

Dr. phil. nat. Stefan Posse

Office Address:

Wayne State University
School of Medicine
Department of Psychiatry &
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Education:

Baccalaureate and graduate (combined in Germany):

Study of physics, University of Cologne, Cologne, Germany 1980 – 1986 Degree:
Diplomphysiker

Study of economics, University of Cologne, Cologne, Germany 1984 – 1986

Graduate:

Study of physics, University of Florida, Gainesville (Florida) 1986 – 1987

Study of MR physics, University of Berne, Berne (Switzerland) 1987 – 1990
Degree: Dr. phil. nat.

Study of biochemistry, immunology and molecular biology 1987 – 1990

Training:

Postgraduate:

University of Berne, Berne (Switzerland) 1990 – 1991

Postdoctoral Fellowship in MR imaging and spectroscopy

National Institutes of Health, Bethesda (Maryland) 1991 - 1994

Fogarty Fellowship in MR imaging and spectroscopy

Study of neurochemistry, biochemistry and molecular biology

University of Düsseldorf, Düsseldorf (Germany) 1999

Habilitation (postdoctoral dissertation) in MR imaging and spectroscopy

Faculty Appointment:

University of Washington School of Medicine, Seattle (Wash.) 1995 – present
Affiliate Assistant Professor, Department of Radiology

University of Düsseldorf, Düsseldorf (Germany) 1999 – present
Privatdozent (lecturer), Department of Physical Biology

Wayne State University – School of Medicine, Detroit MI 2000 – present
Assistant Professor, Dept. of Psychiatry and Behavioral Neurosciences

Faculty Member, Cellular and Clinical Neurobiology 2000 – present
Graduate Program – Wayne State University School of Medicine

Adjunct Faculty, Biomedical Engineering, Wayne State University 2003

Professional Appointment:

National Institutes of Health, Bethesda (Maryland) 1991-1994
Fogarty Fellow

Research Center Jülich, Institute of Medicine, Germany 1994-1999
Head of the MR Research (equivalent to Assistant Professor)

University of Duesseldorf, Germany 1999
Staff Scientist, Rheinische Landeskliniken

IRCCS Santa Lucia, Rome, Italy 1999-2000
Visiting Senior Research Scientist

Wayne State University School of Medicine, Detroit, MI
Director, Functional Neuroimaging Laboratory 2000 – present
Scientific Director, Brain Imaging Research Division 2001 – present

Membership in Major Professional Societies:

American Physical Society 1986 - 1992

Schweizerische Biophysikalische Gesellschaft 1989 - 1992

International Society of Magnetic Resonance in Medicine 1989 - present

European Society of Magnetic Resonance in Medicine & Biology 1997 - present

German Chapter of the International Society
of Magnetic Resonance in Medicine 1997 - present

Society of Biological Psychiatry 2002 – present

Society for Neuroscience 2002 - present

Honors and Awards:

Scholarship Richard Winter Foundation, Cologne (Germany) 1986 - 1988

Membership Phi Beta Delta International Honor Society 1987 - 1995
Gainesville (Florida)

Scholarship Swiss National Science Foundation, Berne (Switzerland) 1987 – 1992

Fellowship Fogarty International Center, National Institutes of Health 1991 - 1994
Bethesda (Maryland)

Finalist Young Investigator Award, Society of Magnetic 1994
Resonance, 1st Annual Meeting, San Francisco (CA)

Service:

Professional Consultation:

Consultant IRCCS S.Lucia, Rome (Italy) 10/99 - 03/00

Journal/Editorial Activity:

Reviewer Wellcome Trust Foundation, UK 1991

Reviewer Israeli Science Foundation, Israel 1991

Reviewer Magnetic Resonance in Medicine 1992 - present

Reviewer	International Society of Magnetic Resonance in Medicine	1993 – present
Reviewer	Ministry for Culture of Sachsen Anhalt, Germany	1994 - 1995
Reviewer	Journal of Magnetic Resonance Imaging	1997 – 2001
Reviewer	Boehringer Ingelheim Fonds, Germany	1997 - 1998
Reviewer	MAGMA	1997 – 1998
Reviewer	European Society of Magnetic Resonance in Medicine and Biology	1998
Reviewer	Zeitschrift für Medizinische Physik	1999
Reviewer	Medical Physics	2001
Reviewer	Merit Grant Review, US Veterans Administration	2001
Reviewer	J. Cerebral Blood Flow and Metabolism	2001
Member	Magnetic Resonance in Medicine, Editorial Subcommittee	4/24/2001
Reviewer	Organization of Human Brain Mapping	2002
Reviewer	Neuroimage	2002

National and international boards and committees:

Member	Advisory Committee, Neurobiology of Autism Program Project (NICHD)	1997
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Ad-hoc Reviewer	NIH study sections, NSD A Proposal Review	2000 - present
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Organization of International Symposia and Workshops:

	Jülich Workshop on fMRI Methodology, Jülich, Germany	11/18-20/1998
	Meeting of the European BioMed Consortium, Königswinter, Germany	6/22-23/1999
	Mini Symposium on Real Time fMRI at the Human Brain Mapping Meeting, Düsseldorf, Germany	6/24-25/1999

Other

	Imaging Oversight Committee, Wayne State University	2001- present
	Committee for Building and Installation of 4 Tesla Scanner, Wayne State University	2001 - present
	Student advisory committee for the medical physics graduate program, Wayne State University	2002 - present

Teaching:

	Years at Wayne State University	2000 – present
Lecturer	PYC 7890 (Seminar)	2/23/2001
Lecturer	IBS 7050 (Biomedical Neurobiology, Seminar)	2/23/2001
Lecturer	PYC 7010 (Neurobiology II)	1/11/2001
Organizer and instructor	SPM training course	8/20 – 24/2001
Lecturer	PYC 7010 (Neurobiology I)	11/27&29/2001
Lecturer	SLP8390 (Audiology & Speech-Language Pathology)	7/23/2002
Lecturer	PYC 7010 (Molecular Neuropsychopharmacology)	12/5/2002
Lecturer	BME 7995 (Special Topics in BME)	01/28 & 02/04/2003

Years at other universities:

Graduate assistant	University of Cologne, Cologne (Germany)	1983 – 1986
Lecturer	Museum of Holography, Pulheim (Germany)	1985 – 1986
Graduate assistant	University of Florida, Gainesville (Florida)	1986 – 1987
Lecturer	University of Düsseldorf, Düsseldorf (Germany)	1997

Lecturer IRCCS S. Lucia, Rome (Italy) 1999

Students/Fellows directed:

Research Center Juelich, Institute for Medicine, Juelich Germany

1. Shahram Mirzazade, undergraduate student 1995 - 1996
Thesis Title: Comparison of Automated Image Registration and SPM motion correction.
2. Dirk Behr, undergraduate student 1995
Thesis Title: Graphic interface for MR pulse programming.
3. Stefan Schor, undergraduate student 1997
Thesis Title: Development of a server-client software package for real-time fMRI.
4. Stefan Wiese, PhD student 1996 – 1999
Thesis Title: Method development for functional MR spectroscopic imaging.
5. Valerij G. Kiselev, PhD, visiting scholar 1997 – 1999
Project: Modeling of the BOLD effect.
6. Daniel Gembris, graduate student 1997 – 1998
Thesis Title: Development of sliding-window correlation analysis for real-time fMRI.
7. Klaus Mathiak, PhD student 1998
Thesis Title: Characterization of physiological noise and absolute quantification of BOLD contrast fMRI.

