

Li-Chyong Chen_ Full Publication List with Weblink (updated January 28, 2026)

A. Edited Books, Journal Issues and Conference Proceedings:

- (1) **Carbon Nanotubes and Related Low-Dimensional Materials**, ed. L. C. Chen, D. B. Geohegan, J. Robertson, and Z. L. Wang (Mater. Res. Soc. Symp. Proc. Volume 1081, Issue 1, Warrendale, PA, 2008)
<https://link.springer.com/journal/43582/volumes-and-issues/1081-1>
- (2) *State-of-the-Art Program on Compound Semiconductors 48: ZnO, InZnO and InGaO Related Materials and Devices for Electronic and Photonic Applications*, ed. M. E. Overberg, F. Ren, B. Gila, P. S. Nam, H. Ouyang, L. C. Chen, Y. Heo, J. Kim, J. LaRoche, P. Shen, and K. Shiojima (Electrochem. Soc., Pennington, NJ, 2008), Vol. 13, No. 3.
<https://iopscience.iop.org/issue/1938-5862/13/3>
- (3) *Diamond and Related Materials Vol. 18, Issues 2-3_Proceedings of the International Conference on New Diamond and Nano Carbons 2008*, ed. I. N. Lin, K. H. Chen, L. Chang, L. C. Chen, and Y. H. Tzeng (Elsevier B. V., 2009)
<https://www.sciencedirect.com/journal/diamond-and-related-materials/vol/18/issue/2>
- (4) *Thin Solid Films* Vol. 688, 137494, Special Issue on *Thin Films Advances*, ed. Ivan Petrov, Lars Hultman, Michael Stueber, Li-Chyong Chen, Patrick Desjardins (Elsevier B. V., 2019)
<https://doi.org/10.1016/j.tsf.2019.137494>
- (5) *J. Vac. Sci. Technol. A* Vol. 42 (6), 061601, *Special Topic Collection Celebrating the Achievements and Life of Joe Greene*, ed. Ivan Petrov, Lars Hultman, Li-Chyong Chen, Jochen M. Schneider, Stephen Rosnagel (Elsevier B. V., 2024)
<https://pubs.aip.org/avs/jva/article/42/6/061601/3317202>
- (6) *Applications of X-ray Techniques to Nanomaterials for Energy Research*, ed. Li-Chyong Chen and Wei-Fu Chen, World Scientific Publishing Company, 2024.
https://www.worldscientific.com/worldscibooks/10.1142/13633?srsId=AfmBOogSnypaZ6VEA0r1C0HwZcQRdX7pfMNMrbTQUXbHu_Sg-tM4dnLf#t=aboutBook

B. Invited Book Chapters & Review Articles:

- (1) 'Particulate Generated by Pulsed Laser Ablation', L. C. Chen*, Chapter 6, pp. 167-198, in D. B. Chrisey and G. K. Hubler, Eds., *Pulsed Laser Deposition of Thin Films*, Wiley, New York, 1994.
<https://research.ece.ncsu.edu/daryoosh/files/PLD%20part%201.pdf>
- (2) 'Progress and Status of SiCN: a New Wide Band Gap Material', L. C. Chen*, K. H. Chen, J.-J. Wu, D. M. Bhusari and M. C. Lin, Chapter 2, pp. 73-125, in H. S. Nalwa, Ed., *Si-Based Materials and Devices*, Academic Press, 2001.
<https://www.sciencedirect.com/science/chapter/edited-volume/abs/pii/B9780125139090500040>
- (3) 'Group III-and Group IV-Nitride Nanorods and Nanowires', L. C. Chen*, K. H. Chen and C. C. Chen, Chapter 9, pp. 257-309, in Z. L. Wang, Ed., *Nanowires and Nanobelts – Materials, Properties and Devices, Vol. 1: Metal and Semiconductor Nanowires*, Kluwer Academic Publisher, 2003.
https://link.springer.com/chapter/10.1007/978-0-387-28745-4_9
- (4) 'Nanotips: Growth, Model and Applications', S. Chattopadhyay, L. C. Chen* and K. H. Chen, an invited review article in Wolfgang Sigmund, Ed., *Critical Reviews in Solid State and Materials Sciences* 31, pp. 15-53, Taylor and Francis, 2006.
<https://www.tandfonline.com/doi/abs/10.1080/10408430600689299>
- (5) 'Recent Trends in Indium Nitride Nanomaterials', Abhijit Ganguly, Li-Chyong Chen*, Kuei-Hsien Chen, Surojit Chattopadhyay*, Chapter 14, pp. 431-462, in Zhe-Chuan Feng, Ed., *III-Nitride Devices and Nano-engineering*, Imperial College Press, UK, 2008.

