



The Skeleton

Welcome to the Department of Diagnostic Interventional Imaging's (DII) newsletter!

Visit our department website!

Upcoming Events

- Faculty meeting - October 24th
 - Lance Ferguson (VP, Hospital Operations at MHH) will be speaking on the Sarofim Pavilion Overview.
- First Annual GCC Translational Symposium- October 22nd
 - Dr. Refaat Gabr and Dr. Ponnada Narayana will be speaking at the event.
 - For more information click [here](#).
- Holiday Event - December 13th
 - Save the date for our department holiday event! Evites coming soon!

Department Spotlight



ROTA - Dr. Nicks

Dr. Manickman "Nicks" Kumaravel was one of 27 UT educators

2019 Ashbel Smith Distinguished Award



Chair, Dr. Susan John, awarded with the Ashbel Smith



Newly Appointed Faculty Senator - Dr. Shiralkar

Dr. Kaustubh Shiralkar is the newly appointed Faculty Senator

recognized as The 2019 Regents' Outstanding Teaching Award (ROTA).

Distinguished Alumnus (ASDA) Award from UTMB's School of Medicine Alumni Association.

to represent DII to serve from 2019-2022.

To read more on this, click [here](#).

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New Grant Fundings - Dr. Herrera

Dr. Juan Herrera received various funding for his work on examining neuropathic pain treatments after spinal cord injury. Few of the grants he recently received involve the study of pain management and some aspect of functional recovery post injury in which he serves as the PI in both studies. He also received funding in other collaborative efforts. One collaboration is with Dr. Georgene Hergenroeder from the Department of Neurosurgery, which also involves spinal cord injury but more exploratory in nature. His other collaboration is with Dr. Lovepreet Mann (PI) and Dr. Ramesha Papanna from the Department of Obstetrics, Gynecology, and Reproductive Sciences. This particular research will test the meningeal patch to examine functional recovery after a spinal cord injury.



Please welcome!

- Dr. Richard Tapnio (IR Faculty)
- Dr. Tiffany Tavernier (Pedi Faculty)
- Dr. Shuning Huang (Engineering Scientist)
- Courtney Sanders (Admin - Neuro)
- Azin Aein (Research - Neuro)
- Janaya Woods (Research Nurse)
- Dr. Anita B. Kermani (IR Faculty)
 - Due to come early November
- Dr. Ahmed Kamel Aal (IR Section Chief)
 - Due to come early November

New Residents and Fellows

Residents

- Karthik Bande, MD
- Kimberley Brown, MD
- Thomas Connors, MD
- Wylie Foss, MD
- Joshua Gu, MD
- Jennifer Hanak, MD
- Jonathan Hester, MD
- Salmaan Jeelani, MD
- Matthew Lambert, MD
- Stephen Neville, MD
- Pejman Rabiei, MD
- Julia Talley, MD
- Brandon Wang, MD
- Mindy Wang, MD

Fellows

- Rajesh Thampy, MD (Body Cross-Sectional)
- Sumit Shah, MD (Body Cross-Sectional)
- Leela Chaudhary, MD (Body MR Imaging & Thoraco-Abdominal Imaging)
- Nikoo Fattahi, MD (Body MR Imaging)
- Niroj Tripathy, MD (Thoraco-Abdominal Imaging & Women's Imaging)
- Samuel Ornales, MD (Sports, Orthopedic & ER Imaging)
- Hasaan Siggiqui, MD (Sports, Orthopedic & ER Imaging)
- Michael Tran, MD (Sports, Orthopedic & ER Imaging)
- Bo Chen, MD (Neuroradiology)
- Luis De Alba Padillo, MD (Neuroradiology)
- Suhare Khalil, MD (Neuroradiology)
- Shekhar Khanpara, MD (Neuroradiology)
- Octavio Arevalo, MD (Neuroradiology)

News Room

RAD-AID Morocco

Members of the department visited Morocco as part of the 2019 RAD-AID team which was led by Dr. Latifah Sanhaji.

