

List of Publications*

*Prof. Jagadish's papers are cited according to Web of Science (Google Scholar) more than 13000+ (24000+) times and his h index is: 60 (73). In addition to more than 660 refereed journal papers, he has published 280+ papers in refereed conference proceedings.

US and Australian Patents:

1. M. Buda, H.H. Tan, M.F. Aggett and C. Jagadish, Low divergence diode laser, US Patent No. 6, 882, 670 (April 19, 2005)
2. L. Fu, H.H. Tan and C. Jagadish, Method of disordering quantum well heterostructures, US Patent No. 6, 936, 526 (August 30, 2005)
3. M. Buda, J. Hay, H.H. Tan and C. Jagadish, Thin clad diode laser, US Patent No. 6, 993, 053 (January 31, 2006)
4. C. Jagadish and M.I. Cohen, A Vertical Cavity Surface Emitting Laser, US Patent No. 7, 110, 428 (September 19, 2006)
5. M. Buda, H.H. Tan, L. Fu, L. Josyula, M.F. Aggett and C. Jagadish, A single mode optical device, US Patent No. 7, 251, 381 (July 31, 2007)
6. M. Rahmani, D. Neshev, H.H. Tan, C. Jagadish, Y.S. Kivshar and F. Karouta, Frequency conversion of electromagnetic radiation, Australian Patent No. 2017203205 (May 12, 2017).

Authored Book:

1. H.L. Hartnagel, A.L. Dawar, A. Kumar and C. Jagadish, Semiconducting Transparent Thin Films, Institute of Physics Publishing Ltd, Bristol, UK 1995, pp.358.

Edited Books:

1. C. Jagadish and S.J. Pearton (Eds), Zinc Oxide Bulk, Thin films, Nanostructure: Processing, Properties and Applications, Elsevier Ltd, Oxford, 2006, pp 589.
2. E.H. Lee, L. Eldada, M. Razeghi and C. Jagadish (Eds), VLSI Micro and Nanophotonics: Science, Technology, and Applications, Taylor and Francis/CRC Press, 2011, pp. 632.

3. S. D. Gunapala, D.R. Rhiger and C. Jagadish (Eds), *Advances in Infrared Photodetectors, Semiconductors and Semimetals Book Series*, Academic Press/Elsevier, vol. 84, 2011, pp. 341.
4. J.J. Coleman, A.C. Bryce and C. Jagadish (Eds), *Advances in Semiconductor Lasers, Semiconductors and Semimetals Book Series*, Academic Press/Elsevier, vol. 86, 2012, pp. 500.
5. B.G. Svensson, S.J. Pearton and C. Jagadish (Eds), *Oxide Semiconductors, Semiconductors and Semimetals Book Series*, Academic Press/Elsevier, vol. 88, 2013, pp 384.
6. Lucia Romano, Vittorio Privitera and C. Jagadish (Eds), *Defects in Semiconductors, Semiconductors and Semimetals Book Series*, Academic Press/Elsevier, vol. 91, 2015, pp. 445.
7. A. Fontcuberta I Morral, S. Dayeh and C. Jagadish (Eds), *Semiconductor Nanowires I: Growth and Theory, Semiconductors and Semimetals Book Series*, Academic Press/Elsevier vol. 93, 2015, pp. 296.
8. S. Dayeh, A. Fontcuberta I Morral and C. Jagadish (Eds), *Semiconductor Nanowires II: Properties and Applications, Semiconductors and Semimetals Book Series*, Academic Press/Elsevier, vol. 94, 2016, pp. 382.
9. F. Iacopi, J. Boeckel and C. Jagadish (Eds), *2D Materials, Semiconductors and Semimetals Book Series*, Academic Press/Elsevier, vol. 95, 2016, pp.358.
10. Z. Mi and C. Jagadish (Eds), *Nitride Semiconductor Optoelectronics, Semiconductors and Semimetals Book Series*, Academic Press/Elsevier, vol. 96, 2017, pp. 492.
11. Z. Mi, L. Wang and C. Jagadish (Eds), *Semiconductors for Photocatalysis, Semiconductors and Semimetals Book Series*, Academic Press/Elsevier, vol. 97, 2017, pp. 477.
12. S. Mokkalapati and C. Jagadish (Eds), *Nanowires for Energy Applications*, Elsevier, 2018, pp. 552.
13. S. Lourdodoss, R.T. Chen and C. Jagadish (Eds), *Silicon Photonics I*, Elsevier, 2018, pp. 228.
14. S. Lourdodoss, J.E. Bowers and C. Jagadish (Eds), *Future Directions in Silicon Photonics*, Elsevier, 2019, pp. 442.
15. C.Z. Tong and C. Jagadish (Eds), *Nanoscale Semiconductor Lasers*, Elsevier, 2019, pp. 498.

