



ONLINE WORKSHOP

'Transmission Electron Microscopy in
Life Sciences: Procedure and Applications'

21st-26th June 2021

Organised by:

Department of Pathology, SGPGIMS, Lucknow



विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY

Lt Col Varun Bajpai VSM
Executive Registrar
SGPGIMS, Lucknow

ABOUT

Transmission electron microscope (TEM) uses electrons to analyze tissues and cells at higher magnification than is possible using photons in a light microscope, enabling visualization of ultrastructural details. The appropriate use of ultrastructural study adds a new dimension to diagnostic pathology. Training in this area is limited due to the lack of access to such facility. SGPGIMS, a tertiary care referral hospital in North India, is organizing an online workshop to provide an opportunity to participants to understand the electron microscopy techniques, diagnostic utility and scope in research in life sciences. The workshop will be useful for students in medicine, postgraduates, pathologists and researchers.



Online sessions from 2-5 pm (IST) on 24-25 June 2021 and 12-2.00 pm (IST) on Saturday, 26th June 2021.

- Expert National and International faculty
- Technical lectures on instrumentation and sample processing for TEM
- Video-demonstrations of techniques
- Lectures and slide seminars on diagnostic electron microscopy
- Advances in instrumentation and investigative EM methods
- Panel discussions and quiz

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ORGANIZING COMMITTEE

Patrons

Dr R K Dhiman, Director Dr S K Mishra, Dean

Chairperson

Dr Manjula Murari, Head, Dept. of Pathology

Organizing Secretary

Dr Vinita Agrawal

Scientific Conveners

Dr Ritu Verma

Members

Dr Seema Sharma

Dr Sushila Jaiswal

Dr Neha Nigam

Dr Raghavendra L

Dr Manoj Jain

Dr Narendra Krishnani

Dr Lily Pal

Dr Ram Nawal Rao

Dr Pallavi Prasad

Technical

Dr Vikrant Verma

Dr Anshima Singh

Dr Neha Kumari

Ms Madhulika Tewari

Ms Niharika Bharti

Ms Shubhi Kamthan

Ms Farhat Jamal

Ms Snigdha

REGISTRATION GUIDELINES

- Registration is free. Please fill the registration form. Link:
<https://forms.gle/sVdpVQpq89xkyDrB9>
- Link to the online workshop will be sent to registered delegates.
- E-certificate will be sent only to participants who attend the workshop

SECRETARIAT

Prof Vinita Agrawal

Organizing Secretary

Department of Pathology, SGPGIMS, Lucknow-226014

Email: sgpgi.tem2021@gmail.com


PROGRAM & FACULTY

Day 1

Day 1: 21 st June 2021, Monday	
2.00-2.30 pm	Inauguration and Welcome -Dr RK Dhiman, Director SGPGIMS -Dr SK Mishra, Dean, SGPGIMS -Dr Manjula Murari, Head, Pathology, SGPGIMS
2.30-2.40 pm	Introduction to the Workshop Dr Vinita Agrawal, Pathology, SGPGIMS
Session I: Overview of Instrumentation and Applications of TEM in Life Sciences	
Chairpersons -Dr Kusum Joshi (Ex Prof), Histopathology, PGIMER, Chandigarh -Dr Rakesh Pandey (Ex Prof), Pathology, SGPGIMS	
2.40-3.20 pm	Electron Microscopy: Instrumentation and Functioning Dr Kalyan Mitra, Principal Scientist and In-charge EM Unit, CSIR-CDRI, Lucknow
3.20-4.00 pm	Transmission Electron Microscopy and its Applications in Medical Sciences Dr B K Chandrasekhar Sagar, Neuropathology, NIMHANS, Bengaluru
4.00-4.10 pm	Q and A, Discussion
Session II: Demonstration-TEM, SGPGIMS	
4.15-5.00 pm	Video-demonstration of Equipment, TEM Lab, SGPGIMS Mr Tetsuo Oikawa and Ms Anna, Jeol Asia

