

## ABBREVIATED CURRICULUM VITAE

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Place of Birth: Los Sarmientos, Tucuman, Argentina  
Citizenship: United States

Marital Status: Married to Dr. Haydee E. Pascual;  
Children: Patricia Bazan Garrubbo, JD, Andrea Bazan, MHA, MSW, Nicolas Bazan, III, Hernan Bazan, MD, Maria Bazan.

### Education:

1958 Bachiller Colegio Belgrano, Salta, Argentina  
1965 M.D. Medical School, U. Tucuman (Facultad de Medicina, Universidad, Nacional de Tucuman, Argentina)  
1970 D. Med. Sci. Medical School, U. Tucuman, Argentina  
(Ph.D. equivalent) (Thesis research conducted during 1966-68 at Harvard Medical School, Boston, MA)

### Research Fellowships:

1960 - 1965 Departments of Pathology, Pharmacology and Anatomy, Faculty of Medicine, University of Tucuman, Argentina  
1962 Fellowship in Institute of Altitude Biology Jujuy, Univ. Tucuman, Argentina  
1963 Teaching Assistant, Dept. of Biology, Embryology & Genetics, Faculty of Medicine University of Tucuman, Argentina  
1963 - 1965 Institute of Biology, Faculty of Biochemistry, U. Tucuman  
1964 Instituto de Investigaciones Bioquimicas, Fundacion Campomar, Buenos Aires, Argentina  
1964 Winter International Courses on New Aspects in Biology and "Basis of the Modern Genetics," University of Buenos Aires, Argentina

### Postdoctoral Research Training:

1965 - 1966 Postdoctoral Research Fellow, Department of Physical Medicine and Rehabilitation, College of Physicians and Surgeons, Columbia University, New York, NY  
1966 - 1968 Postdoctoral Research Fellow, Massachusetts Mental Health Center, Department of Biological Chemistry, Harvard University Medical School, Boston, MA

Current Appointments (select):

1981 -	Professor of Ophthalmology, Biochemistry and Molecular Biology and Neurology, LSU Medical Center School of Medicine, New Orleans, LA
1984 -	the inaugural Ernest C. and Yvette C. Villere Chair for Research in Retinal Degeneration, New Orleans, LA
1986-	Editor-in-Chief, Molecular Neurobiology (Springer)
1988 -	Director (Founder), Neuroscience Center of Excellence, LSU Medical Center School of Medicine, New Orleans, LA
1994 -	Boyd Professor, LSU Medical Center, New Orleans, LA
2006 - 2010	Chairperson, Executive Research Council, Translational Research Initiative, Louisiana State University Health Sciences Center, New Orleans
2009 -	Senate Member, Deutsches Zentrum für Neurodegenerative Erkrankungen (DZNE) in der Helmholtz-Gemeinschaft, nation-wide research program (Germany)
2010 - 2015	Member, Biology of the Visual System, NIH.
2010 -	Chairman, Board of Governors, Association for Research in Vision and Ophthalmology Foundation

Academic Appointments:

1968 - 1970	Assistant Professor, Department Biochemistry, Faculty of Medicine, University of Toronto, Canada Assistant Director, Department Neurochemistry, Clarke Institute of Psychiatry, Toronto, Canada
1970 - 1971	Consejo Superior (Deans Council), University of the South, Bahia Blanca, Argentina
1970 - 1973	Director (Founder), Department of Biology, University of the South, Bahia Blanca, Argentina
1970 - 1981	Professor and Chair of Biological Chemistry, University of the South, Bahia Blanca, Argentina
1970 - 1981	Director (Founder), Institute of Biochemical Investigations, Universidad Nacional del Sur-Consejo Nacional de Investigaciones Cientificas y Tecnicas, Bahia Blanca, Argentina
1977	Visiting Professor, Department Ophthalmology, Baylor College of Medicine, Houston, TX

Honors and Awards:

Argentine Association for the Advancement of the Sciences, Goytia Prizes	1968, 1970
Award best medicine thesis Univ. Tucuman, Argentina	1971-72
Ten Outstanding Young Persons of Argentina, Junior Chamber Buenos Aires	1976
Research to Prevent Blindness, Incorporated, NY	
International Research Scholar and	1977
William & Mary Greve International Scholar	1983-84
Elected to Council ISN	1979-83
Elected to Council ASN	1988-90
Gold Medal, Fondazione Giovanni Lorenzini, Milan, Italy	1981
Honorary Professor, Universidad de Tucuman, Argentina	1987-
Javits Neurosci Award NINDS	1989-1996
Citation Classic, Current Content/ Life Sciences 30:10(July 29)	1991

