. Xiaojun Wang and D.D.L. Chung, "Electromechanical Behavior of Carbon Fiber," Carbon 35(5), 706-709 (1997).
61. Weiming Lu and D.D.L. Chung, "Mesoporous Activated Carbon Filaments," Carbon 35(3), 427-430 (1997).
62. Shoukai Wang and D.D.L. Chung, "Self-Monitoring of Strain and Damage by a Carbon-Carbon Composite," Carbon 35(5), 621-630 (1997).
63. Xiaoping Shui, Christine A. Frysz, and D.D.L. Chung, “Electrochemical Behavior of Hairy Carbons,” Carbon 35(10/11), 1439-1455 (1997).
64. Michael S. Salib, Athos Petrou, and D.D.L. Chung, "Optomechanical Actuation Using Intercalated Graphite," Carbon 35(5), 709-711 (1997).
65. Christine A. Frysz and D.D.L. Chung, "Electrochemical Behavior of Flexible Graphite," Carbon 35(6), 858-860 (1997).
66. Christine A. Frysz and D.D.L. Chung, "Improving the Electrochemical Behavior of Carbon Black and Carbon Filaments by Oxidation," Carbon 35(8), 1111-1127 (1997).
67. Xiangcheng Luo and D.D.L. Chung, "Flexible Graphite for Sensing Stress/Displacement", J. Intelligent Material Systems and Structures 8, 389-392 (1997).
68. Xiaojun Wang and D.D.L. Chung, "Piezoresistive Behavior of Carbon Fiber in Epoxy," Carbon 35(10/11), 1649-1651 (1997).
69. D.D.L. Chung, "Self-Monitoring Structural Materials," Mater. Sci. Eng. Rev.R22(2), 57-78 (1998).
70. Shoukai Wang, Xiaoping Shui, Xuli Fu, and D.D.L. Chung, "Early Fatigue Damage in Carbon Fiber Composites, Observed by Electrical Resistance Measurement," J. Mater.Sci. 33(15), 3875-3884 (1998).
71. Shoukai Wang, Xuli Fu, and D.D.L. Chung, “Nondestructive Evaluation of Brittle-Matrix Composites During Loading by Electrical Resistance Measurement,” Ceramic Trans. 89 (Nondestructive Evaluation of Ceramics), 145-156 (1998).
72. Xiaojun Wang, Xuli Fu, and D.D.L. Chung, “Strain Sensing Using Carbon Fiber,” J. Mater. Res. 14(3), 790-802 (1999).
73. Xiangcheng Luo and D.D.L. Chung, “Electromagnetic Interference Shielding Using Continuous Carbon Fiber Carbon-Matrix and Polymer-Matrix Composites,” Composites: Part B, 30(3), 227-231 (1999).
74. Sihai Wen, Shoukai Wang and D.D.L. Chung, “Carbon Fiber Structural Composites as Thermistors”, Sensors & Actuators A 78, 180-188 (1999).
75. Sihai Wen, Shoukai Wang and D.D.L. Chung, “Piezoresistivity in Continuous Carbon Fiber Polymer-Matrix and Cement-Matrix Composites”, J. Mater. Sci. 35(14), 3669-3675 (2000).
76. Weiming Lu and D.D.L. Chung, “Preparation of Conductive Carbons with High Surface Area”, Carbon 39(1), 39-44 (2000).
77. D.D.L. Chung, "Flexible Graphite for Gasketing, Adsorption, Electromagnetic Interference Shielding, Vibration Damping, Electrochemical Applications, and Stress Sensing", J. Mater. Eng. Perf. 9(2), 161-163 (2000).
78. Xiangcheng Luo and D.D.L. Chung, "Vibration Damping Using Flexible Graphite", Carbon 38(10), 1510-1512 (2000).
79. Sihai Wen and D.D.L. Chung, "Effect of Carbon Fiber Grade on the Electrical Behavior of Carbon Fiber Reinforced Cement", Carbon 39, 369-373 (2001).
80. Xiangcheng Luo and D.D.L. Chung, "Graphite-Graphite Electrical Contact under Dynamic Mechanical Loading", Carbon 39, 615-618 (2001).
81. D.D.L. Chung, "Electromagnetic Interference Shielding Effectiveness of Carbon Materials", Carbon 39(2), 279-285 (2001).
82. Xiaoping Shui and D.D.L. Chung, "Electrical Resistivity of Submicron-Diameter Carbon-Filament Compacts", Carbon 39 (ER11), 1717-1722 (2001).
83. Xiangcheng Luo and D.D.L. Chung, "Tribology of Graphite and Concrete, Studied by Contact Electrical Resistance Measurement During Cyclic Compression", J. Tribology, 123(4), 682-685 (2001).
84. D.D.L. Chung, "Comparison of Submicron Diameter Carbon Filaments and Conventional Carbon Fibers as Fillers in Composite Materials", Carbon 39(8), 1119-1125 (2001).

85. Weiming Lu and D.D.L. Chung, "Anodic Performance of Vapor-Deprived Carbon Filaments in Lithium-Ion Secondary Battery", Carbon 39(4), 493-496 (2001).
86. D.D.L. Chung, "Fibrous Composite Interfaces Studied by Electrical Resistance Measurement", Adv. Eng. Mater. 2(12), 788-796 (2000).
87. Yunsheng Xu and D.D.L. Chung, "Silane-Treated Carbon Fiber for Reinforcing Cement", Carbon 39 (ER13), 1995-2001 (2001).
88. Junhua Wu and D.D.L. Chung, "Increasing the Electromagnetic Interference Shielding Effectiveness of Carbon Fiber Polymer-Matrix Composite by Using Activated Carbon Fibers", Carbon 40 (ER3), 445-447 (2002).
89. D.D.L. Chung, "Structural Health Monitoring by Electrical Resistance Measurement", Smart Mater. Struct. 10(4), 624-636 (2001).
90. Yan Chen, David T. Shaw and D.D.L. Chung, "Hydrogen Storage in Aligned Carbon Nanotubes", Appl. Phys. Lett. 78(15), 2128-2130 (2001).
91. Xiangcheng Luo and D.D.L. Chung, "Flexible Graphite Under Repeated Compression Studied by Electrical Resistance Measurements", Carbon 39(7), 985-990 (2001).
92. Yie Meng Hoi and D.D.L. Chung, "Flexible Graphite as a Compliant Thermoelectric Material", Carbon 40(7), 1134-1136 (2002).
93. Weiming, Lu and D.D.L. Chung, "A Comparative Study of Carbons for Use as an Electrically Conducting Additive in the Manganese Dioxide Cathode of an Electrochemical Cell", Carbon 40 (ER3), 447-449 (2002).
94. Weiming, Lu and D.D.L. Chung, "Oxidation Protection of Carbon Materials by Acid Phosphate Impregnation", Carbon 40(8), 1249-1254 (2002).
95. Randy Chugh and D.D.L. Chung, "Flexible Graphite as a Heating Element", Carbon 40(13), 2285-2289 (2002).
96. D.D.L. Chung, "Graphite", J. Mater. Sci. 37(8), 1475-1489 (2002).
97. Weiming Lu and D.D.L. Chung, "Effect of the Pitch-Based Carbon Anode on the Capacity Loss of Lithium-Ion Secondary Battery", Carbon 41(5), 945-950 (2003).
98. Jorge Sanchez-Coronado, D.D.L. Chung, M. Martinez-Escandell, J. Narciso and F. Rodríguez-Reinoso, "Effect of Boron Carbide Particle Addition on the Thermomechanical Behavior of Carbon-Matrix Silicon Carbide Particle Composite", Carbon 41(6), 1096-1099 (2003).
99. Jorge Sanchez-Coronado and D.D.L. Chung, "Thermomechanical Behavior of a Graphite Foam", Carbon 41(6), 1175-1180 (2003).
100. Junhua Wu and D.D.L. Chung, "Improving Colloidal Graphite for Electromagnetic Interference Shielding by the Use of 0.1 μm Diameter Carbon Filaments", Carbon 41(6), 1313-1315 (2003).
101. Chia-Ken Leong and D.D.L. Chung, "Carbon Black Dispersions as Thermal Pastes that Surpass Solder in Providing High Thermal Contact Conductance", Carbon 41(13), 2459-2469 (2003).
102. Taejin Kim and D.D.L. Chung, "Carbon Fiber Mats as Resistive Heating Elements", Carbon 41(12), 2436-2440 (2003).
103. D.D.L. Chung, "Electrical Applications of Carbon Materials", J. Mater. Sci. 39(8), 2645-2661 (2004).
104. Chia-Ken Leong and D.D.L. Chung, "Pressure Electrical Contact Improved by Carbon Black Paste", J. Electron. Mater. 33(3), 203-206 (2004).
105. Chia-Ken Leong and D.D.L. Chung, "Carbon black dispersions and carbon-silver combinations as thermal pastes that surpass commercial silver and ceramic pastes in providing high thermal contact conductance", Carbon 42(11), 2323-2327 (2004).
106. Sihai Wen and D.D.L. Chung, "Effect of Carbon Black on the Thermal, Mechanical and Electrical Properties of Pitch-Matrix Composites", Carbon 42(12-13), 2393-2397 (2004).
107. Sihai Wen and D.D.L. Chung, "Pitch-Matrix Composites for Electrical, Electromagnetic and Strain-Sensing Applications", J. Mater. Sci. 40(15), 3897-3903 (2005).
108. Yunsheng Xu, Chia-Ken Leong and D.D.L. Chung, "Carbon Nanotube Dispersions as Thermal Pastes", J. Electron. Mater. 36(9), 1181-1187 (2007).
109. Chia-Ken Leong, Yasuhiro Aoyagi and D.D.L. Chung, "Carbon-Black Thixotropic Thermal Pastes for Improving Thermal Contacts", J. Electron. Mater. 34(10), 1336-1341 (2005).
110. Yuan-Chan Hsu and D.D.L. Chung, "Silver Particle Carbon-Matrix Composites as Thick Films for Electrical Applications", J. Electron. Mater. 36(9), 1188-1192 (2007).
111. Chia-Ken Leong, Yasuhiro Aoyagi and D.D.L. Chung, "Carbon Black Pastes as Coatings for Improving Thermal Gap-Filling Materials", Carbon 44(3), 435-440 (2006).
112. Chia-Ken Leong and D.D.L. Chung, "Improving the Electrical and Mechanical Behavior of Electrically Conductive Paint by Partial Replacement of Silver by Carbon Black", J. Electron. Mater., 35(1), 118-122 (2006).
113. Timothy A. Howe, Chia-Ken Leong and D.D.L. Chung, "Comparative Evaluation of Thermal Interface Materials for Improving the Thermal Contact Between an Operating Computer Microprocessor and Its Heat Sink", J. Electron. Mater. 35(8), 1628-1635 (2006).
114. Chuangang Lin, Timothy A. Howe and D.D.L. Chung, "Electrically Nonconductive Thermal Pastes with Carbon as the Thermally Conductive Component", J. Electron. Mater. 36(6), 659-668 (2007).
115. Chuangang Lin and D.D.L. Chung, "Effect of Carbon Black Structure on the Effectiveness of Carbon Black Thermal Interface Pastes" Carbon 45(15), 2922-2931 (2007).

116. Seungjin Han, Jan T. Lin, Yasuhiro Aoyagi and D.D.L. Chung, “Enhancing the Thermal Conductivity and Compressive Modulus of Carbon Fiber Polymer-Matrix Composites in the Through-Thickness Direction by Nanostructuring the Interlaminar Interface with Carbon Black”, Carbon 46(7), 1060-1071 (2008).
117. Yasuhiro Yamada and D.D.L. Chung, “Epoxy-Based Carbon Films with High Electrical Conductivity Attached to an Alumina Substrate”, Carbon 46(13), 1798-1801 (2008).
118. Yasuhiro Yamada and D.D.L. Chung, “Three-Dimensional Microstructuring of Carbon by Thermoplastic Spacer Evaporation During Pyrolysis”, Carbon 46(13), 1765-1772 (2008).
119. Chuangang Lin and D.D.L. Chung, “Graphite Nanoplatelet Pastes versus Carbon Black Pastes as Thermal Interface Materials “, Carbon 47(1), 295-305 (2009).
120. Kesong Hu and D.D.L. Chung, “Flexible Graphite Modified by Carbon Black Paste for Use as a Thermal Interface Material”, Carbon 49, 1075-1086 (2011).
121. Po-Hsiu Chen and D.D.L. Chung, “Dynamic Mechanical Properties of Flexible Graphite Made from Exfoliated Graphite”, Carbon 50, 283-289 (2012).
122. D.D.L. Chung, “Carbon Materials for Structural Self-Sensing, Electromagnetic Shielding and Thermal Interfacing”, Carbon 50, 3342-3353 (2012).
123. D.D.L. Chung and Yoshihiro Takizawa, “Performance of Isotropic and Anisotropic Heat Spreaders”, J. Electronic Mater., 41(9), 2580-2587 (2012). (The final publication is available at)
124. Andi Wang, Xiaoqing Gao, Rossman F. Giese, Jr. and D.D.L. Chung, “A ceramic-carbon hybrid as a high-temperature structural monolith and reinforcing filler and binder for carbon/carbon composites”, Carbon 59, 76-92 (2013).
125. Shuang Lu and D.D.L. Chung, “Viscoelastic behavior of carbon black and its relationship with the aggregate size”, Carbon 60, 346-355 (2013).
126. Po-Hsiu Chen and D.D.L. Chung, “Viscoelastic behavior of the cell wall of exfoliated graphite”, Carbon 61, 305–312 (2013).
127. D.D.L. Chung, “Interface-derived extraordinary viscous behavior of exfoliated graphite”, Carbon 68, 646-652 (2014).
128. Andi Wang and D.D.L. Chung, “Dielectric and electrical conduction behavior of carbon paste electrochemical electrodes, with decoupling of carbon, electrolyte and interface contributions”, Carbon 72, 135-151 (2014).
129. Po-Hsiu Chen and D.D.L. Chung, “Thermal and electrical conduction in the compaction direction of exfoliated graphite and their relation to the structure”, Carbon 77, 538-550 (2014).
130. Po-Hsiu Chen and D.D.L. Chung, “Elastomeric behavior of exfoliated graphite, as shown by instrumented indentation testing,” Carbon 81, 505-513 (2015).
131. Munish Sharma and D.D.L. Chung, “Solder-graphite network composite sheets as high-performance thermal interface materials”, J. Electronic Materials 44(3), 929-947 (2015). Honored as Editors’ Choice (hence Open Access).
132. Xinghua Hong and D.D.L. Chung, "Exfoliated graphite with relative dielectric constant reaching 360, obtained by exfoliation of acid-intercalated graphite flakes without subsequent removal of the residual acidity", Carbon 91, 1-10 (2015).
133. Morteza Moalleminejad and D.D.L. Chung, "Dielectric constant and electrical conductivity of carbon black as an electrically conductive additive in a manganese-dioxide electrochemical electrode, and their dependence on electrolyte permeation", Carbon 91, 76-87 (2015).
134. Ailipati Delixiati and D.D.L. Chung, “Bentonite-derived materials preferably with nanocarbon incorporation exhibiting exceptionally high dielectric loss at relatively low electrical conductivity”, J. Materials Sci. 51, 969-978 (2016).
135. D.D.L. Chung, “A review of exfoliated graphite” (invited paper, 50th Anniversary edition), J. Mater. Sci. 51, 554-568 (2016).
136. Andi Wang and D.D.L. Chung, “First report of fumed alumina incorporation in carbon-carbon composite and the consequent improvement of the oxidation resistance and mechanical properties”, Carbon 101, 281-289 (2016).
137. Yoshihiro Takizawa, Daojun Wang and D.D.L. Chung, “Carbon black and fumed alumina exhibiting high interface-derived mechanical energy dissipation”, Carbon 103, 436-448 (2016).
138. Lifeng Xiao and D.D.L. Chung, “Mechanical energy dissipation modeling of exfoliated graphite based on interfacial friction theory”, Carbon 108, 291-302 (2016).
139. Miguel Ramirez and D.D.L. Chung, “Electromechanical, self-sensing and viscoelastic behavior of carbon fiber tows”, Carbon 110, 8-16 (2016).
140. Xinghua Hong, Weidong Yu, Andi Wang and D.D.L. Chung, “Graphite oxide paper as a polarizable electrical conductor in the through-thickness direction”, Carbon 109, 874-882 (2016).
141. Xinghua Hong, Weidong Yu and D.D.L. Chung, Electric permittivity of reduced graphite oxide. Carbon 111, 182-190 (2017).
142. Xinghua Hong and D.D.L. Chung, “Carbon nanofiber mats for electromagnetic interference shielding”, Carbon 111, 529-527 (2017).
143. Asma A. Eddib and D.D.L. Chung, “The importance of the electrical contact between specimen and testing fixture in evaluating the electromagnetic interference shielding effectiveness of carbon materials”, Carbon 117,

427-436 (2017). Corrigendum to The importance of the electrical contact between specimen and testing fixture in evaluating the electromagnetic interference shielding effectiveness of carbon materials, Carbon 120, 337 (2017).