Wayne State University School of Medicine

1. Ian Wilds, Medical Student 2000
2. Navid Seraji-Bozorgzad, PhD Student, CCN program 2000
3. Carla Nolan, Research Assistant, Child and Adolescent Research Program 2000 – 2001
4. Wenzheng Feng, PhD Student, Computer Engineering 2000 – 2001
5. Syed Ahmed, Research Assistant, Computer Engineering 2000
6. Vijay Burra, Research Assistant, Computer Engineering 2000
7. Rahul Sarvadevabatla, Research Assistant, Computer Engineering 2000
8. Archie Chu, Postdoctoral Fellow, Functional Neuroimaging Laboratory 2000- 2001
9. Gurdip Daffu, Research Assistant Child and Adolescent Research Program 2000 – 2001
10. Mohamad Rashid Ahmed, PhD Student 2001
11. Prashant Kulkarni, Graduate Student, Computer Science 2001
12. Zhou Shen, Graduate Student, Computer Science 2001 – present
13. Kunxiu Gao, Research Assistant, Computer Science 2001 – present
14. Myung Ae Nordin, Research Assistant 2001 – 2002
15. Mary A. Jacintha, Research Coordinator 2001 – present
16. Daniel Fitzgerald, Research Assistant Child and Adolescent Research Program 2001 - present
17. Tyler Cederlind, PhD Student, CCN program 2002
18. Kandarp Shah, PhD Student, Computer Science 2002
19. Rui Zhang, PhD Student, Computer Science 2002
20. Ayaz Mohammad, PhD Student, Bioengineering 2002 - 2003
21. Jinsha Li, PhD Student, Bioengineering 2002 - present

Dissertation Committee – Wayne State University :
 Todd Mitchell, CCN graduate student, PhD committee 7/27/2001 - present
 Mohammad R. Siadat, Computer Science graduate student 9/13/2001
 PhD committee

Course development:

Functional MR imaging and spectroscopy, Graduate lecture 1997
 University of Düsseldorf, Düsseldorf (Germany)

Course material (unpublished):

Funktionale MR Bildgebung und Spektroskopie, University of 1997
 Düsseldorf, Düsseldorf (Germany)
 Handouts and Quizzes
 PYC 7890 (Seminar) 2/23/2001
 IBS 7050 (Biomedical Neurobiology) 2/23/2001
 PYC 7010 (Neurobiology II) 1/11/2001
 PYC 7010 (Neurobiology I) 11/27&29/2001
 PYC 7010 (Molecular Neuropsychopharmacology) 12/5/2002

Grant Support:

Past

1. Principal Investigator, Hennig (coordinator)
European Union, BioMed RTD Project PL 950870 1996 - 1999
 Individual project as part of the program project:
Functional Brain Magnetic Resonance Imaging: Methodological Developments, Quality Control and Establishment of Clinical Protocols
Funding: ECU 70,000
2. Consultant, Richards (PI)
NIH RO1 NS30722-04 1995 – 1997
Multiple sclerosis: MR spectroscopy & electrophysiology
3. Consultant, Berninger (PI)
NIH 1996 – 1998
Center grant: Investigation of dyslexia by Proton Echo Planar Spectroscopic Imaging (PEPSI)
4. Consultant, Dawson (PI)
NICHD PO-1 HD 35465 09/01/1997 – 08/31/2002
 Individual project as part of the program project
Neurobiology and Genetics of Autism
 The major goal of this project is to elucidate brain mechanisms involved in autism by examining the relationships between measures of brain anatomy, brain chemistry, and behavior/cognition over time in samples of preschool aged children with autism and matched comparison groups.

Active

1. Co-PI (30 %), Johanson (PI)
NIDA R01 DA13987-01 05/01/2001 – 04/30/2004
Brain Imaging of Tobacco Craving Using fMRI

The major goal of this project is to utilize well-established imagery techniques for the elicitation of craving for cigarettes in conjunction with fMRI to identify the specific brain regions whose pattern of activation is associated with craving
Funding: \$ 1,018,000

2. Co-PI (10 %), Renshaw (PI)
NIDA 1 R01 DA14178-01 **09/01/2001 – 08/31/2004**
High Field MR Research in Drug Abuse: A Bioengineering Research Partnership
This is a separate subproject headed by WSU to develop and apply Proton-Echo-Planar-Spectroscopic-Imaging (PEPSI) at 4 Tesla. The BRP includes a series of ten engineering projects, which will enhance the capabilities of this unique magnetic resonance research center to conduct studies of individuals with substance abuse disorders.
Funding: \$ 3,485,955
3. Co-PI, Tan (Co-PI), McAllister (CoPI)
2002-2003 Wayne State University faculty competition for graduate research assistantships (GRA) **08/19/2002 – 08/18/2003**
Nonlinear Modeling of Neurovascular Networks in Central Nervous System (CNS)
This research proposes an innovative approach to the problem of modeling neuronal and vascular networks based on the phenomenological principles of thermodynamics for signaling neurons and the kinetics of energy flow in blood vessels.
Funding: 2 GRA positions \$ 33,500
4. Co-Investigator (5 %), Freedman (PI)
NIH 4 R37 AG05233-14 **05/01/2001 – 04/30/2006**
Behavioural Treatment of Menopausal Hot Flashes
The major goals are to determine the etiology of menopausal hot flashes and to develop effective behavioral treatments for them..
Funding: \$ 1,262,850
5. Consultant, Dager (PI)
NIMH R01 MH5579 **07/01/2000 – 06/30/2005**
Brain Mechanism and Treatment Outcome in Panic Disorder
The major goals of this project are to apply proton echo-planar spectroscopic imaging (PEPSI) during lactate infusion to measure brain metabolic changes that may help to establish the pathophysiological underpinnings of panic disorder and to provide a better understanding of treatment refractoriness and relapse in this disorder.