Edited Conference Proceedings:

1. R.J. Egan and C. Jagadish (Editors), "1993 Australian Compound Optoelectronic Materials and Devices Conference Proceedings", Australian Materials Research Society, Canberra 1994, pp. 205
2. C. Jagadish (Editor), "1996 Conference on Optoelectronic and Microelectronic Materials and Devices Proceedings", IEEE Publishing Co., Piscataway, NJ, USA, 1997, pp. 501.

3. C. Jagadish and N.J. Welham (Editors), “2000 International Semiconducting and Insulating Materials Conference Proceedings”, IEEE Publishing Co., Piscataway, NJ, USA, 2000, pp.360.
4. B.D. Weaver, M.O. Manasreh, C. Jagadish and S. Zollner (Editors), Progress in Semiconductors II-Electronic and Optoelectronic Applications, Materials Research Society Symposium Proceedings vol. 744, Materials Research Society, Warrendale, Pa, USA, 2003, pp. 680.
5. C. Jagadish, K.D. Choquette, B. Eggleton, B.D. Nener and K.A. Nugent (Editors), Photonics: Design, Technology and Packaging, Proceedings of SPIE, vol. 5277, Bellingham, WA, USA, 2004, pp.416.
6. J.C. Chiao, A.S. Dzurak, C. Jagadish and D.V. Thiel (Editors), Device and Process Technologies for Microelectronics, MEMS and Photonics IV, Proceedings of SPIE, vol. 6037, Bellingham, WA, USA, 2006, pp. 568.
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8. J.C. Chiao, A.S. Dzurak, C. Jagadish and D.V. Thiel (Editors), Micro and Nanotechnology: Materials, Processes, Packaging and Systems III, MEMS and Photonics IV, Proceedings of SPIE, vol. 6415, Bellingham, WA, USA, 2007, pp. 444.
9. J. Christen, C. Jagadish, D.C. Look, T. Yao and F. Bertram, Zinc Oxide and Related Materials, Materials Research Society Symposium Proceedings, vol. 957, Materials Research Society, Warrendale, Pa, USA, 2007, pp.440.
10. H.H. Tan, J.C. Chiao, L. Faraone, C. Jagadish, J.S. Williams and A.R. Wilson, Device and Process Technologies for Microelectronics, MEMS, Photonics and Nanotechnology IV, Proceedings of SPIE, vol. 6800, Bellingham, WA, USA, 2008.
11. D.P. Norton, C. Jagadish, I. Buyanova and G.C. Yi (Eds), Zinc Oxide and Related Materials—2007, Materials Research Society Symposium Proceedings, vol. 1035E, Warrendale, PA, USA, 2008 (electronic only - online).
12. L. Faraone, M. Cortie, A. Cuevas, J. Dell, C. Jagadish, M. Kocan, B. Luther-Davies, M. Martyniuk, G. Parish, A. Rakic, M. Simmons and S. Betts (Eds), Proceedings of 2008 Conference on Optoelectronic and Microelectronic Materials and Devices, IEEE Publishing Co., Piscataway, NJ, 2008, pp 319.
13. J.J. Boeckl, R.N. Candler, F.W. DelRio, A. Fontcuberta I Morral, C. Jagadish, C. Keimel, H. Silva, T. Voss, Q. Xiong (eds), Micro- and Nanoscale Systems – Novel Materials, Structures and Devices, Materials Research Society Proceedings, vol 1659, Warrendale, PA, USA, 2014, pp.235.