According to Dr. Sanhaji, the 2019's mission was a multi-pronged approach that had three main



objectives:

- education for radiology professionals
- workflow and PACS optimization
- mobile health program to reach remote communities

To visit the chapter website, please click [here](#).

CPRIT & BUILD Summer Program Mentors

We had one faculty participate as a mentor for undergraduate students in cancer-related research projects. The purpose of the program was to allow the students an opportunity to experience research in the varying areas of cancer prevention and control.

Dr. Arash Kamali supported an undergraduate student from Rice University (Anushua Gandhi).

We are officially open for the TMIST trial!

Our site is officially open for the TMIST trial and our own Dr. Heather He is the PI of the study for our site. Our other DII investigators on the study include Dr. Kiran Chang and Dr. Elaine Khalil.

We are one of three open sites in Texas along with MD Anderson and UT Southwestern.

For more information on this please click the link below.

ECOG-ACRIN

Collaborative Observer Program with TMCx Innovations Fellowship Program

The Neuroradiology section was approached by the TMCx to work with their yearly TMCx Innovation Fellowship program. Observers from the TMC Innovations Fellowship program shadowed a Neuroradiology faculty during the days of September 30th to October 4th and October 7th to 11th. The observers either have a background as a physician or a technology/AI/innovation graduate that want to gain understanding about how our neuroradiologist section operates and the challenges they face in innovative and technology advances.

The Neuroradiology section is representing the department as one of the four departments participating in this collaboration. Below is a list of the other departments and the respective faculty lead:

- Dr. Lillian Kao (MMS-Surgery)
- Dr. Martin Citardi (MMS-Otorhinolaryngology)
- Dr. Roy Riascos (MMS- DII Neuroradiology)
- Dr. Shawn Adibi (SOD)

The fellows rotated between the participating departments during their observership.

Recent Publications

Our research faculty recently published two journal articles about current advances in deep learning artificial intelligence (AI) applications in MRI. The first application used AI to automatically assess the quality of structural brain MRI images. The second application used AI to classify brain tissue and detect lesions in patients with multiple sclerosis (MS).

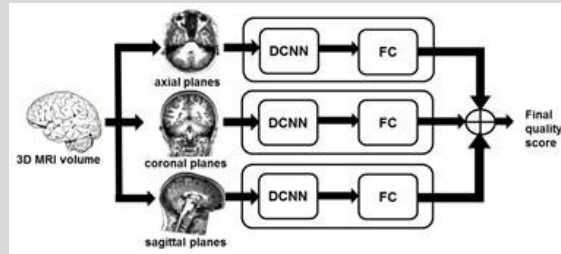
Please see below for more information and images. The group also has three more articles that are under review in reputable journals (Radiology, Magnetic Resonance Imaging, and Journal of Magnetic

Resonance Imaging) investigating technical questions and novel applications of AI in MRI. More news to come, regarding this, soon!

The work on quality assessment will appear in the October 2019 issue (volume 50 issue 4) of Journal of Magnetic Resonance Imaging.

Sujit SJ, Coronado I, Kamali A, Narayana PA, Gabr RE. Automated image quality evaluation of structural brain MRI using an ensemble of deep learning networks. Journal of Magnetic Resonance Imaging. 2019 Volume 50 Issue 4, p1260-1267.

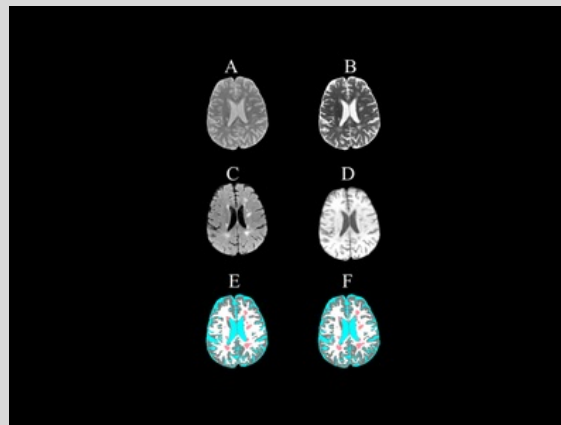
Click on the image below.



