

Obiettivo per la SNO

La diagnostica neuroradiologica è l'unica metodica che permette a tutti i professionisti che operano nel ambito delle neuroscienze a raggiungere una adeguata diagnosi differenziale neurologica. L'interpretazione delle immagini richiede non solo una conoscenza approfondita delle apparecchiature diagnostiche e delle malattie neurologiche ma anche di saper individuare i protocolli e le sequenze da utilizzare in base alle esigenze dei professionisti che operano in ambito delle neuroscienze. Non basta la mera "lettura" delle immagini, ma una conoscenza olistica del nostro sistema nervoso centrale sia della sua anatomia sia della funzione. E' importante essere un po' "clinici" per capire il linguaggio comune utilizzato nell'ambito delle neuroscienze. Inoltre bisogna essere al passo con la tecnologia che avanza molto rapidamente. Questo sarà fondamentale nel proporre agli utenti della diagnostica neuroradiologica le novità con l'unico obiettivo di essere sempre più precisi nel raggiungere le diagnosi. La diagnostica neuroradiologica fa la parte del leone nelle diagnosi delle malattie neurologiche ma anche nei percorsi terapeutici come per esempio gli interventi neurochirurgici ma anche nella valutazione della riabilitazione motoria e cognitiva.

Con un'esperienza lavorativa di diversi anni sia nell'ambito pubblico che nell'ambito privato, con incarichi di docenza alla Facoltà di Scienze Cognitive, Facoltà di Medicina e Facoltà di Matematica e in qualità di Vice-Chair del International Society for Magnetic Resonance in Medicine (ISMRM), sarà mio obiettivo di diffondere le basi neuroanatomiche basate sulle immagini, migliorare il dialogo fra tutti i professionisti dell'area neuroscienze. Sarà fondamentale parlare con i giovani, presentare casi clinici e magari trovare nella nostra SNO un punto di riferimento per la discussione di casi complessi in maniera multidisciplinare.

CV breve

CF: GRWNDT75A68Z219L

Sono nata a Tokyo da genitori indiani e ho vissuto in diversi paesi fino ad arrivare a Roma. A Roma ho conseguito la laurea in Medicina e Chirurgia presso l'Università Cattolica del Sacro Cuore, nel 2000. Nel 2005 presso l'Università di Udine mi sono specializzata in Neurologia e poi successivamente in Radiologia diagnostica nel 2009. Durante la mia prima specializzazione in Neurologia, mi sono concentrata sul trattamento dell'ictus acuto basando sui protocolli avanzati in neuroimaging come la Diffusione e Perfusion weighted imaging. Gli studi di neuroradiologia sono stati ulteriormente perfezionati da soggiorni presso McLean Hospital affiliata alla Harvard Medical School e l'Università di Salt Lake City nello Utah. Questo mi ha permesso di lavorare a fianco di autorevoli neuroradiologi come la Prof.ssa Anne Osborn, il Dott. David Yousem accumulando una vasta esperienza in neuroradiologia clinica adulta e pediatrica. Dal 2010 al 2021 ho lavorato presso l'Azienda Provinciale per i Servizi Sanitari di Trento, prima come consulente libero-professionale e successivamente come dirigente medico di I livello in neuroradiologia clinica. Nello stesso periodo ho anche ricoperto il ruolo di medico responsabile delle attrezzature RM ad alto campo magnetico presso il laboratorio neuroimaging funzionale del Centro Interdipartimentale Mente/Cervello dell'Università di Trento. Sono stata titolare di diversi corsi di insegnamento anche nell'area MED 37 presso le facoltà di Scienze Cognitive e di Matematica dell'Università di Trento, oltre a svolgere attività di docenza presso le Università di Verona e degli Stati Uniti (Johns Hopkins University e University of Utah negli Stati Uniti). Ho sempre avuto una attenzione particolare verso la formazione e negli ultimi anni ho organizzato diversi convegni/seminari e congressi a livello nazionale e internazionale. In particolare nel 2012 ho organizzato il primo corso di neuroradiologia con titolo di "Neuroanatomy meets Function" che ha riscosso tanto successo e da cui nasce nel 2018 il libro omonimo edito dalla Springer International. Dal 2020, mi sono iscritta al dottorato di ricerca presso l'Università di Southampton nel Regno Unito. Il dottorato è incentrato sul neuroimaging dell'eliminazione dei rifiuti cerebrali con la prof.ssa Roxana Carare. Attualmente la mia ricerca è centrata sull'imaging della dinamica dei neurofluidi e del flusso del liquido cerebrospinale. Sono Vice-Chair della Società internazionale per la risonanza magnetica in medicina (ISMRM) e partecipo attivamente in diverse società scientifiche. Sono stata relatrice di diversi congressi nazionali ed internazionali e autrice di diverse pubblicazioni scientifiche sulle riviste peer-reviewed.