Guest Editor of Special Issues of Journals:

- 1 C. Jagadish, D.G. Deppe, S. Noda, T.F. Krauss and O.J. Painter, *Nanotechnologies for Communications*, Special issue of IEEE Journal on Selected Areas in Communications, Vol. 23 (7), pp 1305-1432 (2005).

2. C. Jagadish, A. Hill and P. Majewski, *Nanotechnology in Australia*, Special issue of International Journal of Nanotechnology vol. 4 (2), pp.161-392 (2008).
3. Yi Luo, D.G. Deppe and C. Jagadish, *Nano-Optoelectronics and Applications*, IEEE/OSA Journal of Lightwave Technology, 26 (11), pp. 1363-1555 (2008).
4. C. Jagadish, M. Sasaki and Andrew Yeh, *Optical MEMS and Nano-Photonics*, Special issue of Journal of Optics A: Pure and Applied Optics, 10(4), 040201-044017 (2008).
5. A.C. Bryce, C. Jagadish and J.J. Coleman, *Semiconductor Photonic Materials*, IEEE Journal of Selected Topics in Quantum Electronics, 14 (4), 977-1161 (2008).
6. C. Jagadish, *Semiconductor Nanowires*, Topical Issue of Semiconductor Science and Technology, 25 (2), 020301-024017 (2010). (17 papers, 172 pages).
7. C. Jagadish, K. Dick-Thelander, R. LaPierre, J. Motohisa, *Nanowires*, IEEE Journal of Selected Topics in Quantum Electronics, 17, 761-1132 (2011).
8. C. Jagadish, P.D. Dapkus, L. Mawst and A. Helmy, **Optoelectronic Device Integration**, IEEE Journal of Quantum Electronics, 48, 83-298 (2012).
9. C. Jagadish, G. Rodriguez and D. Kane, Special Issue in honor of J. Gary Eden on **Plasma Photonics**, IEEE Journal of Quantum Electronics 48, 735-835 (2012).
10. C. Jagadish, **Special Issue in honor of J. Gary Eden**, Progress in Quantum Electronics, 36, 1-271 (2012).
11. P.J. Reece and C. Jagadish, **Semiconductor Nanostructure Optoelectronics**, Materials Science and Engineering B, 177, 695-770 (2012).
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13. B. Dieny and C. Jagadish, **Non-volatile Memories**, J. Phys. D: Appl. Phys. 46(7), 070301-074006 (2013).
14. C. Jagadish, L. Geelhaar and S. Gradecak, **Semiconductor Nanowires**, Physica Status Solidi: Rapid Research Letters, 7, 683-925 (2013).
15. A. Fontcuberta I Morral and C. Jagadish, **Semiconductor Nanowires**, J. Phys. D: Appl. Phys. 47, 390301-394017 (2014).
16. M. Dawson, H. Jelinkova, D.P. Tsai and C. Jagadish, **Special Issue in honor of the 70th birthday of Professor Sir Peter Knight**, Progress in Quantum Electronics, 54, 1-45 (2017).
17. M. Rahmani and C. Jagadish, **Light-Matter Interaction on the Nanoscale**, Beilstein Journal of Nanotechnology, (2018 online)
18. A. Alu, Hilmi Volkan Demir and C. Jagadish, **Active Nanophotonics**, IEEE Proceedings, In Press (2020).

