

KAMIL UGURBIL

Birth Date:	11 July 1949		
Education:	1971	A.B.	Columbia College, Columbia University (Physics)
	1977	Ph.D.	Columbia University (Chemical Physics)

Academic Appointments

1991 - present	Founding Director, Center for Magnetic Resonance Research (CMRR), Univ Minnesota
2003 - present	McKnight Presidential Endowed Chair Professor, University of Minnesota
2003 - 2008	Director, Max Planck Institut, Hochfeld Magnetresonanz Zentrum, Tübingen
1985 - present	Professor, Dept. Radiology, Neurosciences, and Medicine, Univ. Minnesota
1996 - 2003	Margaret & H.O. Peterson Chair of Neuroradiology, University of Minnesota
1982 - 1985	Associate Professor, Dept. of Biochemistry, University of Minnesota
1979 - 1982	Assistant Professor, Dept. Biochemistry Department, Columbia University
1977 - 1979	Bell Laboratories

Honors and Awards

2014	Richard Ernst Medal and Lecture (ETH, Zürich)
2014	Elected into National Academy of Inventors
2013	Erwin Hahn Lecture , Erwin Hahn Institute, Essen, Germany
2013	Appointed as member of the BRAIN initiative Working Group
2013	Elected to Academy of Device Innovators , University of Minnesota
2011	Honorary Doctorate (Doctorate Honoris Causa), University of Maastricht, Netherlands
2010	Human Connectome Project Award from NIH, Co-Principle Investigator
2010	Centennial Lecture , University of Florida, Gainesville
2010	5th Annual Glen D. Dobben Memorial Lecture , University of Illinois, Chicago
2009	Sir Peter Mansfield Lecture European Society of Mag. Reson. in Medicine and Biology
2009	Elected Fellow of the International Society of Magnetic Resonance (ISMR) Fellow.
2007	Elected into the Institute of Medicine, the National Academies (USA)
2005	Elected into the American Academy of Arts and Sciences
2005	Honorary Doctorate (Doctorate Honoris Causa), University of Utrecht, Netherlands
2004	Segerfalk Lecture , University of Lund, Sweden
2003	McKnight Presidential Endowed Chair Professorship, University of Minnesota
2001	Science Day Lecturer , Swiss Federal Institute of Technology (EPFL), Lausanne
1996	Margaret & H.O. Peterson Chair Professorship, University of Minnesota
1997	Inducted as Fellow, International Society of Magnetic Resonance in Medicine (ISMRM)
1996	Gold Medal , the International Society of Magnetic Resonance in Medicine (ISMRM)
1993	Werner-Gren Distinguished Lecturer , Karolinska Institute, Stockholm
1983	NIH Research Career Development Award
1980	Irma T. Hirschl Career Scientist Award
1976	Recipient of Hammett Award for Original and Distinguished Research
1974	Columbia University, Graduate Faculties Alumni Scholar

SELECTED PUBLICATIONS (full CV available at <http://www.cmrr.umn.edu/facultystaff/kamil.shtml>)

(h-factor 90 and Times Cited without Self Citations = 25,908 (Web of Science, Feb 2015))

1. Ogawa, S., D.W. Tank, R. Menon, J.M. Ellermann, S.G. Kim, H. Merkle, and **K. Ugurbil**, *Intrinsic signal changes accompanying sensory stimulation: functional brain mapping with magnetic resonance imaging*. Proc Natl Acad Sci U S A, 1992. 89(13): p. 5951-5. **[One of the two papers that introduced fMRI, reporting the work conducted in CMRR, University of Minnesota]**
2. Ogawa, S., R. S. Menon, D. W. Tank, S. G. Kim, H. Merkle, J. M. Ellermann and **K. Ugurbil**. *Functional Brain Mapping by Blood Oxygenation Level-Dependent Contrast Magnetic Resonance Imaging. A Comparison of Signal Characteristics with a Biophysical Model*. Biophys J 64, no. 3 (1993): 803-12. **[First published biophysical model of the BOLD effect; also the first report of the presence of spontaneous oscillations in the fMRI time series]**