https://www.worldscientific.com/doi/abs/10.1142/9781848162242_0015

(6) 'Carbon Nanotube Supported Catalysts for Direct Methanol Fuel Cells', C. H. Wang, L. C. Chen, K. H. Chen*, Chapter 8, pp. 315-354, in JiuJun Zhang and Hansan Liu, Eds., *Electrocatalysis of Direct Methanol Fuel Cells*, John Wiley and Sons, New York, 2009.

<https://onlinelibrary.wiley.com/doi/abs/10.1002/9783527627707.ch8>

(7) 'Growth, Properties and Sensing Applications of One-dimensional III-Nitride Nanostructures', S. Chattopadhyay*, A. Ganguly, K. H. Chen and L. C. Chen*, an invited review article in Wolfgang Sigmund, Ed., *Critical Reviews in Solid State and Materials Sciences* 34, pp. 224-279, Taylor and Francis, 2009.

<https://www.tandfonline.com/doi/abs/10.1080/10408430903352082>

(8) 'Anti-reflecting and Photonic Nanostructures', S. Chattopadhyay*, Y. F. Huang, Y. J. Jen, A. Ganguly, K. H. Chen and L. C. Chen*, an invited review article in A. G. Cullis and S. S. Lau, Eds., *Materials Science and Engineering Review* 69, pp. 1-35, Elsevier, 2010. {front cover}

<https://www.sciencedirect.com/science/article/pii/S0927796X10000513>

(9) 'Energy Production and Conversion Applications of One-dimensional Semiconductor Nanostructures', Surojit Chattopadhyay*, Li-Chyong Chen and Kuei-Hsien Chen*, an invited review article in *NPG Asia Materials* 3, pp. 74-81, 2011.

<https://www.nature.com/articles/am2011135>

(10) 'Recent Advances in GaN Nanowires: Surface-controlled Conduction and Sensing Applications', Ruei-San Chen, Abhijit Ganguly, Li-Chyong Chen* and Kuei-Hsien Chen*, Chapter 10, pp. 295-315, in S. J. Pearton, Ed., *GaN and ZnO-based Materials and Devices*, Springer, 2012.

https://link.springer.com/chapter/10.1007/978-3-642-23521-4_10

(11) 'Biomimetic Nanostructures for Anti-reflection Devices', S. Chattopadhyay*, Y.-F. Huang, K. H. Chen, L. C. Chen*, Chapter 4, pp. 108-146, in Maryanne Large, Ed., *Optical Biomimetics: Materials and Applications*, Woodhead Publishing, 2012.

https://www.researchgate.net/publication/287236916_Biomimetic_nanostructures_for_anti-reflection_AR_devices

(12) 'Effect of Chemical Doping of Boron and Nitrogen on the Electronic, Optical, and Electrochemical Properties of Carbon Nanotubes', Debnarayan Jana*, Chia-Liang Sun, Li-Chyong Chen* and Kuei-Hsien Chen, an invited review article in *Progress in Materials Science* 58, pp. 565-635, Elsevier, 2013.

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(13) 'Production and Storage of Energy with One-Dimensional Semiconductor Nanostructures', Abhijit Ganguly, Surojit Chattopadhyay*, Kuei-Hsien Chen and Li-Chyong Chen, an invited review article in Wolfgang Sigmund, Ed., *Critical Reviews in Solid State and Materials Sciences* 39, pp. 109-153, Taylor and Francis, 2014.

