



***Dr Maninderpal Kaur, MBBS (India), MRAD(UM)  
Fellowship in Breast Imaging (France, Italy and Malaysia)***

Dr Maninderpal is a Breast-Imaging Radiologist at the Department of radiology in Tengku Ampuan Rahimah Hospital, Malaysia and is also a visiting specialist at Kuala Lumpur Hospital. Her undergraduate training was obtained in Bangalore University, India, while she did her postgraduate radiology training in University Malaya in Malaysia. Dr Maninderpal has a keen interest in breast imaging. She pursued a Fellowship in Breast Imaging under the Ministry of Health Malaysia. She was trained in breast imaging in Kuala Lumpur Hospital, Gustave Roussy Cancer Institute, Paris and Careggi University Hospital, Firenze, Italy.

Her current clinical radiological practice incorporates all aspects of breast imaging from mammography, digital breast tomosynthesis, ultrasound, and magnetic resonance imaging through to contrast enhanced breast imaging as well as breast interventional techniques. Since 2017, she has been instrumental in pioneering contrast enhanced breast imaging in Malaysia and along with Springer; she has published the first textbook on Contrast Enhanced Digital Mammography. She is currently writing her second textbook, which is an Atlas of Contrast Enhanced Digital Mammography. She regularly lectures both nationally and internationally. She also has a keen interest in the field of research and is an author and co-author in several abstracts and publications in international journals and congresses.

## **Education**

**Breast Imaging Fellowship**, Kuala Lumpur General Hospital (July 2015 – Sept 2017),  
Institute Gustave Roussy, Paris (Oct-Dec 2016)  
Careggi University Hospital, Florence, Italy  
(Jan 2017-Oct 2017)

**Masters in Radiology (MRad)**, University Malaya 2005-2010, Kuala Lumpur, Malaysia  
**Bachelor of Medicine and Bachelor of Surgery (MBBS)**, Ramaiah Medical College 1993 –  
1999 Bangalore University, India

**Pre-University Course (PUC)**, Sri Mahaveera College 1992 – 1993, Karnataka State, India

## Qualifications

January 1999	<b>MBBS</b> (Ramaiah Medical College, Bangalore University, India)
May 2010	<b>MRad</b> (University Malaya, Kuala Lumpur, Malaysia)
July 2017	<b>Breast Imaging Fellowship</b> (Kuala Lumpur General Hospital, Malaysia; Institute Gustave Roussy, Paris and Careggi University Hospital, Florence, Italy)

## Experience

### CURRENT APPOINTMENT

Radiologist and Fellow in Breast Imaging at the Department of Radiology at Hospital Tengku Ampuan Rahimah, Klang (Malaysia) where is the head of breast imaging services for the central zone cluster hospitals of Selangor. She is also a visiting specialist at Hospital Kuala Lumpur where she performs advanced breast imaging procedures. She has had recent attachments in Institute Gustave Roussy (Paris, France) and Careggi University Hospital (Florence, Italy)

### PREVIOUS APPOINTMENTS

1. Housemanship training in Bangalore (1999-2000) - Ramaiah Hospital
2. Internship Training in Malaysia (June 2001-Sept 2002) - Hospital Ipoh.
3. Medical Officer at Institute of Respiratory Medicine (Sept 2002-March 2005) - GHKL
4. Medical Officer at Dermatology Department (March 2005-May 2005) - Hospital Pulau Pinang
5. Medical Officer and student of Masters of Radiology at Radiology Department (June 2005-May 2010) - University Malaya Medical Center