3. Duong, T. Q., D. S. Kim, **K. Ugurbil** and S. G. Kim. "Localized Cerebral Blood Flow Response at Submillimeter Columnar Resolution." *Proc Natl Acad Sci U S A* 98, no. 19 (2001): 10904-9. **[First demonstration that blood flow and hence BOLD effect is controlled at the level of capillaries in the brain, indicating that very high resolution and high accuracy fMRI is possible]**
4. Vaughan, J.T., M. Garwood, C.M. Collins, W. Liu, L. DelaBarre, G. Adriany, P. Andersen, H. Merkle, R. Goebel, M.B. Smith, and **K. Ugurbil**, *7T vs. 4T: RF power, homogeneity, and signal-to-noise comparison in head images*. *Magn Reson Med*, 2001. 46(1): p. 24-30. **[Introduction of 7T for human neuroimaging, showing for the first time feasibility, and gains in SNR & Contrast]**
5. Yacoub, E., A. Shmuel, J. Pfeuffer, P.F. Van De Moortele, G. Adriany, P. Andersen, J.T. Vaughan, H. Merkle, **K. Ugurbil**, and X. Hu, *Imaging Brain Function in Humans at 7 Tesla*. *Magn Reson Med*, 2001. 45(4): p. 588-94. **[First human brain fMRI at 7 Tesla]**
6. Shmuel, A., E. Yacoub, J. Pfeuffer, P.F. Van de Moortele, G. Adriany, X. Hu, and **K. Ugurbil**, *Sustained negative BOLD, blood flow and oxygen consumption response and its coupling to the positive response in the human brain*. *Neuron*, 2002. 36(6): p. 1195-210. **[First paper showing negative BOLD and CBF changes during stimulation (made possible by 7T) and ascribing them to decreased oxygen consumption, and hence to decreased neuronal activity]**
7. Formisano, E., D.S. Kim, F. Di Salle, P.F. van de Moortele, **K. Ugurbil**, and R. Goebel, *Mirror-Symmetric Tonotopic Maps in Human Primary Auditory Cortex*. *Neuron*, 2003. 40(4): p. 859-69. **[First 7T fMRI application on human neuroscience; first tonotopic maps in the human brain]**
8. Shmuel A, E. Yacoub, D. Chaimow, N.K. Logothetis, **K. Ugurbil**, *Spatio-temporal point-spread function of fMRI signal in human gray matter at 7 Tesla*. *Neuroimage* 2007;35(2):539-552. **[One of several papers from CMRR documenting for the first time significant 7T advantages for fMRI]**
9. Yacoub, E., A. Shmuel, N. Logothetis, & **K. Ugurbil**, *Robust detection of ocular dominance columns in humans using Hahn Spin Echo BOLD functional MRI at 7 Tesla*. *Neuroimage*, 2007. 37(4): p. 1161-77. **[One of several papers documenting significant 7T advantages for fMRI, in this case illustrating robust functional mapping of cortical columns in the human brain]**
10. Yacoub, E., N. Harel, and **K. Ugurbil**, *High-field fMRI unveils orientation columns in humans*. *Proc Natl Acad Sci U S A*, 2008. 105(30): p. 10607-12. **[First functional maps of orientation columns in the human visual cortex]**
11. Uludag, K., B. Muller-Bierl, and **K. Ugurbil**, *An integrative model for neuronal activity-induced signal changes for gradient and spin echo functional imaging*. *Neuroimage*, 2009. 48(1): p. 150-65. **[A comprehensive model for fMRI that guides our understanding of the effect of magnetic fields and physiological changes associated with neurovascular coupling in fMRI]**
12. Zimmermann, J., R. Goebel, F. De Martino, P.F. van de Moortele, D. Feinberg, G. Adriany, D. Chaimow, A. Shmuel, **K. Ugurbil**, and E. Yacoub, *Mapping the Organization of Axis of Motion Selective Features in Human Area MT Using High-Field Fmri*. *PLoS One*, 2011. 6(12): p. e28716. **[First cortical column and layer resolution functional maps, a result of long series of studies understanding on neurovascular coupling, fMRI signal properties, magnetic field effects, & introduction and development of 7 Tesla for fMRI and neuroimaging in general]**
13. Van Essen, D.C. and **K. Ugurbil**, *The Future of the Human Connectome*. *Neuroimage*, 2012. 62(2): p. 1299-310. **[The Human Connectome Project led by Ugurbil, & Van Essen as Co-PI's]**
14. Moeller, S., E. Yacoub, E. Auerbach, J. Strupp, N. Harel, and **K. Ugurbil**. *Multi-band Multi-slice GE-EPI at 7 Tesla, with 16 fold acceleration using Partial Parallel Imaging with application to high spatial and temporal whole brain fMRI*. *Magn Reson Med* 2010; 63(5): 1144-53. **[Introduction of slice accelerated, multiband (MB), simultaneous multi slice (SMS) imaging for fMRI]**
15. **Ugurbil, K.**, Xu, J., Auerbach, E.J., Moeller, S., Vu, A.T., et al. *Pushing spatial and temporal resolution for functional and diffusion MRI in the Human Connectome Project*. *Neuroimage* 2013. 80, 80-104. **[Image acquisition/reconstruction accomplishments in the Human Connectome Project; together with the previous paper by Moeller et al 2010, this work has redefined imaging strategies for the entire field of functional and diffusion imaging of the brain]**