



Report on
MathWorks Workshop being
Organized by Department of Electronics &
Communication Engineering, Indus
University and IEEE SPS Gujarat Chapter

15th April 2021, Thursday

2.00 To 4.00 P.M

**Theme of the workshop: MathWorks Hands-on Workshop - Playing
with Pixels and Voxels: Working with Images in MATLAB & Simulink**



Expert: Dr. Praful Pai
Mathworks India

15th April, 2.00 to 4.00 PM



Contents

1. Poster for the Workshop
2. Expert Profile
3. Contents Covered
4. Glimpses of the workshop
5. Memento Format
6. Certificate Format
7. Feedback Form Format
8. Video Recording Consent Form Format
9. Number of Participants



1. Poster for the talk



IEEE SPS Gujarat chapter along with MathWorks & ECE Department Indus University Presents Workshop On MathWorks Hands-on Workshop - Playing with Pixels & Voxels: Working with Images in MATLAB & Simulink



Dr. Praful Pai
PhD, Mathwork India

Date Thursday, 15 April 2021
Time: 2:00 PM to 4:00 PM

Workshop Outline:

- *Introduction and Access to MATLAB & Simulink*
- *Image Acquisition and Working with Image Datasets*
- *Image Analysis, Thresholding, and Segmentation*
 - *Working with Medical Images and Volumes*
 - *Image Registration and Batch Processing*
 - *Building Your Own Image Processing Apps*
- *Interactive Discussion on Projects / Teaching / Q&A*

Workshop Registration Link:
<https://forms.gle/S8z8RwQvde3Kfiy2A>
(WebEx link will be sent to registered participants)

Scan to Register





2. Expert Profile

- Praful completed his undergraduate studies in Biomedical Engineering from Manipal Institute of Technology,
- He did his MS and PhD from the Department of Electronics & Electrical Communication Engineering at Indian Institute of Technology, Kharagpur, where his research focused on non-invasive blood glucose monitoring using photoacoustic spectroscopy.
- Prior to joining MathWorks, he worked as a Research Scientist with the National Brain Research Centre, Gurgaon on developing an MRI brain template for the Indian population.
- He is passionate about learning, teaching, and research in multi-disciplinary domains involving instrumentation, signal/image processing, statistics, and machine learning.



3. Topics Covered During the Talk

- Introduction and Access to MATLAB & Simulink
- Image Acquisition and Working with Image Datasets
- Image Analysis, Thresholding, and Segmentation
- Working with Medical Images and Volumes
- Image Registration and Batch Processing
- Building Your Own Image Processing Apps
- Interactive Discussion on Projects / Teaching / Q&A



4. Glimpses of the workshop

A screenshot of a Zoom meeting interface. The main window displays a PowerPoint slide titled "Workshop on 'MathWorks Hands-on Workshop - Playing with Pixels and Voxels: Working with Images in MATLAB & Simulink'". The slide includes logos for INDUS UNIVERSITY, MathWorks, and IEEE Signal Processing Society Gujarat Chapter. The date and time are listed as "15th April, 2021 | Thursday 2:00 PM - 4:00 PM". The Zoom interface shows a toolbar at the bottom with options like "Unmute", "Start video", "Share", "Participants", and "Chat". On the right side, a "Participants (46)" list is visible, showing the host Hansa Shingrakhia and several cohosts: Dr. Mita Paunwala, Dr. Vrushank Shah, Praful Pai, Alok Bhat, and Ayushi Andhariya. The Windows taskbar at the bottom shows the search bar and system tray with the time 2:01 PM on 15-Apr-21.



