CURRICULUM VITAE

Peter Arthur Calabresi

DEMOGRAPHIC AND PERSONAL INFORMATION

Current Appointments

Professor and Chair, Department of Neurological Sciences, Larner College of Medicine, University of Vermont

Health Care System Chief of Neurology, University of Vermont Health

Personal Data

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Education and Training

Undergraduate

1980-1984 B.S. Biology, Yale University, New Haven, CT

Doctoral/Graduate

1984-1988 M.D., Brown University Medical School, Providence, RI

Postdoctoral

1988-1989	Medical Intern, Strong Memorial Hospital, Rochester, NY
1989-1990	Medical Resident, Strong Memorial Hospital, Rochester, NY
1990-1992	Neurology Resident, Strong Memorial Hospital, Rochester, NY
1992-1993	Chief Resident in Neurology, Strong Memorial Hospital, Rochester, NY
1993-1996	Clinical Associate & Research Fellow, Neuroimmunology Branch, National Institutes of Health, Bethesda, MD

Professional Experience

1997-2000	Assistant Professor of Neurology, Brown University Medical School Director, MS Program, Rhode Island Hospital
2000-2001	Assistant Professor of Neurology, University of Maryland School of Medicine
2001-2003	Associate Professor of Neurology, University of Maryland School of Medicine
2002-2003	Associate Professor of Microbiology and Immunology (secondary appointment) University of Maryland School of Medicine
2003-2010	Special Volunteer, Neuroimmunology Branch, NINDS, NIH, Bethesda, MD
2003-2008	Associate Professor of Neurology and Director of the MS Center, Johns Hopkins School of Medicine
2003-2025	Director Johns Hopkins MS Center
2005-2011	Co-Director, Division of Neuroimmunology and Neurological Infections, Johns Hopkins School of Medicine
2008-2025	Professor of Neurology and Director of the MS Center, Johns Hopkins School of Medicine
2011-2025	Director, Division of Neuroimmunology and Neurological Infections, Johns Hopkins School of Medicine
2016-2025	Professor of Neuroscience, Johns Hopkins University

2017-2025 Co-Director, MS Precision Medicine Center of Excellence
2020-2025 Professor of Ophthalmology, Johns Hopkins University
2025-Present Professor Emeritus, Neurology, Johns Hopkins University
2025-Present Professor and Chair, Neurological Sciences, University of Vermont

Honors

2025 Member, National Academy of Medicine
2024 Snyder-Granader Professor in Multiple Sclerosis
2022 Consortium of MS Centers, Giant in MS Research Award
2020 Raymond D. Adams Lectureship Award from the American Neurological Association
2017 Fellow, American Association of Physicians
2015 Barancik Award for Innovation in MS Research
2013 Jacob Javits Neuroscience Investigator Award, National Institutes of Health
2012 Steven C. Reingold Research Award, National MS Society
Alpha Omega Alpha Honor Medical Society, Member
Osler Attending Preceptor, Johns Hopkins University

Other Experience and Professional Memberships

Member, National Multiple Sclerosis Society (NMSS) Scientific Advisory Committee (SAC)

Associate Editor, The Journal of Clinical Investigation

Editorial Board, Multiple Sclerosis Journal

Ad Hoc Reviewer for NIH panels

CNBT study section member, NINDS, NIH

Chair, National MS Society- Study Section D

Co-Founder and past President of the International MS Visual Consortium (IMVISUAL.COM)

Scientific Advisory Board of the North American Imaging in MS (NAIMS)

Steering Committee/Executive Committee, ACTRIMS

Member, Society for Neuroscience

Editorial Board, Neurology

Board of Trustees, Maryland Chapter, NMSS

Study Section Member B, NMSS

Committee for the Protection of Human Subjects, Rhode Island Hospital

American Academy of Neurology (Fellow)

PUBLICATIONS

Original Research (OR)

1. Rafal RD, **Calabresi PA,** Brennan CW, Sciolto TK. Saccade preparation inhibits reorienting to recently attended locations. J Exp. Psych. 1989;15(4):673-85.
2. **Calabresi PA,** Silvestri G, DiMauro S, Griggs RC. Ekbom's syndrome: lipomas, ataxia, neuropathy and MERRF. Muscle and Nerve. 1994;17:943-45.

3. **Calabresi PA,** Powers J. An ultrastructural analysis of human post-infectious (allergic) encephalomyelitis. Acta Neuropathol. 1994;87:541-44.
4. Hemmer B, Vergelli M, **Calabresi PA,** Huang T, McFarland H, Martin R. Cytokine phenotype of human autoreactive T cell clones specific for the immunodominant myelin basic protein peptide (83-89). Journal of Neurol. Sci. 1996;45:852-62.
5. McFarland HF, Stone LA, **Calabresi PA,** Maloni H, Bash CN, Frank JA. MRI studies of multiple sclerosis: Implications for the natural history of the disease and for monitoring effectiveness of experimental therapies. Multiple Sclerosis. 1996;2:198-205.
6. **Calabresi PA,** Stone LA, Bash CN, Frank JA, McFarland HF. Interferon beta results in immediate reduction of contrast-enhanced MRI lesions in multiple sclerosis patients followed by weekly MRI. Neurology. 1997;48:1446-1448.
7. **Calabresi PA,** Tranquill, LR, Dambrosia J, Stone LA, Maloni H, Bash CN, Frank JA, McFarland HF. Increases in soluble VCAM-1 correlate with a decrease in MRI lesions in multiple sclerosis treated with interferon β-1b. Annals of Neurology. 1997;41:669-674.
8. Stone LA, Frank JA, Albert PS, Bash CN, **Calabresi PA,** Maloni H, McFarland HF. Characterization of MRI response to treatment with interferon beta 1b: Contrast enhancing MRI lesion frequency as a primary outcome measure. Neurology. 1997;49:862-869.
9. **Calabresi PA,** Pelfrey CM, Tranquill LR, McFarland HF. VLA-4 Expression on Peripheral Blood Lymphocytes is Downregulated after Treatment of Multiple Sclerosis with Interferon Beta. Neurology. 1997:49:1111-1116.
10. Soldan, SS, Berti R, Salem N, Secchiero P, **Calabresi PA,** Maloni H, McFarland HF, Lin HC, Patnaik M, Jacobson S. Association of Human Herpes Virus 6 (HHV-6) with Multiple Sclerosis: Increased IgM Response to HHV-6 Early Antigen and Detection of Serum HHV-6 DNA. Nature Medicine. 1997:3(12):1394-1397.
11. Mendez E, Kawanishi T, Clemens K, Siomi H, **Calabresi PA,** Brady J, Jacobson S. Astrocyte-Specific Expression of HTLV-1 Tax: Induction of TNF-a Susceptibility to Lysis by CD8+ HTLV-1 Specific Cytotoxic T Cells. Journal of Virology. 1997;71(12):9143-9149.
12. McCutcheon M, Wehner N, Wensky A, Kushner M, Doan S, Hsiao L, **Calabresi PA**, Ha T, Tran TV, Tate KM, Winkelhake J, Spack EG. A sensitive ELISPOT assay to detect low-frequency human T lymphocytes. Journal of Immunological Methods. 1997;210(2):149-166.
13. Zipp F, Weller M, **Calabresi PA**, Frank JA, Bash CN, Dichgans J, McFarland HF, Martin R. Increased serum levels of soluble CD95 (APO-1/Fas) in relapsing-remitting multiple sclerosis. Annals of Neurology. 1998;43:116-120.
14. **Calabresi PA**, Fields NS, Farnon EC, Frank JA, Bash CN, Kawanashi T, Maloni H, Jacobson S, McFarland HF. ELI-spot of Th-1 cytokine secreting PBMC's in multiple sclerosis: correlation with MRI lesions. Journal of Neuroimmunology. 1998;85(2):212-219.
15. **Calabresi PA**, Fields NS, Maloni HW, Hanham A, Carlino J, Moore MS, Levin MC, Dhib-Jalbut S, Tranquill LR, Austin H, McFarland HF, Racke MK. Phase 1 trial of transforming growth factor beta 2 in chronic progressive MS. Neurology. 1998;51:1:289-292.
16. **Calabresi PA**, Tranquill LR, Cowan, EP, Maloni, H, McFarland, HF. Cytokine Gene Expression in cells derived from CSF of Multiple Sclerosis Patients. Journal of Neuroimmunology. 1998;89:198-205.
17. **Calabresi PA**, Martin R, Jacobson S. Chemokines in Chronic Progressive Neurological Diseases: HTLV-1 Associated Myelopathy and Multiple Sclerosis. Journal of Neurovirology. 1999;5:102-108.
18. Kappos L, Comi G, Panitch H, Oger J, Antel J, Conlon P, Steinman L, Comi G, Kappos L, Oger J, Panitch H, Rae-Grant A, Castaldo J, Eckert N, Guarnaccia JB, Mills P, Johnson G, **Calabresi PA**,

Pozzilli C, Bastianello S, Giugni E, Witjas T, Cozzone P, Pelletier J, Pohlau D, Przuntek H, Hoffmann V, Bever C Jr, Katz E, Clanet M, Berry I, Brassat D, Brunet I, Edan G, Duquette P, Radue EW, Schott D, Lienert C, Taksaoui A, Rodegher M, Filippi M, Evans A, Bourgouin P, Zijdenbos A, Salem S, Ling N, Alleva D, Johnson E, Gaur A, Crowe P, Liu XJ. Induction of a non-encephalitogenic type 2 T helper-cell autoimmune response in multiple sclerosis after administration of an altered peptide ligand in a placebo-controlled, randomized phase II trial. Nature Medicine. 2000;6(10):1176-1182.

19. **Calabresi PA**, Prat A, Rollins J, Antel J. T Cells Conditioned with Interferon β Induce VCAM Expression on Human Brain Endothelial Cells. J Neuroimmunol. 2001;115(1-2):161-7.
20. **Calabresi PA**, Wilterdink JL, Rogg J, Mills P, Webb A, and Whartenby KA. An open label trial of oral methotrexate and interferon β combination therapy in multiple sclerosis. Neurology. 2002;58(2):314-7.
21. **Calabresi PA**, Yun SH, and Allie R. Chemokine receptor expression on MBP reactive T cells: CXCR6 is a marker of IFNγ producing effector cells. Journal of Neuroimmunology. 2002;127:96-105.
22. Sriram S, Yao SY, Stratton C, **Calabresi PA**, Mitchell W, Ikejima H, Yamamoto Y. Comparative Study of the Presence of Chlamydia pneumoniae in Cerebrospinal Fluid of Patients with Clinically Definite and Monosymptomatic Multiple Sclerosis. Clin Diagn Lab Immunol. 2002;Nov 9(6):1332-1337.
23. **Calabresi PA**, Austin, H, Racke, MK, Goodman A, Choyke P, Maloni H, and McFarland HF. Impaired Renal Function in Progressive Multiple Sclerosis. Neurology. 2002;59:1799-1801.
24. **Calabresi PA,** Allie R, Mullen KM, Yun SH, Georgantas RW, and Whartenby KA. Kinetics of CCR7 expression differ between immediate effector and chronic memory states of Th1 and Th2 cells. Journal of Neuroimmunology. 2003;139:59-65.
25. Wulff H*, **Calabresi PA* (*co 1st authors)**, Allie R, Yun SH, Pennington M, Beeton C, and Chandy KG. Myelin-reactive effector memory T cell K^+ channels: a target for multiple sclerosis therapy. Journal of Clinical Investigation. 2003;111:1703-1713.
26. Frohman EM, Goodin DS, **Calabresi PA**, Corboy JR, Coyle PK, Filippi M, Frank JA, Galetta SL, Grossman RI, Hawker K, Kachuck NJ, Levin MC, Phillips JT, Racke MK, Rivera VM, Stuart WH**.** The utility of MRI in suspected MS: Report of the Therapeutics and Technology Assessment Subcommittee of the American Academy of Neurology. Neurology. 2003;Sep;9;61(5):602-11.
27. Frank JA, Richert N, Bash C, Stone LA, **Calabresi PA**, Lewis B, Stone R, Howard T, and McFarland HF. Interferon B–1b slows progression of atrophy in RRMS: 3 Year Follow-up in NAb- and NAb+ patients. Neurology. 2004;Mar;9;62(5):719-25.
28. Vennekamp J, Wulff H, Beeton C, **Calabresi PA**, Grissmer S, Hansel W, Chandy KG. Kv1.3-blocking 5-phenylalkoxypsoralens: a new class of immunomodulators. Mol Pharmacol. 2004;Jun;6 5(6):1364-74.
29. Allie R, Hu L, Mullen, KM, Dhib-Jalbut, S, and **Calabresi PA.** Glatiramer acetate therapy mediates bystander modulation of chemokine receptor expression on peripheral blood T Lymphocytes. Arch Neurol. 2005;Jun;6 2(6):889-94.
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31. Graber J, Zhan M, Ford D, Kursch F, Francis G, Bever C, Panitch H, **Calabresi PA**, Dhib-Jalbut J. Interferon-β-1a induces increases in vascular cell adhesion molecule; implications for its mode of action in multiple sclerosis. Journal of Neuroimmunology. 2005;161(1-2):169-76.

