

## Publication and Book Chapters

**Publications**      **Total citation: 1017; Average Citations per Item: >32, h-index: 13, i10-index: 16**

1. Non-contact, non-chemical synthesis of gold nanoparticles on a paper substrate using handheld corona treater for surface-enhanced Raman spectroscopy, Jitendra Wankar, Priya Dharshini A., Ira Bhatnagar, Harikrishna A., Srinivas Volety, Ch. Mohan Rao, Amit Asthana, Submitted, **Nano Today**, 2020, Manuscript Number: NANO TODAY-D-20-00904 (under review)
2. Viscous-droplet-assisted replica molding: fabrication of inexpensive, versatile microwell devices for uniform-sized embryoid bodies and cell spheroids, Gopi Suresh Oggu, Kiranmai Gaddam, Kiran Kumar Bokara, Amit Asthana\*, **Biofabrication**, 2020 (Under Review).
3. Facile fabrication of paper-based SERS substrate by In-situ synthesis of gold nanoparticles, Saurabh Srivastava, Gopi Suresh Oggu, Anirudh Rayaprolu, Hari Adicherla, Amit Asthana\*, Ch. Mohan Rao, **IOP Nanotechnology**, 2020, Article reference: NANO-124875 (Under Review)
4. Long-term stabilization of blood typing antibodies using a bioactive paper-based microfluidic device, ShahilaParween, Ira Bhatnagar, Suchitra Bhosale, Shivangi Paradkar, Issac. J. Michael, Ch. Mohan Rao, Amit Asthana\*, **Int. J. Biol. Macromol.**, 15 November 2020,163, 1233-1239. **(Impact factor 5.162)**
5. An affordable, rapid determination of total lipid profile using a paper-based microfluidic device, ShahilaParween, P. Debishree Subudhi, Amit Asthana, **Sensors & Actuators: B. Chemical**, 2019, 285, 405–412. **(Impact factor 7.1)**
6. Fabrication of cost-effective and efficient paper-based device for viscosity measurement, Anirudh Rayaprolu; Saurabh K Srivastava; LavleenBhati; Ketan Anand; Amit Asthana, Ph.D.; Ch. Mohan Rao, **Analytica Chimica Acta**, 2018, 1044,86-92. **(Impact factor 5.977)**
7. Chitosan as a biomaterial in drug delivery and tissue engineering, S. M. Ahsan. M. Thomas, K. K. Reddy, S. G. Sooraparaju, A. Asthana, I. Bhatnagar, **Int. J. Biol. Macromol.**, 2018, 110, 97-109. **(Impact factor 5.162)**
8. Chitosan stabilized gold nanoparticle-mediated self-assembled gliPnanobiosensor for diagnosis of Invasive Aspergillosis, I. Bhatnagar, K. Mahato, K. K. R. Ealla, A. Asthana, P. Chandra, **Int. J. Biol. Macromol.**, 2018, 110, 449-456. **(Impact factor 5.162)**
9. A microfluidic device approach to generate hollow alginate microfibers with controlled wall thickness and inner diameter, UHT Pham, M Hanif, A Asthana, SM Iqbal, **Journal of Applied Physics**, 2015, 117 (21), 214703 **(Impact factor 2.138)**
10. Modulation of stem cell differentiation by the influence of nanomaterials/carriers, Kiran K Bokara, Gopi S Oggu, Aditya J Vidyasagar, Amit Asthana, Jong E Lee, Ch. Mohan Rao, **Current Stem Cell Research and Therapy**, 2014, 9, 458-468. **(Impact factor 2.614)**
11. Foil-assisted replica molding for the fabrication of microfluidic devices and their application in vitro, Issac J. Micheal, Aditya J. Vidyasagar, Kiran Kumar Bokara, Naveen Kumar Mekala, Amit Asthana and Ch Mohan Rao, **Lab-on-a-chip**,2014, 14 (19), 3695 –3699. **(Impact factor 6.750)**
12. Fabrication and Characterization of Gold Nanohole Electrode Ensemble, S. Rauf, M.J.A. Shiddiky, A. Asthana, K. Dimitrov, **Sensors & Actuators: B Chemical**, 2012, 173, 491-496. **(Impact factor 7.10)**
13. Rapid and cost-effective fabrication of selectively permeable calcium-alginate microfluidic device using modified embedded template method, Amit Asthana, Kwang Ho Lee, Kyeong-