Patents:

1. **Posse, S.,** Le Bihan, D., Method and System for Multidimensional Localization and for Rapid Magnetic Resonance Spectroscopic Imaging, United States Patent No. 5,657,758, August 19, 1997 (Acquiring both stimulated echo and spin echo with PEPSI-Method)
2. **Posse, S.,** Le Bihan, D., Method and System for Multidimensional Localization and for Rapid Magnetic Resonance Spectroscopic Imaging, United States Patent No. 5,709,208, January 20, 1998 (Outer volume suppression with PEPSI-Method)
3. **Posse, S.,** Le Bihan, D., Method and System for Multidimensional Localization and for Rapid Magnetic Resonance Spectroscopic Imaging, United States Patent No. 5,879,299, March 9, 1999 (Rapid spatial-spectral encoding with oversampling and PEPSI method)
4. **Posse, S.,** Kiselev, V. G.: Computer zur Auswertung von Signalen aus der kernmagnetischen Resonanztomographie, mit dem Computer ausgestatteter Kernresonanztomograph sowie Verfahren zur Auswertung von Daten aus der kernmagnetischen Resonanztomographie, German Patent No. 198 17 228.1, March 30, 1999 (Method to optimize the contrast to noise ratio in functional MR imaging)

5. Gembris, D., **Posse, S.**, Taylor, J.G.: Computer zur Auswertung von Signalen aus der kernmagnetischen Resonanztomographie, sowie mit dem Computer ausgestatteter Kernresonanztomograph, German Patent No. 198 02 337.5, May 31, 2000 (Sliding Window Correlation Analysis for Functional Imaging in Real-time)
6. **G. Hagberg, Posse, S.:** Real-time quantification of T_2^* using multi-echo EPI. Italian Patent, accepted March 30, 2000.
7. Gembris, D., **Posse, S.**, Taylor, J.G., Computer for evaluating signals from nuclear magnetic resonance tomography and a nuclear resonance tomograph equipped with said computer, United States Patent No. 6,388,443, May 14, 2002 (Sliding Window Correlation Analysis for Functional Imaging in Real-time).
8. **S. Posse, S. Wiese:** Verfahren zum Betreiben eines Kernresonanztomographen mit einem Unterdruecken von Bildartefakten, German Patent No. 199 22 461, May 17, 2002 (Echo-Dephasing method to optimize outer volume suppression for spin echo MR spectroscopy).

Patents pending:

1. **Posse, S.:** Kernspinresonanz-Spektroskopie (Nuclear spin resonance spectroscopic method for measuring spatial distribution), German Patent application No. 195 30 624.4, DEA1 document laid open, February 27, 1997 (Modification of PEPSI method to enhance sensitivity)
2. **Posse, S.:** Meßvorrichtung, Kernresonanztomograph, Meßverfahren und Bildgebungsverfahren, German Patent Application No. 198 46 869.5, submitted October 12, 1998 and US patent application, submitted 2001 (Modified method to optimize the contrast to noise ratio in functional MR imaging)
3. Gembris, D., **Posse, S.**, Taylor, J.G.: Meßanordnung zur Ermittlung der funktionalen Aktivität, sowie für die Auswertung der Meßsignale der Meßanordnung geeigneter Computer und Verfahren zur Bildgebung von funktionalen Meßsignalen, German Patent Application No. 198 26 992.7, submitted June 19, 1998 (Reference vector optimization to improve functional sensitivity and to determine physiological parameters)
4. Kiselev, V.G., Wiese, S., **Posse, S.:** Computer zur Auswertung von Daten aus Messungen von kernmagnetischer Resonanz, mit dem Computer ausgestatteter Kernresonanztomograph, sowie Verfahren zur Auswertung von Daten aus Messungen von kernmagnetischer Resonanz, German Patent Application No. 199 23 587.2, submitted May 22, 1999 (Identification of activation and noise using multi-echo fMRI).
5. Hagberg, G., **Posse, S.**, Sanes, J.N.: Metodo ed apparecchiatura per generare mappe quantitative di T_2^* per la produzione di immagini da Risonanza Magnetica in tempo reale, Italian patent application Rm 2000 A 000160, submitted March 31, 2000 (Real-time quantitative T_2^* mapping)
6. **Posse, S.**, Kiselev, V. G.: Computer zur Auswertung von Signalen aus der kernmagnetischen Resonanztomographie, mit dem Computer ausgestatteter Kernresonanztomograph sowie Verfahren zur Auswertung von Daten aus der kernmagnetischen Resonanztomographie (Turbo-PEPSI). International patent application PCT/DE01148, submitted Sept.13, 2000

7. **Posse, S.:** Meßvorrichtung, Kernresonanztomograph, Meßverfahren und Bildgebungsverfahren, International patent application PCT/DE99/03280, submitted Jan 15, 2001, (Modified method to optimize the contrast to noise ratio in functional MR imaging)
8. **Posse, S.:** Computer und Verfahren zur Auswertung von Daten aus der kernmagnetischen Resonanztomographie, Aktenzeichen: 2000-545038
9. **Posse, S.:** Computer und Verfahren zur Auswertung von Daten aus der kernmagnetischen Resonanztomographie, Aktenzeichen: 09/673,293
10. **Posse S, Kiselev, V. G.:** Single-Shot T_2^* Mapping with 3D Compensation of Local Susceptibility Gradients in Multiple Regions, Patent Disclosure submitted to WSU, 3.28.02

Book chapters:

1. **Posse, S.,** Cuenod, C.A., Le Bihan, D., Metabolite diffusion in human brain, in: Diffusion and perfusion: Magnetic resonance imaging, ed. Le Bihan D., Raven Press, New York, 1994.