CURRICULUM VITAE
EUROPEAN FORM

PERSONAL INFORMATION

Name & Family name
Current professional role

Nivedita Agarwal, MD
Neuroradiologist
Lecco (LC), Italy
ORCID ID: 0000-0002-1387-9566

E-mail

nivedita.agarwal@lanostrafamiglia.it (work)
na1c20@soton.ac.uk (Phd related)

CURRENT EMPLOYMENT

Oct. 2021 - present

Head of Neuroradiology & Radiology Services
Scientific Institute, IRCCS "Eugenio Medea"

Sept. 2020 - present

PhD student, Clinical Neurosciences
Faculty of Medicine, University of Southampton, UK

2011 - present

Adjunct Faculty
Neuroradiology
Department of Radiology
University of Utah, Salt Lake City, Utah

PAST WORK EXPERIENCE

2013 – Aug 2021

Neuroradiologist
Hospital S. Maria del Carmine, Rovereto, Trento (Italy)
Azienda Provinciale per i Servizi Sanitari, Trento

2018 – Feb 2021

Medical Director for Safety, 3T Functional Neuroimaging Laboratory
Center for Mind/Brain Sciences
University of Trento, Italy

2011 - 2018

Medical Director for Safety, 4T Functional Neuroimaging Laboratory
Center for Mind/Brain Sciences
University of Trento, Italy

2018 - 2019

Visiting academic
Clinical and Experimental Sciences, Faculty of Medicine, University of Southampton, UK

2010 - 2013

Neuroradiologist
Hospital S. Chiara of Trento, Trento, Italy

EDUCATION AND TRAINING

1991 - 1993

Advanced level qualification (Intermediate High School)
St. George's International School, Rome Italy

1993 - 1999	Doctor of Medicine and Surgery Faculty of Medicine Catholic University of the Sacred Heart Rome, Italy	
2002 - 2005	Residency in Neurology University of Udine, Udine, Italy	
Dissertation title	<i>Carotid artery stenting in asymptomatic high-grade stenosis: patient outcome at long-term</i>	
2000 - 2002	Resident in Neurology IRCCS, Oasi di Maria Santissima, Troina (EN) Italy	
2005 - 2009	Residency in Radiology University of Udine, Udine, Italy	
Dissertation title	<i>Short-term administration of uridine increases brain membrane phospholipids precursors in healthy adults: a 31-phosphorus magnetic resonance spectroscopy study at 4T</i>	
2008 - 2009	Research at McLean Hospital , Harvard affiliated medical school Boston, Massachusetts, Boston	
2009 - 2010	Research, Brain Imaging Center (MR Spectroscopy – Glycine and Schizophrenia) University of Utah, Salt Lake City, USA Observer, Neuroradiology, Faculty of Medicine, University of Utah, Salt Lake City (UT)	
LICENSES CERTIFICATES	AND	2014 European Certificate of Neuroradiology (European Board of Neuroradiology) 2019 Master in Management in Medicine (Provincia Autonoma di Trento)
AWARDS	2003-2006 Young Scientific Investigator Travel Award, Italian Neurological Society 2004 Young Scientific Investigator Travel Award, European Neurological Society 2017 II best scientific poster: International Society for Neurovascular Diseases, Italy	
REVIEWER	Radiology Neuroradiology Neurological Research American Journal of Neuroradiology BMC Neurology The Neuroradiology Journal	
MEMBERSHIP PROFESSIONAL SOCIETIES	2011 - European Society of Neuroradiology (ESNR) 2012 - 2016 American Society of Neuroradiology (ASNR) 2012 - Associazione Italiana Neuroradiologia (AINR) 2016 - International Society of Magnetic Resonance in Medicine (ISMRM) 2017 - European College of Radiology (ECR) 2017 - Società italiana della radiologia medica (SIRM) 2019 - Società Neurologia, Neurochirurgia e Neuroradiologia Ospedaliera (SNO) 2019 - 2021 International Society to advance Alzheimer's Research and Treatment (ISTAART) 2020 - ISMRM, Ad hoc committee member "Women in ISMRM" 2020 - European Society of Magnetic Resonance in Medicine 2021 - Elected Scientific & Educational Chair, Annual meetings ISMRM Vancouver and London Elected Program Chair, Annual meeting ISMRM, Toronto.	