The work on brain tissue classification is in press in the Multiple Sclerosis Journal.

Gabr RE, Coronado I, Robinson M, Sujit SJ, Datta S, Sun X, Allen WJ, Lublin FD, Wolinsky JS, Narayana PA. Brain and lesion segmentation in multiple sclerosis using fully convolutional neural networks: A large-scale study. Multiple Sclerosis Journal. 2019 Jun 13:1352458519856843.

Click on the image below.



Ischemic Infarction in Young Adults: A Review for Radiologists

Our Neuroradiology faculty (Drs. Jennifer McCarty, Clark Sitton, Roy Riascos) recently published an article on young adult ischemic stroke in RadioGraphics which is available to read online. This article invitation resulted from the group's electronic educational RSNA exhibit from November 2018 which also won Cum Laude honors.

Check it out [here](#).

Research News

The following article was a collaborative project with Radiologists, Physicists, and biomedical Engineers which was published in Academic Radiology.

Lenchik L, Heacock L, Weaver AA, Boutin RD, Cook TS, Itri J, Filippi CG, Gullapalli RP, Lee J, Zagurovskaya M, Retson T, Godwin K, Nicholson J, **Narayana PA**. Automated Segmentation of Tissues using CT and MRI: A Systematic Review. Acad Radiol. 2019 Aug 10. pii: S1076-6332(19)30353-8. doi: 10.1016/j.acra.2019.07.006.

Invited talks presented last year by Dr. Narayana:

1. Invited talk at 13th Annual ARSEP MRI Workshop, Magnetic Resonance Imaging. "Spinal cord lesions imaging." Paris, France – February 2, 2018
2. Invited talk at TACC Symposium for Texas Researchers (TACCSTeR) 2018. "MRI and The Role of TACC's High Performance Computational Facility: UT-H's Perspective." Austin, TX – September 20, 2018
3. Invited talk at International Conference on Disease Biomarkers and Precision Medicine (DBPM-2018). "Precision Magnetic Resonance Imaging" Houston, TX – October 22-24, 2018
4. Plenary lecture at Cairo International Biomedical Engineering Conference (CIBEC 2018). "Precision MRI." Cairo, Egypt – December 20 – 22, 2018

DOES YOUR RESEARCH INVOLVE IMAGING PROCEDURES?

DID YOU KNOW?



- The approval form is required for all research projects that utilize non standard-of-care imaging.
- All research imaging performed on MHHS imaging equipment needs to be read by a UTHHealth radiologist.
- To obtain research pricing for professional read fees please email:
Radiology.Research@uth.tmc.edu
- Industry sponsored studies that involve research-only imaging will require a **\$750** start-up fee. Please see DII Approval form on waiver information.
- Investigators that plan to utilize DII capabilities should discuss potential projects with a UTH radiologist during the planning phases.



Have you submitted the DII
Approval Form?

DII Approval Form

Please submit to:
usha.n.menon@uth.tmc.edu

Resident Research Committee

The Resident Research committee is a group of individuals that consists of staff and faculty representatives (from various sections) that aim to oversee our residents' research. The committee meets every other month and is chaired by Dr. Arash Kamali.

If you are interested in joining, please contact [Dr. Arash Kamali](#) or [Joan Dela Cruz](#).

New Google Links

Please use the following links to enter your research.

[Faculty Research Projects](#)

[Resident Research](#)

Important: You will need to request access to both google sheets.

In progress..

- Dr. Hughes (Pedi Radiologist), Neuroradiology faculty and UT Fetal Center are currently in collaboration on 3D printing projects. We hope to bring more news on this soon!
- Faculty Review - have you submitted your review?
- Schedule your faculty appointment with Dr.



**Do you want to submit content
for the newsletter?**

Please email:
DII.NEWSUPDATE@UTH.TMC.EDU

DEADLINE: December 20, 2019

John using this [link](#).

- Collection pool for the Holiday event will be sent out soon.