Publications:

Original observations in refereed journals:

1. **Posse, S.,** Wire, M.S., Cattaneo, E., Anomalous Hall effect in some uranium intermetallic compounds, Journal of Magnetism and Magnetic Materials 66, 356-360, 1987
2. **Posse, S.,** Aue, W.P., Spectroscopic imaging and gradient echo microscopy on a single cell, Journal of Magnetic Resonance 83, 620-625, 1989
3. Terrier, F., Lazeyras, F., **Posse, S.,** Aue, W.P., Zimmermann, A., Frey, B.M., Frey, F., Study of acute renal ischemia in the rat using magnetic resonance imaging and spectroscopy, Magnetic Resonance in Medicine 12, 114-135, 1989
4. **Posse, S.,** Aue, W.P., Spectroscopic imaging at high spatial resolution, NMR in Biomedicine 2, 234-239, 1989
5. Burri, R., Matthieu, J.M., van de Velde, M., Lazeyras, F., **Posse, S.,** Herschkowitz, N., Brain damage and recovery in hyperphenylalanemic rats, Developmental Neuroscience, 12, 116-125, 1990
6. **Posse, S.,** Aue, W.P., Susceptibility artifacts in spin echo and gradient echo imaging, Journal of Magnetic Resonance, 88,473-492, 1990
7. Burri, R., Bigler, P., Straehl, P., **Posse, S.,** Colombo, J.-P., Herschkowitz, N., Brain development: ^1H magnetic resonance spectroscopy of rat brain extracts compared with chromatographic methods, Neurochemical Research, 15, 1009-1016, 1990
8. Hüppi, P.S., **Posse, S.,** Lazeyras, F., Burri, R., Bossi, E., Herschkowitz, N., Magnetic Resonance in preterm and term newborns: ^1H -spectroscopy in developing human brain, Pediatric Research, 30, 574-578, 1991
9. Nüssel, F., Wegmüller, H., Lazeyras, F., **Posse, S.,** Herschkowitz, N., Huber, Neurobehcet, P.,: Acute and sequential aspects by MRI and MRS, Eur. Neurol., 31, 399-402, 1991

10. **Posse, S.**, Direct Imaging of Magnetic Field Gradients by Group Spin Echo Selection, *Magnetic Resonance in Medicine*, 25, 12-29, 1992
11. **Posse, S.**, Schuknecht, B., Smith, B., van Zijl, P.C.M., Herschkowitz, N., Moonen, C.T.W., Short-echo-time proton spectroscopic imaging, *Journal of Computer Assisted Tomography*, 17, 1-14, 1993
12. Alger, J.R., Symco, S.C., Bizzi, A., **Posse, S.**, DesPres, D.J., Armstrong, M.R., Absolute quantitation of short-TE brain ¹H-MR spectra and spectroscopic imaging data, *Journal of Computer Assisted Tomography*, 17(2), 191-199, 1993
13. **Posse, S.**, Cuenod, C.A., Le Bihan, D., Proton diffusion spectroscopy in human brain, *Radiology*, 188, 719-725, 1993
14. **Posse, S.**, Cuenod, C.A., Le Bihan, D., Motion artifact compensation in ¹H spectroscopic imaging, *Journal of Magnetic Resonance, Series B* 102, 222-227, 1993
15. **Posse, S.**, DeCarli, C.S., Le Bihan, D., Three-dimensional Echo-Planar MR Spectroscopic imaging at short echo times in human brain, *Radiology*, 192, 733-738, 1994
16. **Posse, S.**, Tedeschi, Risinger, G., Ogg, R., Le Bihan, D., High Speed ¹H spectroscopic imaging, *Magnetic Resonance in Medicine*, 33, 34-40, 1995
17. Hertz-Pannier, L., Cuenod, C.A., **Posse, S.**, Jezzard, P., Prinster, A., Turner, R., Le Bihan, D., Brain functional imaging at 1.5 T: Feasibility and comparison between conventional gradient echo sequences and echo planar imaging, *Revue d'Imagerie Médicale*, 7: 13-20, 1995
18. **Posse, S.**, Cuenod, C.A., Risinger, R., Le Bihan, D., Balaban, R.S., Anomalous transverse relaxation in ¹H spectroscopy in human brain at 4 Tesla, *Magnetic Resonance in Medicine*, 33, 246-252, 1995
19. Richards, T.L., Bowen, J.D., Alvord Jr., E. C., Maravilla, K.R., Dager, S.R., Rose, L.M., **Posse, S.**, MR brain spectroscopy: Basic concepts and emphasis on multiple sclerosis, *International Journal of Neuroradiology*, 2, 123-133, 1996
20. **Posse, S.**, Müller-Gärtner, H.-W., Dager, S.R., Functional Magnetic Resonance Studies of Brain Activation, *Clinical Seminars in Neuropsychiatry*, 1 (1) 76-88, 1996
21. Yang, Q. X., **Posse, S.**, Le Bihan, D., Smith, M. B., Double-Sampled Echo-Planar Imaging at 3 Tesla, *Journal of Magnetic Resonance, Series B* 113, 145-150, 1996
22. **Posse, S.**, Dager, S.R., Richards, T.L., Yuan, C., Ogg, R., Artru, A. A., Müller-Gärtner, H.-W., Hayes, C.: In Vivo Measurement of Regional Brain Metabolic Response to Hyperventilation using Magnetic Resonance Proton Echo Planar Spectroscopic Imaging (PEPSI) *Magnetic Resonance in Medicine* 37, 858 - 865, 1997
23. **Posse, S.**, Olthoff, U., Weckesser, M., Jäncke, L., Müller-Gärtner, H.-W., Dager, S. R.: Regional Dynamic Signal Changes during Initiation of Controlled Hyperventilation assessed by BOLD-Contrast fMRI *Am. J. Neuroradiology* 18 (9), 1763-1770, 1997.
24. Richards, T.L., Dager, S.R., Panagiotides, H.S., Hayes, C.E., **Posse, S.**, Serafini, S., Nelson, J.A., Maravilla, K.R., Functional MR Spectroscopy During Language Activation, a preliminary study using proton echo-planar spectroscopic imaging (PEPSI), *Int J Neurorad*, 3, 490-495, 1997.