144. Xinghua Hong, Weidong Yu and D.D.L. Chung, "Significant effect of sorbed water on the electrical and dielectric behavior of graphite oxide", Carbon 119, 403-418 (2017).
145. Xueping Wu, Qingxin Zhang, Cun Liu, Xianlong Zhang, D.D.L. Chung, "Carbon-coated sepiolite clay fibers with acid pre-treatment as low-cost organic adsorbents", Carbon 123, 259–272 (2017).
146. Asma A. Eddib and D.D.L. Chung, "Radio-frequency linear absorption coefficient of carbon materials, its dependence on the thickness and its independence on the carbon structure", Carbon 124, 473-478 (2017).
147. Asma A. Eddib and D.D.L. Chung. Electric permittivity of carbon fiber. Carbon 143, 475-480 (2019).
148. D.D.L. Chung. Interface-derived solid-state viscoelasticity exhibited by nanostructured and microstructured materials containing carbons or ceramics. Carbon 144, 567-581 (2019).
149. Xiang Xi and D.D.L. Chung. Effect of nickel coating on the stress-dependent electric permittivity, piezoelectricity and piezoresistivity of carbon fiber, with relevance to stress self-sensing. Carbon 145 (2019) 401-410.
150. Xiang Xi and D.D.L. Chung. Piezoelectric and piezoresistive behavior of unmodified carbon fiber. Carbon 145 (2019) 452-461.
151. Xiang Xi and D.D.L. Chung. Capacitance-based self-sensing of flaws and stress in carbon-carbon composite, with reports of the electric permittivity, piezoelectricity and piezoresistivity. Carbon 146, 447-461 (2019). Corrigendum to "Capacitance-based self-sensing of flaws and stress in carbon-carbon composite, with reports of the electric permittivity, piezoelectricity and piezoresistivity". Carbon 158, 545 (2020).
152. Xiang Xi and D.D.L. Chung. Colossal electric permittivity discovered in polyacrylonitrile (PAN) based carbon fiber, with comparison of PAN-based and pitch-based carbon fibers. Carbon 145, 734-739 (2019).
153. Xiang Xi and D.D.L. Chung. Electret, piezoelectret, dielectricity and piezoresistivity discovered in exfoliated-graphite-based flexible graphite, with applications in mechanical sensing and electric powering. Carbon 150, 513-548 (2019).
154. Hongtao Guan and D.D.L. Chung. Effect of the planar coil and linear arrangements of continuous carbon fiber tow on the electromagnetic interference shielding effectiveness, with comparison of carbon fibers with and without nickel coating. Carbon 152, 898-908 (2019).
155. Hongtao Guan and D.D.L. Chung. Radio-wave electrical conductivity and absorption-dominant interaction with radio wave of exfoliated-graphite-based flexible graphite, with relevance to electromagnetic shielding and antennas. Carbon 157, 549-562 (2020).
156. Xiang Xi and D.D.L. Chung. Electret behavior of unpoled carbon fiber with and without nickel coating. Carbon 159, 122-132 (2020).
157. Xiang Xi and D.D.L. Chung. Electret behavior of carbon fiber structural composites with carbon and polymer matrices, and its application in self-sensing and self-powering. Carbon 160, 361-389 (2020).
158. D.D.L. Chung and Xiang Xi. Electric poling of carbon fiber with and without nickel coating. Carbon 162, 25-35 (2020).
159. Xiang Xi and D.D.L. Chung. Dynamics of the electric polarization and depolarization of graphite. Carbon 172, 83-95 (2021).
160. Xiang Xi and D.D.L. Chung. Role of grain boundaries in the dielectric behavior of graphite. Carbon 173, 1003-1019 (2021).
161. Xiang Xi and D.D.L. Chung. Pyropermittivity and pyroelectret behavior of graphite. Carbon 174, 357-367 (2021).
162. Hongtao Guan and D.D.L. Chung. Absorption-dominant radio-wave attenuation loss of metals and graphite. J. Mater. Sci. 56(13), 8037-8047 (2021). https://doi.org/10.1007/s10853-021-05808-2.
163. Xiang Xi and D.D.L. Chung. Dielectric behavior of graphite, with assimilation of the AC permittivity, DC polarization and DC electret. Carbon 181, 246-259 (2021).
164. D.D.L. Chung, Jonah T. Bannon, Wenyi Yang. Dielectric behavior discovered in electrically conductive thick film. J. Mater. Sci.: Mater. Electronics 32(14), 19605-19613 (2021).
165. D.D.L. Chung and Xiang Xi. Piezopermittivity for capacitance-based strain/stress sensing. Sensor Actuators A 332, 113028 (2021).
166. D.D.L. Chung and Xiang Xi. Factors that govern the electric permittivity of carbon materials in the graphite allotrope family. Carbon 184, 245-252 (2021).
167. D.D.L. Chung and Xiang Xi. A review of the colossal permittivity of electronic conductors, specifically metals and carbons. Mater. Res. Bull. 148, 111654 (2022).
168. Xiang Xi and D.D.L. Chung. Pyropermittivity as an emerging method of thermal analysis, with application to carbon fibers. J. Thermal Analysis and Calorimetry 147, 10267-10283 (2022).
169. D.D.L. Chung and Dang Q. Duong. Observation of electric polarization continuity in graphite. Mater. Chem. Phys. 297, 127357 (2023).
170. D.D.L. Chung. A review of self-sensing in carbon fiber structural composite materials. World Sci. Ann. Rev. Funct. Mater. 1, 2230004 (2023). DOI:10.1142/S2810922822300045. Invited paper for the inaugural issue.
171. D.D.L. Chung. First review of conductive electrets for low-power electronics. J. Low Power Electron. Appl. 13(2), 25 (2023).
172. Min Kyoung Kim and D.D.L. Chung. Unprecedented sensing of the twist level in fiber tows, as shown for carbon

fiber by inductance-based self-sensing, which provides fast, low-cost and large-format sensing. Carbon 214, 118349 (2023).
173. D.D.L. Chung. A critical review of carbon-based thermal interface materials. Mater. Chem Phys. 309, 128432 (2023).
174. D.D.L. Chung. A perspective on electromagnetic interference shielding materials comprising exfoliated graphite. Carbon 216, 118569 (2024).
175. Min Kyoung Kim and D.D.L. Chung. Piezoinductance in a carbon fiber tow. Carbon 223, 119013 (2024).

**CEMENT-MATRIX COMPOSITES (185 journal papers)**

1. Qijun Zheng and D.D.L. Chung, "Carbon Fiber Reinforced Cement Composites Improved by Using Chemical Agents", Concr. Cem. Res. 19, 25-41 (1989).
2. Jeng-Maw Chiou, Qijun Zheng and D.D.L. Chung, "Electromagnetic Interference Shielding by Carbon Fiber Reinforced Cement", Composites 20(4), 379-381 (1989).
3. D.D.L. Chung and Qijun Zheng, "Electronic Properties of Carbon Fiber Reinforced Gypsum Plaster", Compos. Sci. Technol. 36, 1-6 (1989).
4. Qijun Zheng and D.D.L. Chung, "Microporous Calcium Silicate Thermal Insulator Prepared by a Hydrothermal Reaction Accelerated by Admixtures", Mat. Sci. Tech. 6, 666-669 (1990).
5. Xiaoming Yang and D.D.L. Chung, "Latex-Modified Cement Mortar Reinforced by Short Carbon Fibers", Composites, 23(6), 453-460 (1992).
6. Pu-Woei Chen and D.D.L. Chung, "Concrete Reinforced with up to 0.2 vol.% of Short Carbon Fibers", Composites 24(1), 33-52 (1993).
7. Pu-Woei Chen and D.D.L. Chung, "Carbon Fiber Reinforced Concrete as a Smart Material Capable of Non-Destructive Flaw Detection", Smart Mater. Struct.2(1), 22-30 (1993).
8. Pu-Woei Chen and D.D.L. Chung, "Carbon Fiber Reinforced Concrete as an Electrical Contact Material for Smart Structures, Smart Mater. Struct.2(3), 181-188 (1993).
9. Pu-Woei Chen and D.D.L. Chung, "Concrete as a New Strain/Stress Sensor", Composites, Part B 27B, 11-23 (1996).
10. Pu-Woei Chen, Xuli Fu, and D.D.L. Chung, "Improving the Bonding Between Old and New Concrete by the Addition of Carbon Fibers to the New Concrete", Cem. Concr.Res. 25(3), 491-496 (1995).
11. Pu-Woei Chen and D.D.L. Chung, "Carbon Fiber Reinforced Concrete as an Intrinsically Smart Concrete for Damage Assessment During Dynamic Loading", J. Am. Ceram. Soc. 78(3), 816-818 (1995).
12. Pu-Woei Chen and D.D.L. Chung, "Improving the Electrical Conductivity of Composites Comprised of Short Conducting Fibers in a Non-Conducting Matrix: the Addition of a Non-Conducting Particulate Filler," J. Electron. Mater.24(1), 47-51 (1995).
13. D.D.L. Chung, "Strain Sensors Based on the Electrical Resistance Change Accompanying the Reversible Pull-Out of Conducting Short Fibers in a Less Conducting Matrix", Smart Mater. Struct.4, 59-61 (1995).
14. Pu-Woei Chen and D.D.L. Chung, "Effect of Polymer Addition on the Thermal Stability and Thermal Expansion of Cement", Cem. Concr.Res. 25(3), 465-469 (1995).
15. Pu-Woei Chen and D.D.L. Chung, "A Comparative Study of Concretes Reinforced with Carbon, Polyethylene and Steel Fibers and Their Improvement by Latex Addition", ACI Materials J. 93(2), 129-133 (1996).
16. Pu-Woei Chen and D.D.L. Chung, "Low-Drying-Shrinkage Concrete Containing Carbon Fibers", Composites: Part B, 27B, 269-274 (1996).
17. Pu-Woei Chen, D.D.L. Chung. Carbon fiber reinforced concrete as an intrinsically smart concrete for damage assessment during static and dynamic loading. ACI Mater. J. 93(4), 341-350 (1996).
18. Xuli Fu and D.D.L. Chung, "Carbon Fiber Reinforced Mortar as an Electrical Contact Material for Cathodic Protection," Cem. Concr. Res. 25(4), 689-694 (1995).
19. Zeng-Qiang Shi and D.D.L. Chung, "Concrete for Magnetic Shielding," Cem. Concr. Res. 25(5), 939-944 (1995).
20. Xuli Fu and D.D.L. Chung, "Contact Electrical Resistivity between Cement and Carbon Fiber: Its Decrease with Increasing Bond Strength and Its Increase During Fiber Pull-Out," Cem. Concr.Res. 25(7), 1391-1396 (1995).
21. Xuli Fu and D.D.L. Chung, "Linear Correlation of Bond Strength and Contact Electrical Resistivity Between Steel Rebar and Concrete," Cem. Concr. Res. 25(7), 1397-1402 (1995).
22. Xuli Fu and D.D.L. Chung, "Vibration Damping Admixtures for Cement," Cem. Concr. Res. 26(1), 69-75 (1996).
23. Xuli Fu and D.D.L. Chung, "Self-Monitoring of Fatigue Damage in Carbon Fiber Reinforced Cement," Cem. Concr. Res. 26(1), 15-20 (1996).
24. Xuli Fu and D.D.L. Chung, "Effect of Methylcellulose Admixture on the Mechanical Properties of Cement," Cem. Concr. Res. 26(4), 535-538 (1996).
25. Xuli Fu and D.D.L. Chung, "Effect of Polymer Admixtures to Cement on the Bond Strength and Electrical Contact Resistivity Between Steel Fiber and Cement," Cem. Concr. Res. 26(2), 189-194 (1996).
26. Xuli Fu, Weiming Lu, and D.D.L. Chung, "Improving the Bond Strength between Carbon Fiber and Cement by Fiber Surface Treatment and Polymer Addition to Cement Mix," Cem. Concr. Res. 26(7), 1007-1012 (1996).
27. Xuli Fu and D.D.L. Chung, "Degree of Dispersion of Latex Particles in Cement Paste, as Assessed by Electrical Resistivity Measurement," Cem. Concr. Res. 26(7), 985-991 (1996).