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(14) 'Anti-reflecting Nanostructures', A. Ganguly*, S. Chattopadhyay, P. K. Roy, L. C. Chen*, K. H. Chen*, Chapter 2, pp. 35-90, in S. Chattopadhyay, Ed., *Biomimetic Architectures by Plasma Processing: Fabrication and Applications*, Pan-Stanford, 2014.

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(15) 'Conducting Polymer Based Flexible Supercapacitor', I. Shown, A. Ganguly, L. C. Chen* and K. H. Chen*, an invited review article in Tomas Kaberger, Ed., *Energy Science & Engineering* 3, pp. 2-26, Wiley, 2015.

<https://onlinelibrary.wiley.com/doi/full/10.1002/ese3.50>

(16) 'Integrated Nano-architected Photocatalysts for Photochemical CO₂ Reduction', Subhash Chandra Shit, Indrajit Shown*, Ratul Paul, Kuei-Hsien Chen, John Mondal* and Li-Chyong Chen*, an invited review article in *Nanoscale* 12, pp.

<https://doi.org/10.1039/d0nr05884j>

- (17) 'Hybrid and Asymmetric Supercapacitors: Achieving Balanced Stored Charge across Electrode Materials', Mohammad Qorbani*, Kuei-Hsien Chen*, and Li-Chyong Chen*, an invited review article in *Small* 20, 2400558 (2024)

<https://doi.org/10.1002/sml.202400558>

- (18) 'Applications of X-ray Spectroscopy in Carbon Dioxide Reduction', Indrajit Shown*, Wei-Fu Chen, Kuei-Hsien Chen and Li-Chyong Chen*, Chapter 5, pp. 155-186, in Li-Chyong Chen and Wei-Fu Chen, Eds., *Applications of X-ray Techniques to Nanomaterials for Energy Research*, World Scientific Publishing Company, 2024.

https://www.worldscientific.com/doi/10.1142/9789811284649_0005

C. Refereed Papers:

- (1) 'The Number of Third Order Elastic Constants of an Icosahedral Solids', L. C. Chen, S. Ebalard, L. M. Goldman, W. Ohashi, B. Park and F. Spaepen*, *J. Appl. Phys.* 60, 2638 (1986).

<https://aip.scitation.org/doi/pdf/10.1063/1.337086>

- (2) 'The Configurational Entropy of Two-dimensional Random Penrose Tiling', L. C. Chen and F. Spaepen*, *Mater. Sci. and Engng.* 99, 339 (1988).

<https://www.sciencedirect.com/science/article/abs/pii/0025541688903539>

- (3) 'Calorimetry Evidence for the Micro-Quasicrystalline Structure of Amorphous Al-Transition Metal Alloys', L. C. Chen and F. Spaepen*, *Nature* 336, 366 (1988).

<https://www.nature.com/articles/336366a0>

- (4) 'A Structural and Calorimetric Study of the Transformations in Al-Mn and Al-Mn-Si Films', L. C. Chen, F. Spaepen*, J. L. Robertson, S. C. Moss and K. Hiraga, *J. Mater. Res.* 9, 1871 (1990).

<https://www.cambridge.org/core/journals/journal-of-materials-research/article/structural-and-calorimetric-study-of-the-transformations-in-sputtered-almn-and-almnsi-films/59B797715DF4260379120B8E91BD2ABB>

- (5) 'Analysis of Calorimetric Measurements of Grain Growth', L. C. Chen and F. Spaepen*, *J. Appl. Phys.* 69, 679 (1991).

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- (6) 'How to Use Calorimetry to Distinguish a Microcrystalline from an Amorphous Structure', L. C. Chen and F. Spaepen*, *Mater. Sci. and Engng. A* 133, 342 (1991).

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- (7) 'A Comment on the Use of Calorimetry for the Determination of the Structure of Amorphous Materials', L. C. Chen and F. Spaepen*, *Phil. Mag. B* 63(2), 585 (1991).

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- (8) 'Grain Growth in Microcrystalline Materials Studied by Calorimetry', L. C. Chen and F. Spaepen*, *Nanostructured Materials* 1(1), 59 (1992).