25. Binkofski, F., Dohle, C., **Posse, S.**, Stephan, K.M., Hefter, H., Seitz, R.J., Freund, H.-J., Human anterior intraparietal area subserves prehension. A combined lesion and fMRI study. *Neurology* 50 (5), 1253-9, 1998.
26. Jäncke, L., Peters, M., Schlaug, G., **Posse, S.**, Steinmetz, H., Müller-Gärtner, H.-W., Differential magnetic resonance signal changes in human sensorimotor cortex to finger movements of different rate of the dominant and subdominant hand, *Cognitive Brain Research* 6, 279-284, 1998.
27. Heide, A.C., Kraft, G.H., Slimp, J.C., Gardner, J.C., **Posse, S.**, Serafini, S., Bowen, J.D., Richards, T.L., Cerebral N-acetyl aspartate is Low in MS patients with Abnormal Visual Evoked Potentials, *Am J Neuroradiol* 19:1047-1054, 1998
28. Richards, T.L., Dager, S.R., **Posse, S.**, Functional MR spectroscopy of the Brain, *Neuroimaging Clinics of North America (Philadelphia: Saunders)* 8: 823-834, 1998.
29. Kiselev, V.G., **Posse, S.**, Theory of Susceptibility induced NMR Signal Dephasing in a Cerebrovascular Network. , *Physical Review Letters*, 81:5696-5699, 1998.
30. Schneider, F., Weiss, U., Grodd, W., Kessler, C., **Posse, S.**, Müller-Gärtner, H.-W., Differential amygdala activation in schizophrenic patients and healthy controls during sadeness, *Schizophrenia Research* 35: 133-142, 1998
31. Jäncke, L., Shah, N.J., **Posse, S.**, Grosse-Ruyken, M., Müller-Gärtner, H.-W., Intensity coding of auditory stimuli: An fMRI study, *Neuropsychologia* 36 (9): 875-883 (1998).
32. Binkofski, F., Schnitzler, A., Enck, P., Frieling, T., **Posse, S.**, Seitz, R.J., Freund, H.-J., Somatic and limbic cortex activation in esophageal distention: a functional magnetic resonance imaging study, *Ann Neurol* 44(5): 811-5, 1998.
33. Dager, S. R., Layton, M.E., Strauss, W., Richards, T.L., Heide, A., Artru, A., **Posse, S.**, Human Brain Metabolic Response to Caffeine and the Effects of Tolerance, *Am. J. Psychiatry*, 156(2):229-237, 1999.
34. Weckesser, M., **Posse, S.**, Olthoff, U., Kemna, L., Dager, S. R., Müller Gärtner, H.-W., Functional Imaging of the visual Cortex with BOLD-Contrast fMRI: Hyperventilation decreases the signal response, *Magnetic Resonance in Medicine*, 41(1): 213-216, 1999.
35. Schneider, F., Weiss, U., Kessler, C., Müller-Gärtner, H.-W. **Posse, S.**, Salloum, J., Grodd, W., Himmelmann, F., Gaebel, W., Birnbaumer, N., Subcortical Correlates of Differential Classical Conditioning of Aversive Emotional Reactions in Social Phobia, *Biological Psychiatry* 45: 863-871, 1999.
36. Dager, S. R., Heide, A., Richards, T., Artru, A., Strauss, W., Hayes, C., **Posse, S.**, Single-Voxel ¹H MRS and Two-Dimensional Proton Echo-Planar Spectroscopic Imaging (PEPSI) of Brain Metabolic Changes During Lactate - Induced Panic, *Archives of General Psychiatry*, 56(1):70-77, 1999.
37. Kiselev, V., **Posse, S.**, Analytical Model of Susceptibility induced MR Signal Dephasing: Effect of Diffusion in a Microvascular Network., *Magnetic Resonance in Medicine*, 41 (3): 499-509, 1999.
38. Stephan, K. M., Binkofski, F., Halsband, F., Dohle, Wunderlich, U. C., Schnitzler, G., Tass A., **Posse, S.**, Herzog, H., Sturm, V., Zilles K., Seitz, R. J., Freund, H.-J., The Role of Ventral Medial Wall Motor Areas for Bimanual Coordination: A combined Lesion and Activation Study, *Brain*, 122 (Pt 2):351-368, 1999.

39. **Posse, S.**, Wiese, S., Gembris, D., Mathiak, K., Kessler, C., Grosse-Ruyken, M.-L., Elghawagh, B., Richards, T., Dager, S. R., Kiselev, V. G., Enhancement of BOLD-Contrast Sensitivity by Single-Shot Multi-Echo Functional MR Imaging, *Magn. Reson. Med.*, 42 (1): 87-97, 1999.
40. Stephan, K.M., Binkofski, F., **Posse, S.**, Seitz, R.J., Freund, H., Cerebral midline structures in bimanual coordination. *Exp Brain Res. Sep 3; 128 (1/2): 243-249, 1999.*
41. Binkofski, F., Buccino G., **Posse, S.**, Seitz, R.J., Rizzolatti, G., Freund, H.J., A frontoparietal circuit for object manipulation in man. Evidence from a fMRI-study, *Eur J Neurosci. Sep;11(9):3276-3286, 1999.*
42. Richards, T.L., Dager, S. R., Corina, D., Serafini, S., Heide, A. C., Steury, K., Strauss, W., Hayes, C.E., Abott, R.D., Craft, S., Shaw, D., **Posse, S.**, Berninger, V.W.. Dyslexic children have abnormal brain lactate response to reading-related language tasks. *AJNR Am J Neuroradiol. Sep;20(8):1393-8, 1999.*
43. Gembris, D., Taylor, J.G., Schor, S., Frings, W., Suter, D., **Posse, S.**, Functional MR Imaging in Real-Time using a sliding-window correlation technique, *Magn. Reson. Med.*, 43: 259-268, 2000
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84. Chu, A., Alger, J. R., Moore, G. J., **Posse, S.**, Advances in clinical Proton Echo Planar Spectroscopic Imaging, Abstract book: Intern. Soc. for Magn. Res. in Med., 1690, 2001
85. Mitchell, T. R., Fricke, S. T., **Posse, S.**, Moore, G. J., Microscopic Parametric Mapping of the Normal Mouse Brain, Abstract book: Intern. Soc. for Magn. Res. in Med., 1471, 2001
86. Friedman, S. D., Shaw, D. W. W., Artru, A. A., Echelard, D., Richards, T. L., **Posse, S.**, Dawson, G., Dager, S. R., Brain Neurochemical Abnormalities in Childhood Autism, Abstract book: Intern. Soc. for Magn. Res. in Med., 577, 2001
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88. **Posse, S.**, Moore, G. J., Roll, J., Nolan, C., Ahmed, R., Schuster, C. R., Tiffany, S., Johanson, C. E., Functional MR imaging of tobacco craving, *NeuroImage*, 13 (5) Part 2, 1087, 2001
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90. Kemna, L. J., Elghawaghi, B., Kiselev, V. G., **Posse, S.**, Changes of the HRF During Hypoxia and Hyperoxia Measured with Event-Related BOLD Contrast fMRI, *NeuroImage*, 13 (5) Part 2, 991, 2001
91. Mitchell, T. R., Fricke, S. T., **Posse, S.**, Moore, G. J., Microscopic Parametric Mapping of the Normal Mouse Brain, *Soc. Neurosci. Abstr.*, 1087, 2001
92. **Posse, S.**, Lorch, E., Rosenberg, D., Real-time fMRI of OCD symptom provocation in children, *Am. College Neuropsychopharmacology Ann. Meeting*, 2001
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94. **Posse, S.**, Shen, Z., Kemna, L., Compensation of Susceptibility Induced Losses in BOLD Sensitivity in Multiple Regions using Single-Shot Quantitative T_2^* Mapping, *Abstract book: Intern. Soc. for Magn. Res. in Med.*, 202, 2002.
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96. Fricke, S. T., Galloway, M. P., Seraji-Bozorgzad, N., Mitchell, T. R., **Posse, S.**, Moore, G. J. *Ex Vivo* Neurochemical Kinetics in Brain Tissue Specimens Monitored via Quantitative HR-MAS Proton Magnetic Resonance Spectroscopy at 11.7T, *Abstract book: Intern. Soc. for Magn. Res. in Med.*, 952, 2002.
97. Chu, A., Alger, J. R., Moore, G. J., **Posse, S.**, Artifacts in multiple-slice echo-dephasing outer volume suppression for spectroscopic imaging, *Abstract book: Intern. Soc. for Magn. Res. in Med.*, 2349, 2002.
98. **Posse, S.**, Fitzgerald, D., Habel, U., Rosenberg, D., Moore, G. J., Schneider, F., Real-time fMRI of Single Trial Amygdala Activation during Sad Mood Induction with Biofeedback, *Neuroimage*, 10424, 2002.
99. **Posse, S.**, Shen, Z., Kemna, L., Single-Shot Quantitative T_2^* Mapping with Compensation of Susceptibility Gradients in Multiple Regions, *Neuroimage*, 10091, 2002.
100. Fitzgerald, D., **Posse, S.**, Lorch, E., Rosenberg, D., Real-time fMRI of Symptom Provocation in Children with Obsessive Compulsive Disorder, *Neuroimage*, 20341, 2002.
101. Jacintha, M.A., Dager, S., Tancer, E. M., Fitzgerald, D., Friedman, S., Shaw, D., **Posse, S.**, Caffeine Challenge after Withdrawal decreases fMRI Contrast in Visual, Motor, Auditory, Parietal and Frontal Cortex, *Neuroimage*, 20091, 2002.
102. **Posse, S.**, Fitzgerald, D., Habel, U., Rosenberg, D., Moore, G. J., Schneider, F., Real-time Functional Magnetic Resonance Imaging of Amygdala-Hippocampus Activation during Self-Induced Sadness, *Society for Neuroscience*, 578.14, 2002.
103. Galloway, M.P., Mitchell, T.R., Seraji-Bozorgzad, N., Fricke, S., **Posse, S.**, Moore, G.J., Neurochemical Utility of High Resolution Magic Angle Spinning ^1H -Magnetic Resonance Spectroscopy (HR-MAS MRS) at 11.7T: Effects of MDMA and Mitochondrial Failure in Rat CNS, *Am. College Neuropsychopharmacology Ann. Meeting*, 2002