Day 4

Day 2: 22nd June 2021, Tuesday	
Session III: Sample Processing for TEM	
Chairpersons Dr R K Gupta (Ex Prof), Pathology, SGPGIMS -Dr Narendra Krishnani, Pathology, SGPGIMS -Dr Alok Sharma, Pathologist, Dr. Lal PathLabs, New Delhi	
2.00-2.40 pm	Collection, Transportation and Fixation of Biological Samples for TEM Dr Vineeta V Batra, Pathology, GB Pant Hospital, New Delhi
2.40-3.20 pm	Sample processing, Staining Techniques and Consumables for TEM Dr Ashwani Verma, PGIMER, Chandigarh
3.20-3.40 pm	Ultramicrotomy for TEM Dr Indu Barwal, Leica Microsystems
3.40-4.00 pm	Operation and Optimization of TEM for Grid Viewing Mr Tetsuo Oikawa and Ms Anna, Jeol Asia
4.00-4.10 pm	Q and A, Discussion
Session IV: Demonstration-Sample Processing for TEM	
4.15-4.45 pm	Video-demonstration of Sample Fixation, Processing and Embedding
4.45-5.00 pm	Quiz I Dr Raghavendra L, Pathology, SGPGIMS, Lucknow


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Day 5

Day 3: 23 rd June 2021, Wednesday	
Session V: Imaging in TEM	
Chairpersons -Dr Kalyan Mitra, Principal Scientist and In-charge EM Unit, CSIR CDRI, Lucknow -Dr Mahesha V, Consultant Nephropathologist, Manipal Hospitals, Bengaluru -Dr Sushila Jaiswal, Pathology, SGPGIMS	
2.00-2.30 pm	Imaging in TEM: The Basics Mr Venkatram Dattu, Gatan
2.30-2.50 pm	Digital Imaging, Morphometry and Image Archiving Dr Manoj Jain, Pathology, SGPGIMS
2.50-3.00 pm	Q and A, Discussion
Session VI: Quality Control and Safety in EM Lab-Dos and Dents	
Chairpersons -Dr Ritambhara Nada, Histopathology, PGIMER, Chandigarh -Dr Vinita Agrawal, Pathology, SGPGIMS, Lucknow -Dr Rashmi Santoshkumar, EM-Common Research Facility, NIMHANS, Bengaluru	
3.00-3.30 pm	Establishing an EM Lab, Maintenance and Quality control Dr Tapas C Nag, Anatomy, AIIMS, New Delhi
3.30-4.00 pm	Troubleshooting and Safety in EM Laboratory Ms Lilian Antonio, EM Lab Manager, New York-Presbyterian Hospital, USA
4.00-4.20 pm	Q and A, Discussion
Session VII: Demonstration-Sectioning and Imaging for TEM	
4.25-4.50 pm	Video-demonstration of Image Acquisition, and Workflow for TEM Mr Prasad Valluri, Gatan
4.50-5.15 pm	Video-demonstration: Knife Preparation, Ultramicrotomy, Staining and Viewing of Grids

[Signature]

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Day 4: 24 th June 2021, Thursday		
Session VIII: Applications of TEM in Life Sciences		
Chairpersons		
-Dr Swarnalata Gowrishankar, Pathologist, Apollo Hospitals, Hyderabad		
-Dr Seethalekshmy V, Pathologist, AIMS, Kochi		
-Dr Narayan Prasad, Nephrology, SGPGIMS		
2.00-2.20 pm	TEM in Renal Diseases: Nephrologist's Perspective Dr Dharmendra Bhadauria, Nephrology, SGPGIMS	
2.20-2.50 pm	Value of Electron Microscopy in Kidney Biopsy Diagnosis Dr Shaila Khubchandani, Pathologist, Jaslok Hospital, Mumbai	
2.50-3.20 pm	Electron Microscopy in Renal Allograft Biopsies Dr Manoj Jain, Pathology, SGPGIMS	
3.20-3.30 pm	Q and A, Discussion	
Chairpersons		
-Dr Aruna Vanikar, President, Undergraduate Medical Education Board, National Medical Commission		
-Dr Rajesh NG, Pathology, IPIMER, Puducherry		
3.30-4.00 pm	Hereditary and Metabolic Diseases: Role of Ultrastructure analysis Dr Ritambhara Nada, Histopathology, PGIMER, Chandigarh	
4.00-4.20 pm	Organized Deposition Diseases: A Case-based Approach Dr Alok Sharma, Pathologist, Dr. Lal PathLabs, New Delhi	
4.20-4.30 pm	Q and A, Discussion	
Session IX: Slide Seminar I		
Chairpersons		
-Dr Surya Seshan, Nephropathologist, NY-Presbyterian Hospital & Weill Cornell Medicine, USA		
-Dr Vinita Agrawal, Pathology, SGPGIMS		
-Dr Anupama Kaul, Nephrology, SGPGIMS		
4.30-5.30 pm	Case presentations	Dr Geetika Singh, AIIMS, New Delhi Dr Anila Abraham, Renopath, Chennai Dr Pallavi Prasad, SGPGIMS Dr Pallav Gupta, SGRH, New Delhi
	Q and A, Discussion	