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33. Rus H, Pardo CA, Hu L, Darrah E, Cudrici C, Niculescu T, Niculescu F, Mullen KM, Allie R, Guo L, Wulff H, Beeton C, Judge SIV, Kerr DA, Knaus H-G, Chandy KG, and **Calabresi PA**. The voltage-gated potassium channel Kv1.3 is highly expressed on inflammatory infiltrates in multiple sclerosis brain. Proc Natl Acad Sci USA. 2005;Aug;2;102(31):11094-9.

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35. Whartenby KA, **Calabresi PA**, McCadden E, Nguyen B, Kardian D, Wang T, Mosse C, Pardoll DM, Small D. Inhibition of FLT3 signaling targets dendritic cells to ameliorate autoimmune disease. Proc Natl Acad Sci USA. 2005;102(46):16741-6.

36. Fisher JB, Jacobs DA, Markowitz CE, Galetta SL, Volpe NJ, Nano-Schiavi ML, Baier ML, Frohman EM, Winslow H, Frohman TC, **Calabresi PA**, Maguire MG, Cutter GR, Balcer LJ. Relation of Visual Function to Retinal Nerve Fiber Layer Thickness in Multiple Sclerosis. Ophthalmology. 2006;Feb;113(2):324-32.

37. Irani DN, Anderson C, Gundry R, Cotter R, Moore S, Kerr DA, McArthur JC, Sacktor N, Pardo CA, Jones M, **Calabresi PA**, Nath A. Cleavage of cystatin C in the cerebrospinal fluid of patients with multiple sclerosis. Ann Neurol. 2006;Jan;25; 59(2):237-247.

38. Rudick RA, Stuart WH, **Calabresi PA**, Confavreux C, Galetta SL, Radue E-W, Lublin FD, Weinstock-Guttman B, Wynn DR, Lynn F, Panzara MA, Sandrock AW for the SENTINEL Investigators. A Randomized Placebo-Controlled Trial of Natalizumab in Combination With Interferon beta-1a for Relapsing Multiple Sclerosis. N Engl J Med. Mar;2;354(9):911-23.

39. Wang T**,** Allie R, Conant K, Haughey N, Turchan-Chelowo J, Hahn K, Rosen A, Steiner S, Keswani S, Jones M, **Calabresi PA,** and Nath A. Granzyme B mediates neurotoxicity through a G-protein coupled receptor. FASEB J. 2006;Apr;24.

40. Nauroth J., Graber J. Yao K, Jacobson S, **Calabresi PA**. Memory lineage relationships in HTLV-1-specific CD8+ cytotoxic T cells. Journal of Neuroimmunology. 2006;176(1-2):115-24.

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42. Pulicken M, Koteish A, DeBusk K, **Calabresi PA**. Unmasking of autoimmune hepatitis in a patient with MS following interferon beta therapy. Neurology. 2006;27;66(12):1954-5.

43. Smith SA, Farrell JA, Jones CK, Reich DS, **Calabresi PA**, van Zijl PC**.** Pulsed magnetization transfer imaging with body coil transmission at 3 Tesla: feasibility and application. Magn Reson Med. 2006;Oct;56(4):866-75.

44. Reich DS, Smith SA, Jones C, Zackowski K, van Zijl PC, **Calabresi PA**, Mori S. Asymmetry and variability in diffusion tensor imaging of the corticospinal tract at 3 Tesla with applications to multiple sclerosis. American Journal of Neuroradiology. 2006;Nov-Dec;27(10):2168-78.

45. Beeton C., Wulff H., Standifer N.E., Azam P., Mullen K.M., Pennington M.W., Kolski-Andreaco A., Wei E., Grino A., Counts D.R., Wang P.H., LeeHealey C.J., Andrews B., Sankaranarayanan A., Homerick D., Roeck W.W., Tehranzadeh J., Stanhope K.L., Zimin P., Havel P.J., Griffey S., Knaus H.G., Nepom G.T., Gutman G.A., **Calabresi P.A**., Chandy K.G. Kv1.3 channels are a therapeutic

target for T cell mediated autoimmune diseases. Proc Natl Acad Sci USA. 2006;Nov;14;103(46):17414-9.

46. Balcer LJ, Galetta SL, **Calabresi PA**, Confavreux C, Giovannoni G, Havrdova E, Hutchinson M, Kappos L, Lublin FD, Miller DH, O'Connor PW, Phillips JT, Polman CH, Radue E-W, Rudick RA, Stuart WH, Wajgt A, Weinstock-Guttman B, Wynn DR, Lynn F and Panzara MA for the AFFIRM and SENTINEL Investigators. Natalizumab reduces visual loss in patients with relapsing multiple sclerosis. Neurology. 2007;68(16):1299-1304.

47. Greenberg BM, Thomas KP, Krishnan C, **Calabresi PA**, Kaplin AI, Kerr DA. Idiopathic Transverse Myelitis: corticosteroids, plasma exchange or cyclophosphamide. Neurology. 2007;68:1614-1617.

48. Jones MV and **Calabresi PA**. Agar-gelatin for embedding tissues prior to paraffin processing. Biotechniques. 2007;42:569-570.

49. DeBoy CA, Zhang J, Jones M, Reich DS, Dike S, Shats I, Rothstein B, Mori S, Nguyen T, Miller RH, Griffin J, Kerr DA, and **Calabresi PA**. High Resolution Diffusion Tensor Imaging of Axonal Damage in Rat Spinal Cord. Brain. 2007;Aug;130(Pt 8):2199-210.

50. Cudrici C., Ito T, Zafranskaia E, Niculescu F, Mullen KM, Vlaicu S, Judge SIV, **Calabresi PA**, and Rus H. Dendritic Cells are abaundant in non-lesional grey matter in multiple sclerosis. Exp Mol Pathol. 2007;Oct;83(2):198-206.

51. Gordon-Lipkin E, Chodkowski BA, Reich DS, Smith SA, Pulicken M, Balcer LJ, Frohman EM, Cutter GR, and **Calabresi PA**. Retinal nerve fiber layer is associated with brain atrophy in multiple sclerosis. Neurology. 2007;Oct;16;69(16):1603-9.

52. **Calabresi PA**, Giovannoni G, Confavreux C, Galetta SL, Havrdova E, Hutchinson M, Kappos L, Miller DH, O'Connor PW, Phillips JT, Polman CH, Radue E-W, Rudick RA, Stuart WH, Lublin FD, Wajgt A, Weinstock-Guttman B, Wynn DR, and Lynn F, and Panzara MA for the AFFIRM and SENTINEL Investigators. The Incidence and Significance of Anti-Natalizumab Antibodies: Results From AFFIRM and SENTINEL. Neurology. 2007;Oct;2;69(14):1391-403.

53. Hu L, Pennington M, Jiang Q, Whartenby KA, **Calabresi PA**. Characterization of the Functional Properties of the Voltage-Gated Potassium Channel Kv1.3 in Human CD4+ T Lymphocytes. Journal of Immunology. 2007;Oct;1;179(7):4563-70.

54. Wu GF, Schwartz ED, Lei T, Souza A, Mishra S, Jacobs DA, Markowitz CE, Galetta SL, Nano-Schiavi ML, Desiderio LM, Cutter GR, **Calabresi PA**, Udupa JK, Balcer LJ. Relation of vision to global and regional brain MRI in multiple sclerosis. Neurology. 2007;Dec;4;69(23):2128-35.

55. Rudick RA, Miller D, Hass S, Hutchinson M, **Calabresi PA**, Confavreux C, Galetta SL, Giovannoni G, Havrdova E, Kappos L, Lublin FD, Miller DH, O'connor PW, Phillips JT, Polman CH, Radue EW, Stuart WH, Wajgt A, Weinstock-Guttman B, Wynn DR, Lynn F, Panzara MA; AFFIRM and SENTINEL Investigators. Health-related quality of life in multiple sclerosis: effects of natalizumab. Ann Neurol. 2007;Oct;62(4):335-46.

56. Reich DS, Smith SA, Zackowski KM, Gordon-Lipkin EM, Jones CK, Farrell JA, Mori S, van Zijl, PC, **Calabresi P.** Multiparametric analysis of the corticospinal tract in MS. Neuroimage. 2007;Nov;1;38(2):271-9.

57. Reich DS, Zackowski KM, Gordon-Lipkin EM, Smith SA, Chodkowski BA, Cutter GR, **Calabresi PA**. Corticospinal Tract Abnormalities are Associated with Weakness in Multiple Sclerosis. Am J Neuroradiol. 2008;Feb;29(2):333-9.

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60. Frohman EM, Costello F, Stüve O, **Calabresi PA**, Miller DH, Hickman SJ, Sergott R, Conger A, Salter A, Krumwiede KH, Frohman TC, Balcer L, Zivadinov R. Modeling axonal degeneration within the anterior visual system: implications for demonstrating neuroprotection in multiple sclerosis. Arch Neurol. 2008;Jan;65(1):26-35.

61. Cohen J, **Calabresi PA**, Chakraborty S, Edwards K, Eickenhorst T, Felton III WL, Fisher E, Fox RJ, Goodman AD, Hara-Cleave C, Hutton GJ, Imrey PB, Ivancic DM, Mandell B, Perryman JE, Scott TF, Skaramagas T, and Zhang H, for the ACT Investigators. Avonex combination trial in relapsing remitting multiple sclerosis: rationale, design and baseline data. Mult Sclerosis. 2008;Apr;14(3):370-82.

62. Milward E, Kim KJ, Szklarczyk A, Nguyen T, Melli G, Nayak M, Deshpande D, Fitzsimmons C, Hoke A, Kerr DA, **Calabresi PA**, and Conant K. Cleavage of myelin associated glycoprotein by matrix metalloproteinases. J Neuroimmunology. 2008;Jan;193(1-2):140-8.

63. Bar-Or A, **Calabresi PA**, Arnold D, Markowitz C, Shafer S, Kasper LH, Waubant E, Gazda S, Fox RJ, Panzara M, Sarkar N, Agarwal S, and Smith CH. Rituximab in RelapsingRemitting Multiple Sclerosis: A 72-week Open-Label, Phase I Trial. Ann Neurology. 2008;Mar;63(3):395-400.

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65. Farrell JA, Smith SA, Gordon-Lipkin EM, Reich DS, **Calabresi PA**, van Zijl PC. High b-value q-space diffusion-weighted MRI of the human cervical spinal cord in vivo: feasibility and application to multiple sclerosis. Magn Reson Med. 2008;May;59(5):1079-89.

66. Jones MV, Nguyen T, DeBoy CA, Griffin, JW, Whartenby KA, Kerr DA, **Calabresi PA**. Behavioral and Pathological Outcomes in a Murine Model of Multiple Sclerosis. J Neuroimmunol. 2008;Aug;13;199(1-2):83-93.

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68. Krishnan C, Kaplin AI, Brodsky RA, Drachman DB, Jones RJ, Pham DL, Richert ND, Pardo CA, Yousem DM, Hammond E, Quigg M, Trecker C, McArthur JC, Nath A, Greenberg BM, **Calabresi PA**, Kerr DA. Reduction of disease activity and disability with high-dose cyclophosphamide in patients with aggressive multiple sclerosis. Arch Neurol. 2008;Aug;65(8):1044-51.

69. Cettomai D, Pulicken M, Gordon-Lipkin E, Salter A, Frohman TC , Conger A, Xiao Zhang BA, Cutter G, Balcer L, Frohman EM, **Calabresi PA.** Reproducibility of Optical Coherence Tomography in Multiple Sclerosis. Arch Neurol. 2008;Sep;65(9):1218-22.

70. Wheeler D, Bandaru VV, **Calabresi PA**, Nath A, Haughey NJ. A defect of sphingolipid metabolism modifies the properties of normal appearing white matter in multiple sclerosis. Brain. 2008;Nov;131(Pt 11):3092-102.

