

Curriculum Vitae



Dr. Alkesh Agrawal

<https://alkesh-agrawal.github.io/personal-web-page/>

E-mail: alkesh.agrawal26@gmail.com

Mob. : 9935363326

DoB: 26th March 1976

Marital Status: Married

Residential Address: 21/1, Amrapali Vihar, Rajni Khand Road, Telibagh, Lucknow-25

Professional Experience

Shri Ramswaroop Memorial University, Institute of Technology, Faculty of Electronics and Communication Engineering, Lucknow-Deva Road, Barabanki, India

11-07-2013 to present | **Associate Professor**

(Officiating Dean)

(Electronics and Communication Engineering)

Shri Ramswaroop Memorial University, Institute of Technology, Faculty of Electronics and Communication Engineering, Lucknow-Deva Road, Barabanki, India

01-07-2012 to 10-07-2013 | **Assistant Professor**

(Electronics and Communication Engineering)

Shri Ramswaroop Memorial College of Engineering and Management: Lucknow, Uttar Pradesh, India

23-07-2009 to 30-06-2012 | **Assistant Professor**

Head of the Department

(Electronics and Instrumentation)

Shri Ramswaroop Memorial College of Engineering and Management: Lucknow, Uttar Pradesh, India

01-09-2007 to 23-07-2009 | **Assistant Professor**

(Electronics and Communication Engineering)

Shri Ramswaroop Memorial College of Engineering and Management: Lucknow, Uttar Pradesh, India

23-09-2002 to 31-08-2007 | **Lecturer**

(Electronics and Communication Engineering)

Professional Education

- 2019 Ph.D.** Shri Ramswaroop Memorial University
(Broad-band EM Absorber based on Metamaterial)
Date of enrollment 11-07-2014, Date of completion 19-11-2019
<http://hdl.handle.net/10603/287131>
<https://shodhganga.inflibnet.ac.in/handle/10603/287131>
- 2008 Master of Technology**, U.P.T.U. (Digital Communication, CPI-9.67)
- 2002 Bachelor of Technology**, J.K. Institute of Applied Physics and Technology
University of Allahabad
(Electronics and Telecommunication, 72%)
- 1998 Bachelor of Science** (Gold Medalist), University of Allahabad
(PCM Group, 77%)
- 1994 All India Senior School Certificate Examination**, CBSE board
(PCM, Biology, English, 81%)
- 1992 All India Secondary School Certificate Examination**, CBSE board
(English, Hindi, Maths, Science, Social Science, 84%)

Topic of Research (Ph.D)

‘Broad-band EM Absorber based on Metamaterial’

Guide: Dr. Mukul Misra (Director: Research and Consultancy)
Shri Ramswaroop Memorial University

Topic of M.Tech Dissertation

‘Performance Improvement of Long Haul Return-to-Zero Dense WDM Systems via Dispersion Interleaving’.

Guide:

Dr. Neelam Srivastava - HoD, Deptt. of ECE, Institute of Engineering and Technology (IET), Lucknow

Dr. Ragini Tripathi - HoD, Deptt. of EI, NIEC, Lucknow

Research Interests

Metamaterial based Electromagnetic Microwave Absorbers

Metamaterials (MM) have attracted researchers in recent years due to their potential applications in realization of novel devices such as perfect lens, cloak at microwave frequency, microwave antennas. Metamaterial concept is also applied for the development of the Metamaterial Perfect Absorbers (MPAs). With the demonstration of first MPA in 2008, significant research work has been carried out to improve the designing and performance of the MPAs maintaining the conventional three layered geometry. MPAs find applications in suppressing the electromagnetic interference, improving performance of radar system by reducing the RCS (radar cross section) and improving radiation pattern of transmitting antenna by suppressing side-lobes. Future applications include the use of THz MPA as frequency selective thermal detectors, spectrum modifiers, MMA based tunable micro-bolometer, Metamaterial THz waveguide. At present the research work focuses on MPAs with narrow band absorption, Polarization independent MPAs, MPAs with high absorption at wide angle of incidence of electromagnetic waves, MPAs with broad-band absorption.

In the research work three MPA structure designs were simulated, fabricated, and tested for maximum absorptance at resonance frequencies for normal incidence, for wide incidence angle and for different polarization angle of EM waves.

First MPA design: Oblique Incidence and Polarization Insensitive Multi-band Metamaterial Absorber with Quad Paired Concentric Continuous Ring Resonators.