Day 5: 25 th June 2021, Friday		
Session X: Applications of TEM in Life Sciences		
Chairpersons		
-Dr Nuzhat Husain, Pathology, RMLIMS, Lucknow		
-Dr M C Sharma, Pathology, AIIMS, New Delhi		
-Dr Lily Pal, Pathology, SGPGIMS		
2.00-2.20 pm	Processing of Skin, Nerve and Muscle biopsy for Electron Microscopy Dr Rashmi Santoshkumar, LM Common Research Facility, NIMHANS, Bengaluru	
2.20-3.00 pm	Diagnostic Utility of Ultrastructural Analysis in Muscle Disorders Dr Rashmi Santoshkumar, LM Common Research Facility, NIMHANS, Bengaluru	
3.00-3.40 pm	Role of TEM in Diagnosis of Neurological Disorders Dr Nandeesh BN, Neuropathology, NIMHANS, Bengaluru	
3.40-3.50 pm	Q and A, Discussion	
Session XI: Slide seminar 2 (Potpourri of cases)		
Chairpersons		
-Dr B D Radotra, Histopathology, PGIMER, Chandigarh		
-Dr Poonam Elhence, Pathology, AIIMS, Jodhpur		
-Dr Ritu Verma, Pathology, SGPGIMS		
4.00-5.00 pm	Case presentations	Dr M C Sharma, AIIMS, New Delhi Dr Amanjit Bal, PGIMER, Chandigarh Dr Megha Uppin, NIMS, Hyderabad Dr Neha Nigam, SGPGIMS
5.00 pm	Q and A, Discussion and Quiz II	

Day 6: 26 th June 2021, Saturday	
Session XII: Applications of TEM in Life Sciences	
Chairpersons -Dr Anita Mahadevan, Neuropathology, NIMHANS, Bengaluru -Dr Ujjala Ghoshal, Microbiology, SGPGIMS -Dr Ram Nawal Rao, Pathology, SGPGIMS	
12.00-12.30 pm	Utility of Electron Microscopy in Infections Dr Gayathri N (Ex Prof), Neuropathology, NIMHANS, Bengaluru
12.30-12.50 pm	Application of TEM in Oncology Dr Atin Singhai, Pathology, KGMU, Lucknow
12.50-1.00 pm	Q and A, Discussion
Session XII: Advances in Electron Microscopy	
Chairpersons -Dr Amit Dinda (Ex Prof), Pathology, ICMR Emeritus Scientist, AIIMS, New Delhi -Dr A N Srivastava, Pathology, Era LMCH, Lucknow -Dr Manoj Jain, Pathology, SGPGIMS	
1.00-1.30 pm	Applications of TEM in Biological Research Dr Nandeesh BN, Neuropathology, NIMHANS, Bengaluru
1.30-2.00 pm	Advancements in TEM Instrumentation Dr Alok Pandey, Principal Scientist, Nanomaterial Toxicology, CSIR-IIITR, Lucknow
2.00-2.10 pm	Q and A, Discussion
2.10 pm	Quiz prizes, Feedback, and Vote of Thanks

Secretariat

Prof Vinita Agrawal
Organizing Secretary
Department of Pathology
SGPGIMS, Lucknow-226014

Contact details:

Phone: 94154 03550 **Email:** sgpgi.tem2021@gmail.com


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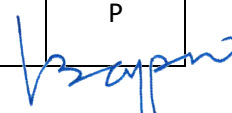
**Value added Certification Course
on
Transmission Electron Microscopy**

Duration: 20 Hours
21.06.2021 to 26.06.2021
Venue: Department of Pathology, SGPGI