28. Xuli Fu and D.D.L. Chung, "Improving the Bond Strength Between Steel Rebar and Concrete by Oxidation Treatments of the Rebar," Cem. Conc. Res. 26(10), 1499-1503 (1996).
29. Xuli Fu and D.D.L. Chung, "Submicron Carbon Filament Cement-Matrix Composites for Electromagnetic Interference Shielding," Cem. Concr. Res. 26(10), 1467-1472 (1996); 27(2), 314 (1997).
30. Xuli Fu and D.D.L. Chung, "Single Fiber Electromechanical Pull-Out Testing and Its Application to Studying the Interface Between Steel Fiber and Cement," Composite Interfaces 4(4), 197-211 (1997).
31. Xuli Fu, Weiming Lu, and D.D.L. Chung, "Improving the Tensile Properties of Carbon Fiber Reinforced Cement by Ozone Treatment of the Fiber," Cem. Concr. Res. 26(10), 1485-1488 (1996).
32. Mingguang Zhu and D.D.L. Chung, "Improving Brick-to-Mortar Bond Strength by the Addition of Carbon Fibers to the Mortar", Cem. Concr. Res. 27(12), 1829-1839 (1997).
33. Mingguang Zhu, Robert C. Wetherhold, and D.D.L. Chung, "Evaluation of the Interfacial Shear in a Discontinuous Carbon Fiber/Mortar Matrix Composite," Cem.Concr.Res. 27(3), 437-451 (1997).
34. Pu-Woei Chen, Xuli Fu, and D.D.L.Chung, "Microstructural and Mechanical Effects of Latex, Methylcellulose and Silica Fume on Carbon Fiber Reinforced Cement", ACI Mater. J. 94(2), 147-155 (1997).
35. Xuli Fu and D.D.L. Chung, "Bond Strength and Contact Electrical Resistivity Between Cement and Stainless Steel Fiber: Their Correlation and Dependence on Fiber Surface Treatment and Curing Age," ACI Mater. J. 94(3), 203-208 (1997).
36. Xuli Fu and D.D.L. Chung, "Nondestructive Bond Strength Testing by Contact Electrical Resistivity Measurement," ACI Special Publication SP-168: Innovations in Nondestructive Testing of Concrete, edited by Stephen Pessiki and Larry Olson, 1997, p. 295-317.
37. Jiangyuan Hou, Xuli Fu, and D.D.L. Chung, "Improving Both Bond Strength and Corrosion Resistance of Steel Rebar in Concrete by Water Immersion or Sand Blasting of Rebar," Cem. Concr.Res. 27(5), 679-684 (1997).
38. Jiangyuan Hou and D.D.L. Chung, "Cathodic Protection of Steel Reinforced Concrete Facilitated by Using Carbon Fiber Reinforced Mortar or Concrete," Cem.Concr.Res. 27(5), 649-656 (1997).
39. Xuli Fu and D.D.L. Chung, "Improving the Bond Strength Between Steel Rebar and Concrete by Ozone Treatment of Rebar and Polymer Addition to Concrete," Cem.Concr.Res. 27(5), 643-648 (1997).
40. Xuli Fu, Erming Ma, D.D.L. Chung, and W.A. Anderson, "Self-Monitoring in Carbon Fiber Reinforced Mortar by Reactance Measurement," Cem. Concr. Res. 27(6), 845-852 (1997).
41. Xuli Fu and D.D.L. Chung, "Reversible Decrease of the Flexural Dynamic Modulus of Cement Pastes Upon Heating," Cem.Concr.Res. 27(6), 839-844 (1997).
42. Zeng-Qiang Shi and D.D.L. Chung, "Improving the Abrasion Resistance of Mortar by Adding Latex and Carbon Fibers," Cem. Concr. Res.27(8), 1149-1153 (1997).
43. Xuli Fu and D.D.L. Chung, "Effect of Curing Age on the Self-Monitoring Behavior of Carbon Fiber Reinforced Mortar," Cem.Concr.Res. 27(9), 1313-1318 (1997).
44. Xuli Fu and D.D.L. Chung, "Effects of Silica Fume, Latex, Methylcellulose, and Carbon Fibers on the Thermal Conductivity and Specific Heat of Cement Paste," Cem.Concr.Res. 27(12), 1799-1804 (1997).
45. Xuli Fu and D.D.L. Chung, "Improving the Bond Strength between Steel Rebar and Concrete by Increasing the Water/Cement Ratio," Cem.Concr.Res. 27(12), 1805-1809 (1997).
46. Xuli Fu and D.D.L. Chung, "Effect of Corrosion on the Bond Between Concrete and Steel Rebar," Cem. Concr.Res. 27(12), 1811-1815 (1997).
47. Xuli Fu and D.D.L. Chung, "Decrease of the Bond Strength Between Steel Rebar and Concrete with Increasing Curing Age," Cem. Concr.Res. 28(2), 167-169 (1998).
48. Xuli Fu, and D.D.L. Chung, "Improving the Bond Strength of Concrete to Reinforcement by Adding Methylcellulose to Concrete," ACI Mater. J. 95(5), 601-608 (1998).
49. Xuli Fu, W. Lu and D.D.L. Chung, "Improving the Strain Sensing Ability of Carbon Fiber Reinforced Cement by Ozone Treatment of the Fibers," Cem. Concr. Res. 28(2), 183-187 (1998).
50. Xuli Fu and D.D.L. Chung, "Combined Use of Silica Fume and Methylcellulose as Admixtures in Concrete for Increasing the Bond Strength Between Concrete and Steel Rebar," Cem. Concr.Res. 28(4), 487-492 (1998).
51. Xiaohui Li and D.D.L. Chung, "Improving Silica Fume for Concrete by Surface Treatment," Cem. Concr.Res. 28(4), 493-498 (1998).
52. Xuli Fu, Weiming Lu and D.D.L. Chung, "Ozone Treatment of Carbon Fiber for Reinforcing Cement," Carbon 36(9), 1337-1345 (1998).
53. Weiming Lu and D.D.L. Chung, "Effect of Rust on the Wettability of Steel by Water," Cem.Concr.Res. 28(4), 477-480 (1998).
54. Xuli Fu and D.D.L. Chung, "Submicron-Diameter-Carbon-Filament Cement-Matrix Composites," Carbon 36(4), 459-462 (1998).
55. Xuli Fu and D.D.L. Chung, "Radio Wave Reflecting Concrete for Lateral Guidance in Automatic Highways," Cem.Concr.Res. 28(6), 795-801 (1998).
56. Xuli Fu and D.D.L. Chung, "Sensitivity of the Bond Strength to the Structure of the Interface Between Reinforcement and Cement, and the Variability of This Structure," Cem. Concr.Res. 28(6), 787-793 (1998).
57. Weiming Lu, Xuli Fu, and D.D.L. Chung, "A Comparative Study of the Wettability of Steel, Carbon and Polyethylene Fibers by Water," Cem.Concr.Res. 28(6), 783-786 (1998).

58. Xuli Fu, Xiaohui Li, and D.D.L. Chung, "Improving the Vibration Damping Capacity of Cement," J. Mater Sci. 33, 3601-3605 (1998).
59. Xuli Fu and D.D.L. Chung, "Effects of Water-Cement Ratio, Curing Age, Silica Fume, Polymer Admixtures, Steel Surface Treatments, and Corrosion on Bond between Concrete and Steel Reinforcing Bars," ACI Mater. J. 95(6), 725-734 (1998).
60. Zeng-Qiang Shi and D.D.L. Chung, "Carbon Fiber Reinforced Concrete for Traffic Monitoring and Weighing in Motion," Cem. Concr.Res. 29(3), 435-439 (1999).
61. Yinhui Wang and D.D.L. Chung, "Effect of Embedded Steel on the Compressive Damage Behavior of Cement Mortar," Cem.Concr.Res. 29(3), 427-428 (1999).
62. Sihai Wen and D.D.L. Chung, "Piezoresistivity in Continuous Carbon Fiber Cement-Matrix Composite," Cem. Concr. Res. 29(3), 445-449 (1999).
63. Xuli Fu and D.D.L. Chung, "Effect of Admixtures on the Thermal and Thermomechanical Behavior of Cement Paste," ACI Mater. J. 96(4), 455-461 (1999).
64. Yinhui Wang and D.D.L. Chung, "Effects of Sand and Silica Fume on the Vibration Damping Behavior of Cement," Cem.Concr.Res. 28(10), 1353-1356 (1998).
65. Yinhui Wang and D.D.L. Chung, "Spatial Distribution of Mechanical and Electrical Properties of Cement Mortar Prior to Loading," Cem.Concr.Res. 28(10), 1373-1378 (1998).
66. Yunsheng Xu and D.D.L. Chung, "Improving the Workability and Strength of Silica Fume Concrete by Using Silane Treated Silica Fume," Cem.Concr.Res. 29(3), 451-453 (1999).
67. Yunsheng Xu and D.D.L. Chung, "Carbon Fiber Reinforced Cement Improved by Using Silane-Treated Carbon Fibers," Cem. Concr.Res. 29(5), 773-776 (1999).
67. Xuli Fu and D.D.L. Chung, "Interface Between Steel Rebar and Concrete, Studied by Electromechanical Pull-out Testing," Composite Interfaces 6(2), 81-92 (1999).
68. Sihai Wen and D.D.L. Chung, "Carbon Fiber-Reinforced Cement as a Thermistor," Cem. Concr. Res. 29(6), 961-965 (1999).
69. Yunsheng Xu and D.D.L. Chung, "Effect of Carbon Fibers on the Vibration Reduction Ability of Cement," Cem. Concr. Res. 29(7), 1107-1109 (1999).
70. Yunsheng Xu and D.D.L. Chung, "Increasing the Specific Heat of Cement Paste by Admixture Surface Treatments," Cem. Concr. Res. 29(7), 1117-1121 (1999).
71. Sihai Wen and D.D.L. Chung, "Seebeck Effect in Carbon Fiber Reinforced Cement", Cem. Concr. Res., 29(12), 1989-1993 (1999); Erratum, 34(12), 2341-2342 (2004).
72. Yunsheng Xu and D.D.L. Chung, "Effect of Sand Addition on the Specific Heat and Thermal Conductivity of Cement", Cem. Concr. Res. 30(1), 59-61 (2000).
73. Jiangyuan Hou and D.D.L. Chung, "Effect of Admixtures in Concrete on the Corrosion Resistance of Steel Reinforced Concrete", Corrosion Sci. 42(9), 1489-1507 (2000).
74. Yunsheng Xu and D.D.L. Chung, "Cement-Based Materials Improved by Surface Treated Admixtures", ACI Mater. J. 97(3), 333-342 (2000).
75. Sihai Wen and D.D.L. Chung, "Enhancing the Vibration Reduction Ability of Concrete by Using Steel Reinforcement and Steel Surface Treatments", Cem. Concr. Res. 30(2), 327-330 (2000).
76. Xiangcheng Luo and D.D.L. Chung, "Concrete-Concrete Pressure Contacts under Dynamic Loading, Studied by Contact Electrical Resistance Measurement", Cem. Concr. Res. 30(2), 323-326 (2000).
77. Yunsheng Xu and D.D.L. Chung, "Reducing the Drying Shrinkage of Cement Paste by Admixture Surface Treatments", Cem. Concr. Res. 30(2), 241-245 (2000).
78. D.D.L. Chung, "Carbon Fiber Cement-Matrix Composites", TANSO, No. 190, 300-312 (1999).
79. D.D.L. Chung, "Cement Reinforced with Short Carbon Fibers: a Multifunctional Material", Composites: Part B 31(6-7), 511-526 (2000).
80. Sihai Wen and D.D.L. Chung, "Seebeck Effect in Steel Fiber Reinforced Cement", Cem. Concr. Res. 30(4), 661-664 (2000).
81. Dragos-Marian Bontea, D.D.L. Chung and G.C. Lee, "Damage in Carbon Fiber Reinforced Concrete, Monitored by Electrical Resistance Measurement", Cem. Concr. Res. 30(4), 651-659 (2000).
82. D.D.L. Chung, "Cement-Matrix Composites for Smart Structures", Smart Mater. Struct. 9(4), 389-401 (2000).
83. Zhen Mei and D.D.L. Chung, "Effects of Temperature and Stress on the Interface between Concrete and its Carbon Fiber Epoxy-Matrix Composite Retrofit, studied by Electrical Resistance Measurement", Cem. Concr. Res. 30(5), 799-802 (2000).
84. Yunsheng Xu and D.D.L. Chung, "Cement of High Specific Heat and High Thermal Conductivity, Obtained by Using Silane and Silica Fume as Admixtures", Cem. Concr. Res. 30(7), 1175-1178 (2000).
85. Sihai Wen and D.D.L. Chung, "Uniaxial Tension in Carbon Fiber Reinforced Cement, Sensed by Electrical Resistivity Measurement in Longitudinal and Transverse Directions", Cem. Concr. Res. 30(8), 1289-1294 (2000).
86. Yunsheng Xu and D.D.L. Chung, "Improving Silica Fume Cement by Using Silane", Cem. Concr. Res. 30(8), 1305-1311 (2000).
87. Sihai Wen and D.D.L. Chung, "Enhancing the Seebeck Effect in Carbon Fiber Reinforced Cement by Using Intercalated Carbon Fibers", Cem. Concr. Res. 30(8), 1295-1298 (2000); Erratum, 34(12), 2341-2342 (2004).

