

NACHIKETA RAY

Materials Engineer & Techie

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📍 Belgium nachiketaray.in 📅 June 21, 1989 in linkedin.com/in/nachiketaray



EXPERIENCE

Specialist Materials Development Engineer, R&D
3D Systems

📅 February 2017 – Present 📍 Leuven, Belgium

- Market research for defining product road map for laser powder bed fusion 3D printers.
- Optimizing laser based powder bed fusion process parameters for different metal powders.
- Coordinating intellectual property related tasks within the R&D team.

PROJECTS

Material properties of Ag based electrical contacts
KU Leuven & Umicore AG & Co. KG

📅 2012-2016 📍 Leuven, Belgium

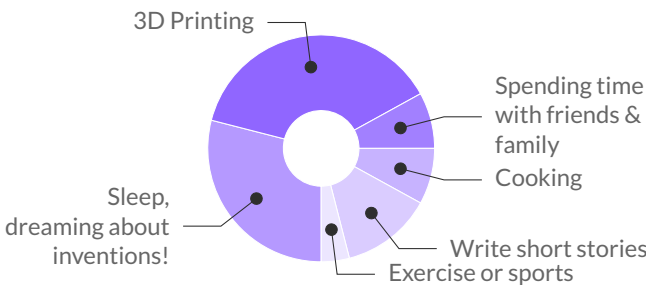
- Correlation between microstructure, processing routes and material properties to essentially improve the existing product and process, furthermore explore novel compositions.
- Understanding the solidification behavior of the liquid metal after infiltration in a porous body.

Shock wave deformation of metals
Indian Institute of Science, Bangalore

📅 2011-2012 📍 Bangalore, India

- High velocity forming as an alternative to conventional sheet metal forming to overcome the underlying drawbacks of the traditional processes.

A DAY OF MY LIFE



LANGUAGES

English	●●●●●
Bengali	●●●●●
Hindi	●●●●●
Dutch	●●●●●

MY LIFE PHILOSOPHY

"I consider the glass to be always full."

ACHIEVEMENTS

- 🏆 **Rising Star Award 2022, 3D Systems**
In recognition of outstanding performance, constant innovation in scientific research, and being one of the most prolific inventors over the last 3 years (2022)
- 🏆 **Gold Medal, B.Tech.**
University gold medalist, Kolkata, India (2010)
- 🏆 **Placed 2nd in Student Speech Contest**
Belgian Ceramic Society Meeting, Ghent, Belgium (2014)

STRENGTHS

- Resourceful Hard-working
- Eye for detail Trustworthy
- LPBF Powder Metallurgy
- 3D Printing Statistical Analysis

EDUCATION

Ph.D. in Materials Engineering
KU Leuven, Belgium

📅 Sept 2012 – December 2016
Dissertation: Silver Based Refractory Metal/metal Carbide Electrical Contacts for Circuit Breaker Application

M.E. in Materials Engineering
Indian Institute of Science, Bangalore, India

📅 August 2010 – July 2012
First class with distinction (CGPA: 7.4/8)
Dissertation: Response of shock wave deformation in AA5086 aluminum alloy

B.Tech. in Ceramic Technology
WBUT, Kolkata, India

📅 August 2006 – June 2010
First of class (CGPA: 9.66/10)

PUBLICATIONS

💡 Patents

- Borgstrom, C., **N. Ray**, and et al. (2023). "Three-Dimensional Printing System with Improved Powder Coating Uniformity". US20230124531A1.
- Coeck, S., **N. Ray**, A. Nguyen, et al. (2022). "Three-dimensional printing system with laser convergence calibration based upon acoustic analysis". US11433604B2.
- Coeck, S., **N. Ray**, and B. Valkenborgs (2022). "Calibration method for powder fusion system". US11426930B2.
- Coeck, S., J. Van Vaerenbergh, and **N. Ray** (2022). "Three Dimensional Printing System with Speed Optimized Vector Processing System". US20220314553A1.
- **N. Ray** and U. Paggi (2022). "Three Dimensional Printing System with Improved Surface Properties". US11731348B2.
- **N. Ray** and J. Plas (2022). "Three-dimensional printing system optimizing contour formation for multiple energy beams". US11440098B2.
- Plas, J. and **N. Ray** (2021). "Three-dimensional printing system optimizing seams between zones for multiple energy beams". EP3722076B1.
- **N. Ray**, P. Geboes, et al. (2020). "Three-dimensional printing system with self-maintaining powder distribution subsystem". US11691222B2.

📄 Journal Articles

- Bisht, M. et al. (2018). "Correlation of selective laser melting-melt pool events with the tensile properties of Ti-6Al-4V ELI processed by laser powder bed fusion". In: *Additive Manufacturing* 22, pp. 302–306.
- **N. Ray**, L. Froyen, et al. (2018). "Wetting and solidification of silver alloys in the presence of tungsten carbide". In: *Acta Materialia* 144, pp. 459–469.
- Bisht, A. et al. (2017). "Microstructural and crystallographic response of shock-loaded pure copper". In: *Journal of Materials Research* 2, pp. 1–15.
- **N. Ray**, B. Kempf, G. Wiehl, et al. (2017). "Novel processing of Ag-WC electrical contact materials using spark plasma sintering". In: *Materials & Design* 121, pp. 262–271.
- **N. Ray**, B. Kempf, T. Mützel, et al. (2016). "Effect of Ni addition on the contact resistance of Ag-WC electrical contacts". In: *Journal of Alloys and Compounds* 670, pp. 188–197.
- **N. Ray**, G. Jagadeesh, and S. Suwas (2015). "Response of shock wave deformation in AA5086 aluminum alloy". In: *Materials Science and Engineering: A* 622, pp. 219–227.
- **N. Ray** and B. Kempf (2015). "Effect of WC particle size and Ag volume fraction on electrical contact resistance and thermal conductivity of Ag-WC contact materials". In: *Materials & Design* 85, pp. 412–422.

👥 Conference Proceedings

- Beckers, A. et al. (2020). "On the advances to obtain excellent and repeatable mechanical properties and build quality of LaserForm®Ti gr23 (A) across whole build platform". In: *The 14th World Conference on Titanium (2019)*. MATEC Web of Conferences, 321, p. 03015.
- **N. Ray**, M. Bisht, et al. (2018). "DMP Monitoring as a Process Optimization Tool for Direct Metal Printing (DMP) of Ti-6Al-4V". in: *Proceedings of the 29th Annual International Solid Freeform Fabrication Symposium*, 2018. TX, USA: Solid Freeform Fabrication, pp. 2244–2253.

REFERENCES

Filips Schillebeeckx, Ph.D.

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