71. Kaplin A, Carroll KA, Cheng J, Allie R, Lyketsos CG, **Calabresi PA**, Rosenberg PB. IL-6 release by LPS-stimulated peripheral blood mononuclear cells as a potential biomarker in Alzheimer's disease. Int Psychogeriatr. 2008;Dec.1:1-2.

72. Salter A, Conger A, Frohman T, Zivadinov R, Eggenberger E, **Calabresi PA**, Cutter G, Balcer L, Frohman E. Retinal architecture predicts pupillary reflex metrics in MS. Mult Scler. 2008;Dec.17.]

73. Nguyen T, Mehta NR, Conant K, Kim KJ, Jones M, **Calabresi PA**, Melli G, Hoke A, Schnaar RL, Ming GL, Song H, Keswani SC, Griffin JW. Axonal protective effects of the myelin-associated glycoprotein. J Neurosci. 2009;Jan.21;29(3):630-7.

74. Cohen JA, Imrey PB, **Calabresi PA**, Edwards KR, Eickenhorst T, Felton WL 3rd, Fisher E, Fox RJ, Goodman AD, Hara-Cleaver C, Hutton GJ, Mandell BF, Scott TF, Zhang H, Apperson-Hansen C, Beck GJ, Houghtaling PL, Karafa MT, Stadtler M; ACT Investigators. Results of the Avonex Combination Trial (ACT) in relapsing-remitting MS. Neurology. 2009;Feb;10;72(6):535-41.

75. Zhang J, Jones M, DeBoy CA, Reich DS, Farrell JA, Hoffman PN, Griffin JW, Sheikh KA, Miller MI, Mori S, **Calabresi PA**. Diffusion tensor magnetic resonance imaging of Wallerian degeneration in rat spinal cord after dorsal root axotomy. J Neurosci. 2009;Mar;11;29(10):3160-71.

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77. Hutchinson M, Kappos L, **Calabresi PA**, Confavreux C, Giovannoni G, Galetta SL, Havdova E, Lublin FD, Miller DH, O'Connor PW, Phillips JT, Polman CH, Raude EW, Rudick RA, Stuart WH, Wajgt A, Weinstock-Guttman B, Wynn DR, Lynn F, Panzara MA; for the AFFIRM and SENTINEL Investigators. The efficacy of natalizumab in patients with relapsing multiple sclerosis: subgroup analyses of AFFIRM and SENTINEL. J Neurol. 2009;Mar;256(3):405-15.

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26. Schirmer L, Schafer DP, Bartels T, Rowitch DH, **Calabresi PA**. Diversity and Function of Glial Cell Types in Multiple Sclerosis. Trends Immunol. 2021 Mar;42(3):228-247. doi: 10.1016/j.it.2021.01.005. Epub 2021 Feb 13. Review. PubMed PMID: 33593693; PubMed Central PMCID: PMC7914214.

27. Bhargava P, Hartung HP, **Calabresi PA**. Contribution of B cells to cortical damage in multiple sclerosis. Brain. 2022 Jul 1:awac233. doi: 10.1093/brain/awac233. PMID: 35775595

28. Gharagozloo M, Bannon R, **Calabresi PA**. Breaking the barriers to remyelination in multiple sclerosis. Curr Opin Pharmacol. 2022 Apr;63:102194. doi: 10.1016/j.coph.2022.102194. Epub 2022 Mar 4. Review. PubMed PMID: 35255453; PubMed Central PMCID: PMC8995341.

29. Olwen C Murphy, **Peter A Calabresi**, Shiv Saidha. Trans-synaptic degeneration as a mechanism of neurodegeneration in multiple sclerosis. *Neural Regen Res.* 2023 Dec;18(12):2682-2684. PMID: 37449621

30. Gill AJ, Schorr EM, Gadani SP, **Calabresi PA**. Emerging imaging and liquid biomarkers in multiple sclerosis. Eur J Immunol. 2023 May 17:e2250228. doi: 10.1002/eji.202250228. PMID: 37194443

31. Garton T, Gadani SP, Gill AJ, **Calabresi PA.** Neurodegeneration and demyelination in multiple sclerosis. Neuron. 2024 Jun 7:S0896-6273(24)00372-6. doi: 10.1016/j.neuron.2024.05.025.

Editorials [ED]/Commentaries

1. **Calabresi PA**. Investigating glatiramer acetate for relapsing-remitting multiple sclerosis at the double dose-is more better? Nat Clin Pract Neurol. 2007;Oct;3(10):540-1.
2. Ratchford JN and **Calabresi PA**. The diagnosis of MS: white spots and red flags. [2008] Neurology. 2008;Mar25;70(13 Pt 2):1071-2.
3. Schiess N and **Calabresi PA**. Natalizumab: Bound to Rebound? Neurology. 2009;Feb 3;72(5):392-3.
4. Frohman EM, Balcer LJ, **Calabresi PA**. Multiple sclerosis: can retinal imaging accurately detect optic neuritis? Nat Rev Neurol. 2010;Mar;6(3):125-6.
5. **Calabresi PA**. Inflammation in multiple sclerosis – sorting out the gray matter. N Engl J Med. 2011;Dec 8;365(23):2231-3.
6. **Calabresi PA**, Bohnen NI. Can PET imaging tell us what's the matter with the gray matter in multiple sclerosis? Neurology. 2012;Aug7;79(6):496-7. Epub 2012 Jul 3. PMID: 22764259.
7. Greenberg BM, Balcer L, **Calabresi PA**, Cree B, Cross A, Frohman T, Gold R, Havrdova E, Hemmer B, Kieseier BC, Lisak R, Miller A, Racke MK, Steinman L, Stuve O, Wiendl H, Frohman E. Interferon beta use and disability prevention in relapsing-remitting multiple sclerosis. JAMA Neurol. 2013;Feb;70(2):248-51. PMID:23530268.
8. Saidha S, **Calabresi PA**. Anti-interleukin-2 receptor alpha for multiple sclerosis? Lancet. 2013;Jun22;381(9884):2141-3. PMID:23562008.
9. Ratchford JN, Costello K, Reich DS, **Calabresi PA**. Varicella-zoster virus encephalitis and vasculopathy in a patient treated with fingolimod. Neurology. 2013;Jul16;81(3):306. PMID: 24024233
10. Sotirchos ES, **Calabresi PA**. Author response. In vivo identification of morphologic retinal abnormalities in neuromyelitis optica. Neurology. 2014;Jan14;82(2):188-9. PMID: 24571017.
11. Brandt AU, **Calabresi PA**, Saidha S. Re: Photoreceptor layer thinning is not specific for Parkinson's disease. Mov Disord. 2014 Jul 1. doi: 10. 1002/mds.25957. [Epub ahead of print] PMID: 24985343.
12. Hemmer B, **Calabresi PA**. Complex antibody profiling to predict clinical outcome in childhood ADS. Neurology. 2014;Dec 9;83(24):2200-1. doi: 10.1212/WNL.0000000000001083. Epub 2014 Nov 7. PubMed PMID: 25381297.
13. Bodini B, **Calabresi PA**. From neurofilament research to multiple sclerosis clinical practice: Where do we stand? Neurology. 2017 Feb 28;88(9):816-817. doi: 10.1212/WNL.0000000000003676. Epub 2017 Feb 1. PubMed PMID: 28148634.
14. **Calabresi PA,** B-Cell Depletion - A Frontier in Monoclonal Antibodies for Multiple Sclerosis. N Engl J Med. 2017 Jan 19;376(3):280-282. doi: 10.1056/NEJMe1614717. Epub 2016 Dec 21. PMID: 28001486

15. **Calabresi PA**, van Zijl PC. Ultra-high-field (7.0 Tesla and above) MRI is now necessary to make the next step forward in understanding MS pathophysiology - Commentary. Mult Scler. 2017 Mar;23(3):376-377. doi: 10.1177/1352458516684560. Epub 2016 Dec 16. PubMed PMID: 28260419; PubMed Central PMCID: PMC5341140.

16. Miller AE, **Calabresi PA**. (2018). Central vein sign in multiple sclerosis: Ready for front and center? Neurology. 2018 Apr 3;90(14):631-632. PMID: 29514945

17. Kalaitzidis G, **Calabresi PA**. Is Cerebrospinal Fluid Responsible for Innate Immune Cell Activation and Neurotoxicity in Multiple Sclerosis?. Neurology. 2021 Apr 6;96(14):649-650. doi: 10.1212/WNL.0000000000011694. Epub 2021 Feb 15. PubMed PMID: 33589535.

18. **Calabresi PA**. Trials and tribulations on the path to remyelination. Lancet Neurol. 2021 Sep;20(9):686-687. doi: 10.1016/S1474-4422(21)00253-2. PubMed PMID: 34418383.

19. Garton T, Gill AJ, and **Calabresi PA**. Brain. Distinct mechanisms of oligodendrocyte injury inform therapeutic interventions in multiple sclerosis. 2022 Nov 3; doi: 10.1093/brain/awac406.

20. Gadani SP, **Calabresi PA**. The calvaria stands alone: Unique aspects of the skull bone marrow-meninges border. Cell. 2023 Aug 17;186(17):3524-3526. doi: 10.1016/j.cell.2023.07.025. PubMed PMID: 37595561.

Case Reports [CR]

1. Ratchford JN, Costello K, Reich DS, **Calabresi PA**. Varicella-zoster virus encephalitis and vasculopathy in a patient treated with fingolimod. Neurology. 2012 Nov 6;79(19):2002-4. doi: 10.1212/WNL.0b013e3182735d00. Epub 2012 Oct 3. PMID: 23035072

Responses

1. Sotirchos ES, **Calabresi PA**, Saidha S. Reply to "Retinal INL Thickness in Multiple Sclerosis: A Mere Marker of Neurodegeneration?". Ann Neurol. 2021 Jan;89(1):193-194. doi: 10.1002/ana.25936. Epub 2020 Oct 29.PMID: 33068014.
2. Sotirchos ES, **Calabresi PA**, Saidha S. Reply to "Interpretation of Longitudinal Changes of the Inner Nuclear Layer in MS". Ann Neurol. 2022 Jul;92(1):156-157. doi: 10.1002/ana.26379. Epub 2022 May 9. PMID: 35460105
3. Bhargava P, Haughey N, **Calabresi PA**. Response to-Tracking the role of sphingolipids in MS: The dynamic nature of ceramide synthases. Mult Scler. 2022 Nov;28(13):2148-2149. doi: 10.1177/13524585221084094. Epub 2022 Apr 2. PMID: 35369796

CLINICAL ACTIVITIES

Board Certification

May 1995 American Board of Psychiatry and Neurology
(renewed 2005, 2015 & continuing renewal requirement completed 2024) Specialty: Neurology

Medical Licensure

1989 - 1998	New York (inactive)
1997 - 2001	Rhode Island #9361 (inactive)
2000 - present	Maryland D56151

Membership in or examiner for specialty board

1991-present	American Academy of Neurology, Member
1997-present	National Multiple Sclerosis Society (NMSS), Member
1997-1999	Professional Advisory Committee & Board of Overseers, RI Chapter, NMSS
1997-2000	Committee on the Protection of Human Subjects, RI Hospital
1999-present	American Association of Immunologists, Member
2000-2003	Committee for Continuing Medical Education, University of Maryland
2001-2003	National MS Society, Fellowship Committee
2002-present	National MS Society, Clinical Care Committee, Member
2002-2005	Data & Safety Monitoring Committee, Immune Tolerance Network, NIAID, NIH
2003-present	National MS Society, Maryland Chapter, Clinical Advisory Committee, Member
2004-2007	National MS Society, Member research study section B
2004-present	National MS Society, Clinical Trials Committee, Member
2004-present	American Neurological Association-Active Member & Fellow
2004-present	Board of Trustees, Maryland Chapter, NMSS, Member
2005-2017	Editorial Board, Neurology, Member
2006-2010	CNBT NIH Study section member
2007-present	Society for Neuroscience
2010- present	Ad hoc reviewer; CNBT, NSD-B, NSD-C, SEPs, NMSS
2007-2020	ACTRIMS, Member, Steering Committee, Executive Committee
2016- present	International MS Visual Consortium (co-founder, Past President, board member)
2017- present	North American Imaging in MS (NAIMS), Steering Committee
2017-2022	Associate Editor, Journal of Clinical Investigation