Second MPA design: Wide Incidence Angle and Polarization Insensitive Dual Broad-Band Metamaterial Absorber based on Concentric Split and Continuous Rings Resonator Structure.

Third MPA design: Angle of Incidence and Polarization Insensitive Ultra-thin Ultra Broad-band Metamaterial Microwave Absorber based on Non-linearity in Unit Cell Design.

Teaching Experience (17+ years)

Subjects taught in U.G Courses

- **Digital Electronics**
- **Signals and Systems**
- **Computer Organization**
- **Solid State Devices and Circuits**
- **Digital Communication**
- **Optical Fibre Communication**
- **Data Computer Networks**
- **Communication Engineering**

Subjects taught in P.G Courses

- **Information Theory and Coding**
- **Estimation and Detection Theory**

Software Skills

- | | |
|-------------------------------|-------------------------------|
| ➤ CST Microwave Studio | ➤ Electronic Workbench |
| ➤ LabVIEW | ➤ Microsoft Visio |
| ➤ Matlab | ➤ HTML |
| ➤ Scilab | ➤ CSS |
| ➤ C-Language | ➤ JavaScript |
| ➤ Optisystem | |

➤ Lectures on my YouTube Channel

ETronicsLecturesbyDrAlkesh Agrawal

Subject: Digital System Design/Digital Electronics, Analog and Digital Communication.

Some YouTube Lecture Links:

- | | |
|---|--|
| https://youtu.be/5CU9NdKyAIA | (Logic Gates Universal Gates De-Morgan Laws) |
| https://youtu.be/YXYjJ7DjvI8 | (NAND-NOR Implementation of Boolean Function) |
| https://youtu.be/CYKPAZZifxo | (Standard Canonical Forms SOP POS) |
| https://youtu.be/dQKDDplodMw | (5-Variable K-Maps) |
| https://youtu.be/ZXq-x9uh1Gc | (6-Variable K-Map) |
| https://youtu.be/QcycSRvbONU | (Combinational Circuit - Half Adder and Full Adder) |
| https://youtu.be/QiY-eUHyoTM | (Combinational Circuit – Decoders) |
| https://youtu.be/-yIShLjYX7M | (Combinational Circuit- Encoders) |
| https://youtu.be/GjeAa2VAbyc | (Sequential Logic Circuit - SR Flip-Flop) |
| https://youtu.be/l26WoeupI2E | (Sequential Logic Circuit - Interconversion of Flip-Flops) |

Research Publications / Paper Presentations / Seminars / Workshops / FDPs / Conferences / VAC

2020-21

Research Publication:

Kunal Krishna Upadhyay, **Alkesh Agrawal**, and Mukul Misra, "Wide-Band Log-Periodic Microstrip Antenna with Defected Ground Structure for C-Band Applications," *Progress In Electromagnetics Research C*, Vol. 112, 127-137, 2021.

doi:10.2528/PIERC21031106

<http://www.jpier.org/PIERC/pier.php?paper=21031106>

E-Learning Training and Certification Program (online):

Publons (WoS) Academy Practical Peer Review Certification Course, June 01, 2021.

Review course

2019-20

Patent Published/Filed:

➤ **Invention:** De-Centralized Solar Charge cum Docking Station for 48Vdc Electric Vehicles. **The Patent Office Journal No. : 25/2020 Dated 19/06/2020.**

Application No. 201911044345A.

➤ **Invention:** Ultra-Thin Ultra Broad-band Metamaterial Microwave Absorber Based on Novel Non-Linearity in Unit Cell Design for X-band Applications.

Patent application number: 202011009840

Paper Presentation:

➤ Kunal Krishna Upadhyay, **Alkesh Agrawal** and Mukul Misra “Wide-band CPW-Fed Slotted Rectangular Patch Antenna loaded with Ring Resonators for C-band Applications” 2019 International Conference on Cutting-edge Technologies in Engineering (ICon-CuTE), Shri Ramswaroop Memorial University, Lucknow-Deva Road, Barabanki, November 16-18, 2019. IEEE Conference Record No. 47290. Published in *IEEE Xplore*, pp. 121 – 124, Feb. 13, 2020.