### RADIOLOGY EXPERIENCE

1. I followed a 4-year training course in Radiology leading to the MRad Examination, which is modelled on the FRCR Course. External examiners come from the UK to participate in the examinations.
2. **June 2010-June 2015:** I have been a practicing Radiologist in Department of Radiology, Selayang Hospital with a special interest in Breast Imaging, working closely with the Breast Surgeons. I also worked closely with the hepatobiliary surgeons and performed a significant amount of abdominal imaging during this time.
3. **Since July 2015:** I joined the Subspecialty in Women's Imaging at Kuala Lumpur General Hospital which is wholly funded by the Ministry of Health Malaysia.
4. **Since July 2016:** I joined Institute Gustave Roussy in Paris, France to train under Dr Corinne Balleyguier. Here I learnt Breast Tomosynthesis, Contrast enhanced digital mammography (CEDM), Breast MRI and MR guided breast biopsies
5. **Since January 2017:** I joined Careggi University Hospital in Florence, Italy to train with Dr Jacopo Nori where I got volumes of exposure in the fields of Breast Tomosynthesis and Contrast enhanced digital mammography (CEDM) along with Breast MRI, Tomosynthesis guided breast biopsies, Vacuum assisted breast biopsies and Laser ablation of breast tumours.

## Publications/Presentations

### Workshops and Presentations:

1. Presenter on the **Theory and Clinical Practice of Contrast-Enhanced Digital Mammography (CEDM)** at XIV Congreso Nacional de Mastología – XI Reunión Internacional on 10 and 11 August 2017 at Guadalajara, Mexico.
2. Workshop based presentation on **Contrast-Enhanced Mammography in clinical practice** at the European Society of Breast Imaging (EUSOBI) congress on 22<sup>nd</sup> and 23<sup>rd</sup> September 2017 at Berlin, Germany
3. Key presenter on **Contrast-Enhanced Mammography in clinical practice at the 3<sup>rd</sup> Breast Surgical update** on 28-29 June 2018 at Selayang Hospital
4. Key presenter on **Contrast-Enhanced Digital Mammography (CEDM) in clinical practice** at Aloft Hotel, Kuala Lumpur on 7<sup>th</sup> July 2018
5. Key presenter at HKL CME on **Keeping Abreast with Technology: Contrast-Enhanced Digital Mammography (CEDM) in clinical practice** at HKL on 10<sup>TH</sup> October 2018
6. Key presenter on **Contrast-Enhanced Digital Mammography (CEDM) in clinical practice** at KMC Academy of Radiological education breast Imaging update (KARE) in Chennai, India on 27<sup>th</sup> October 2018
7. Presenter on **Contrast-Enhanced Digital Mammography (CEDM) in clinical practice** at the Apollo center conclave 2019 in Chennai, India on 24<sup>th</sup> January 2019
8. Key presenter on incorporating **Contrast Enhanced Mammography into your practice, the “highs”, “knows” and landmines to avoid**. Presented at 12<sup>th</sup> General Breast Imaging Meeting from 13<sup>th</sup> to 16<sup>th</sup> March 2019 in Perth, Australia.
9. Key presenter on **Contrast-Enhanced Mammography in clinical practice at the Breast and Endocrine fellowship Seminar** on 4-5<sup>th</sup> April 2019 at Langkawi, Malaysia
10. Key presenter on **Contrast-Enhanced Mammography in clinical practice at the 1<sup>st</sup> Southern Breast Surgery updates course** on 6<sup>th</sup> July 2019 at Johor, Malaysia
11. Key presenter on **Contrast-Enhanced Mammography in clinical practice at the Penang Hospital Mammography meet** on 11<sup>th</sup> July 2019 at Penang, Malaysia

### Poster Presentation

1. **“CT angiography of pulmonary arteries to detect pulmonary embolism with low kV settings”** at the *European Congress of Radiology 2010, 4<sup>th</sup> - 10<sup>th</sup> March 2010, Vienna, Austria.*

2. **“Herlyn-Werner-Wunderlich Syndrome: A Case Report”** with Dr Khor Heng Tee at the Malaysian Congress of Radiology (MCOR) 2014, 3-5 April 2014, Kuala Lumpur, Malaysia.
3. **“Butterflies in the heart: Hepatocellular metastasis to the heart”** – with Dr Khor Heng Tee at the 4th International Congress on Magnetic Resonance Imaging (ICMRI) 2016, March 24-26, 2016, Seoul, Korea.
4. **“The influence of anti-CCP titre on disease activity, radiological severity (erosion) and clinical manifestation in Malaysian Malay, Chinese and Indian populations with rheumatoid arthritis (RA): a single centre case-control study”**- with Dr Ong Yew Chong at the 16th Asia Pacific League of Associations for Rheumatology (APLAR 2014) Congress, Cebu.

