Dr. SUVRADIP MULLICK

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ACADEMIC INFORMATION

Course	Board/University	Institution	Duration
Ph.D. (Manufacturing Science and Engineering)	Indian Institute of Technology Kharagpur, India	Indian Institute of Technology, Kharagpur, India	2011–2016
M.Tech. (Manufacturing Science and Engineering)	Indian Institute of Technology Kharagpur, India	Indian Institute of Technology, Kharagpur, India	2009–2011
B.E. (Mechanical Engineering)	Bengal Engineering and Science University, Shibpur, West Bengal	Bengal Engineering and Science University, Shibpur, West Bengal	2005–2009
Class XII	W.B.C.H.S.E.	Vivekananda Institution, Howrah, West Bengal	2002–2004
Class X	W.B.B.S.E.	Vivekananda Institution, Howrah, West Bengal	2000–2002

AREA OF SPECIALIZATION / INTEREST

Laser Material Processing, Non-conventional Machining

PROFESSIONAL EXPERIENCE

Faculty at NIT Jamshedpur from January, 2016 to July, 2017

COURSE TAUGHT

Manufacturing by Shaping and Joining (UG): Casting, Forming, Welding
Metal forming (UG)
Machine Tools & Machining (UG)

RESEARCH AREA AND EXPERIENCES

- Pursued Ph.D. in the area of ‘Development and study of water-jet assisted underwater laser cutting process’, under the guidance of Prof. A. K. Nath and Prof. Subhransu Roy in Mechanical Engineering Department, Indian Institute of Technology Kharagpur.
- Improvement in cut quality of thick stainless steel sheet using oxygen assisted Yb-Fiber laser: effect of focal point location and laser beam incidence angle.
- Striation free cutting of steel sheet with Yb-Fiber laser using active and inert assist gasses

- Direct underwater laser welding using fiber laser
- Experience in various other laser material processing modalities, like laser paint removal, laser grooving of brittle material in dry and wet condition, laser additive manufacturing using co-axial blown powder method, laser surface modification and laser forming.

LIST OF PUBLICATIONS

INTERNATIONAL JOURNALS

- S. Mullick, S. Shrawgi, A. Kangale, A Agrawal and A.K. Nath, Effects of fibre laser beam focal point location and incidence angle on the cut quality of stainless steel sheet, Lasers in Engineering 36 (2017) 3–30.
- *Suvradip Mullick*, Yuvraj K. Madhukar, Subhransu Roy, Ashish K. Nath, Performance optimization of water-jet assisted underwater laser cutting of AISI 304 stainless steel sheet, Optics and Lasers in Engineering 83 (2016) 32–47.
- *Suvradip Mullick*, Arpit K. Agrawal and Asish K. Nath, Effect of laser incidence angle on cut quality of 4 mm thick stainless steel sheet using fiber laser, Optics and Laser Technology 81 (2016) 168–179.
- *Suvradip Mullick*, Yuvraj K. Madhukar, Subhransu Roy, Ashish K. Nath, An investigation of energy loss mechanisms in water-jet assisted underwater laser cutting process using an analytical model, International Journal of Machine Tools & Manufacture 91 (2015) 62–75.
- *Suvradip Mullick*, Yuvraj K. Madhukar, Subhransu Roy, Shailesh Kumar, Dinesh K. Shukla, Ashish K. Nath, Development and parametric study of a water-jet assisted underwater laser cutting Process, International Journal of Machine Tools & Manufacture 68 (2013) 48–55.
- *Suvradip Mullick*, Yuvraj K. Madhukar, Subhransu Roy, Ashish K. Nath, Development of a Water-Jet Assisted Underwater Laser Cutting Process, World Academy of Science, Engineering and Technology 7 (2013) 365–371.
- *Suvradip Mullick*, Yuvraj K. Madhukar, Shailesh Kumar, Dinesh K. Shukla, Ashish K. Nath, Temperature and intensity dependence of Yb-Fiber laser light absorption in water, Applied Optics 50 (34) (2011) 6319–6326.
- Yuvraj K. Madhukar, *Suvradip Mullick*, Ashish K. Nath, An investigation on co-axial water-jet assisted fiber laser cutting of metal sheets, Optics and Lasers in Engineering 77 (2016) 203–218.
- Yuvraj K. Madhukar, *Suvradip Mullick*, Ashish K. Nath, A study on co-axial water-jet assisted fiber laser grooving of silicon, Journal of Materials Processing Technology 227 (2016) 200–215.
- Yuvraj K. Madhukar, *Suvradip Mullick*, Ashish K. Nath, Development of a water-jet assisted laser paint removal process, Applied Surface Science 286 (2013) 192–205.
- Yuvraj K. Madhukar, *Suvradip Mullick*, Dinesh K. Shukla, Shailesh Kumar, Ashish K. Nath, Effect of laser operating mode in paint removal with a fiber laser, Applied Surface Science 264 (2013) 892–901.
- Yuvraj K. Madhukar, *Suvradip Mullick*, Shitanshu S. Chakraborty, Ashish K. Nath, Effect of water-jet on laser paint removal behavior, Procedia Engineering 64 (2013) 467–472.