EDUCATIONAL ACTIVITIES

Teaching

Classroom Instruction

2000-2018	Lectures on Demyelinating Diseases to Medical Students for annual Neuroscience course University of Maryland and Johns Hopkins University
2002 & 2003	Lectures on Autoimmune Diseases in the annual Graduate Course in Advanced Immunology at University of Maryland
2006- present	Lecture on Immunopathogenesis of MS in Neuroimmunology Course at Johns Hopkins School of Public Health
2003- 2018	Lectures to Neurology Residents on Diagnosis and Management of MS
2010-2019	Lecture to Undergraduates in Dr. Guy McKahn's Neurological Diseases Course
2018-present	Lecture to Neuroscience Graduate Students on Myelin, Oligodendrocytes, and Demyelinating Diseases
2020-present	Lectures to neuroimmunology fellows on remyelination, neuroprotection, and advanced MR imaging

Clinical Instruction

1997-2008	In-patient Ward and Consultation Service Clinical Teaching for Neurology Residents. University of Maryland and Johns Hopkins University
2000-present	Patient Demonstrations for Medical Students

2006-2008 Lectures on Management of MS to Nursing Students

2005-present Teach undergraduates, medical students, residents, and fellows at the bedside in outpatient clinic

Mentoring

Post-doctoral Advisees /Trainees

1997-2000 Raymond Ferri, Assistant Professor, University of Washington; Resident (Lab)

2000-2008 Horea Rus, MD, PhD, Professor, University of Maryland; Fellow (MS Center)

2000-2007 Rameeza Allie, MS, PhD Program Dartmouth; Graduate Student (MPH part-time)

2001-2003 Areen Said, MD, Assistant Professor, University of Michigan; Fellow (MS Center)

2003-2004 Jerome Graber, NYU Neurology residency; Medical Student and MPH program JHU Summers

2003-2004 Anita Venkataramana, MD, Private Practice Florida; Fellow (MS/HIV)

2003-2014 Lina Hu, PhD, Research Associate Calabresi Lab; Post-Doc

2004-2005 Julie Nauroth, PhD, Scientist, Mertek; Post-Doc

2004-2006 Melina Jones, PhD, Research Associate Calabresi Lab; Post-Doc

2005-2008 Cynthia DeBoy, PhD, Calabresi Lab; Post-Doc

2006-2008 Edward Knapp, PhD, Calabresi Lab; Post-Doc

2003-present Kathy Zackowski, PhD, OT, Assistant Professor KKI, PM&R-Pediatric Rehabilitation Medicine, JHU; Junior Faculty Co-mentor K01

2004 Nathan Shiu, Graduate MPH program at Yale; Undergraduate researcher

2004-present Mathew Pulicken, MBBS, Neurology Residency Tufts University; Graduate Student, MPH program JHU

2004-2006 Kate Mullen, BA, Pre-medical student →Yale Medical School→ Harvard Radiology

2005-2006 Benjamin Greenberg, MD, Neuroimmunology Fellow →Assistant Professor, JHU →Associate/Full Professor UTSW

2005-2008 Eliza Gordon-Lipkin, BS, Pre-medical student → Medical School University of Maryland->NIH staff

2005-2008 Daniel Reich, MD, PhD, Adjunct Professor Neurology, Radiology; Neuroradiology Fellow/Co-mentor on MS Project and K99

2006-2012 Susan Courtney, PhD, Professor & Chair Psychological and Brain Sciences, JHU; Senior Faculty,
NMSS Sabbatical award/Co-mentor

2006-2007 Deanna Cettomai, JHU Assistant Professor, Research & Clinical Fellow; Medical student summer project in MS Clinic

2006-2008 Nicoline Schiess, MD, Associate Professor, SOM Neuro Neuroimmunology, JHU; MS Fellow

2007-2010 John Ratchford, MD, MS Fellow, Assistant Professor

2007 Hormuzdiyar Dasenbrock, Neurosurgery resident**;** Medical student summer project in MR Imaging

2007-2009 Pierre Louis Bazin, Instructor Radiology-Neuroradiology, Max-Planck Institute; Fellow/Co-mentor on K25

2007-2008 Myria Petrou, MD, Assistant Professor; Neuroradiology Fellow/Co-mentor on MS Project

2007-2008 Arzu Ozturk, MD, Neuroradiology fellow; Neuroradiology Fellow/Co-mentor on MS Project

2007-2008 Kevin Tan, MD, Neuroimmunology Fellow →Singapore; Staff Neurologist

2008-2010 Daniel Harrison, MD, Neuroimmunology Fellow → Associate Professor, University of Maryland

2008-2010 Scott Newsome, DO, Neuroimmunology Fellow →Professor JHU Neuro Neuroimmunology;
2009-2010 Chris Eckstein, MD, Neuroimmunology Fellow →Associate Professor, Duke
2010-2012 Shiv Saidha, MD, Neuroimmunology Fellow →Professor SOM Neuro Neuroimmunology
2013-2016 Pavan Bhargava, MD, Neuroimmunology Fellow → Assistant Prof. JHU
2014-2018 Jennifer Orthmann-Murphy, Neuroimmunology Fellow →Assistant Prof. U. Penn,

2015-2017 David Benavides, MD, PhD, Neuroimmunology Fellow → Associatet Prof, U of MD, Neuroimmunology Fellow

2015-2018 Michael Kornberg, MD, PhD, Neuroimmunology Fellow →Assistant Prof. JHU

2016-2018 Meghan Rhomba, MD, Neuroimmunology Fellow → Assistant Professor U of Washington

2015-2018 Megan Esch, MD, Neuroimmunology Fellow → Staff Neurologist, Geisinger.

2017-2020 Elias Sotirchos, MD, Neuroimmunology Fellow → Assistant Professor, JHU

2018-2021 Cole Harrington, MD, PhD, Neuroimmunology Fellow → Assistant Professor, Ohio State University

2020-2024 Riley Bannon, Neuroscience Graduate Student training program

2022-2024 Sachin Gadani, MD, PhD, Neuroimmunology Fellow → Assistant Professor, University of Pittsburgh

2021-2024 Alex Gill Neuroimmunology Fellow → Medical Director, research pipeline, Novartis

2020-2024 Thomas Garton, CMM graduate student, MSTP

2020-present Jackson Mace, CMM graduate student

Thesis committees

2003-2007 Erika Darrah, Graduate student (thesis committee)→Assistant→ Associate Professor Medicine-Clinical and Molecular Rheumatology JHU; Graduate Student (rotation in lab and thesis committee)

2003-2007 Eugene Kim, University of Maryland, Dr. Kamal Aboud's lab; Graduate Student (thesis Committee)

2009-2012 Tory Johnson, Dr. Avi Nath's lab, Graduate Student (thesis committee)

2009-2013 Jason Rosenzweig, Dr. Katie Whartenby's lab, CMM Graduate Student (thesis committee)

2010-2014 Justin Glenn, Dr. Katie Whartenby's lab, CMM Graduate Student (thesis committee)

2011-2013 **Inna Grishkin**, Dr. Peter Calabresi's lab, CMM/MSTP Graduate student (mentor)

2014-2017 Valerie Larson, Dr. Dwight Bergles' lab, NS Graduate Student (thesis committee)

2013-2019 **Leslie Kirby**, Dr. Peter Calabresi's lab, CMM Graduate student (mentor)
2015-2020 Itzy Morales, Dr. Katie Whartenby's lab, CMM Graduate Student (thesis committee)
2018-present Calvin Kersbergen, Dr. Dwight Bergles' lab, NS Graduate Student (thesis committee)
2018-2021 Cody Call, Dr. Dwight Bergles' lab, NS Graduate Student (thesis committee)
2018-2021 Dongeun Heo, Dr. Dwight Bergles' lab, NS Graduate Student (thesis committee)
2019-2022 Jenna Glatzer, Dr. Dwight Bergles' lab, NS Graduate Student (thesis committee)
2018-2021 Jared Hinkle, Dr. Ted Dawson's lab, CMM/MSTP Graduate Student (thesis committee)
2018-2021 Ye Eun, Dr. Ahmet Hoke's lab, Pathobiology graduate student (thesis committee)
2019-2023 Gian Molina, Dr. Dwight Bergles' lab, NS Graduate Student (thesis committee)
2019-2024 **Riley Bannon**, Dr. Peter Calabresi's lab, Neuroscience Graduate student (mentor)
2020-2024 **Thomas Garton**, Dr. Peter Calabresi's lab, CMM/MSTP Graduate student (mentor)
2021-2024 Wesley Godfrey, Dr. Michael Kornberg's lab, CMM graduate student (thesis committee)
2021-2025 Tiger Xu, Dr. Dwight Bergles' lab, NS Graduate Student (thesis committee)
2021-present Judy Lee, Dr. Michael Kornberg's lab, CMM graduate student (thesis committee)
2020-2025 **Jackson Mace**, Dr. Peter Calabresi's lab, CMM Graduate student (mentor)
2022-present Jonathan Alevy, Dr. Charlotte Sumner's laboratory, CMM graduate student (thesis committee)
2024-present Drew Love, Dr. Michael Kornberg's laboratory, Hopkins PREP program (mini-thesis committee)

Reports of Inventions
2007; Report of Invention. Patented. Role of Kv1.3 channel in neuroregeneration and protection #4986
2008; Use of flouro-aldehyde dehydrogenase expression on CD4+ T cells to predict response to cyclophosphamide
2017; Bryostatin, Novel Therapeutic Drug for Multiple Sclerosis

Journal Reviewer or Editorial Board
Journal of Clinical Investigation (past associate Editor), Multiple Sclerosis (Editorial Board), Neurology (past Editorial Board member), Nature, Nature Medicine, Nature Neuroscience, Nature Communications , Cell, Neuron, Immunity, Cell Reports, Cell Reports Medicine, Science, Science Translational Medicine, Science Advances, Science Reports, New England Journal of Medicine, Lancet, Lancet Neurology, Neurology and Neuroinflammation, Brain, PNAS, Annals of Neurology, Journal of Immunology, Journal of Neuroscience, Journal of Experimental Medicine, Trends in Immunology, E-Life, Journal of Neuroimmunology, Journal of Neurovirology, JAMA Neurology, Journal of Neurological Sciences, , Journal of Neuroinflammation, PLoS One, IOVS, Journal of Neurology, Pharmacology, and Experimental Neurotherapeutics

Invited Talks
<u>JHMI/Regional</u>
9/20/1997 The Clinical Importance of MRI. MS Wellness Day, St. Joseph's Hospital, Baltimore, MD.

10/20/1999 Clinical Implications of Recent MS Research, Neurology Grand Rounds, University of Maryland, Baltimore, MD.

10/21/1999 Clinical Implications of Recent MS Research, Neurology Grand Rounds, Johns Hopkins University, Baltimore, MD.

11/18/2000 Treatment of Secondary Progressive Multiple Sclerosis, University of Maryland Symposium on the Treatment of Neuroimmunological Disorders.

9/18/2002 Adhesion Molecule Targets in Multiple Sclerosis, Baltimore, MD. ACTRIMS/ECTRIMS 2002.

9/20/2002 Kv1.3 is a Unique Functional Marker of Effector Memory Cells in Multiple Sclerosis, Baltimore, MD. ACTRIMS/ECTRIMS 2002.

8/19/2004 Rare Neuroimmunological Disorders Symposium, Baltimore, MD, Co-Director.

11/15/2004 Novel Approaches to the Treatment of Multiple Sclerosis, Walter Reed Armed Forces Neurology Symposium, Bethesda, MD.

12/18/2004 Diagnosis and Treatment of Multiple Sclerosis, Neurology for the Primary Care Physician. MD.

12/16/2005 Neurology for Primary Care Physicians Update Symposium. Johns Hopkins CME. Baltimore, MD
1) Symptomatic Management of Multiple Sclerosis.
2) Future Immunotherapies for MS.

5/01/2006 Myelin-Axon Interactions, Johns Hopkins Clinical Neuroscience Seminar, Baltimore, MD.

7/19/2006 Rare Neuroimmunological Diseases Symposium (Co-Director); JHU CME, Baltimore, MD.
1) Overview of Immunological mechanisms
2) Update on MS
3) Future Immunotherapies
4) Sphingosine-1P1 receptor agonists

12/16/2006 Multiple Sclerosis: Treat the Patient Not the MRI; at JHU CME course, Baltimore, MD.

3/27/2007 Assessing Disability in MS, Social Security Administration, Baltimore, MD.

4/06/2007 MS Update, JHU Medical Grand Rounds, Baltimore, MD.