Organizing Secretary
Dr Vinita Agarwal

Course Code: VAC035

		List of enrolled students and attendance						
S.No	Name of student	Program	21.06.2021	22.06.2021	23.06.2021	24.06.2021	25.06.2021	26.06.2021
1	Ruchika Tahilyani	PDCC	P	P	P	P	P	A
2	Dr. Deepika Delsa Dean	Ph.D	P	P	P	P	P	P
3	Nidhi Bhatnagar	PDCC	P	P	P	P	P	P
4	Shruthi	SR HS	P	P	P	P	P	P
5	Sweta Singh	SR HS	P	P	P	P	P	P
6	Sunil Kumar Gupta	Short Term Senior Resident	P	P	P	P	P	P
7	Monika Verma	PDCC	P	a	P	A	P	P
8	Shivendra Pratap Singh	Short Term Senior Resident	P	P	P	A	P	P
9	Arpit Srivastava	D.M.	P	A	P	P	a	P
10	Dhanorkar Manoj Anant	D.M.	P	P	P	P	P	P
11	Indrajit G Momin	D.M.	P	P	a	P	P	A
12	Lakshya Kumar	D.M.	P	a	P	P	P	P
13	Majibullah Ansari	D.M.	P	P	P	P	P	P
14	Trisha Sachan	Ph.D	P	P	P	P	P	P
15	VIJAY KUMAR SINGH	D.M.	P	P	P	A	P	P
16	Dongre Nikhil Arvind	D.M.	P	P	P	A	P	P
17	Prakash Chandra Pandey	D.M.	P	A	P	P	P	P
18	Sarvesh kumarchuadhary	D.M.	P	P	A	A	P	P


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19	Sushant Aildasani	D.M.	P	A	P	P	P	P
20	Varsha Ambwani	D.M.	P	P	A	A	P	P
21	Zubair Sarkar	D.M.	P	A	P	P	P	P
22	Bhawan nangarwal	M.Ch	P	P	P	A	P	P
23	Yashveer Singh	M.Ch	P	A	P	P	P	P
24	LOKESHWARAN MK	M.D.	P	P	P	A	P	P
25	Dr Rohit Shahi	SR HS	P	A	P	P	P	P
26	Isha Chaturvedi	SR HS	P	P	P	A	P	P
27	Isha Chaturvedi	SR HS	P	A	P	P	P	P
28	ROHIT SHAHI	SR HS	P	P	P	A	P	P
29	Saraswati	SR HS	P	A	A	P	P	P
30	Anil Kumar	MD	P	P	P	A	P	P
31	Anupama Sahu	MD	P	P	P	A	P	P
32	Arpita Yadav	MD	P	A	P	P	P	P
33	Deepak Solanki	MD	P	P	A	A	P	P
34	Devanshi Agarwal	MD	P	P	P	P	P	A
35	Ankita Singh	PhD	P	P	P	P	P	P
36	Suzena Masih	PhD	P	P	P	P	P	A
37	Vartika Giri	PhD	P	P	P	P	P	P
38	Niharika Bharti	PhD	P	P	P	P	P	P
39	Ruchi Shukla	PhD	P	P	P	P	P	P
40	Jyotika Srivastava	PhD	P	P	P	P	P	P
41	Anurag Gautam	BSc	P	P	P	P	P	P
42	Ritesh Kumar Arya	BSc	P	a	P	A	P	P
43	Sushmita Biswas	BSc	P	P	P	A	P	P
44	Ankur Sharma	BSc	P	A	P	P	a	P
45	Avantika	BSc	P	P	P	P	P	P
46	Kusum Chauhan	BSc	P	P	a	P	P	A
47	Meenakshi Rawat	BSc	P	a	P	P	P	P
48	Akash Singh	MSc	P	P	P	P	P	P
49	Arun S Nair	MSc	P	P	P	P	P	P
50	Noor Afshan	MSc	P	P	P	A	P	P
51	Shikha sharma	MSc	P	P	P	P	P	P
52	Shubham Singh Pankaj	MSc	P	a	P	A	P	P

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CERTIFICATE OF COMPLETION



This is to certify that

Nidhi Bhatnagar

has successfully completed the following value added

Course:

Transmission Electron Microscopy

Course code: VAC035

21.06.2021 TO 26.06.2021

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This is to certify that

Monika Verma

has successfully completed the following value added

Course:

Transmission Electron Microscopy

Course code: VAC035

21.06.2021 TO 26.06.2021

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This is to certify that

Trisha Sachan

has successfully completed the following value added

Course:

Transmission Electron Microscopy

Course code: VAC35

21.06.2021 TO 26.06.2021

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CERTIFICATE OF COMPLETION



This is to certify that

Zubair Sarkar

has successfully completed the following value added

Course:

Transmission Electron Microscopy

Course code: VAC035

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Executive Registrar
SGPGIMS, Lucknow

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This is to certify that

Rohit Shahi

has successfully completed the following value added

Course:

Transmission Electron Microscopy

Course code: VAC035

21.06.2021 TO 26.06.2021

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