Invited / Review Journal Papers:

1. G. Li and C. Jagadish, Recent Progress in delta doping of III-V semiconductors grown by metal organic vapour phase epitaxy, Solid State Electronics, 41, 1207-1225 (1997).
2. Shu Yuan, C. Jagadish, Yong Kim, Y. Chang, H. H. Tan, R. M. Cohen, M. Petracic, L. V. Dao, M. Gal, M. C. Y. Chan, E. H. Li, J. S. O, and P. S. Zory,

- Anodic Oxide Induced Intermixing of GaAs/AlGaAs Quantum Well and Quantum Wire Structures, *IEEE Journal of Special Topics in Quantum Electronics*, 4, 629-635 (1998).
3. H.H. Tan, K. Sears, S. Mokkaapati, L. Fu, Y. Kim, P. McGowan, M. Buda and C. Jagadish, Quantum dots and nanowires for optoelectronic device applications, *IEEE J. Selected Topics in Quantum Electronics* 12, 1242-1254 (2006).
 4. A. Ashrafi and C. Jagadish, Review of Zincblende Zinc Oxide: Stability of Metastable Phases, *J. Appl. Phys.* 102, 071101 (12 pages) (2007). (*Applied Physics Reviews – Focused Review*).
 5. W. Lei and C. Jagadish, Lasers and photodetectors for mid-infrared 2-3 μm applications, *J. Appl. Phys.* 104, 091101 (11 pages) (2008) (*Applied Physics Reviews – Focused Review*).
 6. J.A. Davis and C. Jagadish, Ultrafast spectroscopy of ZnO/ZnMgO quantum wells, *Laser and Photonics Reviews*, 3, 85-96 (2009).
 7. Sudha Mokkaapati and C. Jagadish, III-V compound semiconductor optoelectronic devices, *Materials Today* 12 (4), 22-32 (2009).
 8. S. Barik, H.H. Tan, J. Wong-Leung and C. Jagadish, Growth and characterization of self-assembled InAs/InP quantum dot structures, *J. Nanoscience and Nanotechnology* 10, 1525-1536 (2010).
 9. L.M. Smith, J. Yarrison-Rice, H.E. Jackson and C. Jagadish, Insights into single semiconductor nanowire heterostructures using time resolved photoluminescence, *Semiconductor Sci. and Technol.* 25, 024010 (2010) (13 pages).
 10. Q. Gao, H.H. Tan, C. Jagadish, J. Zou, L.M. Smith, H.E. Jackson, J. M. Yarrison-Rice, Growth and properties of III-V compound semiconductor heterostructure nanowires, *Semicond. Sci. Technol.* 26, 014035 (2011) (10 pages).
 11. H.J. Joyce, Q. Gao, H.H. Tan, C. Jagadish, Y. Kim, J. Zou, L.M. Smith, H.E. Jackson, J.M. Yarrison-Rice, P. Parkinson and M.B. Johnston, III-V semiconductor nanowires for optoelectronic device applications, *Progress in Quantum Electronics* 35, 23-75 (2011).
 12. S. Mokkaapati and C. Jagadish, Review of photonic properties of nanowires for photovoltaics, *Optics Express*, 24, 17345-17358 (2016).
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 14. X.M. Yuan, J.B. Yang, J. He, H.H. Tan and C. Jagadish, Role of surface energy in nanowire growth, *J. Phys. D: Appl. Phys.* 51, 283002 (2018).
 15. Z.Y. Li, H.H. Tan, C. Jagadish and L. Fu, III-V semiconductor single nanowire solar cells: a review, *Adv. Mater. Technol.* 3, 1800005 (2018).
 16. P. Yu, L.V. Besteiro, Y.J. Huang, J. Wu, L. Fu, H.H. Tan, C. Jagadish, G.P. Wiederrecht, A.O. Govorov and Z.M. Wang, Broadband metamaterial absorbers, *Adv. Opt. Mater.* 7, 1800995 (2019).
 17. J. Wong-Leung, I. Yang, Z.Y. Li, S.K. Karuturi, L. Fu, H.H. Tan and C. Jagadish, Engineering III-V semiconductor nanowires for device applications, *Advanced Materials*, 1904359 (2019).