#### Scientific Presentation

1. **“Herlyn-Werner-Wunderlich Syndrome: A Case Report”** with Dr Khor Heng Tee at the Korean Congress of Radiology (KCR) 2015, 9-12 September 2015, Seoul, Korea.

#### Publications

1. **“Imaging findings of a primary bladder maltoma”**- Maninderpal KG, Amir FH, Azad HA, Mun KS. *The British Journal of Radiology*, 84 (2011), e186–e190
2. **“Use of 100kV versus 120kV in computed tomography pulmonary angiography in the detection of pulmonary embolism: effect of radiation dose and image quality”** Maninderpal Kaur Gill, Anushya Vijayanathan, Gnana Kumar, Kasthoori Jayarani, Kwan-Hoong Ng, and Zhonghua Sun - *Quant Imaging Med Surg* 2015; 5(4): 524-533
3. **Role of Magnetic Resonance Imaging in the Preoperative Staging and Work-Up of Patients Affected by Invasive Lobular Carcinoma or Invasive Ductal Carcinoma** – Valeria Selvi, Jacopo Nori, Icro Meattini, Maninderpal Kaur et.al. Published in Hindawi BioMed Research International Volume 2018, Article ID 1569060, 7 pages. <https://doi.org/10.1155/2018/1569060>
4. **The Evolving Role of Ultrasound Guided Percutaneous Laser Ablation in Elderly Unresectable Breast Cancer Patients: A Feasibility Pilot Study**- Jacopo Nori, Maninderpal Kaur, Icro Meattini, et.al. Published in Hindawi BioMed Research International Volume 2018, Article ID 9141746, 7 pages. <https://doi.org/10.1155/2018/9141746>
5. **Role of contrast-enhanced spectral mammography in the post biopsy management of B3 lesions: Preliminary results.** Bicchierai, Giulia Nori, Jacopo, De Benedetto, Diego, Boeri, Cecilia, Vanzi, Ermanno, Bianchi, Simonetta, Kaur Gill, Maninderpal, Cirone, Donatello, Miele, Vittorio. *Tumori*. 2018. <https://www.ncbi.nlm.nih.gov/pubmed/30558495>

#### Book Publications

Editor of the first textbook on **“Contrast Enhanced Digital Mammography (CEDM)”** with Jacopo Nori, published by Springer and released in October 2018.

Author of a new book “**Atlas of Contrast Enhanced Digital Mammography**” with Anat Kornecki (Canada), Jacopo Nori (Italy) and Devimeenal (India). Due to be published early 2020