88. Sihai Wen and D.D.L. Chung, "Damage Monitoring of Cement Paste by Electrical Resistance Measurement", Cem. Concr. Res. 30(12), 1979-1982 (2000).
89. D.D.L. Chung, "Corrosion Control of Steel Reinforced Concrete", J. Mater. Eng. Perf. 9(5), 585-588 (2000).
90. Sihai Wen and D.D.L. Chung, "Electrical Behavior of Cement-Based Junctions Including the pn-Junction", Cem. Concr. Res. 31(2), 129-133 (2001).
91. D.D.L. Chung, "Cement-Based Electronics", J. Electroceramics 6(1), 75-88 (2001).
92. D.D.L. Chung, "Functional Properties of Cement-Matrix Composites", J. Mater. Sci. 36, 1315-1324 (2001).
93. Sihai Wen and D.D.L. Chung, "Electric Polarization in Carbon Fiber Reinforced Cement", Cem. Concr. Res. 31(2), 141-147 (2001).
94. Sihai Wen and D.D.L. Chung, "Cement-Based Thermocouples", Cem. Concr. Res. 31(3), 507-510 (2001).
95. Sihai Wen and D.D.L. Chung, "Effect of Stress on the Electric Polarization in Cement", Cem. Concr. Res. 31(2), 291-295 (2001).
96. Sihai Wen and D.D.L. Chung, "Uniaxial Compression in Carbon Fiber Reinforced Cement, Sensed by Electrical Resistivity Measurement in Longitudinal and Transverse Directions", Cem. Conc. Res. 31(2), 297-301 (2001).
97. Sihai Wen and D.D.L. Chung, "Cement as a Thermoelectric Material", J. Mater. Res. 15(12), 2844-2848 (2000). Erratum: 19(4), 1294 (2004).
98. Jingyao Cao and D.D.L. Chung, "Improving the Dispersion of Steel Fibers in Cement Mortar by the Addition of Silane", Cem. Concr. Res. 31(2), 309-311 (2001).
99. D.D.L. Chung, "Cement-Matrix Composites for Thermal Engineering", Applied Thermal Engineering 21(ER16), 1607-1619 (2001).
100. D.D.L. Chung, "Interface Engineering for Cement-Matrix Composites", Composite Interfaces 8(1), 67-82 (2001).
101. Jingyao Cao and D.D.L. Chung, "Degradation of the Bond Between Concrete and Steel under Cyclic Shear Loading, Monitored by Contact Electrical Resistance Measurement", Cem. Concr. Res. 31(4), 669-671 (2001).
102. Sihai Wen and D.D.L. Chung, "Effect of Admixtures on the Dielectric Constant of Cement Paste", Cem. Concr. Res. 31(4), 673-677 (2001).
103. Sihai Wen and D.D.L. Chung, "Defect Dynamics of Cement Paste Under Repeated Compression, Studied by Electrical Resistivity Measurement", Cem. Concr. Res. 31(10), 1515-1518 (2001).
104. Jingyao Cao and D.D.L. Chung, "Defect Dynamics and Damage of Concrete Under Repeated Compression, Studied by Electrical Resistance Measurement", Cem. Concr. Res. 31 (11), 1639-1642 (2001).
105. Jingyao Cao, Sihai Wen and D.D.L. Chung, "Defect Dynamics and Damage of Cement-Based Materials, Studied by Electrical Resistance Measurement", J. Mater. Sci. 36(18), 4351-4360 (2001).
106. Jingyao Cao and D.D.L. Chung, "Cementitious Bond Degradation During Cyclic Shear Loading, Studied by Contact Electrical Resistance Measurement", J. Mater. Sci. 36(18), 4345-4349 (2001).
107. Sihai Wen and D.D.L. Chung, "Rectifying and Thermocouple Junctions Based on Portland Cement", J. Mater. Res. 16(7), 1989-1993 (2001). Erratum: 19(4), 1294 (2004).
108. Sihai Wen and D.D.L. Chung, "Carbon Fiber-Reinforced Cement as a Strain-Sensing Coating", Cem. Concr. Res. 31(4), 665-667 (2001).
109. Jingyao Cao and D.D.L. Chung, "Minor Damage of Cement Mortar During Cyclic Compression, Monitored by Electrical Resistivity Measurement," Cem. Concr. Res., 31(10), 1519-1521 (2001).
110. Jingyao Cao and D.D.L. Chung, "Carbon Fiber Reinforced Cement Mortar Improved by Using Acrylic Dispersion as an Admixture," Cem, Concr, Res., 31(11), 1633-1637 (2001).
111. Jingyao Cao and D.D.L. Chung, "Degradation of the Bond between Old and New Mortar under Cyclic Shear Loading, Monitored by Contact Electrical Resistance Measurement", Cem. Concr. Res. 31(11), 1647-1651 (2001).
112. Sihai Wen and D.D.L. Chung, "Cement-Based Controlled Electrical Resistivity Materials", J. Electron. Mater, 30(11), 1448-1451 (2001).
113. Sihai Wen and D.D.L. Chung, "Piezoelectric Cement-Based Materials with Large Coupling and Voltage Coefficients", Cem. Concr. Res. 32(3), 335-339 (2002).
114. Jingyao Cao and D.D.L. Chung, "Defect Dynamics of Cement Mortar under Repeated Loading, Studied by Electrical Resistivity Measurement", Cem. Concr. Res. 31(11), 379-385 (2002).
115. D.D.L. Chung, "Improving Cement-Based Materials by Using Silica Fume", J. Mater.Sci. 37(4) 673-682 (2002).
116. D.D.L. Chung, "Electrical Conduction Behavior of Cement-Matrix Composites", J. Mater. Eng. Perf. 11(2), 194-204 (2002).
117. Sihai Wen and D.D.L. Chung, "Origin of the Thermoelectric Behavior of Steel Fiber Cement Paste", Cem. Concr. Res. 32 (5), 821-823 (2002).
118. Jingyao Cao and D.D.L. Chung, "Effect of Strain Rate on Cement Mortar under Compression, Studied by Electrical Resistivity Measurement", Cem. Concr. Res. 32(5), 817-819 (2002).
119. Sihai Wen and D.D.L. Chung, "Thermoelectric Behavior of Carbon-Cement Composites", Carbon 40(13), 2495-2497 (2002).
120. Sihai Wen and D.D.L. Chung, "Cement-Based Materials for Stress Sensing by Dielectric Measurement", Cem. Concr. Res. 32(9), 1429-1433 (2002).
121. Jingyao Cao and D.D.L. Chung, "Damage Evolution During Fself-reeze-Thaw Cycling of Cement Mortar, Studied by Electrical Resistivity Measurement", Cem. Concr. Res. 32(10), 1657-1661 (2002).

122. D.D.L. Chung, "Piezoresistive Cement-Based Materials for Strain Sensing", J. Intelligent Material Systems and Structures 13(9), 599-609 (2002).
123. D.D.L. Chung, "Structural Composite Materials Tailored for Damping", J. Alloys Compounds 355(1-2), 216-223 (2003).
124. Sihai Wen and D.D.L. Chung, "Effect of Fiber Content on the Thermoelectric Behavior of Cement", J. Mater. Sci. 39(13), 4103-4106 (2004).
125. Jingyao Cao and D.D.L. Chung, "Colloidal Graphite as an Admixture in Cement and as a Coating on Cement for Electromagnetic Interference Shielding", Cem. Concr. Res. 33(11), 1737-1740 (2003).
126. Sihai Wen and D.D.L. Chung, "Pyroelectric Behavior of Cement-Based Materials", Cem. Concr. Res. 33(10), 1675-1679 (2003).
127. Jingyao Cao and D.D.L. Chung, "Coke Powder as an Admixture in Cement for Electromagnetic Interference Shielding", Carbon 41(12), 2433-2436 (2003).
128. Sihai Wen and D.D.L. Chung, "A Comparative Study of Steel- and Carbon-Fibre Cement as Piezoresistive Strain Sensors", Adv. Cem. Res. 15(3), 119-128 (2003).
129. D.D.L. Chung, "Damage in Cement-Based Materials, Studied by Electrical Resistance Measurement", Mater. Sci. Eng. R 42(1), 1-40 (2003).
130. Sihai Wen and D.D.L. Chung, "Electromagnetic Interference Shielding Reaching 70 dB in Steel Fiber Cement", Cem. Concr. Res. 34(2), 329-332 (2004).
131. Jingyao Cao and D.D.L. Chung, "Electric Polarization and Depolarization in Cement-Based Materials, Studied by Apparent Electrical Resistance Measurement", Cem. Concr. Res. 34(3), 481-485 (2004).
132. Shoukai Wang, Sihai Wen and D.D.L. Chung, "Resistance Heating Using Electrically Conductive Cements", Adv. Cem. Res. 16(4), 161-166 (2004).
133. D.D.L. Chung, "Cement-Matrix Structural Nanocomposites", Metals and Materials Int. 10(1), 55-67 (2004).
134. D.D.L. Chung, "Use of Polymers for Cement-Based Structural Materials", J. Mater. Sci. 39(9), 2973-2978 (2004).
135. Jingyao Cao and D.D.L. Chung, "Use of Fly Ash as an Admixture for Electromagnetic Interference Shielding", Cem. Concr. Res. 34(10), 1889-1892 (2004).
136. Jingyao Cao and D.D.L. Chung, "Microstructural Effect of the Shrinkage of Cement-Based Materials during Hydration, as Indicated by Electrical Resistivity Measurement", Cem. Concr. Res. 34(10), 1893-1897 (2004).
137. Jingyao Cao and D.D.L. Chung, "Role of Moisture in the Seebeck Effect in Cement-Based Materials", Cem. Concr. Res. 35(4), 810-812 (2005).
138. D.D.L. Chung, "Electrically Conductive Cement-Based Materials", Adv. Cem. Res. 16(4), 167-176 (2004).
139. D.D.L. Chung, "Dispersion of Short Fibers in Cement", J. Mater. Civil Eng. 17(4), 379-383 (2005).
140. Sihai Wen and D.D.L. Chung, "Strain Sensing Characteristics of Carbon Fiber Reinforced Cement", ACI Mater. J. 102(4), 244-248 (2005).
141. Jingyao Cao and D.D.L. Chung, Reply to Discussion by Peter J. Tumidajski of the paper "Colloidal Graphite as an Admixture in Cement and as a Coating on Cement for Electromagnetic Interference Shielding", Cem. Concr. Res. 35, 616-617 (2005).
142. Sihai Wen and D.D.L. Chung, "Effects of Strain and Damage on the Strain Sensing Ability of Carbon Fiber Cement", J. Mater. Civil Eng. 18(3), 355-360 (2006).
143. Sihai Wen and D.D.L. Chung, "Spatially Resolved Self-Sensing of Strain and Damage in Carbon Fiber Cement", J. Mater. Sci. 41(15), 4823-4831 (2006).
144. D.D.L. Chung, "Discussion of 'Resistance Changes during Compression of Carbon Fiber Cement Composites' by Farhad Reza, Gordon B. Batson, Jerry A. Yamamuro and Jong S. Lee", J. Mater. Civil Eng. 17(5), 605 (2005).
145. Sihai Wen and D.D.L Chung, "Self-Sensing of Flexural Damage and Strain in Carbon Fiber Reinforced Cement and Effect of Embedded Steel Reinforcing Bars", Carbon 44(8), 1496-1502 (2006).
146. Sihai Wen and D.D.L. Chung, "Model of Piezoresistivity in Carbon Fiber Cement", Cem. Concr. Res. 36(10), 1879-1885 (2006).
147. Sihai Wen and D.D.L. Chung, "The Role of Electronic and Ionic Conduction in the Electrical Conductivity of Carbon Fiber Reinforced Cement", Carbon 44(11), 2130-2138 (2006).
148. Sirong Zhu and D.D.L. Chung, "Theory of Piezoresistivity for Strain Sensing in Carbon Fiber Reinforced Cement Under Flexure", J. Mater. Sci. 42(15), 6222-6233 (2007).
149. Sihai Wen and D.D.L. Chung, "Partial Replacement of Carbon Fiber by Carbon Black in Multifunctional Cement-Matrix Composites", Carbon 45(3), 505-513 (2007) (Published on line in 2006).
150. Sihai Wen and D.D.L. Chung, "Piezoresistivity-Based Strain Sensing in Carbon Fiber Reinforced Cement", ACI Mater. J. 104(2), 171-179 (2007).
151. Sihai Wen and D.D.L. Chung, "Electrical-Resistance-Based Damage Self-Sensing in Carbon Fiber Reinforced Cement", Carbon 45(4), 710-716 (2007).
152. Sihai Wen and D.D.L. Chung, "Double Percolation in the Electrical Conduction in Carbon Fiber Reinforced Cement-Based Materials", Carbon 45(2), 263-267 (2007) (Published on line in 2006).
153. Sirong Zhu, Zhuoqiu Li, Xianhui Song and D.D.L. Chung, "Deformation Adjustment of Concrete Beams Laminated with Carbon Fiber Mats", Construction and Building Materials 21(3), 621-625 (2007) (Published online in 2006).
154. D.D.L. Chung, "Discussion from the September-October 2006 ACI Materials Journal/Page 340 (103-M38) 'Monitoring Fiber Dispersion in Fiber-Reinforced Cementitious Materials: Comparison of AC-Impedance

Spectroscopy and Image Analysis' Paper by Nilufer Ozyurt, Leta Y. Woo, Thomas O. Mason, and Surendra P. Shah", ACI Mater. J. 104(4), 434-437 (2007).

155. Sirong Zhu and D.D.L. Chung, "Numerical Assessment of the Methods of Measurement of the Electrical Resistance in Carbon Fiber Reinforced Cement", Smart Mater. Struct. 16, 1164-1170 (2007).
156. D.D.L. Chung, "Comment on 'Cement based electromagnetic shielding and absorbing building materials' by Guan et al.", Cement and Concrete Composites 30(2), 152 (2008).
157. Sihai Wen and D.D.L. Chung, "Effect of Moisture on the Piezoresistivity of Carbon Fiber Reinforced Cement", ACI Materials J. 105(3), 274-280 (2008).
158. Chiung-Yi Huang, Shoukai Wang and D.D.L. Chung, "Cement-Based Piezoelectret", Materials and Structures 42, 541-557 (2009) (Online First, Sept. 2008).
159. Chiung-Yi Huang and D.D.L. Chung, "Controlling and Increasing the Inherent Voltage in Cement Paste", Adv. Cem. Res. 21(1), 31-37 (2009).
160. D.G. Meehan, Shoukai Wang and D.D.L. Chung, "Electrical-Resistance-Based Sensing of Impact Damage in Carbon Fiber Reinforced Cement-Based Materials", J. Intell. Mater. Systems Struct. 21(1), 83-105 (2010).
161. Sivaraja Muthusamy, Shoukai Wang and D.D.L. Chung, "Unprecedented Vibration Damping with High Values of Loss Modulus and Loss Tangent, Exhibited by Cement-Matrix Graphite Network Composite," Carbon 48(5), 1457-1464 (2010).
162. Sivaraja Muthusamy and D.D.L. Chung, "Carbon Fiber Cement-Based Materials for Electromagnetic Interference Shielding", ACI Mater. J. 107(6), 602-610 (2010).
163. F.J. Baeza, D.D.L. Chung, E. Zornoza, L.G. Andión, P. Garcés, "Triple Percolation in Concrete Reinforced with Carbon Fiber", ACI Mater. J. 107(4), 396-402 (2010).
164. Qiaoli Meng and D.D.L. Chung, "Battery in the Form of a Cement-Matrix Composite", Cem. Concr. Composites 32, 829-839 (2010).
165. Po-Hsiu Chen and D.D.L. Chung, "Mechanical Energy Dissipation Using Cement-Based Materials with Admixtures", ACI Mater. J. 110(3), 279-290 (2013).
166. Po-Hsiu Chen and D.D.L. Chung, "Comparative evaluation of cement-matrix composites with distributed versus networked exfoliated graphite", Carbon 63, 446-453 (2013).
167. Po-Hsiu Chen, Chi Xu and D.D.L. Chung, "Sound absorption enhancement using solid-solid interfaces in a non-porous cement-based structural material", Composites, Part B, 95, 453-461 (2016).
168. Yulin Wang, D.D.L. Chung. Effect of the fringing electric field on the apparent electric permittivity of cement-based materials. Composites, Part B, 126, 192-201 (2017).
169. Alexander S. Haddad and D.D.L. Chung, "Decreasing the electric permittivity of cement by graphite particle incorporation", Carbon 122C, 702-709 (2017).
170. Yulin Wang and D.D.L. Chung. Capacitance-based defect detection and defect location determination for cement-based material. Materials and Structures 50, 237 (2017). https://doi.org/10.1617/s11527-017-1094-7
171. Yulin Wang and D.D.L. Chung. Capacitance-based nondestructive detection of aggregate proportion variation in a cement-based slab. Composites, Part B, 134, 18-27 (2018).
172. Min Wang and D.D.L. Chung. Understanding the increase of the electric permittivity of cement caused by latex addition. Composites, Part B, 134, 177-185 (2018).
174. Min Wang and D.D.L. Chung. High electric permittivity of polymer-modified cement due to the capacitance of the interface between polymer and cement. J. Mater. Sci. 53(10), 7199-7213 (2018).
175. D.D.L. Chung and Yulin Wang. Capacitance-based stress self-sensing in cement paste without requiring any admixture. Cement and Concrete Composites 94, 255-263 (2018).
176. Kairong Shi and D.D.L. Chung. Piezoelectricity-based self-sensing of compressive and flexural stress in cement-based materials without admixture requirement and without poling. Smart Mater. Struct. 27(10), 105011 (20 pp) (2018).
177. Xiang Xi and D.D.L. Chung. Deviceless cement-based structures as energy sources that enable structural self-powering. Applied Energy 280, 115916 (2020).
178. D.D.L. Chung. Self-sensing concrete: from resistance-based sensing to capacitance-based sensing (Invited Paper). Int. J. Smart and Nano Mater. 12(1), 1-19 (2021). DOI:10.1080/19475411.2020.1843560.
179. Murat Ozturk and D.D.L. Chung. Enhancing the electromagnetic interference shielding effectiveness of carbon-fiber reinforced cement paste by coating the carbon fiber with nickel. J. Building Engineering 41, 102757 (2021).
180. Xiang Xi, Murat Ozturk and D.D.L. Chung. DC electric polarization of cured cement paste being unexpectedly hindered by free water. J. American Ceramic Society 105(2), 1074-1082 (2022).
181. D.D.L. Chung and Murat Ozturk. Electromagnetic skin depth of cement paste and its thickness dependence. J. Building Eng. 52, 104393 (2022).
182. D.D.L. Chung. A critical review of electrical-resistance-based self-sensing in conductive cement-based materials. Carbon 203, 311-325 (2023).
183. D.D.L. Chung. First review of capacitance-based self-sensing in structural materials. Sensor Actuators A 354, 114270 (2023).
184. D.D.L. Chung, Xiang Xi. A review of cement-based materials as electroceramics. Ceramics Int. 49, 24621-24642 (2023).