Meeting interface showing a PowerPoint slide about Prof. Dr.-Ing. Anupam Kumar Singh. The slide includes a photo and a list of his qualifications:

- Dr.-Ing Anupam Kumar (PhD) in Civil Engineering, Karlsruhe Institute of Technology (KIT), Germany
- MS in Civil Engineering, Karlsruhe Institute of Technology (KIT), Germany
- BTech in Civil Engineering, Avadh University,
- India PG Diploma in Urban & Regional Planning, Technical University of Szczecin, Poland

Total 25+ years of experience in academics, administration and industry as Director-Technology and Engineering, Dean- Faculty of Engineering, Head of the Department, Professor in Civil Engineering, Member-Board of Management (BoM), Member Secretary-Research advisory board, Member- Academic Council, Chairman-BoS, Chairman/ Vice Chairman/ Secretary of number of national and international Professional Societies/ Associations

Participants (54): Praful Pai (Cohost), Akhilesh, Alok Bhat, AnupamSingh, Ayushi Andhariya, D ARUN KUMAR, Dell.

Meeting interface showing a slide titled "SPS Membership and Activities at SPS chapter, GS". The slide features the IEEE Signal Processing Society Gujarat Chapter logo and the following text:

Viewing Dr. Mita Paunwala's application

SPS Membership and Activities at SPS chapter, GS

Dr. Mita C. Paunwala
Vice Chair, SPS Chapter, GS
Website: <https://www.ieee.org/>

Participants (60): Hansa S Me, Hansa Shingrakhia (Host), Dr. Mita Paunwala (Cohost), Dr. Vrushank Shah (Cohost), Praful Pai (Cohost), Akhilesh, Alok Bhat.



Inbox (9,177) - hansashingrak... Meeting is in progress...
<https://ieeemeetings.webex.com/webappng/sites/ieeemeetings/meeting/download/7230ba72eefd425da94e>

IEEE SPS, GS Executive Committee 2021

Executive Committee 2021

Prof. (Dr.) Chirag Paunwala
Chair, IEEE SPS GS

Prof. (Dr.) Mita Paunwala
Vice Chair

Prof. Suman Mitra
Immediate Past Chair

Er. Ankit Dave
Secretary

Prof. Neeta Chapatwala
Treasurer

Dr. Arpan Desai
Technical Activity Chair

Dr. Manish Khare
Membership Development Chair

Prof. Harshul Yagnik
Student and YP Chair

Prof. (Dr.) Mukesh M. Goswami
Professional Activity Chair

Prof. Hansa Shingrakhia
Chair-WSP

Dr. Nirali Nanavati
Digital Content Chair

Prof. Alpa Shah
Member at Large

Prof. Madhavi Desai
Member at Large

Prof. Srimanta Mandal
Member at Large

DP

Dr. Mita Paunwala (Cohost)

Participants (62)

Search

- HS Hansa S Me
- HS Hansa Shingrakhia Host
- DP Dr. Mita Paunwala Cohost
- DS Dr. Vrushank Shah Cohost
- PP Praful Pai Cohost
- A Akhilesh
- AB Alok Bhat

Unmute Start video Share

Type here to search

2:13 PM 15-Apr-21

Inbox (9,177) - hansashingrak... Meeting is in progress...
<https://ieeemeetings.webex.com/webappng/sites/ieeemeetings/meeting/download/7230ba72eefd425da94e>

Dr. Mita Paun... (Cohost)

Participants (64)

Search

- HS Hansa S Me
- HS Hansa Shingrakhia Host
- DP Dr. Mita Paunwala Cohost
- DS Dr. Vrushank Shah Cohost
- PP Praful Pai Cohost
- 1P 19BEC106 Rathod ...
- A Akhilesh
- AB Alok Bhat
- A AnupamSingh
- AA Ayush Aganwal
- DK D ARUN KUMAR

Unmute Start video Share


Type here to search

2:23 PM 15-Apr-21



Meeting interface showing a slide for Prof. Hansa Shingrakhia, Faculty Coordinator. The slide includes her name and a circular portrait. The interface also displays a list of participants (67) and controls for Unmute, Start video, and Share.