4/19/2007 The role of T-IL-17 in MS and TM, Johns Hopkins University, Baltimore, MD.

4/26/2007 Optical coherence tomography in MS; keeping an eye on the axon, JHU Neurology Grand Rounds, Baltimore, MD.

5/04/2007 1) The pathogenesis of primary progressive MS and 2) Treatment of PPMS, JHU CME course, Baltimore, MD.

5/18/2007 Biomarkers and future therapies for MS, Food and Drug Administration, Greenbelt, MD.

5/30/2008 Novel Imaging Techniques in Multiple Sclerosis, Kirby Center for Imaging Annual Retreat, Mt Washington Center, Baltimore, MD.

12/18/2008 Multiple sclerosis: a multidisciplinary approach reveals new clues to pathogenesis and treatment. Neurology Grand Rounds, Johns Hopkins University, Baltimore, MD.

3/05/2009 Research Update Teleconference for National MS Society, Capital and Maryland Chapters.

7/12/2010 Retinal Pathology in Multiple Sclerosis: Insights into disease pathogenesis. Pathology Grand Rounds, Johns Hopkins University.

10/04/2010 Unraveling the Pathogenesis of Multiple Sclerosis Through Immunology and Imaging; Donald Price Symposium, Johns Hopkins University, Baltimore, MD.

10/22/2010 Emerging Therapies in Multiple Sclerosis; Johns Hopkins Update for the Primary Care Physicians and General Neurologists, Bayview Campus, Baltimore, MD.

11/04/2010 Prospects for Remyelination in Multiple Sclerosis; National MS Society Maryland Chapter Annual Meeting.

11/17/2010 Pediatric Neurology Grand Rounds, Johns Hopkins University; Update on Pediatric Multiple Sclerosis.

5/06/2011 Surrogate Markers: Imaging. American Academy of Neurology Translational and Clinical Research Course. Baltimore, MD.

10/26/2011 MS update for NMSS Maryland Chapter Annual Meeting.

11/11/2011 Society for Neuroscience, Glial Cell Workshop: Multiple Sclerosis and Neuromyelitis Optica clinical cases presentation. Wash D.C.

1/12/2012 MS Crossfire Panel Discussion on Management of MS. Philadelphia, PA

6/11/2013 Prospects for Endogenous Remyelination in Multiple Sclerosis; Neuroimmunology Branch Seminar, NINDS, Bethesda, MD.

National and International

5/21/1997 Controlling Spasticity. Presented by: Rhode Island Chapter, National Multiple Sclerosis Society, Providence, RI.

11/19/1997 The role of cytokines and adhesion molecules in the immunopathogenesis of multiple sclerosis. Neurology Grand Rounds. Brigham & Women's Hospital, Boston, MA.

1/28/1998 The role of cytokines and adhesion molecules in the immunopathogenesis of multiple sclerosis. Neurology Grand Rounds. Henry Ford Hospital, Detroit, MI.

3/13/1998 Practical applications of MRI in multiple sclerosis. Philadelphia, PA.

5/16/1998 Clinical and imaging measures of disease activity & progression. Multiple Sclerosis: Clinical Issues and Decisions Symposium, Chicago, IL

11/04/1998 Chemokine Receptors in Multiple Sclerosis, Neurology Grand Rounds. Washington University School of Medicine, St. Louis, MO.

11/21/1998 Changes in Adhesion Molecules Associated with IFNb Therapy in Multiple Sclerosis, Use of Imaging and Other Monitoring Measurements in Multiple Sclerosis Treatment Strategies, Santa Fe, NM.

12/11/1998 Multiple Sclerosis: pitfalls in the diagnosis of a common disorder. Neurology for the Primary Care Provider, University of Rochester Medical Center, Rochester, NY.

4/29/1999 Clinical Implications of Recent MS Research, Neurology Grand Rounds, Rush Presbyterian St. Luke's Medical Center, Chicago, IL.

4/30/1999 Clinical Implications of Recent MS Research, Neurology Grand Rounds, University of Iowa, Iowa City, IA.

5/14/1999 Clinical Implications of Recent MS Research, Neurology Grand Rounds, Emory University, Atlanta, GA.

11/17/1999 Clinical Implications of Recent MS Research, Neurology Grand Rounds, University Texas SW Medical Branch, Dallas, TX.

5/20/2000 Keynote Speaker for National MS Society Long Island Chapter Annual Meeting. NY.

6/05/2000 Immunopathogenesis and Genetics of Multiple Sclerosis, Williamsburg, VA.

8/25/2000 Multiple Sclerosis: Clinical Issues and Decisions Symposium, Newport, RI, Co-Chairman for program.

11/08/2000 Keynote Speaker for National MS Society Delaware Chapter Annual Meeting. DE.

8/23/2001	Multiple Sclerosis: Clinical Issues and Decisions Symposium, Boston, MA, Co-Chairman for program.
12/06/2003	Neurodegeneration in MS Symposium, NYC, Co-Director.
12/5/2004	Neurodegeneration in MS Symposium II, NYC, Co-Director.
4/12/2005	MS Scientific Topic Highlights, AAN, Miami, FL.
6/10/2005	Visiting Professor and Grand Rounds; Novel MS therapies, at University of Wisconsin. WI.
7/14/2005	Mechanisms of neurodegeneration and strategies for neuroprotection in multiple sclerosis, Neurology Grand Rounds, University of Pennsylvania, PA.
7/26/2005	Natalizumab clinical trials data and mechanism of action; NIH Workshop on Natalizumab, Washington DC.
9/23/2005	Mechanisms of neurodegeneration and strategies for neuroprotection in multiple sclerosis, Neurology Grand Rounds, U. of Virginia, VA.
10/20/2005	How do nerve cells die? National MS Society, RI Chapter, Annual Research Day Lecture.
2/14/2006	Co-Moderator Section on Translating Myelin Biology, Gordon Conference, Ventura, CA 2006.
4/03/2006	Future Therapeutic Strategies in MS, at the American Academy of Neurology Update on MS Course, San Diego, CA.
4/18/2006	Charcot Lecture: Mechanisms of Neurodegeneration and Strategies for Neuroprotection in Multiple Sclerosis. French Embassy, Washington, D.C.
5/20/2006	Imaging Myelin and Axons; Myelin Interest Group, Skirball Institute, New York University, NYC, NY.
6/01/2006	Natalizumab (Tysabri) Update, Consortium for MS Centers Annual Meeting, Scottsdale, AZ.
6/02/2006	Mechanisms of Neurodegeneration in MS, Consortium for MS Centers Annual Meeting, Scottsdale, AZ.
6/03/2006	Design and Implementation of Neuroprotective Clinical trials in MS, Consortium for MS Centers Annual Meeting, Scottsdale, AZ.
6/29/2006	Mechanisms of neurodegeneration and strategies for neuroprotection in multiple sclerosis, Neurology Grand Rounds, U. of Chicago, IL.
7/05/2006	Neuroprotection Clinical Trial Design for MS; at Course on Progression in MS, University of S. Florida CME program (Faculty: Antel, Calabresi, Lucchinetti, and Wolinsky).
10/09/2006	Leader of Walking Tour of Highlighted MS Posters at ANA 2006, Chicago, IL.
10/20/2006	High Resolution DTI of rat spinal cord; Histopathological radiological correlations, Cambridge, MA, Symposium at Biogen-Idec.
10/30/2006	Neuroprotection in MS, National MS Society, Central New England Chapter, Annual Research Day Lecture.
11/02/2006	Tissue Repair in MS, Orlando, FL, NMSS Symposium. Directed scientific presentations and was highlighted scientific speaker at NMSS annual meeting for Chapters and Clients.
1/29/2007	Conduct of a Phase III clinical trial of FTY-720 in RRMS at Novartis 2309 FTY-720 Clinical Investigators Meeting, Miami, FL.
5/03/2007	Kv1.3 as a therapeutic target in MS, Invited talk at Vertex Inc.; Cambridge, MA.

5/04/2007 MS Therapy course; Monoclonal antibody treatments for MS, AAN Annual Meeting; Boston, MA.

5/29/2007 Monoclonal Antibody Therapies for Multiple Sclerosis. Grand Rounds, Department of Neurology, Northwestern University School of Medicine.

6/02/2007 Promising Oral Agents and Neuroprotective Strategies for Multiple Sclerosis, ACTRIMS 2007 annual meeting, Washington D.C.

6/07/2007 Optical coherence tomography in MS; keeping an eye on the axon, Georgetown University Neurology Grand Rounds, Washington, D.C.

7/25/2007 Diffusion Tensor Imaging and optical coherence tomography in MS; keeping an eye on the axon, Brown University, Neurology Grand Rounds, Providence, RI.

9/09/2007 What can preclinical models tell us about neuroprotection? MS CORE Symposium on Design of Neuroprotective Clinical Trials for MS, Washington D.C.

10/20/2007 The role of Kv1.3 in T cell differentiation. MS Seminar Beth Israel Hospital, Harvard University, Boston, MA.

2/19/2008 Optical Coherence Tomography and Diffusion Tensor Imaging in Multiple Sclerosis. Neurology Grand Rounds, NYU School of Medicine, NYC, NY.

2/26/2008 Analysis of visual pathways in MS using Optical Coherence Tomography and Diffusion Tensor Imaging; Neurology Grand Rounds, UMDNJ, Newark, NJ.

4/17/2008 Future Therapies in Multiple Sclerosis, Multiple Sclerosis Therapy Course, Annual Meeting of the American Academy of Neurology, Chicago, IL.

5/07/2008 Optical Coherence Tomography and Diffusion Tensor Imaging as outcome measure in neuroprotective trials in MS, National MS Society Research Day, Lone Star Chapter, Dallas, Texas.

5/16/2008 Optical Coherence Tomography and Diffusion Tensor Imaging in Multiple Sclerosis. Neurology Grand Rounds, Thomas Jefferson University, Philadelphia, PA.

7/18/2008 Utility of Optical Coherence Tomography in Multiple Sclerosis Diagnosis, Prognosis, and Clinical Trials. Optical coherence tomography conference. Boston, MA.

10/30/2008 The potential immunological role of Vitamin D in multiple sclerosis, Nancy Davis Foundation Meeting, Los Angeles, CA.

11/06/2008 Novel Imaging Strategies in multiple sclerosis, Neurology Grand Rounds, University of North Carolina, Chapel Hill, NC.

3/07/2009 Imaging Neuroprotection, Johns Hopkins Advanced Studies in Medicine, CME Program, Wash D.C.

3/25/2009 Novel Imaging Strategies in Multiple Sclerosis, Neurology Grand Rounds, Robert Wood Johnson, University of Medicine and Dentistry, New Brunswick, NJ.

2/27/2010 Neuroprotective and reparative Strategies in MS, RI Chapter NMSS Meeting, Prov, RI.

6/03/2010 Monoclonal Antibody Therapies in MS, Chaired Session and lectured on Alemtuzumab, CMSC Meeting, San Antonio, Texas.

5/21/2010 Phase I results of PEG-IFNb1a trial, ADVANCE Investigator's meeting, Barcelona, Spain.

6/04/2010 Will oral therapies be used as first line drugs in MS? CMSC Satellite Symposium. San Antonio, Texas.

6/24/2010 Optical Coherence Tomography in MS, OCTiMS Investigator's Meeting; Berlin, Germany.

6/25/2010 Rational for OCTiMS Trial Design, OCTiMS Investigator's Meeting; Berlin, Germany.

9/29/2010 Clinical Issues in Multiple Sclerosis, Roundtable Discussant; University of Michigan, CME symposium.

10/13/2010 Optical Coherence Tomography Correlate with MRI measures in Multiple Sclerosis; European Consortium for Treatment of Multiple Sclerosis (ECTRIMS) 2010, Sweden.

11/12/2010 Indiana Neurological Society; Multiple Sclerosis Therapeutics, 2010.

12/04/2010 Vitamin D usage in Multiple Sclerosis Patients; European Charcot Foundation Annual Meeting, Fiuggi, Italy.

4/28/2011 Endogenous Remyelination: Role of Thyroid hormone beta receptor signaling. Oregon Health Sciences, Portland, OR.

5/26/2011 Optical Coherence Tomography in Multiple Sclerosis, Neurology Grand Rounds, Tufts New England Medical Center, Boston, MA.

6/26/2011 Molecular Pathways for Neuroprotection in Multiple Sclerosis. New York Academy of Sciences, Cognitive Dysfunction in Multiple Sclerosis: New Approaches to Diagnosis and Treatment Symposium.