185. Murat Ozturk, D.D.L. Chung. Piezopermittivity of cement mortar with various water contents and its application to capacitance-based structural self-sensing of stress. Sensors Actuators A 369, 115206 (2024).

**POLYMER-MATRIX COMPOSITES (129 journal papers)**

1. S. Fang, D.D.L. Chung, Carbon fibre composites with improved fatigue resistance due to the addition of tin-lead alloy particles. Composites 21(5), 419-424 (1990).
2. Mingguang Zhu and D.D.L. Chung, "Resilient Composite of Silicone and Foamed Tin as a New Material for Electrical Contacts and Thermal Contacts", Composites 22(3), 219-226 (1991).
3. Lin Li and D.D.L. Chung, "Electrically Conducting Powder Filled Polyimidesiloxane", Composites 22(3), 211-218 (1991).
4. Mingguang Zhu and D.D.L. Chung, "Nickel Fiber Silicone-Matrix Composites as Resilient Electrical Conductors", J. Electronic Packaging 113, 417-420 (1991).
5.. Mingguang Zhu and D.D.L. Chung, "A Three-Dimensionally Interconnected Metal Spring Network in a Silicone Matrix as a Resilient and Electrically Conducting Composite Material", Composites 23(5), 355-364 (1992).
6. Lin Li and D.D.L. Chung, "Electrical and Mechanical Properties of Electrically Conductive Polyethersulfone Composite", Composites 25(3), 215-224 (1994).
7. Lin Li, Pay Yih and D.D.L. Chung, "Effect of the Second Filler Which Melted During Composite Fabrication on the Electrical Properties of Short Fiber Polymer-Matrix Composites", J. Electronic Mater.21(11), 1065-1071 (1992).
8. Mingguang Zhu and D.D.L. Chung, "Resilient Metal Spring Network Silicone-Matrix Composite for Separable Interconnections", J. Electron.Mater.23(7), 641-647 (1994).
9. Lin Li and D.D.L. Chung, "Tin-Lead Flake Polyether Sulfone Composite Formed by In-Situ Melt Processing of Tin-Lead Particles", Polymer Composites 14(5), 361-366 (1993).
10. Lin Li and D.D.L. Chung, "Effect of Viscosity on the Electrical Properties of Conducting Thermoplastic Composites Made by Compression Molding of a Powder Mixture", Polymer Composites 14(6), 467-472 (1993).
11. Lin Li and D.D.L. Chung, "Thermally Conducting Polymer-Matrix Composites Containing both AlN Particles and SiC Whiskers", J. Electron. Mater.23(6), 557-564 (1994).
12 Xiaoping Shui and D.D.L. Chung, "Submicron Nickel Filaments Made by Electroplating Carbon Filaments as a New Filler Material for Electromagnetic Interference Shielding," J. Electron.Mater.24(2), 107-113 (1995).
13. Xiaojun Wang and D.D.L. Chung, "Short Carbon Fiber Reinforced Epoxy as a Piezoresistive Strain Sensor", Smart Mater.Struct.4, 363-367 (1995).
14. Xiaojun Wang and D.D.L. Chung, "Continuous Carbon Fiber Epoxy-Matrix Composite as a Sensor of Its Own Strain", Smart Mater.Struct.5(6), 796-800 (1996).
15. Xiaoping Shui and D.D.L. Chung, "Piezoresistive Carbon Filament Polymer-Matrix Composite Strain Sensor," Smart Mater.Struct.5, 243-246 (1996).
16. Steven W. Hudnut and D.D.L. Chung, "Use of Submicron Diameter Carbon Filaments for Reinforcement between Continuous Carbon Fiber Layers in a Polymer-Matrix Composite," Carbon 33(11), 1627-1631 (1995).
17. Steven W. Hudnut and D.D.L. Chung, "Enhancing the Loss Modulus of Carbon Fiber Polymer-Matrix Composites by Addition of Particles in the Interlaminar Region," Plastics, Rubber and Composites Processing and Applications 25(2), 77-81 (1996).
18. Xiaoping Shui and D.D.L. Chung, "Nickel Filament Polymer-Matrix Composites with Low Surface Impedance and High Electromagnetic Interference Shielding Effectiveness," J. Electron.Mater., 26(8), 928-934 (1997).
19. Xiaoping Shui and D.D.L. Chung, "Magnetic Properties of Nickel Filament Polymer-Matrix Composites," J. Electron.Mater.25(6), 930-934 (1996).
20. Xiaoping Shui and D.D.L. Chung, "A New Electromechancial Effect in Discontinuous-Filament Elastomer-Matrix Composites," Smart Mater.Struct.6, 102-105 (1997).
21. Lin Li and D.D.L. Chung, "Z-Axis Anisotropic Electrically Conducting Polymer-Matrix Composite Film," J. Electronic Packaging 119(4), 255-259 (1997).
22. Xiaoping Shui and D.D.L. Chung, "0.4 μm Diameter Nickel Filament Silicone-Matrix Resilient Composites for Electromagnetic Interference Shielding," J. Electron.Packaging 119(4), 236-238 (1997).
23. Xiaojun Wang and D.D.L. Chung, "Real-Time Monitoring of Fatigue Damage and Dynamic Strain in Carbon Fiber Polymer-Matrix Composite by Electrical Resistance Measurement," Smart Mater.Struct.6, 504-508 (1997).
24. Xiaojun Wang and D.D.L. Chung, "Sensing Delamination in a Carbon Fiber Polymer-Matrix Composite During Fatigue by Electrical Resistance Measurement," Polymer Composites, 18(6), 692-700 (1997).
25. Xiaojun Wang and D.D.L. Chung, "Self-Monitoring of Fatigue Damage and Dynamic Strain in Carbon Fiber Polymer-Matrix Composite," Composites: Part B, 29B(1), 63-73 (1998).
26. Xiaojun Wang and D.D.L. Chung, "An Electromechanical Study of the Transverse Behavior of Carbon Fiber Polymer-Matrix Composite, Composite Interfaces 5(3), 191-199 (1998).
27. Xiaojun Wang and D.D.L. Chung, "Residual Stress in Carbon Fiber Embedded in Epoxy, Studied by Simultaneous Measurement of Applied Stress and Electrical Resistance," Composite Interfaces 5(3), 277-281 (1998).
28. Xiaojun Wang, Xuli Fu, and D.D.L. Chung, “Electromechanical Study of Carbon Fiber Composites,” J. Mater. Res.

13(11), 3081-3092 (1998).

29. Xiaojun Wang and D.D.L. Chung, “Short Carbon Fiber Reinforced Epoxy Coating as a Piezoresistive Strain Sensor for Cement Mortar,” Sensors and Actuators A 71(3), 208-212 (1998).
30. Zhen Mei and D.D.L. Chung, “Effect of Heating on the Structure of Carbon Fiber Polyphenylenesulfide-Matrix Composite, as Studied by Electrical Resistance Measurement,” Polymer Composites, 19(6), 709-713 (1998).
31. Shoukai Wang and D.D.L. Chung, “Interlaminar Shear in Carbon Fiber Polymer-Matrix Composites, Studied by Measuring the Contact Electrical Resistance of the Interlaminar Interface During Shear,” Composite Interfaces 6(6), 507-518 (1999).
32. D.D.L. Chung and Shoukai Wang, “Carbon Fiber Polymer Matrix Structural Composite as a Semiconductor and Concept of Optoelectronic and Electronic Devices Made From It,” Smart Mater. Struct.8, 161-166 (1999).
33. Shoukai Wang and D.D.L. Chung, “Interlaminar Interface in Carbon Fiber Polymer-Matrix Composites, Studied by Contact Electrical Resistivity Measurement,” Composite Interfaces 6(6), 497-506 (1999).
34. Xiaojun Wang, Shoukai Wang, and D.D.L. Chung, “Sensing Damage in Carbon Fiber and Its Polymer-Matrix and Carbon-Matrix Composites by Electrical Resistance Measurement,” J. Mater. Sci. 34(11), 2703-2714 (1999).
35. Shoukai Wang and D.D.L. Chung, “Carbon Fiber Polymer-Matrix Composite Interfaces as Thermocouple Junctions,” Composite Interfaces 6(6), 519-530 (1999).
36. Yunsheng Xu and D.D.L. Chung, “Z-Axis Anisotropic Electrical Conductor Films in Adhesive and Standalone Forms for Electrical Interconnections,” J. Electronic Mater. 28(11), 1307-1313 (1999).
37. Zhen Mei and D.D.L. Chung, “Kinetics of Autohesion of Thermoplastic Carbon-Fiber Prepregs,” Int. J. Adh. Adh. 20, 173-175 (2000).
38. Shoukai Wang and D.D.L. Chung, “Apparent Negative Electrical Resistance in Carbon Fiber Composites,” Composites: Part B 30(6), 579-590 (1999).
39. Shoukai Wang and D.D.L. Chung, “Electrical Behavior of Carbon Fiber Polymer-Matrix Composites in the Through-Thickness Direction,” J. Mater. Sci. 35(1), 91-100 (2000).
40. Martin Segiet and D.D.L. Chung, “Discontinuous Surface-Treated Submicron-Diameter Carbon Filaments as an Interlaminar Filler in Carbon Fiber Polymer-Matrix Composites for Vibration Reduction”, Composite Interfaces 7(4), 257-276 (2000).
41. Shoukai Wang and D.D.L. Chung, “Temperature/Light Sensing Using Carbon Fiber Polymer-Matrix Composite”, Composites: Part B 30(6), 591-601 (1999).
42. Zhen Mei and D.D.L. Chung, “Thermal Stress Induced Thermoplastic Composite Debonding, Studied by Contact Electrical Resistance Measurement”, Int. J. Adh. Adh. 20, 135-139 (2000).
43. Xiaojun Wang and D.D.L. Chung, “Fiber Breakage in Polymer-Matrix Composite During Static and Dynamic Loading, Studied by Electrical Resistance Measurement”, J. Mater. Res. 14(11), 4224-4229 (1999).
44. Zhen Mei and D.D.L. Chung, “Effect of Heating Time Below the Melting Temperature on Polyphenylene Sulfide Joint Development”, Int. J. Adh. Adh. 20, 273-277 (2000).
45. Xiaoping Shui and D.D.L. Chung, “Submicron Diameter Nickel Filaments and Their Polymer-Matrix Composites”, J. Mater. Sci. 35, 1773-1785 (2000).
46. Yunsheng Xu and D.D.L. Chung, “Increasing the Thermal Conductivity of Boron Nitride and Aluminum Nitride Particle Epoxy-Matrix Composites by Particle Surface Treatment”, Composite Interfaces 7(4), 243-256 (2000).
47. Xiangcheng Luo and D.D.L. Chung, “Carbon Fiber Polymer-Matrix Composites as Capacitors”, Composites Sci. Tech. 61, 885-888 (2001).
48. Shoukai Wang and D.D.L. Chung, “Piezoresistivity in Continuous Carbon Fiber Polymer-Matrix Composite”, Polymer Composites 21(1), 13-19 (2000).
49. Zhen Mei and D.D.L. Chung, “Glass Transition and Melting Behavior of Carbon Fiber Reinforced Thermoplastic Composite, Studied by Electrical Resistance Measurement”, Polymer Composites 21(5), 711-715 (2000).
50. Shoukai Wang and D.D.L. Chung, “Consolidation of Carbon Fiber Laminae During Polymer-Matrix Composite Fabrication, Studied by Electrical Resistance Measurement”, Polymer Composites 22(1), 42-46 (2001).
51. Xiangcheng Luo and D.D.L. Chung, “Interface in Mechanically Fastened Polymer Joint, Studied by Contact Electrical Resistance Measurement”, Polymer Eng. Sci. 40(7), 1505-1509 (2000).
52. D.D.L. Chung, "Polymer-Matrix Composites for Microelectronics", Polymers & Polymer Composites 8(4), 219-229 (2000).
53. Zhen Mei and D.D.L. Chung, "Cold-Crystallization of Polyphenylene Sulfide, Studied by Measuring the Electrical Resistance of a Carbon-Fiber Polyphenylene-Sulfide-Matrix Composite", Polymers & Polymer Composites 8(5), 319-324 (2000).
54. D.D.L. Chung, "Continuous Carbon Fiber Polymer-Matrix Composites and Their Joints, Studied by Electrical Measurements", Polymer Composites 22(2), 250-270 (2001).
55. D.D.L. Chung, "Thermal Analysis of Carbon Fiber Polymer-Matrix Composites by Electrical Resistance Measurement", Thermochim. Acta 364, 121-132 (2000).
56. Zongrong Liu and D.D.L. Chung, "Calorimetric Evaluation of Phase Change Materials for Use as Thermal Interface Materials", Thermochim. Acta 366(2), 135-147 (2001).
57. Zhen Mei and D.D.L. Chung, "Thermal History of Carbon Fiber Polymer-Matrix Composite, Evaluated by Electrical Resistance Measurement", Thermochim. Acta 369 (1-2), 87-93 (2001).