DOI: 10.1109/ICon-CuTE47290.2019.8991515

Electronic ISBN: **978-1-7281-0000-5**

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85081059205 &doi=10.1109%2fIConCuTE47290.2019.8991515&partnerID=40&md5=b3e4fdc87528040b886d8fb3fa401c61>

Organizing Chair (IEEE Conference - Record No. 47290):

- 2019 International Conference on Cutting-edge Technologies in Engineering organized by Shri Ramswaroop Memorial University, Nov. 16 – Nov. 18, 2019. (ICon-CuTE-2019)

FDP attended:

- Attended 6 days FDP on **Python with Data Science**, organized by IQAC, Shri Ramswaroop Memorial University, July 16 - July 20, 2019.

Seminar Attended:

- Attended 2 days National Seminar on **Use of Technical Terminology in Science and Technology**, organized by Commission for Scientific and Technical Terminology, ministry of Human Resource Development, Department of Higher Education, Government of India, Oct. 23- Oct. 24, 2019.

FDP attended (online):

- Attended one week FDP from May 11 – May 16, 2020 on ‘R’ organized by Birla Institute of Technology Mesra, Noida Campus in association with Spoken Tutorial Project, IIT Bombay, funded by the National Mission on Education through ICT, MHRD, Govt. of India.
- Attended one week FDP from May 21 – May 26, 2020 on ‘Scilab’ organized by Pimpri Chinchwad College of Engineering, Nigdi, Pune in association with Spoken Tutorial Project, IIT Bombay, funded by the National Mission on Education through ICT, MHRD, Govt. of India.
- Attended one week FDP from June 01 – June 06, 2020 on ‘Scilab’ organized by Integrated Intelligent Research (IIR), Chennai in association with Spoken Tutorial Project, IIT Bombay, funded by the National Mission on Education through ICT, MHRD, Govt. of India.

E-Learning Training and Certification Program (online):

- JCR-South Asia Training and Certification Program 2020, organized by WoS: A Clarivate Analytics Company.
- E-Shodh Sindhu WoS Certification Series, organized by INFLIBNET Center and Clarivate Analytics.
- On-line self paced training course on MATLAB Onramp, organized by Mathworks Services.

- E-learning Program on Industry 4.0, organized by TATA Steel, Capability Development.
- E-learning Program on Machine Learning, organized by TATA Steel, Capability Development.
- E-learning Program on Advanced MS-Excel, organized by TATA Steel, Capability Development.
- On-line Courses on E-Mail Writing, Resume Writing, Interview Skills, Presentation Skills, organized by TCSiON.

Workshop / Webinars attended (online):

- 2-Days Online National Workshop on “Robotics and Control,” organized by Department of Electronics Engineering, Madhav Institute of Technology and Science, Gwalior on 16-17 May, 2020.
- Webinar on “Relevance of IEEE Standards in Teaching, Learning and Industry Collaborations,” organized by EBSCO and IEEE India Services.
- Webinar on “How To Publish a High Quality Technical Journal Paper,” organized by IEEE India Services.
- Webinar on “Leveraging Technology in Education,” organized by TMH.
- Webinar on “Python World,” organized by TMH.
- Webinar on “Online Teaching-Learning & Assessment,” and “NAAC Accreditation Management System,” organized by Inpods.

2018-19

Research Publication:

- **Alkesh Agrawal**, Mukul Misra and Ashutosh Singh, “Wide incidence angle and polarization insensitive dual broad-band metamaterial absorber based on concentric split and continuous rings resonator structure”, *Material Research Express (IOP Science)*, vol. 5, no. 11, pp. 115801, 2018.

DOI: doi.org/10.1088/2053-1591/aadd83

Impact Factor: 1.151 Online ISSN: 2053-1591 (UGC Ref. no. 3985)

Paper Presentations:

1. **Alkesh Agrawal**, Ashish Anand and Mukul Misra, “LabVIEW Implementation of Hamming (n,k) Channel Coding Scheme”, Second International Conference on Computing, Communication, and Control Technology (IC⁴T 2018), organized by Shri Ramswaroop Memorial Group of Professional Colleges and Shri Ramswaroop Memorial University, Lucknow, Oct. 25-27, 2018.
2. **Alkesh Agrawal** and Mukul Misra, “Metamaterial Perfect Absorbers”, Second International Conference on Computing, Communication, and Control Technology

(IC⁴T 2018), organized by Shri Ramswaroop Memorial Group of Professional Colleges and Shri Ramswaroop Memorial University, Lucknow, Oct. 25-27, 2018.