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- (9) 'Dilatometric Analysis of Sintering of Tungsten and Tungsten with Ceria and Hafnia Dispersions', L. C. Chen*, *Inter. J. of Refractory Metal and Hard Mater.* 12, 41 (1994).

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- (10) 'Micro-Raman for Diamond Film Stress Analysis', K. H. Chen*, Y. L. Lai, J. C. Lin, K. J. Song, L. C. Chen and C. Y. Huang, *Diamond and Relat. Mater.* 4, 460 (1995).

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- (11) 'High-temperature Raman Study in CVD Diamond', K. H. Chen*, Y. L. Lai, L. C. Chen, J. Y. Wu and F. J. Kao, *Thin Solid Films Li-Chyong Chen (L. C. Chen)*

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(12) 'Formation of Crystalline Silicon Carbon Nitride Films by Microwave Plasma-Enhanced Chemical Vapor Deposition', L. C. Chen*, C. Y. Yang, D. M. Bhusari, K. H. Chen, M. C. Lin, J. C. Lin and T. J. Chuang, *Diamond and Relat. Mater.* 5, 514 (1996).

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(13) 'Composition of SiCN crystals consisting of a predominantly carbon-nitride network', D. M. Bhusari, C. K. Chen, K. H. Chen*, T. J. Chuang, L. C. Chen and M. C. Lin, *J. Mater. Res.* 12, 322 (1997).

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(14) 'Si-Containing Crystalline Carbon Nitride Derived from Microwave Plasma-Enhanced Chemical Vapor Deposition', L. C. Chen*, D. M. Bhusari, C. Y. Yang, K. H. Chen, T. J. Chuang, M. C. Lin, C. K. Chen and Y. F. Huang, *Thin Solid Films* 303, 66 (1997).

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(15) 'Temperature Dependence of the Direct Band Gap of Si-containing Carbon Nitride Crystalline Films', D. Y. Lin, C. F. Li, Y. S. Huang*, Y. C. Jong, Y. F. Chen, L. C. Chen, C. K. Chen, K. H. Chen and D. M. Bhusari, *Phys. Rev. B* 56(11), 6498 (1997).

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(21) 'Novel Two Stage Method for Growth of Highly Transparent Nano-crystalline Diamond Films', D. M. Bhusari, J. R. Yang, T. Y. Wang, K. H. Chen*, S. T. Lin and L. C. Chen, *Mater. Lett.* 36, 279 (1998).

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- (24) 'Sputtering Process of Carbon Nitride Films by Using a Novel Bio-Molecular C-N Containing Target', T. R. Lu, L. C. Chen, K. H. Chen, D. M. Bhusari, T. M. Chen and C. T. Kuo*, *Thin Solid Films* 332, 74 (1998).
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- (27) 'Ellipsometric Study of Carbon Nitride Thin Films with and without Silicon Addition', L. C. Chen*, H. Y. Lin, C. S. Wong, K. H. Chen, S. T. Lin, Y. C. Yu, C. W. Wang, E. K. Lin and K. C. Ling, *Diamond and Relat. Mater.* 8, 618 (1999).
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- (29) 'Quantum Confinement Effect in Diamond Nanocrystals Studied by X-ray-absorption Spectroscopy', Y. K. Chang, H. H. Hsieh, W. F. Pong*, M. H. Tsai, F. Z. Chien, P. K. Tseng, L. C. Chen, T. Y. Wang, K. H. Chen, D. M. Bhusari, J. R. Yang and S. T. Lin, *Phys. Rev. Lett.* 82, 5377 (1999).
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- (30) 'High Purity Nano-crystalline Carbon Nitride Films Prepared at Ambient Temperature by Ion Beam Deposition', T. R. Lu, C. T. Kuo*, J. R. Yang, L. C. Chen, K. H. Chen and T. M. Chen, *Surface and Coating Tech.* 115, 116 (1999).
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(40) 'Growth, Characterization, Optical and X-ray Absorption Studies of Nano-crystalline Diamond Films', L. C. Chen*, T. Y. Wang, J. R. Yang, K. H. Chen, D. M. Bhusari, Y. K. Chang, H. H. Hsieh and W. F. Pong, *Diamond Relat. Mater.* 9, 877 (2000).

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