INTERNATIONAL CONFERENCE

- *S. Mullick***,** S. Shrawgi, A. Kangale, A. Agrawal and A. K. Nath, Study on the effect of focal point location and incidence angle of laser on cut quality of thick stainless steel sheet by Yb-Fiber laser, Proceedings of 38th International MATADOR Conference on Advanced Manufacturing, Taiwan, March 28–31 (2015) 117–126.

- *Suvradip Mullick*, Yuvraj K Madhukar, Subhransu Roy, Ashish K Nath, Effect of Vapour Plasma in Water-jet Assisted Underwater Laser Cutting Process, Proceedings of 3rd International Conference on Laser and Plasma Applications in Materials Science, Kolkata, India, January 15–17 (2015) 151–154.
- *Suvradip Mullick*, Yuvraj K. Madhukar, Ashish K. Nath, Temperature and intensity dependence of Yb-fiber laser light absorption in water, Proceedings of The International Conference on Laser, Materials Science & Communication, Department of Physics, The University of Burdwan, Burdwan, West Bengal, India, December 07–09 (2011) 118–120.
- Yuvraj K. Madhukar, *Suvradip Mullick*, Shitanshu S. Chakraborty, Som S. Thatoi, Ashish K. Nath, Experimental investigation and FE simulation of heat affected zone in water-jet assisted underwater laser cutting process of mild steel and titanium, Proceedings of 38th International MATADOR Conference on Advanced Manufacturing, Taiwan, March 28–31 (2015) 65–72.
- Yuvraj K. Madhukar, *Suvradip Mullick*, Ashish K. Nath, Some Salient Features of Water-jet Assisted Laser Processing, Proceedings of 3rd International Conference on Laser and Plasma Applications in Materials Science, Kolkata, India, January 15–17 (2015) 145–148.
- Yuvraj K Madhukar, *Suvradip Mullick*, Aswin Prashant and Ashish K. Nath, Micro-cracks and Spatter Free Controlled Grooving of Silicon with Water-jet Assisted Fiber Laser Beam, Proceedings of Twenty Third International Conference on Processing and Fabrications of Advanced Materials, XXIII, Indian Institute of Technology Roorkee, India, December 5–7 (2014) 440–446.

NATIONAL CONFERENCE

- *S. Mullick*, A. Priyadarshini, M. Gopinath, A. K. Nath, Striation-free cutting of mild steel and stainless steel by Yb-Fiber laser, DAE-BRNS National Laser Symposium – 25, Department of Physics, School of Applied Sciences, KIIT University, Bhubaneswar, India, December 20 – 23 (2016) (Accepted).
- *S. Mullick* , Y. K. Madhukar, C. Hridaya, R. Das, A.V.V. A. Sridevi, A. K. Nath, Development of a Water-jet Assisted Underwater Laser Cutting and Drilling Process, DAE-BRNS National Laser Symposium – 22, Department of Atomic and Molecular Physics, MIT, Manipal University, Manipal, Karnataka, India, January 11–14 (2014).
- Yuvraj K. Madhukar, *Suvradip Mullick*, Ashish K. Nath, Quality comparison of paint removed surface by gas and water-jet assisted laser, DAE-BRNS National Laser Symposium – 22, Department of Atomic and Molecular Physics, MIT, Manipal University, Manipal, Karnataka, India, January 11–14 (2014).
- A. Nandy, *S. Mullick*, S. De and D. Datta, Numerical Simulation of Ultrasonic Wave Propagation in Flawed Domain, Proceedings of the National Seminar & Exhibition on Non-Destructive Evaluation, December 10-12 (2009) 160–163.
- Debapriya P. Karmakar, Yuvraj K. Madhukar, *Suvradip Mullick*, Ashish K. Nath, Online monitoring of water-jet assisted underwater laser cutting process with acoustic emission signal, DAE-BRNS National Laser Symposium – 22, Department of Atomic and Molecular Physics, MIT, Manipal University, Manipal, Karnataka, India, January 11–14 (2014).
- Yuvraj K. Madhukar, T. Swaroop, Sonal Poddar, *Suvradip Mullick*, Ashish K. Nath, Reduction in reflectivity of laser light by chemical etching: An approach towards enhancement in efficiency of solar cell, DAE-BRNS National Laser Symposium – 22, Department of Atomic and Molecular Physics, MIT, Manipal University, Manipal, Karnataka, India, January 11–14 (2014).