CONFERENCES
ORGANIZED

2021- Chair, Study group "Imaging Neurofluids", ISMRM

2011-2012 Hot Topics in Neuroradiology (six modules/yr) Trento, Italy
 Sept. 2012 Anatomy meets Function, I Neuroradiology Course, Trento, Italy
 Mar 2014 Anatomy meets Function, II edition, Rovereto, Italy
 April 2015 Anatomy meets Function, III edition, Rovereto, Italy
 Nov. 2016 Anatomy meets Pathology, IV edition, Rovereto, Italy
 May 2017 Anatomy meets Function and Surgery, V edition, Cosenza, Italy
 May 2019 Anatomy meets Function and Surgery, V edition, Cosenza, Italy
 May 2019 Annual meeting ISMRM 2019, Montreal, Canada
 - Plenary session: Connecting MRI to Other Branches of Science
 - Scientific session: Blood Brain Barrier, Glymphatics & CSF Flow
 - Educational session: Neurofluids & Brain Lymphatics: From Bench to MRI
 May 2020 Virtual meeting ISMRM 2020 (due to COVID emergency)
 - Educational session: The Brain-Gut axis: imaging the superorganism
 - Educational session: Imaging perivascular spaces
 - COVID: past, present but what possible future?
 - Scientific session: Glymphatic system and CSF flow imaging

SPEAKER (NATIONAL
ITALIAN EVENTS)

Apr 2016 Seminars in Neuroscience (MR imaging of Psychiatric disorders), Chieti
 Oct 2016 Base camp: neurovascular imaging Functional anatomy of cerebellum, Firenze
 Mar 2017 Neuroscience: clinical research, Fondazione Bruno Kessler, Trento
 Nov. 2017 Neurophysiological differences and gender, Ordine dei medici di Trento,
 Oct 2017 Base camp: neurovascular imaging Cortical territories: anatomy and function,
 Firenze
 Sept. 2017 Associazione Italiana di Neuroradiologia, Functional anatomy of the cerebellum, Napoli
 Mar 2018 Cerebral visual impairment in the premature: role of MR, Trento
 Oct 2018 Base camp: neurovascular imaging Cerebral fluid dynamics Firenze
 Dec 2018 Advanced imaging course in neuroradiology, (AINR), Napoli
 May 2019 Functional Anatomy of the Cerebellum, Stresa
 Glymphatic system, Stresa
 June 2019 Neuroimaging of CNS fluid dynamics, Cosenza
 June 2019 MR imaging of perivascular spaces in veno-obstructive diseases, Ferrara
 Oct 2019 Interactive dynamics of neurofluids, Firenze
 Dec 2019 Biannual meeting of Associazione Italiana di Neuroradiologia, Glymphatic system, Ortigia
 March 2020 Neuroimaging of CNS fluid dynamics, (Webinar), University of Verona, Verona
 Sept 2021 Cortical functional arterial territories. Campo base neurovascolare, Rome
 Oct. 2021 Webinar, Imaging of the glymphatic system. Società Italiana di Radiologia Medica