FACULTY COORDINATOR



Prof. Hansa Shingrakhia

Participants (67)

- HS Hansa S Me
- HS Hansa Shingrakhia Host
- DP Dr. Mita Paunwala Cohost
- DS Dr. Vrushank Shah Cohost
- PP Praful Pai Cohost
- 1P 19BEC106 Rathod ...
- 4S 42 Sohan

Unmute Start video Share

Meeting interface showing a video feed of Praful Pai (Cohost) and a list of participants (67). The interface also displays controls for Unmute, Start video, and Share.

Praful Pai (Cohost)

Participants (67)

- HS Hansa S Me
- HS Hansa Shingrakhia Host
- PP Praful Pai Cohost
- DP Dr. Mita Paunwala Cohost
- DS Dr. Vrushank Shah Cohost
- 1P 19BEC106 Rathod ...
- 4S 42 Sohan
- A Akhilesh
- AB Alok Bhat
- A AnupamSingh
- AA Ayush Agarwal

Unmute Start video Share




Meeting is in progress... Meeting ID: 7230ba72eefd425da94e

Viewing Praful Pai's screen

Playing with Pixels and Visualizing Voxels

Working with Images in MATLAB & Simulink

Indus University | IEEE SPS Gujarat Chapter
15 April 2021

 **Praful P Pai, PhD**
ppai@mathworks.com ... with contributions from several other MathWorkers.

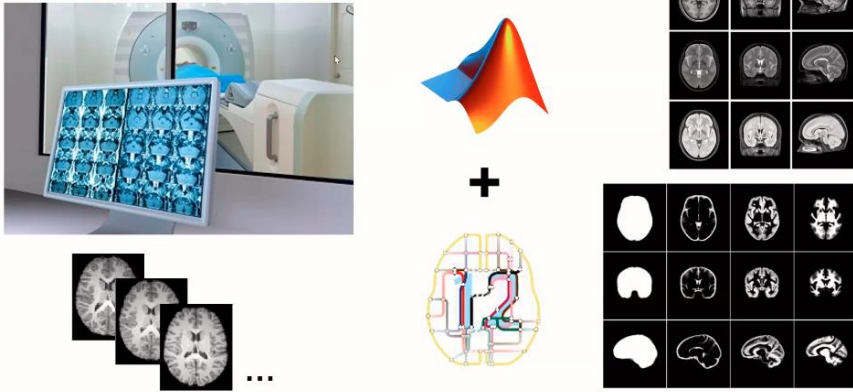
© 2020 The MathWorks, Inc.

Unmute Start video Share Participants Chat

Type here to search 2:26 PM 15-Apr-21


Meeting is in progress... Meeting ID: 7230ba72eefd425da94e

Working with Images in Engineering and Sciences

A slide titled "Working with Images in Engineering and Sciences". It features a photograph of a medical scanner on the left. In the center, there is a 3D surface plot of a red and blue shape above a plus sign, which is above a diagram of a brain with internal circuitry. On the right, there are two 3x3 grids of brain scan images. The top grid shows grayscale slices, and the bottom grid shows binary masks of the brain slices.

[Paper Link | SPM on MATLAB Central](#)

5

 Praful P Pai (Cohost)

HS Praful P Pai (Cohost) 1P 4S A

Unmute Start video Share Participants Chat

Type here to search 2:37 PM 15-Apr-21

IEEE Signal Processing Society

GUJARAT CHAPTER

Meeting is in progress...

https://ieeemeetings.webex.com/webappng/sites/ieeemeetings/meeting/download/7230ba72eefd425da94e

Hardware Browser: MJPG_640x480, MJPG_848x480, MJPG_960x540, RGB24_1280x720 (default), RGB24_320x180, RGB24_320x240, RGB24_352x288, RGB24_424x240, RGB24_640x360, RGB24_640x480, RGB24_848x480, RGB24_960x540, YUV2_1280x720, YUV2_320x180, YUV2_320x240

Click Start Preview or Start Acquisition to begin.