- Ohn Kim, Dong-Myung Kim and Dong-Pyo Kim, **Biomicrofluidics**, 2012, 6, 012821. **(Impact factor 2.50)**
14. Bromo-oxidation reaction in enzyme loaded alginate hollow microfiber fabricated using a microfluidic device, A. Asthana, K. H. Lee, S. J. Shin, S. H. Lee, D. P. Kim, **Biomicrofluidics**, 2011, 5, 024117. **(Impact factor 2.50)**
  15. Fabrication of multilayer microstructure using dry film resists and deep reactive ion etcher, M. Aljada, A. Asthana, **Micro & Nano Letters**, 2010, 5, 121–124. **(Impact factor 0.975)**
  16. A facile single-step fabrication of microchannels with varying sizes A. Asthana, K. O. Kim, J. Perumal, D. M. Kim, D. P. Kim, **Lab-on-a-chip**, 2009, 9, 1138 – 1142. **(Impact factor 6.750)**
  17. A continuous-exchange cell-free protein synthesis system fabricated on a chip, G. H. Han, A. Asthana, D. M. Kim, D. P. Kim, **Analytical Biochemistry**, 365 (2007) 280-282. **(Impact factor 2.877)**
  18. Novel transparent polysilazane derived solvent resistant, biocompatible microchannels and substrates: application in microsystem technology, A. Asthana, Y. Asthana, I. K. Sung, D. P. Kim, **Lab-on-a-Chip**, 2006, 6, 1200-1204. **(Impact factor 6.750)**
  19. Fabrication of meso and microporous ceramic microchannels, Q. D. Nghiem, A. Asthana, I. K. Sung, D. P. Kim, **Journal of Materials Research**, 2006, 21, 1543-1549. **(Impact factor 2.502)**
  20. Fabrication of ceramic microchannels with tailored pores, I. K. Sung, Q. D. Nghiem, A. Asthana, D. P. Kim, **Materials Science Forum**, 2006, 510-511, 1030-1034. **(Impact factor 0.399)**
  21. DNA mutation analysis based on capillary electrochromatography using colloidal poly (n-isopropyl acrylamide) particles as pseudo stationary phase, J. M. Song, A. Asthana, D. P. Kim, **Talanta**, 2006, 68, 940-944. **(Impact factor 5.339)**
  22. Rapid determination of sulfonamides in meat and milk by micellar electrokinetic chromatography with fluorescence detection, S. Mehra, S. K. Sanghi, A. Asthana, M. Shelke, M. Sharma, **Analytica Chimica Acta**, 2005, 552, 100-115. **(Impact factor 5.31)**
  23. Fast separation and sensitive detection of carcinogenic aromatic amines by reversed-phase liquid chromatography coupled with the electrochemical detector, M. Shelke, S. K. Sanghi, A. Asthana, S. Mehra, M. Sharma, **Journal of Chromatography A**, 2005, 1089, 52–58. **(Impact factor 4.049)**
  24. Fabrication and characterization of a silicon-based millimetre scale, microfabricated PEM fuel cell operating with gaseous hydrogen, methanol, and formic acid as fuels, J. Yeom, G.Z.Mozsgai, B.R.Flachsbart, E.R. Choban, A. Asthana, P.J.A. Kenis, M.A. Shannon, **Sensors and Actuators-B: Chemical**, 2005, B 107, 882-891. **(Impact factor 7.10)**
  25. Determination of amino acids separated by micellar electrokinetic chromatography after pre-column derivatization with O-Phthalaldehyde, A. Durgbanshi, S. Sharma, M. Shelke, D. Bose, A. Asthana, S.K. Sanghi, **Indian Journal of Chemistry – A**, 2004, 43 A, 1095-1098. **(Impact factor 0.489)**
  26. Determination of benzodiazepines by reverse-phase liquid chromatography, S. Sharma, D. Bose, A. Durgbanshi, S. Kulshrestha, A. Asthana, S. P. Pathak, S. K. Sanghi, **Indian Drugs**, 2000, 37, 365-370.
  27. Determination of aromatic amines in a water sample by capillary electrophoresis with electrochemical and fluorescence detection, A. Asthana, D. Bose, A. Durgbanshi, S. K. Sanghi, W. Th. Kok, **J. Chromatography A**, 2000, 895, 197-203. **(Impact factor 4.049)**
  28. Determination of aldehydes in a water sample by capillary electrophoresis after derivatization with hydrazino benzene sulfonic acid, A. Asthana, D. Bose, S. Kulshrestha, S. P. Pathak, S. K. Sanghi, W. Th. Kok, **Chromatographia**, 1998, 48, 807-810. **(Impact factor 1.41)**