SPEAKER (INTERNATIONAL)

April 2014 XX Symposium Neuroradiologicum (MR imaging of Psychiatric disorders) Istanbul
 Sept. 2017 AIMS, Intracranial hypertension and glymphatic system Tokyo, Japan
 March 2018 Polish Radiological Society (Neuroimaging of CNS Fluid Dynamics – The Role of
 Glymphatic System in Neurodegenerative Disorders) Lodz, Poland
 March 2018 XXI Symposium Neuroradiologicum (Functional anatomy of the cerebellum), Taipei,
 Taiwan
 April 2018 Idiopathic intracranial hypertension: newer insights into its pathophysiology, ISNVD,
 Zhengzhou, China
 Oct. 2018 MRI symposium Severance Hospital (Neuroimaging of CNS Fluid Dynamics – The Role
 of Glymphatic System in Neurodegenerative Disorders), Seoul, South Korea
 Feb. 2019 First conference Seizures&Stroke (Neuroimaging of post-stroke seizures) Gothenburg,
 Sweden
 June 2019 Neuroimaging of CNS fluid dynamics, University of Southampton, UK
 April 2020 COVID-19 Emergency: The Italian Experience (webinar), ISMRM
 August 2020 Zooming into Perivascular Spaces in the brain: Virtual annual meeting, ISMRM
 Nov. 2020 The several faces of COVID-19 and brain lesions: the usual and the unusual (webinar)
 ISNVD
 Oct. 2021 Imaging of neurofluids and the glymphatic system. AIMS, Tokyo, Japan

TEACHING MANDATES

ABROAD

2010 till present
4/2015 – 6/2015

Radiology residency and neuroradiology fellowship program, University of Utah, Salt Lake City, USA
Visiting Professor, Johns Hopkins University, Baltimore (USA)

ITALY

2013 – fino ad oggi
2015 – 2016
2013 – 2014
2010 – 2012

Elective course: Biomedical applications of mathematics and imaging, Faculty of Mathematics, UNITN
Elective course: Clinical Neuroscience, Faculty of Cognitive Science, UNITN, Italy
Workshop Neuroradiology and MRI School of Radiographers, University of Verona
Laurea per tecnici di radiologia medica, Facoltà di Medicina e Chirurgia, Università di Verona.

STUDENT'S DISSERTATION TITLES

1. **Optimization of MR protocol in pediatric patients with neurofibromatosis.**
11/07/2011-11/07/2011 Anna Vella Università di Verona, Faculty of Medicine
2. **Optimization of MR protocol in patients with multiple sclerosis**
12/09/2011 - 21/10/2012 Giuseppe Panzica University of Verona, Faculty of Medicine
3. **Magnetic resonance imaging in research centers**
01/11/2012- 04/03/2013 Luciano Trodella University of Verona, Faculty of Medicine
4. **Diffusion tensor imaging: what, how and when?**
4/07/2014 - 18/11/2014, Angela Serafin, Radiographer, University of Verona
5. **Altered white matter integrity in the auditory cortex and association areas of a patient with profound bilateral deafness: a DTI study**
03/09/2012 - 16/09/2013 Niyati Roy Chowdhury University of Trento, Faculty of Cognitive Sciences
6. **DTI analysis of white matter pathologies in Alzheimer's disease, mild cognitive impairment and Idiopathic Parkinson's disease**
10/09/2012 - 09/12/2013 Nida Sajjad University of Trento, Faculty of Cognitive Sciences
7. **Correlating DTI indices with neuropsychological test in patient's with Alzheimer's disease and mild cognitive impairment**
11/11/2013 - 14/07/2014, Arianna Polato, University of Trento, Faculty of Cognitive Sciences
8. **Alterations of white matter in patients with unilateral acquired deafness: a DTI study**
16/09/2013 –15/09/2014 Giulia di Gioia University of Trento, Faculty of Cognitive Sciences
9. **Cortical modifications in patients with unilateral deafness: a VBM study**
16/09/2013 - 15/09/2014 Simone Centonze University of Trento, Faculty of Cognitive Sciences
10. **Volumetric analysis of gray matter, white matter and CSF volume in patients with Alzheimer's disease and mild cognitive impairment**
09/09/2013 08/09/2014 Ylenia Pullara University of Trento, Faculty of Cognitive Sciences
11. **Role of resting state functional MRI in neurological disorders**
1/9/2013-11/3/2015, Veronica Nardelli, University of Trento, Faculty of Cognitive Sciences
12. **Role of resting state functional MRI in disorders of consciousness**
1/9/2013-11/3/2015, Anna Gentilini, University of Trento, Faculty of Cognitive Sciences
13. **Hippocampal and sub-hippocampal volumes to allow differential diagnosis between Alzheimer's disease and mild cognitive impairment.**
1/9/2015 – 20/3/2016, Lucrezia Dalai, University of Trento, Faculty of Cognitive Sciences
14. **Functional connectivity analysis in a patient with semantic dementia. A longitudinal study.**