Oral Presentations:

Invited and/or refereed at international or national meetings:

1. **Posse, S.**, Wire, M.S., Cattaneo, E., Anomalous Hall effect of $U_{1-x}La_xAl_2$, Spring meeting of the German Physical Society, Freudenstadt, 1986
2. **Posse, S.**, Localized spectroscopy on a single cell, NMR - Symposium of the Medical Faculty, Zürich, 1988
3. **Posse, S.**, Proton spectroscopic imaging at high spatial resolution, NMR - Workshop, Max Planck Institute of Biophysical Chemistry, Göttingen, 1989
4. Terrier, F., Lazeyras, F., **Posse, S.**, Montadon, A., Aue, W.P., MR imaging and spectroscopy of the kidney: from animal experiments to human applications, ICR - Congress, Lyon, 1989
5. Burri, R., Steffen, C., Straehl, P., Bigler, P., **Posse, S.**, Colombo, J.T., Herschkowitz, N., Comparison of results obtained biochemically and by 1H magnetic resonance spectroscopy of the rat brain, 22nd annual meeting of the Swiss Societies for Experimental Biology, Zürich, 1990
6. **Posse, S.**, Moonen, C. T. W., van Zijl, P. C. M., Gillen, J., Schuknecht, B., Herschkowitz, N., Short echo time proton spectroscopic imaging on cancer and multiple sclerosis patients: Initial clinical experience, Society of Magnetic Resonance in Medicine, 10th Annual Meeting, San Francisco, pg. 81, 1991
7. Hüppi, P.S., **Posse, S.**, Lazeyras, F., Burri, R., Bossi, E., Amato, M., Boesch, C., Fusch, C., Herschkowitz, N., Brain development in preterm and term babies studied with 1H -magnetic resonance spectroscopy using short echo time STEAM technique, Society of Magnetic Resonance in Medicine, 10th Annual Meeting, San Francisco, pg. 377, 1991
8. Hüppi, P. S., Boesch, C., Fusch, C., **Posse, S.**, Burri, R., Bossi, E., Amato, M., Herschkowitz, N., Concentrations of cerebral metabolites in developing human brain: Comparison of autopsy data (HPLC) and in vivo 1H -MRS data, Society of Magnetic Resonance in Medicine, 11th Annual Meeting, Berlin, pg. 231, 1992
9. **Posse, S.**, Wen, H., Turner, R., Jezzard, P., Chesnick, S., Heineman, F., Balaban, R., Magnetic field mapping in human heart and brain on a 4 tesla whole body scanner, Society of Magnetic Resonance in Medicine, 11th Annual Meeting, Berlin, pg. 365, 1992
10. **Posse, S.**, Cuenod, C. A., Chesnick, A. S., Risinger, R., Balaban, R. S., Le Bihan, D., Spectral resolution and assignments in short TE 1H spectroscopy in human brain at 4 Tesla, Society of Magnetic Resonance in Medicine, 12th Annual Meeting, New York, pg. 128, 1993
11. **Posse, S.**, Cuenod, C.A., Balaban, R.S., Le Bihan, D., Anomalous transverse relaxation in short TE 1H spectroscopy in human brain at 4 Tesla, Society of Magnetic Resonance in Medicine, 12th Annual Meeting, New York, pg. 371, 1993
12. **Posse, S.**, De Carli, C. S., Cuenod, C. A., Le Bihan, D., Automatic line fitting in short TE 1H spectroscopic imaging, Society of Magnetic Resonance in Medicine, 12th Annual Meeting, New York, pg. 398, 1993
13. **Posse, S.**, Cuenod, C. A., Balaban, R. S., Le Bihan, D., Spectral resolution and transverse relaxation in 1H MR spectroscopy at 4 T in the human brain, Radiological Society of North America, 79th Scientific Assembly and Annual Meeting, Chicago, pg. 219, 1993
14. **Posse, S.**, De Carli, C., Tedeschi, G., Alger, J.R., Risinger, R., Le Bihan, D., Fast 2D and 3D echo planar spectroscopic imaging in human brain: The one minute time limit, 35th