Ready to start preview or acquisition.

Acquisition Parameters: General, Device Properties, Logging, Triggering, Region of Interest

Session Log - Integrated Camera (winvideo-1): RGB24_320x180

```

1: vid = videoinput('winvideo', 1, 'RGB24_320x180');
2: src = getSelectedSource(vid);
3:
4: vid.FrameSizePerTrigger = 1;
5:
6:

```

Hardware Support Home | Webcam Support

Supported on Windows, Linux & Mac

Unmute Start video Share Participants Chat

Type here to search

3:03 PM 15-Apr-21

PP

Praful Pai (Cohost)

Participants (64)

Search

- 4S 42 Sohan
- A Akhlesh
- A AnupamSingh
- AA Ayushi Andhariya
- CP Chirag Paunwala
- DK D ARUN KUMAR
- DS deepal singh

Meeting is in progress...

https://ieeemeetings.webex.com/webappng/sites/ieeemeetings/meeting/download/7230ba72eefd425da94e

Image Segmenter - Segmentation

Graph Cut

Segmentation 1, Segmentation 2

Chat

from Praful Pai to Everyone:

Doc Page Hyperlink:
https://www.mathworks.com/help/releases/R2021a/matlab/import_export/supported-file-formats.html 15:18

Does anyone know about imageDatastores? (Y/N) 15:20

from Roohi Sille to Everyone: 15:27

y

Send to: Everyone

Type your message here

Unmute Start video Share Participants Chat

Type here to search

3:45 PM 15-Apr-21



Meeting is in progress... Meeting ID: 9177 - hansashingrak... Meeting ID: 1,207 - hansa.shingrak...

https://ieeemeetings.webex.com/webappng/sites/ieeemeetings/meeting/download/7230ba72eefd425da94e...

Mathworks - PowerPoint

Faculty Coordinator

Prof. Hansa Shingrakhia

Dr. Mita Paunwala (Cohost)

HS GS

1P

A A

SLIDE 14 OF 16

Unmute Start video Share

Participants Chat

4:03 PM 15-Apr-21

Meeting is in progress... Meeting ID: 9177 - hansashingrak... Meeting ID: 1,207 - hansa.shingrak...

https://ieeemeetings.webex.com/webappng/sites/ieeemeetings/meeting/download/7230ba72eefd425da94efi...

Viewing Hansa Shingrakhia's application

IEEE Signal Processing Society Gujarat Chapter

Workshop on "Playing with Pixels & Voxels: Working with Images in MATLAB & Simulink"

IEEE SPS, GS thanks Dr. Praful Pai for delivering an expert talk during the MathWorks Workshop

Dr. Praful Pai Expert Talk 15/04/2021

Hansa Shingrakhia

HS GS

Hansa Shingra... (Host) Greeshma M S

19BEC106 Rathod Pallav Dr. Mita Paun... (Cohost)