1/9/2015- 20/9/2016, Jenny Dallavilla, University of Trento, Faculty of Cognitive Sciences

15. **Diffusion MRI and graph analysis: a study on TDL and its clinical applications**
1/2/2015- 20/3/2017, Salvatore Lacava, University of Trento, Faculty of Cognitive Sciences
16. **Disorders of consciousness: an fMRI and DTI study in a patient with major traumatic brain injury**
1/10/2016 – 10/10/2017, Jasmine Pani, University of Trento, Faculty of Cognitive Sciences.
17. **Voxel-based morphometry of the precuneus in patients with Alzheimer's disease and Vascular dementia**
October 2018 Trisha Evans Kibaya, University of Trento, Faculty of Cognitive Sciences.

PEER REVIEWED PAPERS

1. L. Mueller et al. Cerebrospinal fluid dynamics coupled to the global circulation in holistic setting: mathematical models, numerical methods and applications. *International Journal for Numerical Methods in Biomedical Engineering* July 2021
2. Lisa Novello#, Nivedita Agarwal#, Sabina Vennarini, Stefano Lorentini, Domenica Zacà, Anna Musano, Ofer Pasternak, Jorge Jovicich. Longitudinal changes in brain diffusion MRI indices during and after proton beam therapy in a child with pilocytic astrocytoma: a case report. *Medrxiv preprint*. DOI: <https://doi.org/10.1101/2021.02.09.21251092>
3. Simran Chhugani#, Nivedita Agarwal#, Faraz Sheikh, Florina Borca, Aginor Spanoulis, Ian Galea. Cervical spinal degenerative disease in multiple sclerosis. *European Journal of Neurology* – April 2021
4. Saba, Luca, Agarwal Nivedita, Cau Riccardo, Gerosa Clara, Sanfilippo Roberto, Porcu Michele, Montisci Roberto Cerrone Giulia, Qi Yang, Balestrieri Antonella, Lucatelli Pierleone, Politi, Carola, Faa Gavino, Suri, Jasjit S. Review of Imaging biomarkers for the vulnerable carotid plaque. *Journal of Vascular Science* Feb 2021
5. Nivedita Agarwal and Roxana O Carare. The cerebral vessels: an overview of anatomy, physiology and role in the drainage of fluids and solutes. *Frontiers in Neurology*. 11:611485, 2021.
6. Agarwal, Nivedita; Ahmed, Ali Karim; Wiggins, Richard H. III; McCulley, Timothy J.; Kontzialis, Marinos; Macedo, Leonardo L.; Choudhri, Asim F.; Ditta, Lauren C.; Ishii, Masaru ; Gallia, Gary L.; Aygun, Nafi; Blitz, Ari M. Segmental imaging of the Trochlear Nerve, *Journal of Neuro-Ophthalmology* 2020;00:1–9.
7. Matthew MacGregor Sharp, Satoshi Saito, Abby Keable, Maureen Gatherer, Roxana Aldea, Nivedita Agarwal, Julie E. Simpson, Stephen B. Wharton, Roy O. Weller & Roxana O. Carare. Demonstrating a reduced capacity for removal of fluid from cerebral white matter and hypoxia in areas of White Matter Hyperintensity associated with age and dementia. *Acta Neuropathol Commun* 8, 131, 2020
8. Nivedita Agarwal, Rosella Martini, Giovanni Pedrotti, Sabino Della Sala. Unusual lesion in the splenium of the corpus callosum and coronavirus infectious disease-19. *BJR|case reports* 2020 6:3
9. Roxana Carare..., Nivedita Agarwal et al. Cerebrovascular disease and the failure of elimination of Amyloid- β from the brain and retina with age and Alzheimer's disease. *Opportunities for Therapy. Alzheimer's Dement.* 2020;12:e12053
10. Johan Zelano, Martin Holtkamp, Nivedita Agarwal, Simona Lattanzi, Eugen Trinka, Francesco Brigo. How to diagnose and treat post-stroke seizures and epilepsy. *Seminars in Epileptology, Epileptic Disord* 2020; 22 (3): 252-63.
11. Agarwal N., Contarino C., Toro E. Neurofluids: A holistic approach to their physiology, interactive dynamics and clinical implications for neurological diseases. *Veins & Lymphatics*. Volume 8 (3) 2019
12. Agarwal N., Contarino C., Bertazzi L., N. Limbucci, Toro E. F. Intracranial fluid dynamics changes in idiopathic intracranial hypertension: pre and post therapy. *Current Neurovascular Research*, 2018, Vol. 15, 2 (1-9)
13. Agarwal N., L. Lenzi, N. Dorigoni, S. Cozzio, Sabino W Della Sala, Multifaceted progressive neurotuberculosis in a single patient: from miliary tuberculomas to cortical venous infarct. 2018 Jul 12;5(1):20180020
14. N.Schiess, K.Huether, M.Szolics, N.Agarwal, A.W.El-Hatta, S.Sathe. Multiple sclerosis or "inflammatory CADASIL?": Case Report and review of the literature. *Clinical Neurology and Neurosurgery*. 2018 Oct;173:196-199
15. Agarwal N., Aylin Tekes Andrea Poretti, Avner Meoded, Thierry A.G.M. Huisman. Pitfalls in