29. Embedded template method for rapid and cost-effective fabrication of biomaterial-based microfluidic devices with selective permeability, A. Asthana, K. O. Kim, K. H. Lee, D. M. Kim, D. P. Kim, Proceeding of The Second Conf. on Advances in Microfluidics and Nanofluidics & Asia-Pacific Intl. Symposium on Lab on Chip (AMN & APLOC 2011), Singapore, 2011, page 135-136.
30. Enzyme loaded alginate hollow fiber for reactor K. H. Lee, A. Asthana, S. J. Shin, S. H. Lee, D. P. Kim, Proceeding of The 13th International Conference on Miniaturized Systems for Chemistry and Life Sciences ( $\mu$ TAS2009), South Korea, 2009, page 645-647.
31. In vitro synthesis of protein in three-phase flow via merging of droplets of PCR and translational machinery, A. Asthana, K. O. Kim, J. Perumal, D. M. Kim, D. P. Kim, Proceeding of the 12th International Conference on Miniaturized Systems for Chemistry and Life Sciences ( $\mu$ TAS2008), USA, 2008, page 1725-1727.
32. Solvent-resistant and transparent Polysilazane glass microfluidics for photochemical reactions, H. J. Lee, A. Asthana, J. Perumal, J. H. Park, D. P. Kim, Proceeding of the 10th International Conference on Miniaturized Systems for Chemistry and Life Sciences ( $\mu$ TAS2006), Japan, 2006, page 179-181.
33. Fabrication of microdevices for protein patterning on transparent polysilazane and polysilane glasses, A. Asthana, Y. Asthana, D. P. Kim, Proceeding of 3rd International Symposium on Nanomanufacturing (ISNM 2005), Cyprus, 2005, paper 38.
34. A microscale vapour-fed formic acid fuel cell, J. Yeom; R. S. Jayashree; G. Z. Mozsgai; A. Asthana; E. R. Choban; M. Mitchell; P. J. A. Kenis and M. A. Shannon; Proceedings of Solid-State Sensors and Actuators Workshop, Hilton Head Island, USA, 2004, 125-128.
35. Characterization of a silicon-based formic acid micro fuel cell with passive fuel delivery microstructures, A. Asthana, E. R. Choban, M. Mitchell, R. S. Jayashree and P. J. A. Kenis, 205th Meeting of The Electrochemical Society, USA, 2004, paper number 324.
36. Fast Separation of Biomolecules Using Microfluidics system, A. Asthana, S. K. Sanghi, Book of abstract, Seminar on Modern Biology, Nagarjuna University, Guntur, India, 2003.
37. A silicon microfabricated direct formic acid fuel cell G.Z. Mozsgai; J. Yeom; A. Asthana; B.R. Flachsbar; P. Waszczuk; E.R. Choban; P.J.A. Kenis; M.A. Shannon; Proceedings of First International Conference on Fuel Cell Science Engineering and Technology, ASME, USA, 2003, 267-272.
38. Hindi article "Mechanobiology: Future Applications (यांत्रिकीय-जीवविज्ञान (मैक्रोबायोलोजी): भविष्यके अनुप्रयोगों), A. Asthana, Jigyasa (जिज्ञासा), An annual scientific magazine of CSIR-CCMB, Volume 16, 2018, 16-18.
39. Hindi article "Microfluidics: Importance in Medical sciences (माइक्रोफ्लूइडिक्स :चिकित्सामेमहत्व), A. Asthana, in a special issue on Biomedical Research and New treatment, Jigyasa (जिज्ञासा), An annual scientific magazine of CSIR-CCMB, Volume 15, 2017, 44-47.

**Books/ Book chapters (05): 02 published and 03 under preparation**

40. Ira Bhatnagar and Amit Asthana, **Chapter 8, Paper-fluidic diagnostic devices platform for DNA extraction**, in **Advanced Microfluidics Based Point-of-Care Diagnostics: A Bridge Between Microfluidics and Biomedical Applications**, Editors, Raju Khan, Chetna Dhand, S. K. Sanghi, Thankaraj S. Shabi and A. B. P. Mishra. CRC Press, Taylor & Francis Group, LLC, FL, expected date of publication September 2020.
41. Amit Asthana and Ira Bhatnagar, **Chapter 10, Microfluidic and Paper-Based Devices for Clinical Diagnostic Research**, in **Advanced Microfluidics Based Point-of-Care Diagnostics: A**

- Bridge Between Microfluidics and Biomedical Applications**, Editors, Raju Khan, Chetna Dhand, S. K. Sanghi, Thankaraj S. Shabi and A. B. P. Mishra. CRC Press, Taylor & Francis Group, LLC, FL, expected date of publication September 2020.
42. Amit Asthana and Ira Bhatnagar, **chapter 8, Micro/Nanofluidics immunodiagnosics**, in Elsevier Book series "**Progress in Molecular Biology and Translational Science**" VOLUME 1. **Micro/ nanofluidics and lab-on-chip-based emerging technologies for biomedical and translational research applications**; Editors Alok Pandya, Vijai Singh, Elsevier Publications, expected date of publication December 2020.
43. G. S. Oggu, S. Velidandla, K. K. R. Ealla, J. Venkatesan, **A. Asthana**, S.-K. Kim, and I. Bhatnagar, **Chapter 50, Marine Biomaterial Treasure and Biomedical Sciences**, in **Section IV: Biomaterials, "Encyclopedia of Marine Biotechnology"**, Editor(s) Se-Kwon Kim Professor, page 1209-1229, 11 August 2020, DOI:10.1002/9781119143802, © 2020 John Wiley & Sons Ltd.
44. S. Sharma, M. Srisa-Art, S. Scott, **A. Asthana** and A. Cass, Droplet-based microfluidics, in **Methods in Molecular Biology: Microfluidic Diagnostics**, G. Jenkins and C. Mansfield, eds., Volume 949, 2013, pp 207-230, Humana Press.