Dr. Nikisha Jariwala Hansa Shingrakhia

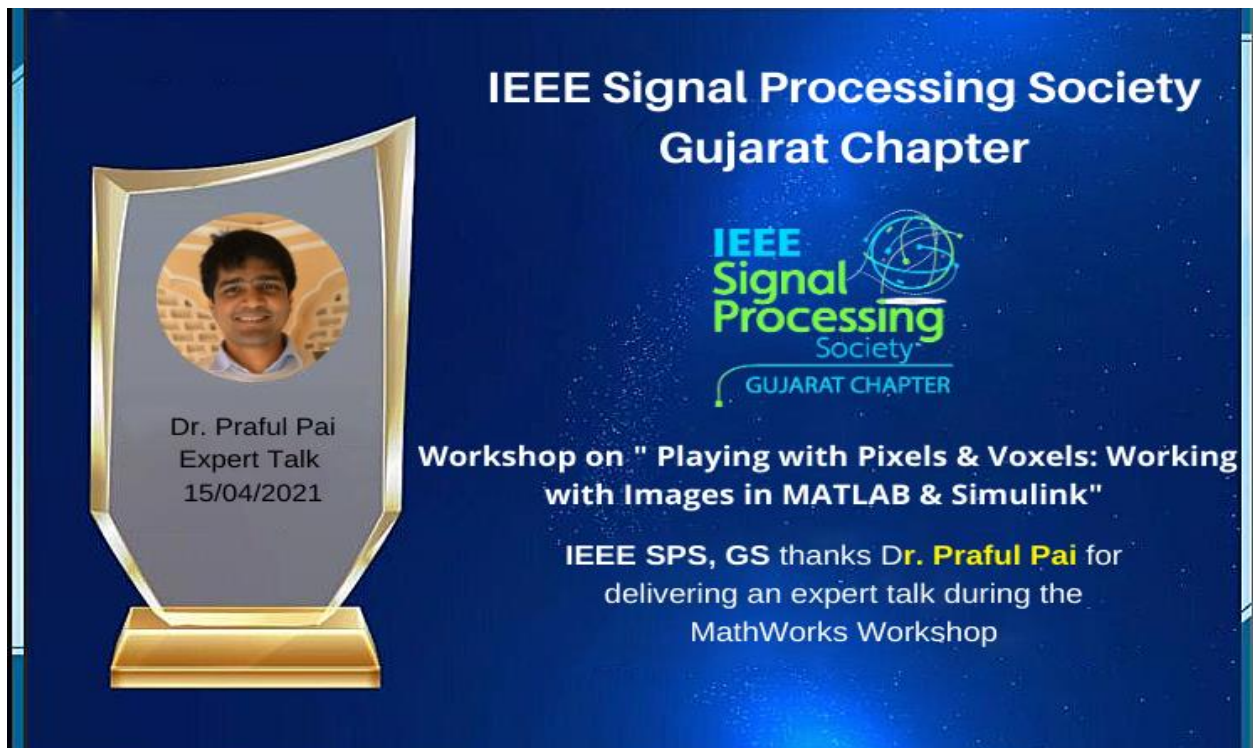
Unmute Start video Share

Participants Chat

4:05 PM 15-Apr-21



5. Memento Format





6. Certificate Format

7. Feedback Form

Expert Talk Feedback

1 Dissatisfied
2 Did not meet my expectations
3 Neutral
4 Slightly satisfied
5 Extremely satisfied

How do you rate our session on a scale of 1-5? *

1 2 3 4 5

How do you rate the expert on a scale of 1 to 5 *

1 2 3 4 5

Would you be interested in attending other such talks? *

Yes
 No

...

If you are not an existing IEEE Member, would you like to become a member? *

Yes
 No
 Already a member

If you are not an existing IEEE SPS Member, would you like to become a member? *

Yes
 No
 Already a member

Any suggestions for future programs

Long answer text
.....



8. Video Recording Consent form format



Video Recording Consent and Release Form

I hereby permit the IEEE Signal Processing Society, Gujarat Section to record my presentation in connection with my participation in the event mentioned below and (check all that apply):

- distribute it to the event attendees as a free benefit.
 post it on the event's website and the IEEE Signal Processing Society, Gujarat Section YouTube Channel provided that the presentation will be deleted from the Channel within 30 days of my request.

By signing below,

I (Dr. Praful Pai) agree to the terms stated above and hereby certify that I am 18 years of age or older.

Signature/Date

Dr. Praful Pai
Print Name

Playing with Pixels & Voxels: Working with Images in MATLAB & Simulink
Title

15th April 2021
Date of the talk

Workshop
Name of the event

Webex/Online
Name of the location/venue



9. Number of Participants

Total Registrations: 230

Attended: 74

**Report Prepared by: Prof. Hansa Shingrakhia,
Chair, WISP, IEEE SPS, GS**