- diffusion weighted and diffusion tensor imaging of the pediatric brain. *Neuropediatrics* 2017 Oct;48(5):340-349
16. Franceschi R, Agarwal N, Savona Valentina, Maines Evelina, Bellizzi Maria, Di Palma Annunziata. Persistent torticollis: Think about Grisel's syndrome. *Journal of Pediatric Neuroradiology* 2014. 175-180. [Epub ahead of print]
 17. Franceschi R, Maines E, Fedrizzi M, Piementose MR, De Bonis P, Agarwal N, Bellizzi M, Di Palma A. Familial cleidocranial dysplasia misdiagnosed as rickets over three generations. *Pediatric International* 2014 (57) 1003-6.
 18. Shprecher, David R; Gannon, Keenan; Agarwal N.; Shi, Xianfeng; Anderson, Jeffrey S; Elucidating the nature and mechanism of tic improvement in Tourette syndrome: A pilot study. *Tremor and Other Hyperkinetic Movements*. 2014 (4).
 19. Paolo Zanatta, Gianna Maria Toffolo, Elisa Sartori, Anna Bet, Fabrizio Baldanzi, Agarwal N., Eugene Golanov. The human brain pacemaker: Synchronized infra-slow neurovascular coupling in patients undergoing non-pulsatile cardiopulmonary bypass. *NeuroImage* 2013 DOI: 10.1016/j.neuroimage.2013.01.033
 20. Port JD and Agarwal N. Magnetic resonance spectroscopy and schizophrenia. *JMRI* 2011;34:1251-61.
 21. Agarwal N. and Renshaw PF. Proton magnetic resonance spectroscopy detectable major neurotransmitters of the brain: their biology and possible clinical applications. *AJNR*. 2012 Apr;33(4):595-602
 22. Agarwal N., Young-Hoon Sung, J. Eric Jensen, Grace daCunha, David Harper, Perry F Renshaw. Acute administration of uridine increases brain membrane phospholipid precursors in healthy adults: A 31-Phosphorus Magnetic Resonance Spectroscopy Study at 4T. *Bipolar Disord*. 2010 Dec;12(8):825-33.
 23. Agarwal N, Port DJ, Bazzocchi M, Renshaw PF. Update on Magnetic Resonance Imaging in Psychiatric Disorders. *Radiology*. 2010;255(1), 23-41.
 24. Agarwal N, Rambaldelli G, Perlini C, Dusi N, Kitis O, Bellani M, Cerini R, Isola M, Versace A, Balestrieri M, Gasparini A, Pozzo Mucelli R, Tansella M, Brambilla P. Microstructural thalamic changes in schizophrenia: a combined anatomical and diffusion weighted MRI study. *J Psych and Neuroscience*. 2008; 33(5): 440-48.
 25. Agarwal N, Bellani M, Perlini C, Rambaldelli G, Atzori M, Cerini R, Vecchiato F, Pozzi Mucelli R, Balestrieri M, Tansella M, Brambilla P. Increased fronto-temporal perfusion in bipolar disorder. *J Affect Disord*. 2008 110:106-114.
 26. Agarwal N, Como G, Brambilla P, Baiano M, Maieron M, Balestrieri M, Perini L, Zuliani R, Ciano R, Bazzocchi M. Functional magnetic resonance imaging study investigating mechanism of memory suppression in stress-related psychiatric disorders: preliminary results. *European Radiology*. 2008; Suppl 1 (18).
 27. Ferri R, Elia M, Agarwal N, Lanuzza, Musumeci SA, Pennissi G. The mismatch negativity and the p3a components of the auditory event-related potentials in autistic low-functioning subjects. *Clinical Neurophysiol*. 2003; 114:1671-1680.