58. Shoukai Wang and D.D.L. Chung, "Thermal Fatigue in Carbon Fiber Polymer-Matrix Composite, Monitored in Real Time by Electrical Resistance Measurement", Polymers & Polymer Composites 9(2), 135-140 (2001).
59. Zhen Mei and D.D.L. Chung, "Improving the Flexural Modulus and Thermal Stability of Pitch by the Addition of Silica Fume", J. Reinf. Plastics Composites, 21(1), 91-95 (2002).
60. Yunsheng Xu, D.D.L. Chung and Cathleen Mroz, "Thermally Conducting Aluminum Nitride Polymer-Matrix Composites", Composites, Part A, 32, 1749-1757 (2001).
61. Shoukai Wang, Sang-il Lee, D.D.L. Chung and Joung-Man Park, "Load Transfer from Fiber to Polymer Matrix, Studied by Measuring the Apparent Elastic Modulus of Carbon Fiber Embedded in Epoxy", Composite Interfaces 8(6), 435-441 (2001).
62. Shoukai Wang and D.D.L. Chung, "Mechanical Damage in Carbon Fiber Polymer-Matrix Composite, Studied by Electrical Resistance Measurement", Composite Interfaces 9(1), 51-60 (2002).
63. Shoukai Wang, Zhen Mei and D.D.L. Chung, "Interlaminar Damage in Carbon Fiber Polymer-Matrix Composites, Studied by Electrical Resistance Measurement", Int. J. Adh. Adh. 21(ER6), 465-471 (2001).
64. D.D.L. Chung, "Thermal Analysis by Electrical Resistivity Measurement", J. Thermal Analysis and Calorimetry 65, 153-165 (2001).
65. Yunsheng Xu, Xiangcheng Luo and D.D.L. Chung, "Lithium Doped Polyethylene-Glycol-Based Thermal Interface Pastes for High Thermal Contact Conductance", J. Electron.Packaging 124(3), 188-191 (2002).
66. Daniel P. Kowalik and D.D.L. Chung, "Carbon Black Filled Silicone as a Compliant Thermoelectric Material", J. Reinf. Plastics Compos. 21(17), 1587-1590 (2002).
67. Zhen Mei, Victor H. Guerrero, Daniel P. Kowalik and D.D.L. Chung, "Reverse Piezoelectric Behavior of Carbon Fiber Thermoplastic-Matrix Composite", Polymer Composites 23(5), 697-701 (2002).
68. Zhen Mei, Victor H. Guerrero, Daniel P. Kowalik and D.D.L. Chung, "Mechanical Damage and Strain in Carbon Fiber Thermoplastic-Matrix Composite, Sensed by Electrical Resistivity Measurement", Polymer Composites 23(3), 425-432 (2002).
69. Zhen Mei and D.D.L. Chung, "Thermoplastic Matrix Phase Transitions in a Carbon Fiber Composite, Studied by Contact Electrical Resistivity Measurement of the Interface between Two Unbonded Laminae", Polymer Composites 23(5), 824-827 (2002).
70. Shoukai Wang, Daniel P. Kowalik and D.D.L. Chung, "Effects of the Temperature, Humidity and Stress on the Interlaminar Interface of Carbon Fiber Polymer-Matrix Composites, Studied by Contact Electrical Resistivity Measurement," J. Adhesion 78(2), 189-200 (2002).
71. Shoukai Wang, and D.D.L. Chung, "Effect of Moisture on the Interlaminar Interface of a Carbon Fiber Polymer-Matrix Composite, Studied by Contact Electrical Resistivity Measurement," Composite Interfaces 9(5), 453-458 (2002).
72. Junhua Wu and D.D.L. Chung, "Decreasing the Electromagnetic Observability of Carbon Fiber Polymer-Matrix Composites by Using Epoxy-Coated Carbon Fibers", Composite Interfaces 9(4), 389-393 (2002).
73. Victor H. Guerrero and D.D.L. Chung, "Enhancement of the Absolute Thermoelectric Power of Carbon Fiber Polymer-Matrix Composite in the Through-Thickness Direction", Composite Interface 9(4), 395-401 (2002).
74. Victor H. Guerrero, Shoukai Wang, Sihai Wen and D.D.L. Chung, "Thermoelectric Property Tailoring by Composite Engineering", J. Mater. Sci. 37(19), 4127-4136 (2002).
75. Victor H. Guerrero and D.D.L. Chung, "Interlaminar Interface Relaxation Upon Heating Carbon Fiber Thermoplastic-Matrix Composite, Studied by Electrical Resistance Measurement", Composite Interface 9(6), 557-563 (2002).
76. D.D.L. Chung and Shoukai Wang, "Self-Sensing of Damage and Strain in Carbon Fiber Polymer-Matrix Structural Composites by Electrical Resistance Measurement", Polym. & Polym. Compos. 11(7), 515-525 (2003).
77. Adam Fosbury, Shoukai Wang, Yat F. Pin and D.D.L. Chung, "The Interlaminar Interface of a Carbon Fiber Polymer-Matrix Composite as a Resistance Heating Element", Composites: Part A 34, 933-940 (2003).
78. Jun Xiao and D.D.L. Chung, "Thermal and Mechanical Stability of Electrical Conductive Adhesive Joints", J. Electron. Mater. 34(5), 625-629 (2005).
79. Jun Xiao and D.D.L. Chung, "Electrothermomechanical Analysis and Its Application to Studying Electrically Conductive Adhesive Joints", J. Thermal Analysis Calorimetry 74, 3-11 (2003).
80. Dwayne A. Gordon, Shoukai Wang and D.D.L. Chung, "Piezoresistivity in Unidirectional Continuous Carbon Fiber Polymer-Matrix Composites: Single-Lamina Composite Versus Two-Lamina Composite", Composite Interfaces 11(1), 95-103 (2004).
81. D.D.L. Chung, "Self-Heating Structural Materials", Smart Mater. Struct. 13(3), 562-565 (2004).
82. Shoukai Wang, Daniel P. Kowalik and D.D.L. Chung, "Self-Sensing Attained in Carbon Fiber Polymer-Matrix Structural Composites by Using the Interlaminar Interface as a Sensor", Smart Mater. Struct. 13(3), 570-592 (2004).
83. Junhua Wu and D.D.L. Chung, "Calorimetric Study of the Effect of Carbon Fillers on the Curing of Epoxy", Carbon 42(14), 3039-3042 (2004).
84. Shoukai Wang, D.D.L. Chung and Jaycee H. Chung, "Effects of Composite Lay-Up Configuration and Thickness on the Damage Self-Sensing Behavior of Carbon Fiber Polymer-Matrix Composite", J. Mater. Sci. 40(2), 561-568 (2005).
85. Shoukai Wang and D.D.L. Chung, "The Interlaminar Interface of a Carbon Fiber Epoxy-Matrix Composite as an Impact Sensor", J. Mater. Sci. 40, 1863-1867 (2005).
86. Shoukai Wang, D.D.L. Chung and Jaycee H. Chung, "Impact Damage of Carbon Fiber Polymer-Matrix Composites, Monitored by Electrical Resistance Measurement", Composites: Part A, 36, 1707-1715 (2005).

87. Shoukai Wang, D.D.L. Chung and Jaycee H. Chung, "Self-Sensing of Damage in Carbon Fiber Polymer-Matrix Composite Cylinder by Electrical Resistance Measurement", Journal of Intelligent Material Systems and Structures 17(1), 57-62 (2006).
88. Shoukai Wang, D.D.L. Chung and Jaycee H. Chung, "Self-Sensing of Damage in Carbon Fiber Polymer-Matrix Composite by Measurement of the Electrical Resistance or Potential Away from the Damaged Region", J. Mater. Sci. 40(24), 6463-6472 (2005).
89. Shoukai Wang and D.D.L. Chung, "Discussion on Paper 'The Electrical Resistance Response of Continuous Carbon Fibre Composite Laminates to Mechanical Strain' by N. Angelidis, C.Y. Wei and P.E. Irving, Composites: Part A 35, 1135-1147 (2004)", Composites: Part A, 37(9), 1490-1494 (2006).
90. Chia-Ken Leong, Shoukai Wang and D.D.L. Chung, "Effect of Through-Thickness Compression on the Microstructure of Carbon Fiber Polymer-Matrix Composites, as Studied by Electrical Resistance Measurement", J. Mater. Sci. 41(10), 2877-2884 (2006).
91. Shoukai Wang, Daojun Wang, D.D.L. Chung and Jaycee H. Chung, "Method of Sensing Impact Damage in Carbon Fiber Polymer-Matrix Composite by Electrical Resistance Measurement", J. Mater. Sci. 41(8), 2281-2289 (2006).
92. Daojun Wang, Shoukai Wang, D.D.L. Chung and Jaycee H. Chung, "Comparison of the Electrical Resistance and Potential Techniques for the Self-Sensing of Damage in Carbon Fiber Polymer-Matrix Composites", J. Intell. Mater. Syst. Struct. 17(10), 853-861 (2006).
93. Daojun Wang, Shoukai Wang, D.D.L. Chung and Jaycee H. Chung, "Sensitivity of the Two-Dimensional Electric Potential/Resistance Method for Damage Monitoring in Carbon Fiber Polymer-Matrix Composite", J. Mater. Sci.. 41(15), 4839-4846 (2006).
94. Zongrong Liu and D.D.L. Chung, "Boron Nitride Particle Filled Paraffin Wax as a Phase-Change Thermal Interface Material", J. Electron. Packaging 128(4), 319-323 (2006).
95. Yasuhiro Aoyagi, Chia-Ken Leong and D.D.L. Chung, "Polyol-Based Phase-Change Thermal Interface Materials", J. Electron. Mater. 35(3), 416-424 (2006).
96. Shoukai Wang and D.D.L. Chung, "Self-Sensing of Flexural Strain and Damage in Carbon Fiber Polymer-Matrix Composite by Electrical Resistance Measurement", Carbon 44(13), 2739-2751 (2006).
97. Daojun Wang and D.D.L. Chung, "Comparative Evaluation of the Electrical Configurations for the Two-Dimensional Electric Potential Method of Damage Monitoring in Carbon Fiber Polymer-Matrix Composite", Smart Mater. Struct. 15, 1332-1344 (2006).
98. Shoukai Wang and D.D.L. Chung, "Negative Piezoresistivity in Continuous Carbon Fiber Epoxy-Matrix Composite", J. Mater. Sci. 42(13), 4987-4995 (2007).
99. Shoukai Wang, Dick S. Pang and D.D.L. Chung, "Hygrothermal Stability of Electrical Contacts Made from Silver and Graphite Electrically Conductive Pastes", J. Electron. Mater. 36(1), 65-74 (2007).
100. D.D.L. Chung, "Damage Detection Using Self-Sensing Concepts" (Invited Review), J. Aerospace Eng. (Proceedings of the Institution of Mechanical Engineers, Part G) 221(G4), 509-520 (2007).
101. Yasuhiro Aoyagi and D.D.L. Chung, "Effects of Antioxidants and the Solid Component on the Thermal Stability of Polyol-Ester-Based Thermal Pastes", J. Mater. Sci. 42(7), 2358-2375 (2007).
102. Sirong Zhu and D.D.L. Chung, "Analytical Model of Piezoresistivity for Strain Sensing in Carbon Fiber Polymer-Matrix Structural Composite under Flexure", Carbon 45(8), 1606-1613 (2007).
103. Daojun Wang and D.D.L. Chung, "Through-Thickness Stress Sensing of Carbon Fiber Polymer-Matrix Composite by Electrical Resistance Measurement", Smart Mater. Struct. 16, 1320-1330 (2007).
104. Chuangang Lin and D.D.L. Chung, "Nanostructured Fumed Metal Oxides for Thermal Interface Pastes", J. Mater. Sci., 42(22), 9245-9255 (2007).
105. Yasuhiro Aoyagi and D.D.L. Chung, "Antioxidant-based phase-change thermal interface materials with high thermal stability", J. Electron. Mater. 37(4), 448-461 (2008). Published online: Jan. 25, 2008.
106. Junhua Wu and D.D.L. Chung, "Combined Use of Magnetic and Electrically Conductive Fillers in a Polymer Matrix for Electromagnetic Interference Shielding", J. Electron. Mater. 37(8), 1088-1094 (2008).
107. Chuangang Lin and D.D.L. Chung, "Nanoclay Paste as Thermal Interface Material for Smooth Surfaces", J. Electron. Mater. 37(11), 1698-1709 (2008).
108. Parisa Pour Shahid Saeed Abadi, Chia-Ken Leong and D.D.L. Chung, "Factors that Govern the Performance of Thermal Interface Materials", J. Electron. Mater. 38(1), 175-192 (2009).
109. Chuangang Lin and D.D.L. Chung, "Rheological Behavior of Thermal Interface Pastes", J. Electron. Mater. 38(10), 2069-2084 (2009).
110. Parisa Pour Shahid Saeed Abadi and D.D.L. Chung, "Numerical Modeling of the Performance of Thermal Interface Materials in the Form of Paste-Coated Sheets", J. Electron. Mater. 40(7), 1490-1500 (2011).
111. Seungjin Han and D.D.L. Chung, "Increasing the Through-Thickness Thermal Conductivity of Carbon Fiber Polymer-Matrix Composite by Curing Pressure Increase and Filler Incorporation", Compos. Sci. Technol. 71(16), 1944-1952 (2011).
112. Seungjin Han and D.D.L. Chung, "Mechanical Energy Dissipation Using Carbon Fiber Polymer-Matrix Structural Composites with Filler Incorporation", J. Mater. Sci. 47, 2434-2453 (2012).
113. Seungjin Han and D.D.L. Chung, "Through-thickness thermoelectric power of a carbon fiber/epoxy composite and decoupled contributions from a lamina and an interlaminar interface", Carbon 52, 30-39 (2013).

114. Seungjin Han and D.D.L. Chung, “Carbon fiber polymer-matrix structural composites exhibiting greatly enhanced through-thickness thermoelectric figure of merit”, Composites, Part A 48, 162-170 (2013).
115. Daojun Wang and D.D.L. Chung, “Through-Thickness Piezoresistivity in a Carbon Fiber Polymer-Matrix Structural Composite for Electrical-Resistance-Based Through-Thickness Strain Sensing”, Carbon 60(1), 129-138 (2013).
116. Seungjin Han and D.D.L. Chung, "Strengthening and stiffening carbon fiber epoxy composites by halloysite nanotubes, carbon nanotubes and silicon carbide whiskers", Applied Clay Science, 83-84, 375-382 (2013).
117. Yoshihiro Takizawa and D.D.L. Chung, “Through-thickness thermal conduction in glass fiber polymer-matrix composites and its enhancement by composite modification”, J. Mater. Sci. 51, 3463-3480 (2016).
118. Yoshihiro Takizawa and D.D.L. Chung, “Continuous carbon fiber polymer-matrix composites in unprecedented antiferroelectric coupling providing exceptionally high through-thickness electric permittivity”, J. Mater. Sci. 51(14), 6913-6932 (2016).
119. D.D.L. Chung, “Processing-structure-property relationships of continuous carbon fiber polymer-matrix composites”, Mater. Sci. Eng. R 113, 1-29 (2017).
120. Asma A. Eddib and D.D.L. Chung. First report of capacitance-based self-sensing and in-plane electric permittivity of carbon fiber polymer-matrix composite. Carbon 140, 413-427 (2018).
121. D.D.L. Chung. Thermoelectric polymer-matrix structural and nonstructural composite materials. Advanced Industrial and Engineering Polymer Research 1, 61-65 (2018).
122. D.D.L. Chung. Development, design and applications of structural capacitors. Applied Energy 231, 89-101 (2018).
123. D.D.L. Chung and Asma A. Eddib. Effect of fiber lay-up configuration on the electromagnetic interference shielding effectiveness of continuous carbon fiber polymer-matrix composite. Carbon 141, 685-691 (2019).
124. D.D.L. Chung. A review of multifunctional polymer-matrix structural composites. Composites, Part B, 160, 644-660 (2019).
125. Xueping Wu, Junshuai Zhao, Xu Rao, D.D.L. Chung. Carbon fiber epoxy-matrix composites with hydrothermal-carbon-coated halloysite nanotube filler exhibiting enhanced strength and thermal conductivity. Polymer Composites 41(7), 2687-2703 (2020).
126. D.D.L. Chung. A critical review of piezoresistivity and its application in electrical-resistance-based strain sensing. J. Materials Science 55(32), 15367-15396 (2020).
127. Murat Ozturk, D.D.L. Chung. Capacitance-based stress self-sensing effectiveness of a model asphalt without functional component. Construction and Building Materials 294, 123591 (2021).
128. Murat Ozturk and D.D.L. Chung. Capacitance-based stress self-sensing in asphalt without electrically conductive constituents, with relevance to smart pavements. Sensors and Actuators A 342, 113625 (2022).
129. D.D.L. Chung. A review to elucidate the multi-faceted science of the electrical-resistance-based strain /temperature/damage self-sensing in continuous carbon fiber polymer-matrix structural composites. J. Mater. Sci. 58, 483–526 (2023).