Book Chapters

1. H.H. Tan, S. Yuan, M. Gal and C. Jagadish, Quantum Well Intermixing by Ion Implantation and Anodic Oxidation, in "Semiconductor Quantum Wells Intermixing", Ed. E. Herbert Li, Gordon and Breach, Amsterdam (2000), pp.307-338.
2. X.Q. Liu, X.L. Wang, C. Jagadish and M. Ogura, Semiconductor Quantum Wires, Encyclopedia of Nanoscience and Nanotechnology, American Scientific Publishers, vol. IX, (2004), pp. 763-773.
3. V.A. Coleman and C. Jagadish, Basic Properties and Applications of ZnO, Zinc Oxide Bulk, Thin Films and Nanostructures: Processing, Properties and Applications, C.Jagadish and S.J.Pearson (eds), Elsevier, Oxford (2006), pp.1- 20.
4. S.O. Kucheyev and C. Jagadish, Ion implantation into ZnO, Zinc Oxide Bulk, Thin Films and Nanostructures: Processing, Properties and Applications, Elsevier, C. Jagadish and S.J. Pearson (Eds), Oxford (2006), pp285-312.
5. K. Sears, S. Mokkaapati, H.H. Tan and C. Jagadish, In(Ga)As/GaAs quantum dots grown by MOCVD for optoelectronic device applications, Self-Assembled Quantum Dots, Z.M. Wang (Ed), Springer-Verlag (2008) pp. 359-404.
6. S. Mokkaapati, H.H. Tan and C. Jagadish, Quantum Dot Integrated Optoelectronic Devices, VLSI Micro and Nanophotonics: Science, Technology, and Applications, Taylor and Francis/CRC Press, 11-1 to 11-34 (2011).
7. L. Fu, S. Mokkaapati, S. Barik, M. Buda, H.H. Tan and C. Jagadish, Disordering of quantum wells/dots for optoelectronic device integration, in Comprehensive Semiconductor Science and Technology, Elsevier, vol. 5, pp. 584-625 (2011).
8. J. Davies and C. Jagadish, Semiconductors and their nanostructures, Optical Techniques for Solid State Materials Characterization, Eds. R.P. Prasankumar and A.J. Taylor, Taylor and Francis/CRC Press, pp. 39-77 (2011).
9. J. Davies and C. Jagadish, Optical properties of ZnO/ZnMgO quantum wells, GaN and ZnO-based materials and Devices, S.J. Pearson (Ed), Springer, pp.413-434 (2012).
10. L. Lunardi, S. Mokkaapati, C. Jagadish, Optoelectronic Devices, Guide to the State of the Art Electron Devices, Wiley-IEEE Press, pp.265-274 (2013).
11. S. Mokkaapati, D. Saxena, H.H. Tan and C. Jagadish, Semiconductor nanowire optoelectronic devices, Semiconductor Nanowires II: Properties and Applications, Academic Press/Elsevier, vol. 94, pp 1-16 (2016).
12. R. Yew, S. Karuturi, H.H. Tan and C. Jagadish, Nanostructured photoelectrodes via template assisted fabrication, Semiconductors for Photocatalysis, vol. 97, 289-313 (2017).

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1. A.L. Dawar, C. Jagadish, K.V. Ferdinand, P. Kumar and P.C. Mathur, The effect of hydrogen on the electrical properties of p-type $\text{Pb}_{0.9}\text{Cd}_{0.1}\text{Te}$ thin films, J. Phys. Chem. Solids, 44, 453-455 (1983).

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14. S. Nigli, C. Jagadish and G.K. Chadha, X-ray, optical and electrical study of melt-grown CdI₂ single crystals, *Cryst. Res. Technol.*, 22, K219-K223 (1987).
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