BOOK (EDITOR)

Neuroimaging: Anatomy meets Function: eds. N. Agarwal and John D. Port Springer International 2017

BOOK CHAPTERS

Structural anatomy of the cerebrum
 Functional anatomy of the major white matter tracts
 Structural anatomy of the cerebellum
 Functional anatomy of the cerebellum and brainstem
 Anatomy and function of the olfactory nerve
 Anatomy and function of the optic nerve
 Anatomy and function of the oculomotor nerve
 Anatomy and function of the trochlear nerve
 Anatomy and function of the abducens nerve
 Anatomy and function of the glossopharyngeal nerve
 Anatomy and function of the vagus nerve

Il Neuroimaging della Demenza – Demenze, Consigli Clinici. A cura di L. Galloisi, Casa editoriale: Cleup srl. Padova

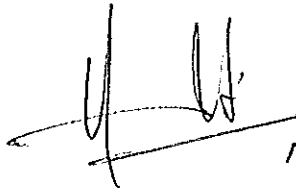
ABSTRACTS AND PROCEEDINGS

1. Nivedita Agarwal, Giuseppe Nicolò Frau, Sabino Walter Della Sala, Olivier Baledent. Phase contrast MRI analysis of neurofluids in patients with Meniere's disease and jugular venous stenosis. ISMRM – online meeting 2021
2. Agarwal Nivedita, Zolnourian Ardalani, Galea Ian, Carare Roxana, Bulters, Diederik. Incidence of enlarged perivascular spaces six-months after aneurysmal subarachnoid hemorrhage: a retrospective MR study. ISMRM, Montreal 2019
3. Lisa Novello, N. Agarwal, Stefano Lorentini, Sabina Vennarini, Domenico Zacà, Ofer Pasternak, and Jorge Jovicich. Diffusion MRI characterization of Proton-therapy-induced brain tissue changes: a case study, ISMRM, Montreal 2019
4. Trisha Kibaya, N. Agarwal and Jorge Jovicich. High and Low Risk Dementia Classification In Early MCI and ADNI1, ISMRM, Montreal 2019
5. Nivedita Agarwal, Christian Contarino, Giuseppe Nicolò Frau, and Eleuterio Toro. Inefficient cranial venous outflow in patients with Meniere's disease, ISMRM, Montreal 2019
6. N. Agarwal, C. Contarino, A. Scoz, G. Rossi, E.F. Toro. Can non-invasive phase contrast cine MR imaging replace lumbar puncture in idiopathic intracranial hypertension?: a case study. International Society of Neurovascular diseases, May 2017 Taormina (Italy).
7. N. Agarwal, M. Chiusole, G. Rossi, J.D. Port, O. Pasternak. Longitudinal tissue changes in tumefactive demyelinating lesion associated with the administration of disease modifying drugs: a free water diffusion MRI study. ISMRM May 2017
8. Jens Schwarzbach, Jenny Dallavilla, Angelika Lingnau, N. Agarwal. Resting state fMRI allows tracking of functional connectivity on an individual level. Vth conference on Resting State, Vienna September 2016