**METAL-MATRIX COMPOSITES (32 journal papers)**

1. Jingyu Yang and D.D.L. Chung, "Casting Particulate and Fibrous Metal-Matrix Composites by Vacuum Infiltration of a Liquid Metal Under an Inert Gas Pressure", J. Mater.Sci. 24, 3605-3612 (1989).
2. Jingyu Yang and D.D.L. Chung, "Wear of Bauxite Particle Reinforced Aluminum Alloys", Wear 135, 53-65 (1989).
3. C.T. Ho and D.D.L. Chung, "Carbon Fiber Reinforced Tin-Superconductor Composites", J. Mater. Res. 4(6), 1339-1346 (1989).
4. Jeng-Maw Chiou and D.D.L. Chung, "Characterization of Metal-Matrix Composites Fabricated by Vacuum Infiltration of a Liquid Metal under an Inert Gas Pressure", J. Mater. Sci. 26, 2583-2589 (1991).
5. C.T. Ho and D.D.L. Chung, "Carbon Fiber Reinforced Tin-Lead Alloy as a Low Thermal Expansion Solder Preform", J. Mater. Res. 5(6), 1266-1270 (1990).
6. Jimin Cao and D.D.L. Chung, "Carbon Fiber Silver-Copper Brazing Filler Composites for Brazing Ceramics", Welding J. 71(1), 21-s - 24-s (1992).
7. Jeng-Maw Chiou and D.D.L. Chung, "Improving the Temperature Resistance of Aluminum-Matrix Composites by Using an Acid Phosphate Binder, Part I: Binders", J. Mater. Sci. 28, 1435-1446 (1993).
8. Jeng-Maw Chiou and D.D.L. Chung, "Improving the Temperature Resistance of Aluminum-Matrix Composites by Using an Acid Phosphate Binder, Part II: Preforms", J. Mater. Sci. 28, 1447-1470 (1993).
9. Jeng-Maw Chiou and D.D.L. Chung, "Improving the Temperature Resistance of Aluminum-Matrix Composites by Using an Acid Phosphate Binder, Part III: Aluminum-Matrix Composites", J. Mater. Sci. 28, 1471-1487 (1993).
10. Mingguang Zhu and D.D.L. Chung, "Active Brazing Alloy Containing Carbon Fibers for Metal-Ceramic Joining", J. Am. Ceramic Society 77(10), 2712-2720 (1994).
11. Shy-Wen Lai and D.D.L. Chung, "Fabrication of Particulate Aluminum-Matrix Composites by Liquid Metal Infiltration", J. Mater. Sci. 29(12), 3128-3150 (1994).
12. Shy-Wen Lai and D.D.L. Chung, "Phase Distribution and Associated Mechanical Property Distribution in Silicon Carbide

Particle Reinforced Aluminum Fabricated by Liquid Metal Infiltration", J. Mater. Sci. 29(11), 2998-3016 (1994).
13. Shy-Wen Lai and D.D.L. Chung, "Consumption of SiC Whiskers by the Al-SiC Reaction in Aluminum-Matrix SiC Whisker Composites", J. Mater. Chem. 6(3), 469-477 (1996).
14. Pay Yih and D.D.L. Chung, "Copper-Matrix Molybdenum Composites Fabricated by Powder Metallurgy Using Copper Coated Molybdenum Particles", J. Electron. Mater.24(7), 841-851 (1995).
15. Yuyong Chen and D.D.L. Chung, "Silicon/Aluminum Network Composites Fabricated by Liquid Metal Infiltration", J. Mater.Sci. 29, 6069-6075 (1994).
16. Shy-Wen Lai and D.D.L. Chung, "Superior High Temperature Resistance of Aluminum Nitride Particle Reinforced Aluminum Compared to Silicon Carbide or Alumina Particle Reinforced Aluminum," J. Mater. Sci. 29, 6181-6198 (1994).
17. Shy-Wen Lai and D.D.L. Chung, "Shaping Metal-Matrix Composites by Thixotropic Machining," J. Mater. Proc. Tech. 58, 67-69 (1996).
18. Yuyong Chen and D.D.L. Chung, "Ductile and Strong Aluminum-Matrix Titanium Aluminide Composite Formed In-Situ from Aluminum, Titanium Dioxide and Sodium Hexafluoroaluminate", J. Mater.Sci. 30, 4609-4616 (1995).
19. Yuyong Chen and D.D.L. Chung, "Nickel Aluminide ($Ni_3Al$) Fabricated by Reactive Infiltration," J. Mater.Sci. 31, 2117-2122 (1996).
20. Yuyong Chen and D.D.L. Chung, "In Situ Al/TiB Composite Obtained by Stir Casting," J. Mater. Sci. 31, 311-315 (1996).
21. Pay Yih and D.D.L. Chung, "Silicon Carbide Whisker Copper-Matrix Composites Fabricated by Hot Pressing Copper Coated Whiskers," J. Mater. Sci. 31, 399-406 (1996).
22. Yuyong Chen and D.D.L. Chung, "Aluminum-Matrix Silicon Carbide Whisker Composites Fabricated by Pressureless Infiltration," J. Mater.Sci. 31, 407-412 (1996).
23. Pay Yih and D.D.L. Chung, "Powder Metallurgy Fabrication of Metal Matrix Composites Using Coated Fillers," Int. J. Powder Metallurgy 31(4), 335-340 (1995).
24. Andrew V. Smith and D.D.L. Chung, "Titanium Diboride Particle Reinforced Aluminum with High Wear Resistance," J. Mater.Sci. 31, 5961-5973 (1996).
25. Zheng-Qiang Shi and D.D.L. Chung, "Sandwiching Superconductor by Carbon Fiber Metal-Matrix Composite for Improving the Mechanical Properties, Air Stability and Thermal Cycling Resistance," Composites, Part A, 28(1), 1-4 (1997).
26. Pay Yih and D.D.L. Chung, "Titanium Diboride Copper-Matrix Composites," J. Mater. Sci. 32(7), 1703-1709 (1997).
27. Jiangyuan Hou and D.D.L. Chung, "Corrosion Protection of Aluminum-Matrix Aluminum Nitride and Silicon Carbide Composites by Anodization," J. Mater.Sci. 32(12), 3113-3134 (1997).
28. Pay Yih and D.D.L. Chung, "A Comparative Study of the Coated Filler Method and the Admixture Method of Powder Metallurgy for Making Metal-Matrix Composites," J. Mater. Sci. 32(11), 2873-2894 (1997).
29. Mingguang Zhu and D.D.L. Chung, "Improving the Strength of Brazed Joints to Alumina by Adding Carbon Fibers", J. Mater.Sci., 32, 5321-5333 (1997).
30. Pay Yih and D.D.L. Chung, "Brass-Matrix Silicon Carbide Whisker Composites," J. Mater. Sci. 34, 359-364 (1999).
31. Y. Xu and D.D.L. Chung, "Low-Volume-Fraction Particulate Preforms for Making Metal-Matrix Composites by Liquid Metal Infiltration," J. Mater. Sci. 33(19), 4707-4710 (1998).
32. D.D.L. Chung, "Acid Aluminum Phosphate for the Binding and Coating of Materials", J. Mater. Sci. 38(13), 2785-2791 (2003).

**3D PRINTING (9 journal papers)**

1. Naga B. Gundrati, Patatri Chakraborty, Chi Zhou and D.D.L. Chung, "Effects of printing conditions on the molecular alignment of three-dimensionally printed polymer", Composites, Part B, 134, 164-168 (2018).
2. Naga B. Gundrati, Patatri Chakraborty, Chi Zhou and D.D.L. Chung, "First observation of the effect of the layer printing sequence on the molecular structure of three-dimensionally printed polymer, as shown by in-plane capacitance measurement", Composites, Part B, 140, 78-82 (2018).
3. Patatri Chakraborty, Naga B. Gundrati, Chi Zhou and D.D.L. Chung, "Effect of stress on the capacitance and electric permittivity of three-dimensionally printed polymer, with relevance to capacitance-based stress monitoring", Sensors and Actuators A, 263C, 380-385 (2017).
4. Patatri Chakraborty, Chi Zhou and D.D.L. Chung, "Piezoelectric behavior of three-dimensionally printed acrylate polymer without filler or poling", J. Mater. Sci. 53(9), 6819-6830 (2018).
5. D.D.L. Chung and Sanjaya Somaratna, "Laboratory simulation of capacitance-based layer-by-layer monitoring of three-dimensional printing", Sensors and Actuators A 268, 101-109 (2017).
6. Patatri Chakraborty, Guanglei Zhao, Chi Zhou, Chong Cheng and D.D.L. Chung. Decreasing the shear-stress-induced in-plane molecular alignment by unprecedented stereolithographic delay in three-dimensional printing. J. Mater. Sci. 54(4), 3586-3599 (2019). Cover art also published.
7. Patatri Chakraborty, Guanglei Zhao, Chi Zhou and D.D.L. Chung. Unprecedented sensing of interlayer defects in three-dimensionally printed polymer by capacitance measurement. Smart Mater. Struct. 27(11), 115012, 7 pp (2018).
8. Patatri Chakraborty, Chi Zhou and D.D.L. Chung. Enhancing the inherent piezoelectric behavior of three-dimensionally printed acrylate polymer by electrical poling. Smart Mater. Struct. 27(11), 115038/1-115038/727

(2018).
9. Patatri Chakraborty, Chi Zhou and D.D.L. Chung. Converse piezoelectric behavior of three-dimensionally printed polymer and comparison of the in-plane and out-of-plane behavior. Mater Sci Eng B 252, 114447 (2020).

**METAL-SEMICONDUCTOR INTERFACES (12 journal papers)**

1. Xian-Fu Zeng and D.D.L. Chung, "Correlation of the Crystal Structural and Microstructural Effects of the Interfacial Processes between Gold and Gallium Arsenide," Thin Solid Films 93 (1,2), 207 (1982).
2. Xian-Fu Zeng and D.D.L. Chung, "Structural Characterization of the Interfacial Reactions between palladium and Gallium Arsenide," J. Vac. Sci. Tech. 21 (2), 611 (1982).
3. Siu Leung, L.K. Wong, D.D.L. Chung and A.G. Milnes, "Physiochemical Effects of Heating Gold on Gallium Arsenide," J. Electrochemical Society 130, 462 (1983).
4. Siu Leung, D.D.L. Chung and A.G. Milnes, "X-Ray Diffraction (Pole Figure) Study of the Epitaxy of Gold Thin Films on Gallium Arsenide," Thin Solid Films 104 (1-2), 109-31 (1983).
5. R.A. Ginley, D.D.L. Chung and D.S. Ginley, "Structural Effects of Heating Gold-Based Contacts to Gallium Phosphide," Solid-State Electron. 27, 137-46 (1984).
6. Xian-Fu Zeng and D.D.L. Chung, "In Situ X-ray Diffraction Study of Melting in Gold Contacts to Gallium Arsenide, Solid-State Electron.27 (4), 339-45 (1984).
7. D.D.L. Chung and Edward Beam III, "Gold on Gallium Arsenide: Its Crystallographic Orientation and Control on the Orientation of the Gold-Gallium Reaction Product," Thin Solid Films 128, 299-319 (1985).
8. Edward Beam III and D.D.L. Chung, "Phase Transitions in Gold Contacts to Gallium Arsenide," Thin Solid Films 128, 321-332 (1985).
9. Taeil Kim and D.D.L. Chung, "The Effects of Germanium Concentration on Phase Formation and Morphology of Gold-Germanium Ohmic Contacts to Gallium Arsenide," J. Vac. Sci. Tech. B 4(3), 762-768 (1986).
10. Taeil Kim and D.D.L. Chung, "In Situ X-ray Diffraction Study of the Effects of Germanium and Nickel Concentrations on Melting of Gold-Based Contacts to Gallium Arsenide," Thin Solid Films 147 (2), 177-192 (1987).
11. X-F. Zeng, D.D.L. Chung and Amir Lakhani, "Effect of Heating on the Structure of Au/GaAs Encapsulated with SiO ", Solid-State Electron. 30(12), 1259-66 (1987).
12. Taeil Kim and D.D.L. Chung, "The Study of Interfacial Reactions in Gold-Based Contacts in Gallium Arsenide", Phil. Mag.A62(3), 283-317 (1990).

**SILICON (6 journal papers)**

1. R.V. Prasad, F.A. Selim and D.D.L. Chung, "Semi-Insulating Polysilicon: Growth, Processing and Structural Characterization," Mater. Lett.4(2), 71-6 (1986).
2. J.Yi, R. Wallace, N. Sridhar, Z. Wang, K. Xie, D.D.L. Chung, C.R. Wie, K. Etemadi, W.A.Anderson, M. Periard, R.W. Cochrane, Y. Diawara, J.F. Currie and J. Coleman, "Crystallized Amorphous Silicon for Low-Cost Solar Cells", Solar Cells 30, 403-413 (1991).
3. Nagarajan Sridhar, D.D.L. Chung, W.A. Anderson, and J. Coleman, "Thermodynamics and Kinetics of Hydrogen Evolution from Hydrogenated Amorphous Silicon Films," J. Electron.Mater.24(10), 1451-1459 (1995).
4. Nagarajan Sridhar, D.D.L. Chung, W.A. Anderson, and J. Coleman, "Polysilicon Films of High Photoresponse, Obtained by Vacuum Annealing of Aluminum Capped Hydrogenated Amorphous Silicon," J. Appl. Phys. 78(12), 7304-7312 (1995).
5. Nagarajan Sridhar, D.D.L. Chung, W.A. Anderson, and J. Coleman, "Effect of Deposition Temperature on the Structural and Electrical Properties of Laser Crystallized Hydrogenated Amorphous Silicon Films," J. Applied Phys. 79(3), 1569-1577 (1996).
6. D.D.L. Chung, Dang Q. Duong. New method of measuring the permittivity of silicon wafer, with relevance to permittivity-based quality sensing, Mater. Chem. Phys. 299, 127516 (2023).