9/15/2011 Optical Coherence Tomography in Multiple Sclerosis, Retinal Degeneration Symposium, Boston, MA.

9/22/2011 The Anterior Visual Pathway in Multiple Sclerosis as a Target for Remyelination in Multiple Sclerosis, Myelin Repair Foundation. San Francisco, CA.

9/30/2011 Neurology Grand Rounds, Washington University, St Louis, MO. Oligodendrogliogenesis: Prospects for Endogenous Remyelination in Multiple Sclerosis.

1/11/2012 Neurology Grand Rounds, Mt Sinai Hospital, NYC, NY. Optical Coherence Tomography in Multiple Sclerosis.

3/07/2012 Philadelphia Neurological Society: Multiple Sclerosis Update.

3/08/2012 Neurology Grand Rounds, University of Pennsylvania, Philadelphia, PA. Oligodendrogliogenesis: Prospects for Endogenous Remyelination in Multiple Sclerosis.

4/25/2012 Results of the FREEDOMS 2 Phase 3 clinical trial, American Academy of Neurology, New Orleans, LA.

5/09/2012 Remyelination in Multiple Sclerosis; Visiting Professor and Neurology Grand Rounds, University of Pittsburgh.

5/23/2012 Issues related to Progressive MS, NMSS Live Webcast from studio in NYC.

5/31/2012 Neuroprotection in MS; Overview talk and session chair at CMSC meeting, San Diego, CA.

11/15/2012 Prospects for Endogenous Remyelination in Multiple Sclerosis; Visiting Professor and Gabriele M. Zu Rhein Lecture, Department of Pathology, University of Wisconsin.

3/01/2013 The eye in multiple sclerosis. Keynote speaker Mayo Clinic Annual MS Update, Scottsdale, AZ.

3/20/2013 Results of phase 3 ADVANCE trial of pegylated interferon beta in relapsing MS. AAN annual meeting, San Diego, CA.

4/10/2013 Optical Coherence Tomography in MS. Neurology Grand Rounds UCLA Medical Center.

5/24/2013 Optical Coherence Tomography: keeping an eye on the axon in MS. University of Rochester, NY, Neurology Grand Rounds.

5/31/2013 Results of phase 3 ADVANCE trial of pegylated interferon beta in relapsing MS. Consortium of MS Centers Annual Meeting, Orlando, FL.

6/19/2013 Physician education symposium: MS Crossfire, MS Society of America. Philadelphia, PA.

5/10/2015 Neuroprotection in MS. Overview talk and session chair at CMSC meeting, San Diego, CA

2/05/2018 Oligodendrocyte Precursor Cells Are Co-Opted By the Immune System to Cross-Present Antigen and Mediate Cytotoxicity. Gorden Myelin Conference, Ventura CA

2/20/2018 Oligodendrocyte Precursor Cells Are Co-Opted By the Immune System to Cross-Present Antigen and Mediate Cytotoxicity. 2018 ACTRIMS, San Diego, San Diego, United States

4/30/2018 Endogenous Remyelination in MS. Washington University: Neurology Grand Rounds, St. Louis, MO, US

9/25/2018 Endogenous Remyelination in MS. Mayo Clinic: Neurology Grand Rounds, Minneapolis, MN, US

8/30/2019 How Neuroscience Research Can Inform Precision Medicine for Multiple Sclerosis Neurology Grand Rounds, University of Michigan, Ann Arbor, MI

9/11/2019 OCT as a Prognostic Marker, ECTRIMS, Stockholm, Sweden

10/5/2019 Advances in Progressive MS, NY Academy of Sciences

2/1/2020 Demyelinating Animal Models, ACTRIMS Annual meeting, Austin, TX

2/28/2020 Advances in Understanding Progressive MS, Kenneth Johnson Memorial Lecture, West Palm Beach, Fla.

5/29/2020 Progressive MS, Whitaker Lecture, Annual CMSC Meeting

6/30/2020 Oligodendrocyte Precursor Cells Are Co-Opted By the Immune System to Cross-Present Antigen and Mediate Cytotoxicity FASEB Meeting on Glia

9/9/2020 Optical Coherence Tomography and Neurofilaments in Clinical Practice, Pre-AECTRIMS CME Course

9/10/2020 Understanding the Cause of MS, Pre-AECTRIMS CME Course

9/11/2020 Biomarkers of Neurodegeneration in MS, AECTRIMS Teaching Course

9/17/2020 Oligodendrocyte precursor cells present antigen and are cytotoxic targets in inflammatory demyelination, Neuroscience Seminar at the University of Connecticut

10/4/2020 Oligodendrocyte Progenitor Cells are Coopted by the Immune System to Cross-Present Antigen and Mediate Cytotoxicity. Raymond D. Adams Lecture Award at the annual meeting of the ANA.

10/16/2020 The role of Neurofilament Light in Clinical Trials, CMSC Consensus Conference

12/5/2020 Advances in Progressive MS, NY Academy of Sciences

01/20/2021 CNS Immune Responses in Progressive MS: How Neuroimmunology Research Can Inform Precision Medicine, Grand Rounds at University of Pennsylvania

2/23/2021 T cell inhibitors in MS, Academic CME Symposium at virtual ACTRIMS Forum 2021

2/24/2021 Slowing progression in MS, Academic CME Symposium at virtual ACTRIMS Forum 2021

10/4/2021 Fluid Biomarkers in Multiple Sclerosis, NY Academy of Sciences Symposium on Progressive MS

3/25/2022 Mechanisms of Disease Progression in MS; Yale Neurology Grand Rounds

6-23/2022 Astrocytes as a Therapeutic Target in Progressive MS, at NEW ADVANCES AND CHALLENGES IN MULTIPLE SCLEROSIS", Palacio de la Magdalena, Santander, Spain

6/24/2022 Serum Neurofilament Light as a biomarker for Multiple Sclerosis. Key Note Lecture, Cleveland Clinic, Annual MS Update Day.

12/02/2022 Synaptopathy & reactive gliosis in progression of multiple sclerosis, Visiting Professor for the McEwan-Jones Lecture, University of Toronto, Toronto, CA

2/10/2023 Modeling Synaptic Pathology in Immune Mediated Neurodegeneration, Department of Neuroscience, Mayo Clinic, Jacksonville

2/24/2023 How to and should we target EBV in MS? Debate at the annual ACTRIMS meeting, San Diego, CA.

3/10/2023 What is normal for serum neurofilament? CMSC Concensus conference on Best Practices for Use of sNfL in Multiple Sclerosis Management, Tampa, Fla.

5/19/2023 How lessons from the clinic inform laboratory investigation in MS. Keystone Neuroimmunolgy Meeting, Whistler, Canada.

9/18/2023 Reproducible White Matter Quantification in the Clinic, Keynote Lecture at the International Society for Magnetic Resonance Imaging meeting in Nashville, Tennessee.

10/23/2023 Leveraging human iPSCs to model astrocyte mediated neurotoxicity in multiple sclerosis, Ny Stem Cell Foundation Annual Symposium, Rockefeller University, NYC, NY

11/9/2023 Novel blood and imaging biomarkers for neuroprotection and repair in MS. Invited lecture at the European Charcot Foundation Symposium, Baveno, Italy.

12/1/2023 Diagnosis of Optic Neuritis, McDonald Diagnostic Committee Meeting, Barcelona, Spain.

1/4/2024 How Neuroscience Research is Informing Precision Medicine in Multiple Sclerosis, Neurology Grand Rounds, Johns Hopkins University

4/29/2024 Complement Component C3 Mediates Retinal Neuroinflammation and Neurodegeneration. International MS Meeting, Munster, Germany

5/30/2024 Understanding immune responses of brain resident cells informs next generation therapies for progressive MS Annual Meeting of the CMSC, Nashville, Tenn.

7/30/2024 The role of C3 in astrocytes in mediating neurodegeneration. FASEB Translational Neuroimmunology Meeting, 2024, Niagara Falls, NY

11/18/2024 The role of optical coherence tomography as an imager biomarker of neurodegeneration in MS. Istanbul, Turkey. Educational Even for neurologists from Turkiye and neighboring countries.

10/25/2024 The role of astrocytes in mediating neurodegeneration, Race to Erase MS Annual Symposium, Los Angeles, CA

11/20/2024 Advances in Understanding and Treating Multiple Sclerosis: Lessons from 30 years in the field. Keynote speaker (invited by fellows) at the National MS Society Annual Tykeson Fellowship Meeting, Denver, CO.

OTHER PROFESSIONAL ACCOMPLISMENTS

Military Service
1993 – 1996 Public Health Service, Rank: Lieutenant Commander

Awards:
AOA
Jacob Javitz Neuroscience Scholar, NINDS, 2013
Stephen Reingold Award, NMSS, 2013
Barancik Award for Innovation in MS Research, 2015
American Association of Physicians, 2017
Raymond D. Adams Lecture Award, 2020
Consortium of MS Centers, Giant in MS Research Award, 2022
Snyder-Granader Professorship in Multiple Sclerosis, 2024

EXTRAMURAL FUNDING

Current
12/01/2020-11/30/2025 **Mechanism by which effector T cells modulate endogenous remyelination**
R01NS041435-20
National Institute of Neurological Disorders
$2,498,005
Principal Investigator: Peter Calabresi, 15% Effort

7/1/2024-6/30/2029 **Imaging Neurodegeneration in MS**

Project # PA-20-185
National Institutes of Health
$4,083,391
Co-Principal Investigators: Peter Calabresi/Shiv Saidha 15% Effort (each)

1/1/2020-12/31/2024 **Neurofilament light (NfL) chain as a biomarker in multiple sclerosis**
1U01NS111678-01A1
National Institute of Neurological Disorders
$6,362,831
Principal Investigator: Peter Calabresi. 7.5% Effort

11/01/2020-06/30/2025 **Next Generation Biomarkers for Progressive MS**
ML42189
Genentech
$5,273,242
Principal Investigators: Peter Calabresi, 2% Effort

8/15/2022-8/14/2025 **PAAN/MIF Nuclease Inhibition for Neuroprotection in Multiple Sclerosis**
W81XWH2210819
DOD/USAMRAA
$980,943
Principal Investigator: Peter Calabresi. 10% Effort

6/1/2020-11/30/2024 **Validation of Serum Neurofilament Light Chain as Biomarker in MS Subtypes and Controls**
NMSS 1904-33800
National Multiple Sclerosis Society
$840,245
Principal Investigator: Peter Calabresi. 7.5% Effort

7/1/2020-6/30/2024 **Central Vein Sign: A Diagnostic Biomarker in Multiple Sclerosis**
Cleveland Clinic Foundation
NIH Prime Sponsor 1U01NS116776
$110,525
Principal Investigator: Daniel Ontaneda, 5% Effort

9/15/2020-9/14/2024 **Deep Learning Methods for Harmonization of Heterogeneous MS Imaging Data**
MS 190131
CDMRP
$779,775
Principal Investigator: Jerry Prince. 2% Effort

3/01/2021-2/28/2025 **OCT and OCTA image processing for retinal assessment of people with MS**
1R01EY032284
NIH
$1,790,957
Principal Investigator: Jerry Prince. 2% Effort

7/1/2022-6/30/2027 **Statistical Methods for Multilevel Multivariate Functional Studies**
2R01NS060910-14A1
National Institute of Neurological Disorders

$2,917,270
Principal Investigator Crainiceanu. 5% effort

10/1/2022-9/30/2024 **New therapeutic opportunities for demyelinating disorders: targeting mechanisms of axonal degeneration**
Sol Goldman MS Research Program (Johns Hopkins University)
$200,00
Principal Investigator Koliatsos. 4% effort

3/1/2023-2/28/2028 **Role of CD8 T-cells in Globoid Cell Leukodystrophy Pathology and Treatment**
R01NS131327-01
NIH
$519,051
Principal Investigator Crocker. 5% effort

6/15/2023-6/14/2026 **Early, intermediate and late retinal biomarkers for assessing neuroprotection following acute optic neuritis; insight and exploration of the RENEW, opicinumab in AON phase 2 clinical trial**
HT9425-23-1-0551DOD
$999,741
Principal Investigator Saidha. 3% effort

Pending

7/1/2024-6/30/2029 **Resolution Enhancement and Contrast Harmonization for MR Neuroimaging**
National Institutes of Health
$2,993,875
Principal Investigator: Prince. 1% Effort

Previous

1998-1999 **Researcher, Pilot project: Chemokine receptor expression on MBP reactive T cells.**
National MS Society

7/1/2000 - 6/30/2013 **Potassium Channel Expression on Myelin Effector T Cells**
3RO1-NS41435,
NINDS, NIH
$1,250,000
The major goals of this project are to explore the expression and function of Kv1.3 on myelin reactive T cells. 25 % effort

4/2001- 3/2002 **Researcher, Chemokine receptor expression on Glatiramer Acetate reactive T cells.**
Teva Pharmaceuticals

5/2001/07- 4/30/2010 **Human Embryonic Stem Cell-Derived Neurospheres for Treatment of Multiple Sclerosis**
MD Stem cell Fund
Principal Investigator: Bulte, Calabresi

Human ES-derived neurospheres are being used to ameliorate the neurological disease score in mice with EAE and lipopolysaccharide induced inflammation and demyelination, with MR monitoring. 5% effort

11/1/2001 - 10/31/2004 **Gene modification of dendritic cells with FAS-L as an immunotherapy for multiple sclerosis**
Wadsworth Foundation
$300,000

1/10/2002- 9/30/2004 **Potassium Channels in T Lymphocytes: Novel Targets for Type-1 Diabetes.**
5-2002-530
Juvenile Diabetes Research Foundation
$ 25,000
Principal Investigator: Dr. Chandy
Subcontract: Peter Calabresi

4/1/2002 - 3/31/2005 **Lymphocyte ion channels: novel targets for multiple sclerosis**
National MS Society
$20,000
Principal Investigator: Dr. Chandy
Subcontract: Peter Calabresi
This grant investigates the role of lymphocyte K^+ channel blockers in EAE.