9. N. Agarwal, N Roy Chowdhury, G. Frau, M. Neri, F. Pavani. Alterazione Della Sostanza Bianca Nelle Aree Di Associazione Auditiva In Paziente Con Sordità Profonda Bilaterale: Uno Studio DTI. 27° Congresso Nazionale Associazione Italiana Neuroradiologia, L'Aquila, 18-21 Settembre 2013.
10. N. Agarwal, F. Maule, L. Shah, M. Bromberg, P. Avesani. Assessment Of Corticospinal Tract In Amyotrophic Lateral Sclerosis With Deterministic Tractography. 27° Congresso Nazionale Associazione Italiana Neuroradiologia, L'Aquila, 18-21 Settembre 2013
11. E. Olivetti, T. B. Nguyen, E Garyfallidis, N. Agarwal, P. Avesani. Fast Clustering for interactive Tractography Segmentation. 3rd International Workshop on Pattern Recognition In NeuroImaging June 22-24, 2013 University of Pennsylvania, Philadelphia PA, USA
12. M. Acler, D. Bonifati, E. Gremes, U. Rozzanigo, N. Agarwal, D. Orrico. Environmental risk factors in carotid and vertebro-basilar artery dissections. Neurological Sciences. Vol. 33-Suppl Oct. 2012
13. Agarwal N., Prescott AP, Pertile R, Lubdha MS, Huber R, Bromberg MB, Renshaw PF. Reduced N-acetylaspartyl glutamate (NAAG) in the primary motor cortex of patients with amyotrophic lateral sclerosis: a proton magnetic resonance spectroscopy study. Journal of Neurology Suppl. 1 Vol 258; S222. May 2011.
14. Sphrecher D, Agarwal N. et al. Elucidating the nature and mechanism of tic remission in Tourette syndrome using Magnetic Resonance Imaging. American Academy of Neurology, Hawaii, April 2011.
15. Agarwal N., Andrew P. Prescott, Lubdha M Shah, Jackie Whitesell, Mark Bromberg, Perry F. Renshaw. Glutamate levels in motor cortex of patients with Amyotrophic Lateral Sclerosis correlates with the clinical distribution of motor symptoms: 1H-magnetic resonance spectroscopy study. American Society for Functional Neuroimaging, Las Vegas, NV, USA February 2010.
16. Agarwal N., Brent P Forester, J Eric Jensen, Chun Zuo, Perry F. Renshaw. Alterations in brain N-acetyl aspartyl glutamate in geriatric depression. International Society of Magnetic Resonance Medicine, Quebec, Canada Nov. 2008.
17. Agarwal N., J.A. Stanley, G. Como, M. Baiano, M. Maieron, M. Balestrieri, L. Perini, R. Zullani, R. Ciano, E. Maso, G. Brondani, C. Zuiani, M. Bazzocchi, P. Brambilla. Investigation of Dorsolateral Prefrontal Cortex in anxiety disorder patients with 1H Magnetic Resonance Spectroscopy. Collegium Neuropsychopharmacologicum. July 2008.
18. Agarwal N., Como G., Brambilla P., Baiano M., Maieron M., Balestrieri M., Perini L., Zullani R., Ciano R., Bazzocchi M. Functional Magnetic Resonance Imaging study

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