3. Divya Pandey, **Alkesh Agrawal** and Manju Bhardwaj, “Resource Optimization in C-RAN using D2D for 5G Wireless Communications”, Second International Conference on Computing, Communication, and Control Technology (IC⁴T 2018), organized by Shri Ramswaroop Memorial Group of Professional Colleges and Shri Ramswaroop Memorial University, Lucknow, Oct. 25-27, 2018.

FDP attended:

1. One week online winter FDP on **Wireless and Mobile Communication** from 03-12-18 to 07-12-18 (in association with principal coordinating academy-IIT Guwahati and co- principal coordinating academy-NIT Patna, under Ministry of Electronics and Information Technology (MeitY)).
2. One week online winter FDP on **DSP and Sensors** from 10-12-18 to 14-12-18 (in association with principal coordinating academy-NIT Warangal and co-principal coordinating academy-MNIT Jaipur, under Ministry of Electronics and Information Technology (MeitY)).
3. One week online winter FDP on **AI and Machine Learning** from 17-12-18 to 21-12-18 (in association with principal coordinating academy-IIT Roorkee and co-principal coordinating academy-IIITDM Jabalpur, under Ministry of Electronics and Information Technology (MeitY)).
4. One week 5th FDP on “**Challenges of Assuring Quality in Higher Education and Research**”, from 02-07-18 to 07-07-18, organized by IQAC, Shri Ramswaroop Memorial University, Lucknow-Deva Road, Barabanki.
5. One day **IP Awareness Programme on National IPR Policy 2016**, organized by Intellectual Property Office, India at Shri Ramswaroop Memorial University on Aug. 08, 2018.

Workshop Organized:

- **Convenor** of seven days short term training course/workshop on “Verilog HDL using Xilinx ISE 14.5”, organized in Shri Ramswaroop Memorial University, Lucknow-Deva Road, Oct. 09 – 15, 2018.

Value Added Course:

- Convener, 36 hours value added course on LabVIEW Programming (Basic Module), Sep. 13 –Dec. 30, 2018.

FDP attended:

- Attended 6 days 4th FDP on **New Modes of Learning and Teaching in Higher Education**, organized by IQAC, Shri Ramswaroop Memorial University, July 10 - July 15, 2017.

2017-18

Research Publication:

- **Alkesh Agrawal**, Mukul Misra, and Ashutosh Singh “Oblique Incidence and Polarization Insensitive Multiband Metamaterial Absorber with Quad Paired Concentric Continuous Ring Resonators,” *Progress In Electromagnetics Research M*, vol. 60, pp. 33–46, 2017. **Impact Factor: 0.71**

doi: 10.2528/PIERM17061302 (ISSN Number : 19378726) (UGC Ref. no. 31874)

Workshop Organized:

- **Co-convenor** of six days short term training course on “Designing, Simulation, and Modeling of Electronic Circuits”, Sep. 18 – 23, 2017.

2016-17

Paper Presentations:

1. **Alkesh Agrawal**, Ashutosh Singh, and Mukul Misra “A Dual Broadband Metamaterial Absorber with Concentric Continuous and Split Rings Resonator Structure” 3rd IEEE Uttar Pradesh Section International Conference on Electrical, Computer and Electronics Engineering (UPCON-2016), IIT- BHU, Varanasi, December 9-11, 2016. Published in *IEEE Xplore*, pp. 597 – 601, April 12, 2017.

DOI: 10.1109/UPCON.2016.7894722

Electronic ISBN: **978-1-5090-5384-1**

<https://www.scopus.com/inward/record.uri?eid=2-s2.085018298986&doi=10.1109/%2fUPCON.2016.7894722&partnerID=40&md5=046c2d901dce4c5fe8606d8b11bc8ebf>

2. Dinesh Kumar, **Alkesh Agrawal**, Gopal Singh Phartiyal, “Non Iterative LDPC Codes Decoding by Syndrome Generation using Artificial Neural Network”, National conference on Recent Advances in Electronics and Computer Engineering (RAECE-15), IIT Roorkee, Feb. 13-15, 2015. Published in *IEEE Xplore*, pp. 22-25, July 14, 2016.