7/1/2003-4/15/2004 **Immunotherapy for MS Using Fas-L Expressing Dendritic Cells to Specifically Kill Myelin Reactive T Cells**
Wadsworth Foundation
$227,853
Principal Investigator: Peter Calabresi
No Salary Support Requested

7/1/2003- 3/30/2008 **Atorvastation Therapy in Early Multiple Sclerosis**
NIAID, NINDS
Principal Investigator: Dr. Zamvil
Subcontract: Peter Calabresi. 1% effort

7/1/2003-8/31/2009 **Atorvastatin Therapy in Early Multiple Sclerosis**
3377SC
University of California San Francisco
National Institute of Allergy and Infectious Diseases (Prime Sponsor)
$202,704
Principal Investigator: Dr. Jeffrey A. Bluestone
Project Role: Subsite Principal Investigator Peter Calabresi. 10% Effort

9/30/2003-8/31/2007 **Potassium Channel Expression on Myelin Effector T Cells**
R01NS041435
National Institute of Neurological Disorders
$661,093
Principal Investigator: Peter Calabresi. 25% Effort

2/21/2004-8/20/2004 **Pathogenesis of Rare Neuroimmunologic Disorders**
National Institute of Neurological Disorders
$25,000
Principal Investigator: Dr. Douglas Kerr
Project Role: Co-Investigator Peter Calabresi. 1% Effort

2/23/2004-2/22/2006 **A Multi-Center, Randomized, Blinded, Parallel-Group Study of Avonex Compared With Avonex in Combin.With Oral Mexotrexate IV Methylprednisolone, Or Both**
C-865
Biogen Research Corp
$97,388
Principal Investigator: Peter Calabresi. 1% Effort

4/1/2004-3/31/2005 **Lymphocyte Ion Channels: Novel Targets for Multiple Sclerosis**
University of California Irvine
$10,000
Principal Investigator: Peter Calabresi
No Salary Support Requested

4/1/2004- 3/31/2009 **Collaborative Research Center Grant: Mechanisms of Neurodegeneration in MS**
CA 1029-A-2
National MS Society
$ 750,000
The major goals of this grant are to foster collaboration between an established MS investigator and at least two non-MS established investigators who are doing work that could be potentially relevant to MS. In this grant collaborations will be established with Dr. Jack Griffin to explore the effects of demyelination of peripheral nerves on axon degeneration, and with Dr. Avi Nath to utilize models of HIV neurotoxicity to study the cytotoxic mechanisms of T cells on neuronal cultures.
Principal Investigator: Peter Calabresi. 10% Effort

9/16/2004-12/31/2009 **A Phase Ii/Iii Randomized, Double Blind, Parallel-Group, Placebo-Controlled, Multicenter Study to Evaluate the Safety and Efficacy of Rituximab**
U2786G
Genentech Corporation
$295,042
Principal Investigator: Peter Calabresi
No Salary Support Requested

1/15/2005-12/31/2008 **K-channels in lymphocyte function and autoimmunity**
RO-1 NS049252
NINDS, NIH
$1,000,000
Principal Investigator: Dr. Chandy
Subcontract: Peter Calabresi
This subcontract is for Dr. Calabresi's lab to provide clinical blood samples to Dr. Chandy from MS patients before and while on immunomodulating therapies. 5% effort

1/15/2005-12/31/2008 **LYMPHOCYTE K+ CHANNELS IN AUTOIMMUNE DISEASE**
2005-1520
University of California Irvine
National Institute of Neurological Disorders (Prime Sponsor)
$134,449
Principal Investigator: Dr. K. George Chandy
Project Role: Subsite Principal Investigator Peter Calabresi.

No Salary Support Requested

2/9/2005- 2/8/2006 **Safety and efficacy of Rituximab in adults with relapsing-remitting multiple**
U3264G
Genentech
$305,923
A phase I, open-label, multicenter study to evaluate the safety and efficacy of Rituximab in adults with relapsing-remitting multiple sclerosis

10/1/2005-1/31/2011 **Mechanisms of Neurodegeneration and Strategies for Neuroprotection in Multiple Sclerosis**
TR 3760-A-3
National Multiple Sclerosis Society
$4,757,003
Principal Investigator: Peter Calabresi.
There are 5 major goals of this grant; 1) to examine the mechanisms of neuroprotection mediated by MAG in vitro and in vivo; 2) to examine neurodegeneration in EAE, 3) to examine mechanisms of neuronal toxicity mediated by T cells in vitro; 4) to support development of MRI and 5) OCT as outcome measures for pilot neuroprotective clinical trials in MS. (Partial overlap with CA 1029-A-2 was subtracted from full award). 40% Effort

2/15/2006-6/30/2008 **Development of Biomarkers for Diagnosis of Multiple Sclerosis**
272-2422
Montel Williams Foundation
$40,000
Principal Investigator: Dr. Avindra Nath
Project Role: Co-Investigator Peter Calabresi. 1% Effort

9/30/2006-5/31/2011 **Neuropathogenesis of Immune Reconstitution Syndrome with HIV Infection**
R01NS056884
National Institute of Neurological Disorders
$1,066,250
Principal Investigator: Dr. Avindra Nath
Project Role: Co-Investigator. Dr. Calabresi is providing activated T cells for coculture with Neurons, and flow cytometry services. 5% Effort

10/25/2006-6/30/2010 **Positron Emission Tomography (PET) to detect PK11195 and Macrophage/Microglia Activation in MS and EAE (Human Study)**
272-2250
Teva Neuroscience Inc.
$95,000
Principal Investigator: Peter Calabresi. 5% Effort

12/1/2006-3/31/2010 **Myelin Repair in Lysolecithin and EAE Spinal Myelitis Demyelination Models**
Biogen Research Corporation
$57,851
Principal Investigator: Peter Calabresi. 5% Effort

3/13/2007-7/31/2010 **Positron Emission Tomography (PET) to detect PK11195 and Macrophage/Microglia Activation in MS and EAE (Animal Study)**
Teva Neuroscience Inc.

$95,000
Principal Investigator: Peter Calabresi. 1% Effort

7/2007- 6/2008 **Biogen anti-LINGO Project**
$ 60,000
Study of remyelination potential of anti-LINGO antibodies in focal myelitis model

8/1/2007-9/30/2011 **Relationship between retinal nerve fiber layer thickness as measured by optical coherence tomography (OCT) and brain atrophy in patients with MS**
REIBF Study
EMD Serono Inc.
$275,278
Principal Investigator: Peter Calabresi. 1% Effort

10/1/2007-9/30/2012 **Human Embryonic Stem Cell-Derived Neurospheres for Treatment of Multiple Sclerosis**
ESC07-06-29-01
Technology Development Corporation
$1,038,871
Principal Investigator: Dr. Jeff Bulte
Project Role: Co-Investigator Peter Calabresi. 5% Effort

12/2007-11/2009 **Serono MR Imaging Study**
$ 346,850
Longitudinal study of OCT and Brain atrophy in MS

12/1/2007-11/30/2009 **The Role of anti-LINGO in Enhancing Remyelination in Multiple Sclerosis**
The Kenneth and Claudia Silverman Family Foundation
$500,000
Principal Investigator: Peter Calabresi. 5% Effort

7/1/2008-5/31/2013 **The role of Kv1.3 in effector T cells**
R01NS041435
National Institute of Neurological Disorders
$1,345,746
Principal Investigator: Peter Calabresi. 25% Effort

7/1/2008-6/30/2010 **A Study to Investigate the Immunological Effects of Natalizumab (Tysabri) in Patients with Relapsing Remitting Multiple Sclerosis**
Biogen Idec
$78,567
Principal Investigator: Peter Calabresi. 1% Effort

7/1/2008-12/31/2010 **The Impact of Vitamin D Replacement on Immunologic Markers in Multiple Sclerosis**
The Montel Williams MS Foundation
$40,000
Principal Investigator: Peter Calabresi. 1% Effort

7/1/2008-12/31/2010 **Clinical Fellowship Education Program**
Teva Neuroscience Inc.
$62,500

Principal Investigator: Peter Calabresi
No Salary Support Requested

9/1/2008-12/31/2011 **Phase II, multicenter, randomized, parallel-group, partially blinded, placebo and Avonex controlled dose finding study**
ACT4422g
Genentech Corporation
$131,105

10/1/2008-11/30/2009 **Clinical Services Agreement between The Johns Hopkins University and National Multiple Sclerosis Society-Maryland Chapter**
National Multiple Sclerosis Society
$54,545
Principal Investigator: Peter Calabresi. 1% Effort

11/5/2008-6/30/2009 **Agreement to provide educational preceptorships**
Vox Medica Incorporated
$10,000
Principal Investigator: Peter Calabresi. 1% Effort

1/5/2009-1/4/2010 **A Randomized, Double Blind, Placebo Controlled, Multicenter Study of the Effects of Glatiramer Acetate (GA) on the Retinal Nerve Fiber Layer**
Teva Neuroscience Inc.
$81,190
Principal Investigator: Peter Calabresi. 1% Effort

6/1/2009-5/31/2010 **Assessment of Pharmacological Effects of New Kv1.3 Channel Blockers on Human Effector Memory T Cells(TEM)**
EMD Serono Inc.
$47,663
Principal Investigator: Peter Calabresi. 5% Effort

9/30/2009-8/31/2012 **A Combination Trial of Copaxone plus Estriol in Relapsing-Remitting MS**
1580 G MD854
Univ. of California Los Angeles
National Institute of Neurological Disorders (Prime Sponsor)
$20,400
Principal Investigator: Dr. Rhonda Voskuhl
Project Role: Sub-site Principal Investigator Peter Calabresi. 20% Effort

11/30/2009-11/29/2012 **7-tesla MRI correlates of cognitive dysfunction in multiple sclerosis**
Bayer AG Corp
$148,864.93
Principal Investigator: Peter Calabresi. 1% Effort

12/1/2009-11/30/2013 **Stem cell strategies for Neuroprotection and Repair in MS and EAE**
The Kenneth and Claudia Silverman Family Foundation
$600,000
Principal Investigator: Peter Calabresi. 1% Effort

6/1/2010-9/30/2012 **Novel Clinical and Ocular Imaging Outcomes with Long-Term Follow-Up in MS**
552468

University of Pennsylvania
National Multiple Sclerosis Society (Prime Sponsor)
$254,069
Principal Investigator: Dr. Laura Balcer
Project Role: Sub-site Principal Investigator Peter Calabresi. 20% Effort

6/10/2010-5/9/2011 **Leukopheresis Sample Collection**
HHSN271201000448P
National Institute on Drug Abuse
$47,619
Principal Investigator: Peter Calabresi. 1% Effort

6/30/2010-6/29/2012 **Dissecting the Mechanism of Action of Human Mesenchymal Stem Cells in Experimental Autoimmune Encephalomyelitis**
Technology Development Corporation
$200,000
Principal Investigator: Peter Calabresi. 10% Effort