- Experimental Nuclear Magnetic Resonance Conference, Pacific Grove, California, pg. 94, 1994
15. **Posse, S.**, De Carli, C., Cuenod, C. A., Le Bihan, D., Spectral modeling for quantitative short TE ^1H spectroscopic imaging, Society of Magnetic Resonance, 1st Annual Meeting, San Francisco, pg. 46, 1994
 16. **Posse, S.**, Tedeschi, G., Risinger, R., Ogg, R., Le Bihan, D., High speed 2D and 3D ^1H spectroscopic imaging in human brain by echo planar spatial-spectral encoding, Society of Magnetic Resonance, 1st Annual Meeting, San Francisco, pg.174, 1994
 17. **Posse, S.**, Functional Magnetic Resonance Studies of Brain Activation, Society of Biological Psychiatry, 50th Anniversary Meeting, New York, Abstract No. 374, 1996
 18. **Posse, S.**, MINI-CATEGORICAL COURSE on Echo-Planar Imaging: EPI Spectroscopy, Society of Magnetic Resonance, 4th Annual Meeting, New York, New York, USA, May 3, 1996
 19. **Posse, S.**, Weckesser, M., Müller-Gärtner, H.-W., Dager, S. R., Regional Dynamic Signal Changes during Initiation of Controlled Hyperventilation assessed by BOLD-Contrast Echo Planar Imaging, American Society of Neuroradiology, 34th Annual Meeting, Seattle, No. 57, 1996
 20. Shah, N. J., Jäncke, L., Grosse-Ruyken, M.-L., **Posse, S.**, Müller-Gärtner, H.-W.: On the Influence of Acoustic Masking Noise in fMRI of the Auditory Cortex During Phonetic Discrimination Abstract book: Intern. Soc. for Magn. Res. In Med.; 350, 1997
 21. **Posse, S.**, Wiese, S., Behr, D., Grosse-Ruyken, M.-L., Shah, N.J., Richards, T., Dager, S. R., Müller-Gärtner, H.-W.: Detection of Brain Activity by Oxygenation Sensitive Proton Echo Planar Spectroscopic Imaging (PEPSI). Abstract book: Intern. Soc. for Magn. Res. In Med.; 376, 1997
 22. **Posse, S.**, Schor, S., Gembris, D., Müller, E., Peyerl, M., Kroeker, R., Grosse-Ruyken, M. L., Elghawaghi, B., Taylor, J. G., Real Time fMRI on a Clinical Whole Body Scanner: Single Trial Detection of Sensorimotor Stimulation and Visual Recall Activation. Abstract book: Intern. Soc. for Magn. Res. In Med.; 162, 1998
 23. **Posse, S.**, Wiese, S., Kessler, C., Gembris, Weiss, D., Peyerl, U. M., Grosse-Ruyken, M.L., Elghawaghi, B., Richards, T., Dager, S., Single Shot T_2^* -Sensitive Spectroscopic Imaging Increases fMRI Sensitivity: Preliminary Evidence from Visual and Olfactory Activation. Abstract book: Intern. Soc. for Magn. Res. In Med.; 299, 1998
 24. Indefrey, P., Gruber, O., Brown, C., Hagoort, P., **Posse, S.**, Kleinschmidt, A., Lexicality and Not syllable frequency determine lateralized premotor activation during the pronunciation of word-like stimuli - An fMRI study. *NeuroImage*, 7 (4) Part 2, 4, 1998
 25. Wiese, S., **Posse, S.**, Highly Effective Outer Volume Suppression for Short TE Spin Echo Spectroscopic Imaging using Echo Dephasing, Abstract book: Intern. Soc. for Magn. Res. in Med.; 680, 1999
 26. Kiselev, V.G., Wiese, S., **Posse, S.**, Distinction of Activation and Noise in fMRI by Multi-Echo Sampling, Abstract book: Intern. Soc. for Magn. Res. in Med.; 541, 1999
 27. **Posse, S.**, Kiselev, V.G., Wiese, S., Herzog, H., Gembris, D., Tellmann, L., Elghawaghi, B., Kemna, L. J., Dependence of fMRI Contrast on Global Blood Flow: Comparison of Whole Brain T_2^* Mapping and PET, *NeuroImage*, 9 (6) Part 2, 257, 1999

28. **Posse, S.**, Kemna, L., Kiselev, V., Dager, S. R., Functional imaging of the brain: What can be learned from fMRI and functional spectroscopic imaging, Intl. J. of Neuropsychopharmacology, 3, Suppl. 1, S.11. 2000
29. Dager, S. R., Friedman, S. D., Layton, M. E., Strauss, W. L., Richards, T. L., Artru, A. A., **Posse, S.**, Dynamic ¹H MRS Imaging of Panic Disorder: Biological Mechanisms underlying Pathology and the Effects of Treatment, Intl. J. of Neuropsychopharmacology, 3, Suppl. 1, S.11.4, 2000
30. **Posse, S.**, A new Approach to Measure Single Event Related Brain Activity using Real-Time fMRI: Feasibility of Sensory, Motor, Higher Cognitive and Emotional Tasks, Workshop on: Understanding the BOLD Phenomena and its Applications, 26-28 October, 2000, Chapel Hill, North Carolina
31. **Posse, S.**, Dependence of fMRI Contrast on Global Blood Flow: Comparison of Whole Brain T2* Mapping and PET, Workshop on: Understanding the BOLD Phenomena and its Applications, October 26-28, 2000, Chapel Hill, North Carolina
32. **Posse, S.**, Moore, G. J., Roll, J., Nolan, C., Schuster, C.R., Tiffany, S., Johanson, C.E., Functional MR Imaging of Tobacco Craving, Annual Meeting of the College on Problems on Drug Dependence, Inc., June 20, 2001
33. **Posse, S.**, Fitzgerald, D., Habel, U., Rosenberg, D., Moore, G. J., Schneider, F., Real-time fMRI of Single Trial Amygdala Activation during Sad Mood Induction with Feedback, Abstract book: Intern. Soc. for Magn. Res. in Med., 2002, 505.
34. **Posse, S.**, Shen, Z., Kemna, L., Compensation of Susceptibility Induced Losses in BOLD Sensitivity in Multiple Regions using Single-Shot Quantitative T₂* Mapping, Abstract book: Intern. Soc. for Magn. Res. in Med., 2002, 202.