## Research Experience

### RESEARCH PROJECTS

#### Completed Projects:

1. Quality improvement Study- “Effectiveness of Follow-up of PTB patients upon completion of Anti-TB treatment (2004) – Institute of Respiratory Medicine, GHKL
2. Quality improvement Study- “TB defaulter rate of Institute of Respiratory Medicine, GHKL”(2004) – Institute of Respiratory Medicine, GHKL
3. Research Project- “CT angiography of pulmonary arteries to detect pulmonary embolism with low kV settings” – University Malaya Medical Center, Kuala Lumpur
4. Case Report- “ Right renal Angiomyolipoma infiltrating into the ascending colon: a Radiological misdiagnosis” – University Malaya Medical Center, Kuala Lumpur
5. Case Report- “Computed tomography, Ultrasound and MRI findings of a bladder maltoma” – University Malaya Medical Center, Kuala Lumpur
6. Case Report- “Atypical presentation of primary osteogenic Sarcoma of the maxilla” – University Malaya Medical Center, Kuala Lumpur
7. Case Report- “Significant reduction in uterine myoma volume after treatment with MR Imaging guided focused ultrasound surgery” – University Malaya Medical Center, Kuala Lumpur
8. Case Report- “Embryonal sarcoma of the liver in an adult patient” – Completed report with Dr Sandeep Singh at University Malaya Medical Center, Kuala Lumpur
9. Case Report- “A case of combined hepatocellular carcinoma with cholangiocarcinoma” – Completed report with Dr Sandeep Singh at University Malaya Medical Center, Kuala Lumpur
10. Case Report- “Herlyn-Werner-Wunderlich Syndrome” – Completed report with Dr Khor Heng Tee at University Malaya Medical Center, Kuala Lumpur
11. Case Report- “Butterflies in the heart: Hepatocellular metastasis to the heart ” – Completed report with Dr Khor Heng Tee at University Malaya Medical Center, Kuala Lumpur
12. Research Project- “The role of diffusion tensor imaging in assessment of geriatric patients with falls” – Completed study with Dr Wong Yoke Queen at University Malaya Medical Center, Kuala Lumpur
13. Research Project- “The influence of anti-CCP titre on disease activity, radiological severity (erosion) and clinical manifestation in Malaysian Malay, Chinese and Indian populations with rheumatoid arthritis (RA): a single centre case-control study”- Completed study with Dr Ong Yew Chong (Department of Rheumatology)

14. Research Project- "Contrast Enhanced Spectral Mammography (CESM) as a pre-operative assessment in breast cancer patients: a single center study" – Ongoing study with Dr Jacopo Nori at Careggi University Hospital, Florence, Italy

### **Teaching Experience**

#### **ACADEMIC CONTRIBUTIONS**

1. Supervising the Open System Masters University Malaysia- Ministry of Health Malaysia project from 2012-2015.
2. I was actively involved in the training for the University Malaya open system masters candidates attached to Selayang Hospital, Serdang Hospital, Sungai Buloh Hospital and Klang Hospital - To provide the students with adequate training in all fields of Radiology
3. Active involvement in teaching for service and Radiology Masters students for continuous updates on the latest developments in the field of Breast Imaging.
4. Active involvement in the research projects of the Masters students attached to Selayang Hospital and Kuala Lumpur Hospital- Providing guidance to the students in the field of research.
5. Attending Hospital CME as well as Radiology department conferences and CME's
6. Presenting at the Kuala Lumpur Hospital Multidisciplinary Team (MDT) Breast Conferences every fortnight

### **Interests**

- Also have a very keen interest in the field of teaching and Research. I was a co-editor of the first textbook on Contrast Enhanced Mammography and I am also in the process of authoring the next book, which is an Atlas on CEDM along with a team from Canada, Italy and India.
- Other than breast mammography, my keen interests are in Breast Tomosynthesis, Contrast Enhanced Digital Mammography (CEDM), Breast MRI and Vacuum Assisted Breast Biopsy (VABB).
- I have pioneered Contrast Enhanced Mammography in Malaysia and am enthusiastic to teach and train as many breast surgeons and radiologists about this relatively new and promising technology.

### **Referees**

**1. Dr Jacopo Nori**

Director of the breast unit,  
Department of Diagnostic Radiology,  
Azienda Ospedaliero Universitaria Careggi,  
Largo Brambilla, 3, 50134, Firenze, Italy

**2. Dr Nor Aina Bt Emran**

Head of Breast and Endocrine Surgery  
Consultant Breast and Endocrine Surgeon  
Department of Surgery  
Kuala Lumpur General Hospital,  
Jalan Pahang, 50586, Kuala Lumpur, Malaysia

**3. Dr Krishnan Raman**

Consultant Hepatobiliary Surgeon,  
Department of Surgery  
Sime Darby Medical Center,  
SS 12, 47500 Subang Jaya, Selangor