7/1/2010-6/30/2015 **Brain Image Analysis Tools for Quantitative Longitudinal Assessment of MS**
690185
Henry M. Jackson Foundation
$487,962
Principal Investigator: Pierre-Lo Bazin
Project Role: Co-Investigator Peter Calabresi. 3% Effort

10/1/2010-9/30/2013 **Inhibition of FLT3 signal transduction in APCs as an approach to MS therapy.**
RG3910A1/3
National Multiple Sclerosis Society
$476,337
Principal Investigator: Dr. Katharine Whartenby
Project Role: Co-Investigator Peter Calabresi. 10% Effort

11/8/2010-11/7/2012 **ADVANCE – Optical Coherence Tomography in a Study of BIIB017 In Relapsing Multiple Sclerosis**
Biogen Idec
$373,134
Principal Investigator: Peter Calabresi. 5% Effort

12/20/2010-12/19/2012 **RGM Expression in EAE and MS Tissues**
Abbott Products GMBH
$145,349
Principal Investigator: Peter Calabresi. 5% Effort

5/16/2011-9/30/2011 **Characterization of the effect of Vertex proprietary compounds on microglia in animal models and in vitro with human brain cells**
Vertex Pharmaceuticals
$34,421
Principal Investigator: Peter Calabresi. 5% Effort

7/1/2011-6/30/2012 **ECTRIMS Fellows Support Education Grant**
Teva Pharmaceuticals
$6,033.06
Principal Investigator: Peter Calabresi
No Salary Support Requested

9/30/2011-9/29/2014 **Roles for Dysfunctional Sphingolipid Metabolism in Multiple Sclerosis**
W81XWH-11-1-0664
Congressionally-Directed Medical Research
$307,823
Principal Investigator: Dr. Norman Haughey
Project Role: Co-Investigator Peter Calabresi. 1% Effort

10/1/2011-9/30/2012 **A study to determine whether a thyroid hormone analogue, GC-1, can promote tissue protection and repair in the EAE model of MS using the optic nerve as a readout for remyelination and axon protection.**
Race to Erase Multiple Sclerosis Foundation
$75,000
Principal Investigator: Peter Calabresi
No Salary Support Requested

12/1/2011-11/30/2015 **Stem cell strategies for Neuroprotection and Repair in MS and EAE**
The Kenneth and Claudia Silverman Family Foundation
$833,333
Principal Investigator: Peter Calabresi. 1% Effort

2/1/2012-4/30/2012 **Characterization of the role of microglia in neuronal damage in MS-relevant cellular assays and in animal models**
Vertex Pharmaceuticals Inc.
$54,543
Principal Investigator: Peter Calabresi. No Effort Requested

4/1/2012-3/31/2013 **The Effects of Vitamin D on the Blood-Brain Barrier Endothelium during CNS Inflammation**
American Medical Association
$2,500
Principal Investigator: Peter Calabresi
No salary support requested

6/1/2012-5/31/2013 **Animal models for studies of progressive MS**
Biogen Idec.
$145,349
Principal Investigator: Dr. Dwight Bergles
Project Role: Co-Investigator Peter Calabresi. 5% Effort

7/1/2012-6/30/2013 **Genetic Markers of Multiple Sclerosis Neurodegeneration as Measured by Optical Coherence Tomography (GEN-OCT Study)**
Race to Erase Multiple Sclerosis Foundation
$75,000
Principal Investigator: Peter Calabresi. No Effort Requested

9/30/2012-8/31/2014 **Selective Modulation of Thyroid Hormone Receptors to Promote Remyelination**
R21NS081418
National Institute of Neurological Disorders
$270,625
Principal Investigator: Peter Calabresi. 10% Effort

7/1/2013-6/30/2015 **Segmentation and volumetric quantification of thalamic nuclei for assessing MS**
R21NS082891
National Institute of Neurological Disorders
$273,500
Principal Investigator: Dr. Jerry Prince
Project Role: Co-Investigator Peter Calabresi. 8% Effort

10/1/2013-9/30/2014 **Animal models for studies of progressive MS**
Biogen Idec.
$145,349
Principal Investigator: Dr. Dwight Bergles
Project Role: Co-Investigator Peter Calabresi. 5% Effort

5/21/2012-4/30/2016 **A 3-year, multi-center study to evaluate optical coherence tomography as an outcome measure in patients with multiple sclerosis**
FTY720D2319
Novartis Pharmaceuticals
$1,094,189
Principal Investigator: Peter Calabresi. 1% Effort

7/1/2012-6/30/2017 **Factors Regulating Oligodendrogliogenesis and Myelination in Multiple Sclerosis and Animal Models**
CA 1064-A-4
National Multiple Sclerosis Society
$743,250
Principal Investigator: Peter Calabresi. 1% Effort

11/1/2012-10/31/2016 **Mechanisms of retinal neurodegeneration and visual pathway axonal loss in Multiple Sclerosis**
13-A0-00-001013-01
New York University
National Multiple Sclerosis Society (Prime Sponsor)
$159,492
Prime award principal investigator: Dr. Laura Balcer
Project Role: Subsite principal investigator. 5% Effort

4/1/2013-3/31/2018 **Imaging Neurodegeneration in Multiple Sclerosis**
R01NS082347
National Institute of Neurological Disorders
$1,251,112
Principal Investigator: Peter Calabresi. 13% Effort

9/30/2013-8/31/2017 **Mechanisms by which Effector T Cells modulate Endogenous Remyelination**
R37NS041435
National Institute of Neurological Disorders
$997,500
Principal Investigator: Peter Calabresi. 16% Effort

12/15/2013-12/14/2016 **Oligodendroglin Biology and Dysfunction—Targets for Therapy in Progressive Multiple Sclerosis and Neurodegeneration**
Medimmune LLC
$604,200

Principal Investigator: Peter Calabresi. 1% Effort

3/27/2014-6/30/2016 **Novel mechanisms of action of Tecfidera involving the tricarboxylic acid cycle and immune deviation**
US-BGT-13-10464
Biogen
$221,096
Principal Investigator: Peter Calabresi. 1% Effort

4/1/2014-3/31/2016 **Quantitative Spinal Cord MRI as a Predictive Tool for Disease Progression in Multiple Sclerosis Patients**
RG 5093-A-5
National Multiple Sclerosis Society
$187,448
Principal Investigator: Peter Calabresi. 5% Effort

4/1/2014-3/31/2017 **Immunomodulation and Remyelination by Transplanted Stem Cells and Progenitors: A Two-Prong Approach**
RG 4994A3/1
National Multiple Sclerosis Society
$619,685
Principal Investigator: Dr. Jeff Bulte
Project Role: Co-Investigator Peter Calabresi. 5% Effort

7/1/2014-6/30/2016 **Pilot Project: Developing a standardized multiple sclerosis imaging protocol across multiple centers in North America**
Race to Erase Multiple Sclerosis Foundation
$8,000
Principal Investigator: Peter Calabresi. 1% Effort

8/1/2014-7/31/2016 **A phase 1 open-label trial of intrathecal rituximab for progressive multiple sclerosis patients with magnetic resonance imaging evidence of leptomeningeal enhancement**
Race to Erase Multiple Sclerosis Foundation
$74,880
Principal Investigator: Peter Calabresi. 1% Effort

8/1/2014-7/31/2016 **A phase 1 open-label trial of intrathecal rituximab for progressive multiple sclerosis patients with magnetic resonance imaging evidence of leptomeningeal enhancement**
PA 0125
Multiple Sclerosis Society
$92,715.71
Principal Investigator: Peter Calabresi. 1% Effort

8/1/2014-7/31/2016 **Oligodendroglial MCT1 and metabolic support of axons in multiple sclerosis**
W81XWH-14-1-0524
Congressionally-Directed Medical Research
$400,000
Principal Investigator: Dr. Jeffrey Rothstein
Project Role: Co-Investigator Peter Calabresi. 5% Effort

8/1/2014-6/30/2018 **3D segmentation and registration of macular SD-OCT for application in MS**
R01EY024655
National Eye Institute

$995,000
Principal Investigator: Dr. Jerry Prince
Project Role: Co-Investigator Peter Calabresi. 8% Effort

1/1/2015-12/31/2018 **Lipid Biomarkers for Progressive Multiple Sclerosis**
Conrad Hilton Foundation
$782,608
Principal Investigator: Peter Calabresi. 8% Effort

7/1/2015-6/30/2016 **Mechanisms underlying leptomeningeal inflammation and cortical pathology in murine experimental autoimmune encephalomyelitis (EAE) and the impact of treatment with intrathecal anti-CD20 therapy**
Race to Erase Multiple Sclerosis Foundation
$75,000
Principal Investigator: Peter Calabresi. 1% Effort

10/1/2017-8/30/2019 **The Eye as a Window into Pathobiological Underpinnings of Multiple Sclerosis**
UTSW Medical Center
Mr. and Mrs. Thomas J Walter (Prime)
$75,000
Co-Investigator: Peter Calabresi. 4% Effort

7/1/2018-6/30/2019 **Transcriptomic and Functional Profiling of Human iPSC Derived Oligodendrocyte Precursor Cells**
Race to Erase MS
$75,000
Principal Investigator: Peter Calabresi. 1 % Effort

7/1/2018-6/30/2019 **Central Vein in Multiple Sclerosis Pilot Study (CAVS-MS)**
Cleveland Clinic Foundation
$12,500
Subsite Investigator: Peter Calabresi. 1% Effort

7/1/2015-6/30/2020 **National Multiple Sclerosis Society Clinical MS Fellowship Training Program at Johns Hopkins**
ICT0011-A-7
National Multiple Sclerosis Society
$112,172
Principal Investigator: Peter Calabresi. 1% Effort

10/1/2018-5/03/2020 **Assessment of relationship of serum neurofilament light (NfL) with radiological disease activity and rates of retinal and brain substructure atrophy in Multiple Sclerosis patients**
US-MSG-18-11312
Biogen Idec
$55,492
Principal Investigator: Peter Calabresi. 1% Effort

1/25/2017-6/30/2020 **Examining the effects of C1q inhibition in animal models of optic neuritis**

90073047
Annexon Biosciences
$47,501
Principal Investigator: Peter Calabresi. 1% Effort

5/1/2018-10/31/2019 **MTR and DTI MRI in multiple sclerosis T2 lesions**
90080386
Biogen
$40,000
Principal Investigator: Peter Calabresi. 1% Effort

7/1/2019-6/30/2020 **Targeting Neurotoxic Glia to Promote Neuroprotection**
Race to Erase MS
$75,000
Principal Investigator: Peter Calabresi. No Effort

9/30/2013-8/31/2020 **Mechanisms by which Effector T Cells modulate Endogenous Remyelination**
R37NS041435
National Institute of Neurological Disorders
$275,000
Principal Investigator: Peter Calabresi. 20% Effort

10/1/2018-3/31/2020 **Transcriptional and Functional Profiling of iPSC derived A1 Astrocytes in people with MS**
2018-MSCRFD-4317
Maryland Technology Development Corporation
$300,000
Principal Investigator: Peter Calabresi. 10% Effort

6/1/2017-2/28/2022 **Statistical Methods for Multilevel Multivariate Functional Studies**
R01NS060910
National Institute of Neurological Disorders
$520,981
Principal Investigator: C. Crainiceanu. 7% Effort

8/1/2019-7/31/2022 **Targeting Neurotoxic Glia to Promote Myelin Repair and Neuroprotection**
DOD/USAMRAA
$592,794
Principal Investigator: Peter Calabresi. 10% Effort

1/28/2022-1/27/2023 **Macrophage migration inhibitory factor (MIF) as a biomarker of neuronal and oligodendrocyte death and disease severity in multiple sclerosis (MS) – SRA**
22054271
Myelin Repair Foundation
$60,619
Principal Investigator: Peter Calabresi. 0% Effort Allowed

4/1/2020-3/31/2023 **Mechanisms of complement component 3 mediated neurodegeneration in MS and EAE**

NMSS 1907-34756
National Multiple Sclerosis Society
$694,510

9/15/2020-8/31/2023 **Segmenting the subarachnoid space and dura from clinical MRI**
R21NS120286
National Institute of Neurological Disorders
$453,891
Principal Investigator: Jerry Prince. 1% Effort

1/28/2022-1/27/2023 **Macrophage migration inhibitory factor (MIF) as a biomarker of neuronal and oligodendrocyte death and disease severity in multiple sclerosis (MS) – SRA**
22054271
Myelin Repair Foundation
$60,619
Principal Investigator: Peter Calabresi. 0% Effort Allowed