DOI: 10.1109/RAECE.2015.7510219

Electronic ISBN: 978-1-5090-2146-8

<https://www.scopus.com/inward/record.uri?eid=2-s2.084982084206&doi=10.1109%2fRAECE.2015.7510219&partnerID=40&md5=88f6b74c82b07d5ed96a9076e6f3aa34>

3. **Alkesh Agrawal**, Ashutosh Singh, and Mukul Misra “Recent Trends and Applications of Metamaterial based Microwave Absorbers” International Conference on Computing, Communication and Control Technology (IC⁴T-2016), organized by Shri Ramswaroop Memorial Group of Professional Colleges and Shri Ramswaroop Memorial University, Lucknow, November 10-12, 2016.

Workshop Organized:

- **Co-convenor** of six days short term training course on “MATLAB Programming: From Introduction to Essentials”, March 25 – 31, 2017.

FDP attended:

- Attended 6 days 3rd FDP on **Quality Enrichment in Higher Education: Strategies towards Continual Improvemrnts in Education System and R & D**, organized by IQAC, Shri Ramswaroop Memorial University, July 11- July 16, 2016.

2015-16

Research Publication:

1. **Alkesh Agrawal**, Ashutosh Singh, and Mukul Misra, “A Multiband Metamaterial Absorber with Concentric Continuous Rings resonator Structure”, International Journal of Advances in Microwave Technology (IJAMT), vol. 1, no.1, pp. 5-9, May 2016. (ISSN : 2456-4346)
2. Varsha Pandey, **Alkesh Agrawal**, Mohd. Maroof Siddiqui, “Sleep Disorders and EEG Recording”, IJECSE, vol. 4, no. 3, pp. 207-212, 2015.

FDP attended:

- Attended 6 days faculty development programme (FDP) on **Effective Teaching-Learning Process** , conducted by Shri Ramswaroop Memorial University, July 6- July 11, 2015.

Workshop attended:

- ‘**Workshop on Electromanetics and Antenna Design (WEAD-2016)**’using ANSYS HFSS conducted by IIT BHU on 9th and 10th of April 2016.

2014-15

Paper Presentations:

- F. Fatima, **Alkesh Agrawal**, T. B. Joseph, “Design and Fabrication of Multi-band Microstrip Patch Antenna”, National conference on Recent Advances in Electronics and Computer Engineering (RAECE-15), IIT Roorkee, Feb. 13-15, 2015.

FDP attended:

- Attended 6 days faculty development programme (FDP) on **Challenges and Issues in Higher Education**, conducted by Shri Ramswaroop Memorial University, June 30-July 04, 2014.

2013-14

Paper Presentations:

- **Alkesh Agrawal**, Ashutosh Singh, Mukul Misra, “A Multiband Metamaterial Absorber using Concentric Circular Ring Shaped Structure”, 10th International conference on Microwave Antenna, Propagation and Remote Sensing (ICMARS-14), organized by International Centre for Radio Waves, Jodhpur, India, Dec. 09-12, pp-328-331, 2014.

2009-10

Workshop attended:

- **Dale Carnegie** training workshop on “**High Impact Teaching Skills**” conducted by Wipro on 26th and 27th of October, 2009.

2007-08

Paper Presentations:

1. **Paper presentation** on ‘Performance comparison of Gold codes and Walsh codes in DS-SS System’ in National Seminar on **Communications 2020** conducted by IETE & IE (India) held on Mar. 8-9, 2008.
2. **Paper presentation** on ‘Performance Improvement of Long Haul Return-to-Zero Dense WDM Systems via Dispersion Interleaving’ in National Seminar on **Communication Convergence** conducted by IETE & IE (India) held on Sep. 8-9, 2007.

Workshop attended:

- Workshop on ‘**VLSI Design Tools**’ conducted by Deptt. of Electronics Engineering IET Lucknow on 17-18 Nov. 2007

Seminar attended:

- Seminar on ‘**Shaping Young Minds**’ conducted by Lucknow Management Association, July 2007

2005-06

Conference attended:

- Conference on ‘**Wireless and Broadband**’ conducted by IETE and ITI Mankapur on 6-7 Jan. 2006

M.Tech. Dissertation Supervised:

- Study and Design of Wide-band Patch Antenna with DGS in C and X-band.
(Mr. Kunal Upadhyaya-201610104010004)
- Study and Design of Metamaterial Absorber for Application in X-band.
(Ms. Farheen Fatima-201410104010004)
- Study and Design of Metamaterial Absorber for Application in C-band.
(Ms. Priyanka Pandey-201410104010001)
- Modification of 406 MHz Emergency Locator Transmitter for Lower False Alarm Rate and better Probability of Activation.
(Mr. Manish Kumar-201410104020801)
- Noise Cancellation in Fetal Electrocardiography using Particle Swarm Optimization.
(Ms. Komal Dixit-201410104010002)
- Image Domain Steganography using LSB Replacement Method.
(Mr. Bhagwant Singh-201310104010001)
- Performance Analysis of Genetic Algorithm based LAS-CDMA Generation.
(Mr. Mukesh Pal-201310104010002)
- Performance Analysis of IDMA Scheme using Quasi Cyclic Low density Parity Check Codes.
(Mr. Anurag saxena-201310104010004)
- Non-iterative LDPC Codes Decoding by Syndrome generation using Artificial Neural Network.
Mr. Dinesh Kumar-201210104010001)

Awards and Honors

Second best paper award for paper presentation :

- **Alkesh Agrawal**, Ashutosh Singh, and Mukul Misra “A Dual Broadband Metamaterial Absorber with Concentric Continuous and Split Rings Resonator Structure,” presented in 3rd IEEE Uttar Pradesh Section International Conference on Electrical, Computer and Electronics organized by IIT(BHU), Varanasi, December 9-11, 2016.

Second best paper award for paper presentation:

- **Alkesh Agrawal**, Ashutosh Singh, and Mukul Misra “A Multiband Metamaterial Absorber using Concentric Circular Ring Shaped Structure”, presented in 10th International conference on Microwave Antenna, Propagation and Remote Sensing (ICMARS-14), organized by International Centre for Radio Waves, Jodhpur, India, December 09-12, 2014.
- **Best Faculty Award** for academic year 2009-10 by SRM College of Engineering and Management.
- **Appreciation Letter** for academic year 2008-09 by SRM College of Engineering and Management.
- **Best Faculty Award** for academic year 2002-03 by SRM College of Engineering and Management.
- **Suhrota Roy Memorial Scholarship** for securing highest marks in Physics and Maths in B.Sc.-I in yr. 1996.
- **Malvea Memorial Scholarship** for securing highest marks in B.Sc.-I (PCM) in yr. 1996.
- **Smt. Chandramani Agrawal Memorial Scholarship** for securing highest marks in Physics in B.Sc.-I & II, session 1997-98
- **Mitra Memorial Scholarship** for securing highest marks in Maths in B.Sc.-I & II, session 1997-98
- **Ewing Christian College Gold Medal** for highest marks in B.Sc. (PCM/PSM/PEM group) 1995-98

Professional Memberships

- IEEE Professional Membership – 94966964
- Member IAENG

Other Responsibilities

Shri Ramswaroop Memorial University (2012 – till date)

- Officiating Dean, Faculty of Electronics & Communication Engineering
- Faculty Co-ordinator, Faculty of Electronics & Communication Engineering
- Ex-officio Member, Board of Studies, FoECE, SRMU
- Member, steering committee of IQAC, Criterion VII (Innovation and Best Practices), SRMU
- Member, Center of Energy Studies and Research, SRMU
- Coordinator, Internal audit team, SRMU
- Head Examiner, End Semester Examination (ESE), SRMU
- Project coordinator
- Dissertation coordinator
- Head Observer, University Time Table, SRMU
- Paper setter for End Semester Examination (ESE), SRMU
- Time Table committee coordinator
- Coordinator Photography cell
- Coordinator Technical cell

Shri Ramswaroop Memorial college of Engineering & Management (2002 - 2012)

- ❖ Officiating HOD of EI Department.
- ❖ Deputed as Center Controller for UP-SEE in 2008 and 2009.

- ❖ Center Coordinator of M.Tech programme (UPTU) in the year 2008, 2009, 2011.
- ❖ **Verifying Officer** for UPSEE-2011 Councelling.
- ❖ Time Table coordinator.

References

Dr. Mukul Misra

Dir. Research & Consultancy

Shri Ramswaroop Memorial University

Lucknow-Deva Road.

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Dr. Neelam Srivastava

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IET, Lucknow

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neelamsrivastava2001@yahoo.com

Dr. Ragini Tripathi

H.o.D Deptt. of EI

N.I.E.C Lucknow

9415743592

ragini_tripathi_29@redifmail.com

ALKESH AGRAWAL