Invited seminars or lectures presented in last five years:

1. **Posse, S.**, Strategies for metabolite imaging and functional spectroscopy, Mallinckrodt Institute, Washington University, St. Louis, Missouri, USA, March 7, 1995
2. **Posse, S.**, Strategies for metabolite imaging and functional spectroscopy, Department of Radiology, UCLA, Los Angeles, California, USA, March 8, 1995
3. **Posse, S.**, Strategies for metabolite imaging and functional spectroscopy, NMR Center, Veterans Administration Medical Center, San Francisco, California, USA, March 10, 1995
4. **Posse, S.**, Neue Strategien für funktionale MR Spektroskopie und metabolische Bildgebung, IBI-1, Research Center Jülich GmbH, Jülich, Germany, July 7, 1995
5. **Posse, S.**, Grundlagen und Anwendungen der funktionalen Kernresonanzbildgebung, Neurologische Klinik und Poliklinik Rheinische Friedrich-Wilhelms-Universität, Bonn, Germany, April 17, 1996
6. **Posse, S.**, Physiological Mechanisms in fMRI, Symposium: Dynamic & Structural Approaches to Cerebral Function: From Molecular Biology to Functional Imaging, Rouffach, France, September 26, 1996
7. **Posse, S.**, Signalphysiologie und Meßmethoden der funktionalen Kernresonanzbildgebung, Universität Dortmund, Germany, January 20, 1998
8. **Posse, S.**, Signalphysiologie und Meßmethoden der funktionalen Kernresonanzbildgebung, Universität Düsseldorf, Düsseldorf, Germany, January 23, 1998

9. **Posse, S.**, Schnelle spektroskopische NMR-Bildgebung - Funktionale Studien neuronaler Stoffwechselregulation und Aktivierung. Zentrales Kolloquium des Deutschen Krebsforschungszentrums, Heidelberg, Germany, March 26, 1998
10. **Posse, S.**, Funktionelle spektroskopische MR Bildgebung, Deutsche Gesellschaft für Psychiatrie, Psychotherapie und Neurologie, Essen, Germany, June 18, 1998
11. **Posse, S.**, Advances in Functional Imaging, 1999 Meeting of the Psychiatric Research Society, Park City, Utah, USA, February 11, 1999.
12. **Posse, S.**, Advances in Functional. Imaging, University of Florida Brain Institute, Gainesville, Florida, USA, February 15, 1999.
13. **Posse, S.**, Quantifying the Dependence of fMRI Contrast on Global Blood Flow: Comparison between multi-echo fMRI and PET, 19th European Winter Conference on Brain Research, La Plagne, France, March 12, 1999
14. **Posse, S.**, Advances in Functional MR Imaging, Department of Psychiatry, Wayne State University, Detroit, USA, April 26, 1999
15. **Posse, S.**, Functional Magnetic Resonance Imaging in Real Time on a Clinical Whole Body Scanner, Mini Symposium on Real Time fMRI, Human Brain Mapping Meeting, Düsseldorf, Germany, June 24-25, 1999
16. Kemna, L. J., Mottaghy, F. M., **Posse, S.**, Changes of Regional Cerebral Blood Flow Caused by Transcranial Magnetic Stimulation of the Visual Cortex, 2nd International Symposium on Noninvasive Functional Scource Imaging within the Human Brain and Heart, Zagreb, Croatia, September 6, 1999
17. **Posse, S.**, Advances in Functional and Metabolic MR Imaging, University of California at Los Angeles, Los Angeles, September 7, 1999
18. **Posse, S.**, Signal Physiology and Quantification of BOLD Contrast fMRI, University of California at Los Angeles, Los Angeles, September 7, 1999
19. **Posse, S.**, Real-time MR Imaging of sensory, motor and cognitive Brain Functions, Lions Club, Dueren, Germany, September 20, 1999
20. **Posse, S.**, Müller, Edgar, Functional Magnetic Resonance Imaging in Real Time on a Clinical Whole Body Scanner, 34. Annual Meeting of the German Society for Neuroradiology, Mainz, Germany, October 2, 1999
21. **Posse, S.**, Functional Magnetic Resonance Imaging in Real Time on a Clinical Whole Body Scanner, University of Jena, Jena, Germany, November 15, 1999
22. **Posse, S.**, Functional Imaging in Real Time and quantification of the BOLD constrast, University of Pittsburgh, Pittsburgh, November 18, 1999
23. **Posse, S.**, New Tools for Functional and Metabolic Imaging at Santa Lucia, IRCCS Santa Lucia, Rome, Italy, March 29, 2000
24. **Posse, S.**, Introduction to fMRI: Applications and Limitations, Grand Rounds DPBN, Wayne State University, Detroit, MI, Oct. 4, 2000
25. **Posse, S.**, Introduction to fMRI: Applications and Limitations (Contd.), Grand Rounds DPBN, Wayne State University, Detroit, MI, Oct. 11, 2000

26. **Posse, S.**, Progress in quantitative real-time fMRI , Biophysics Research Institute, the Medical College of Wisconsin (MCW), Milwaukee, WI, Oct. 5, 2001
27. **Posse, S.**, fMRI - basics, applications and future possibilities, The Jubileum Institute, Lund University, Lund, Sweden, Nov. 16, 2001
28. **Posse, S.**, Real-time fMRI of cognition and emotion, Princeton Center for the Study of Brain, Mind and Behavior, Princeton University, Princeton, NJ, Jan. 30, 2002
29. **Posse, S.**, Interactive Real-time fMRI: Method Development and Applications, Laboratory for Cognitive Brain Mapping, BSI, The RIKEN Institute, Japan, June 13, 2002.
30. **Posse, S.**, Real-time functional MR imaging – a window into cognition and emotion, Dept. of Audiology & Speech-Language Pathology, Wayne State University, Detroit, MI, July 23, 2002
31. **Posse, S.**, Functional Neuroimaging of Amygdala using real-time fMRI, anatomy library in Scott Hall, Dept. of Anatomy, Wayne State University, Detroit, MI, October 2, 2002
32. **Posse, S.**, Functional Neuroimaging of Cognition and Emotion using Real-Time fMRI, Department of Psychology, University of Michigan, Ann Arbor, MI, October 8, 2002
33. **Posse, S.**, Title to be determined, Center for Comparative NeuroImaging, Department of Psychiatry, University of Massachusetts Medical School, Worcester, MA, April 3, 2003