**JOINTS (16 journal papers)**

1. J.O.G. Parent, D.D.L. Chung and I.M. Bernstein, "Effects of Intermetallic Formation at the Interface between Copper and Tin-Lead Solder", J. Mater.Sci. 23, 2564-2572 (1988).
2. Mingguang Zhu and D.D.L. Chung, "Active Brazing Alloy Paste as a Totally Metal Thick Film Conductor Material", J. Electron.Mater.23(6), 541-549 (1994).
3. Xiangcheng Luo and D.D.L. Chung, “A Comparative Study of Silver-Epoxy and Tin-Lead Solder in Their Joints with Copper, through Mechanical and Electrical Measurements During Debonding,” J. Mater. Sci 34, 273-276 (1999).
4. Xiangcheng Luo and D.D.L. Chung, “Interface in Mechanically Fastened Steel Joint, Studied by Contact Electrical Resistance Measurement”, J. Materials Eng. Performance 9(1), 95-97 (2000).
5. Xiangcheng Luo and D.D.L. Chung, "Material Contacts under Cyclic Compression, Studied in Real Time by Electrical Resistance Measurement", J. Mater. Sci. 35(19), 4795-4802 (2000).

6. Xiangcheng Luo and D.D.L. Chung, "Degradation of Mechanically Fastened Stainless Steel Joint During Repeated Fastening and Unfastening", Adv. Eng. Mater. 3(1-2), 62-65 (2001).
7. Xiangcheng Luo and D.D.L. Chung "Irreversible Structural Change at the Interface Between Components During Fastening", Fastener Technology International 25(1), 86-87 (2002).
8. D.D.L. Chung, "Joints Obtained by Soldering, Adhesion, Autohesion and Fastening, Studied by Electrical Resistance Measurement", J. Mater. Sci. 36(11), 2591-2596 (2001).
9. Taejin Kim and D.D.L. Chung, "Effect of Stress on the Electrical Resistivity of Solder", J. Electron. Mater. 30(10), L29-L31 (2001).
10. Zongrong Liu and D.D.L. Chung, "Burnout of the Organic Vehicle in an Electrically Conductive Thick-Film Paste", J. Electron. Mater. 33(11), 1316-1325 (2004).
11. Zongrong Liu and D.D.L. Chung, "Effect of Firing Atmosphere on Air-Fireable Glass-Free Electrically Conductive Thick Film", J. Electron Mater. 34(3), 287-293 (2005).
12. Zongrong Liu and D.D.L. Chung, "Development of Glass-Free Metal Electrically Conductive Thick Films", J. Electron. Packaging 123(1), 64-69 (2001).
13. Zongrong Liu and D.D.L. Chung, "Low Temperature Air-Fireable Glass-Free Metallic Thick Film Electrical Conductor Materials", J. Electron. Mater. 30(11), 1458-1465 (2001).
14. Kyu Dong Kim and D.D.L. Chung, "Electrically Conductive Adhesive and Soldered Joints under Compression", J. Adh. Sci. Tech. 19(11), 1003-1023 (2005).
15. Kyu-Dong Kim and D.D.L. Chung, "Effect of Heating on the Electrical Resistivity of Conductive Adhesive and Soldered Joints", J. Electron. Mater. 31(9), 933-939 (2002).
16. Matthew Poeller and D.D.L.Chung, "Effect of Heating on the Structure of an Adhesive Joint, as Indicated by Electrical Resistance Measurement", J. Adhesion 79(6), 549-558 (2003).

**CERAMICS (19 journal papers)**

1. Mingguang Zhu and D.D.L. Chung, "On the Simultaneous Calcination and Sintering of $YBa_2Cu_3O_{7-x}$ in High-Magnetic Fields," Mater.Lett.18, 186-190 (1994).
2. Shoukai Wang and D.D.L. Chung, "Self-Monitoring of Strain in Silicon Carbide Whisker Reinforced Silicon Nitride," Smart Mater.Struct.6, 199-203 (1997).
3. Shuang Lu and D.D.L. Chung, "Viscoelastic behavior of silica particle compacts under dynamic compression", Journal of Materials in Civil Engineering 26(3), 551-553 (2014).
4. Shuang Lu and D.D.L. Chung, "Viscoelastic behavior of silica fume in the absence of a binder", ACI Materials J. 112(1), 137-146 (2015).
5. Shuang Lu and D.D.L. Chung, "Effect of organic intercalation on the viscoelastic behavior of clay", J. Mater. Sci. 49(8), 3189-3195 (2014).
6. Yoshihiro Takizawa, and D.D.L. Chung, "Fumed-alumina-derived nanoporous alumina as a new low-k dielectric material for microelectronic packaging", J. Electronic Mater. 44(7), 2211-2220 (2015).
7. Xinghua Hong, Daojun Wang and D.D.L. Chung, "Boron nitride nanotube mat as a low-k dielectric material with relative dielectric constant ranging from 1.0 to 1.1", J. Electronic Mater.45(1), 453-461 (2016).
8. Xinghua Hong, Daojun Wang and D.D.L. Chung, "Strong Viscous Behavior Discovered in Nanotube Mats, as Observed in Boron Nitride Nanotube Mats", Composites, Part B, B91, 56-64 (2016).
9. D.D.L. Chung, "Comment on "Piezoresistive Effect in SiOC Ceramics for Integrated Pressure Sensors", J. Am. Ceramic Soc., 94(1), 289 (2011).
10. Yong Fu and D.D.L. Chung, "Coagulation of Oil in Water Using Sawdust, Bentonite and Calcium Hydroxide to Form Floatable Sheets", Appl. Clay Sciences 53, 634-641 (2011).
11. Tianlei Sun and D.D.L. Chung, "Coagulation of Oil in Water Using Sawdust and Bentonite and the Formation of a Floating Coagulated Material", J. Environmental Engineering 139, 1470-1481 (2013).
12. Sihai Wen and D.D.L. Chung, "Effect of Stress on the Dielectric Constant of Alumina", J. Electron. Packaging 127(3), 235-236 (2005).
13. Shoukai Wang and D.D.L. Chung, "Piezoresistivity in Silicon Carbide Fibers", J. Electroceramics 10, 147-152 (2003).
14. Zongrong Liu and D.D.L. Chung, "Comparative Study of Electrically Conductive Thick Films With and Without Glass", J. Electron. Mater. 33(3), 194-202 (2004).
15. Sihai Wen and D.D.L. Chung, "Effect of Stress on the Dielectric Constant of Alumina", J. Electron. Packaging 127, 235-236 (2005).
16. Yunsheng Xu, Xiangcheng Luo and D.D.L. Chung, "Sodium Silicate Based Thermal Pastes for High Thermal Contact Conductance", J. Electronic Packaging 122(2), 128-131 (2000). Erratum: J. Electron. Packaging123, 159 (2001).
17. J.A. Fernando and D.D.L. Chung, "Pore Structure and Permeability of an Alumina Fiber Filter Membrane for Hot Gas Filtration", J. Porous Materials 9(3), 211-219 (2002).
18. J.A. Fernando and D.D.L. Chung, "Improving an Alumina Fiber Filter Membrane for Hot Gas Filtration using an Acid Phosphate Binder", J. Mater. Sci. 36(21), 5079-5085 (2001).
19. J.A. Fernando and D.D.L. Chung, "Thermomechanical Properties of Alumina Fiber Membrane", Ceramics Int. 31, 453-460 (2005).

**METALS (21 journal papers)**

1. Jian Wang and D.D.L. Chung, “A Comparative Study of the Vibration Damping Capacity of Superalloys”, J. Materials Eng. Performance 8, 577-578 (1999).
2. D.D.L. Chung and Kairong Shi, “Sensing the stress in steel by capacitance measurement”, Sensors and Actuators A 274, 244-251 (2018).
3. Xiang Xi and D.D.L. Chung, “Piezoresistivity and piezoelectricity discovered in aluminum, with relevance to structural self-sensing”, Sensors and Actuators A 289, 144-156 (2019).
4. Kairong Shi and D.D.L. Chung, “Unprecedented capacitance-based nondestructive evaluation of steels”, J. Mater. Eng. Perf. 28(5), 2573-2587 (2019).
5. Xiang Xi and D.D.L. Chung, “Electret, piezoelectret and piezoresistivity discovered in steels, with application to structural self-sensing and structural self-powering”, Smart Mater. Struct. 28(7) 075028 (18 pp) (2019).
6. Xiang Xi and D.D.L. Chung, “Piezoelectret-based and piezoresistivity-based stress self-sensing in steel beams under flexure”, Sensors Actuators A 301, 111780 (2020).
7. D.D.L. Chung and Murat Ozturk. Radio-wave absorption by aluminum and its dependence on the absorption distance. J. Mater. Sci. 56(15), 9263-9273 (2021).
8. Xiang Xi and D.D.L. Chung, “Piezoresistivity and piezoelectricity, dielectricity discovered in solder”, J. Mater. Sci.: Mater. Electronics 30(5), 4462–4472 (2019).
9. Wenyi Yang and D.D.L. Chung. Electric polarization and depolarization of solder, and their effects on electrical conduction. J. Mater. Sci.: Mater. Electronics 32(5), 6214-6227 (2021). Correction: Journal of Materials Science: Materials in Electronics, 32(10), 14113-14114 (2021).
10. Wenyi Yang and D.D.L. Chung. Effect of temperature on the electrical conduction and dielectric behavior of solder. J. Mater. Sci.: Mater. Electronics 32(5), 6511-6519 (2021).
11. Wenyi Yang and D.D.L. Chung. Effect of the cooling rate in solidification on the electrical behavior of solder. J. Mater. Sci.: Mater. Electronics 32(6), 7867-7874 (2021).
12. Wenyi Yang and D.D.L. Chung. First report of the ferroelectric behavior of a metal, as shown for solder. J. Mater. Sci.: Mater. Electronics 32(12), 16979-16989 (2021).
13. Murat Ozturk and D.D.L. Chung. Radio-wave shielding behavior of steel structures. J Electromagnetic Waves and Applications 35(11), 1407-1419 (2021).
14. Xiang Xi and D.D.L. Chung. Effects of cold work, stress and temperature on the dielectric behavior of copper. Mater. Chem. Phys. 270, 124793 (2021).
15. Wenyi Yang and D.D.L. Chung. Electret behavior discovered in solder, specifically tin-silver. J. Mater. Sci.: Mater. Electronics 32(14), 19145-19156 (2021).
16. Wenyi Yang and D.D.L. Chung. Effect of water on the dielectric behavior of solder. J. Mater. Sci.: Mater. Electronics 32, 22196–22204 (2021).
17. Garrett C. Thomas and D.D.L. Chung. Dielectric behavior of an electrically conductive metal-particle thick film. J. Electron. Mater. 51, 3005–3013 (2022).
18. D.D.L. Chung, Xiang Xi. New concept of electret-based capacitance, as shown for solder and other conductors. J. Mater. Sci.: Materials in Electronics 33, 27022–27039 (2022).
19. D.D.L. Chung, Xiang Xi. Introducing solder-based electronics, with solder functioning as resistor, capacitor and power source. J. Mater. Sci.: Materials in Electronics 24, 131 (2023).
20. Min Kyoung Kim, D.D.L. Chung. Inductance-based and inductance-capacitance-based structural self-sensing of shape-changing deformation in aluminum. Sensors Actuators A 365, 114926 (2024).
21. D.D.L. Chung. Comments on “Electromagnetic interference (EMI) shielding effectiveness (SE) of pure aluminum: an experimental assessment for 5G (SUB 6GHZ)”. J. Mater. Sci.: Materials in Electronics 35, 521 (2024).

**POLYMERS (2 journal papers)**

1. Wenhai Fu and D.D.L. Chung, "Vibration Reduction Ability of Polymers, Particularly Polymethylmethacrylate and Polytetrafluoroethylene", Polymers & Polymer Composites 9(6), 423-426 (2001).
2. Yu-Cheng Liu, Yasuhiro Aoyagi and D.D.L. Chung, “Development of Epoxy-Based Electrets”, J. Mater. Sci. 43(5), 1650-1663 (2008).

**OTHER TOPICS (22 journal papers)**

1. D.D.L. Chung, "Electrical Behavior of Solids," J. Educational Modules for Mat. Sci. Eng. 2, 747 (1980).
2. D.D.L. Chung, “Materials for Electromagnetic Interference Shielding”, J. Materials Eng. Performance 9(3), 350-354 (2000).
3. D.D.L. Chung, "Thermal Interface Materials", J. Mater. Eng. Performance 10(1), 56-59 (2001).
4. D.D.L. Chung, "Materials for Thermal Conduction", Applied Thermal Engineering 21 (ER16), 1593-1605 (2001).
5. Xiangcheng Luo, Yunsheng Xu and D.D.L. Chung, "Thermal Stability of Thermal Interface Pastes Evaluated by Thermal

Contact Conductance Measurement", J. Electronic Packaging 123(3), 309-311 (2001).
6. Xiangcheng Luo and D.D.L. Chung, "Effect of the Thickness of a Thermal Interface Material (Solder) on Heat Transfer Between Copper Surfaces", Int. J. Microcircuits Electronic Packaging 24(2), 141-147 (2001).
7. D.D.L. Chung, "Materials for Vibration Damping", J. Mater. Sci. 36(24), 5733-5738 (2001).
8. D.D.L. Chung, "Composites Get Smart", Materials Today 5(1), 30-35 (2002).
9. Taejin Kim and D.D.L. Chung, "Thermoelectric Behavior of Solder", J. Electronic Packaging 125(1), 161-162 (2003).
10. Junhua Wu and D.D.L. Chung, "Pastes for Electromagnetic Interference Shielding", J. Electron. Mater. 34(9), 1255-1258 (2005).
11. Taejin Kim and D.D.L. Chung, "Mats and Fabrics for Electromagnetic Interference Shielding", J. Mater. Eng. Perf. 15(3), 295-298 (2006).
12. D.D.L. Chung, "Advances in Thermal Interface Materials", Advancing Microelectronics 33(4), 8-11 (2006).
13. Qiaoli Meng, Yibadan Kenayeti and D.D.L. Chung, "Battery in the form of a soil-matrix composite", J. Energy Engineering, 141(3), 04014013 (2015); online first (2012).
14. D.D.L. Chung, "Mildred S. Dresselhaus (1930-2017)", Nature 543, 316 (2017).
15. Robert H. Hurt, D.D.L. Chung, Mauricio Terrones, Katsumi Kaneko, Peter Thrower, Morinobu Endo, Hui-Ming Cheng, Michael Strano. Mildred S. Dresselhaus (1930 – 2017) – A Tribute from the Carbon Journal. Carbon 119, 573-577 (2017).
16. D.D.L. Chung, "Thermal interface materials", J. Electron. Mater. 49(1), 268-270 (2020).
17. D.D.L. Chung. Materials for electromagnetic interference shielding (Feature Article). Mater. Chem. Phys. 255, 123587 (2020).
18. D.D.L. Chung. Pitfalls and methods in the measurement of the electrical resistance and capacitance of materials. J. Electron. Mater. 50(2), 6567-6574 (2021).
19. D.D.L. Chung. Pitfalls in electromagnetic skin-depth determination. J. Electron. Mater. 51, 1893-1899 (2022).
20. D.D.L. Chung. Performance of thermal interface materials. Small 18(16), 2200693 (2022).
21. D.D.L. Chung. Pitfalls in piezoresistivity testing. J. Electronic Mater. 51, 5473-5481 (2022).
22. Min Kyoung Kim, D.D.L. Chung. Electrical-connection-related stray inductance causing overassessment of the electrical resistance measured by using the two-probe method. J. Electron. Mater. 53, 1026–1034 (2024).