Elected Member, Academy of Medical Sciences, Cordoba, Argentina	1991-
Merck Lecture in Pharmacology, McGill University, Canada	1992
Elected Member, Royal Academy of Sciences, Spain	1993 & 1996
11th William Harvey Lecture, London	1994
Role Model Awardee, Young Leadership Council of New Orleans	1994
Caputto Gold Medal, Argentine Neurochemical Society	1994
Boyd Professor, Louisiana State University Medical Center	1994
Elected Member, Dana Alliance for Brain Initiative	1995
Welcome Professorship and Lecture (Burroughs Welcome Fund/FASEB) At University of North Carolina	1996
Merit Award, Distinguished Argentine Abroad, National Research Council of Argentina, Presented by the President of Argentina	1996
Annual John Dorsey Lecture, Wayne State University, Detroit, Michigan	1996
Guest of Honor, Inaugural Symposium, Frontiers in Neuroscience, Wallenberg Neuroscience Center, Lund University, Sweden	1996
President elect, President (1999-2001), American Society for Neurochemistry	1997-2001
Distinguished Lecturer in Neuroscience, Oklahoma Neuroscience Center, Oklahoma University Medical Center, Oklahoma City, OK	1997
William H. Bell Lectureship, Oklahoma Medical Research Foundation, Oklahoma City, OK	1997
Robert Schwab Lecturer, 13 <sup>th</sup> Ann. American Academy of Clinical Neurophysiology	1998
Mayerson-Di Luzio Lecture, Tulane University School of Medicine, Dept. Physiology	1998
Loris & David Rich Lecture in Visual Science, University of Alabama, Birmingham, AL	1999
President, American Society for Neurochemistry	1999-2001
Elected Fellow, Medical Society of Ireland, The Royal College of Physicians Of Ireland, Dublin	1999-
Doctor Honoris Causa, Universidad de Nacional de Tucuman, Argentina	1999
Endre A. Balazs Prize, International Society of Eye Research	2000
Neurochemical Research journal issue dedicated to Nicolas Bazan, Vol. 25, No. 5, <a href="http://www.wkap.nl/journalhome.htm/0364-3190">http://www.wkap.nl/journalhome.htm/0364-3190</a>	2000
Citybusiness 2002 Innovator of the Year Award New Orleans, LA	2002
The Alzheimer's Association Greater New Orleans Chapter Award, NOLA	2002
Career Service Awards, 20 years, LSUHSC, NOLA	2003
Family Services of Greater New Orleans (Ten Outstanding Persons) Award	2003
First Leon S. Wolfe Lecture, Montreal Neurological Institute, Montreal, Canada	2003
Association for Research in Vision and Ophthalmology, /Proctor Medal and Lecture (highest honor of this Association)	2007
Advances in Experimental Medicine and Biology, Vol. 613, Recent Advances in Retinal Degeneration book dedicated to Nicolas Bazan, <a href="http://www.springer.com/medicine/ophthalmology/book/978-0-387-74902-0">http://www.springer.com/medicine/ophthalmology/book/978-0-387-74902-0</a>	2008
Association for Research in Vision and Ophthalmology Silver Fellow	2009
Association for Research in Vision and Ophthalmology Gold Fellow	2011
Chevreur Medal, Paris, France	2011
Alkmeon International Prize	2011
Keynote Speaker and Excellence Award, Annual European Association for Vision and Eye Research (EVER) Meeting, Nice, France	2013
Distinguished Speaker, Pioneers in Neuroscience Lecture Series, University of Buffalo The State of University of New York, Buffalo, NY	2013

Medal Professor Mirosław M. Mossakowski, Polish Academy of Sciences  
Warsaw, Poland

2013

Editorial Boards:

Journal of Neurochemistry	1981-1989
Neurochemical Pathology	1983-1988
Journal of Lipid Mediators	1988-1993
Neurochemical Research	1986-1993
Molecular & Chemical Neuropathology	1988-1998
Journal of Cerebral Blood Flow and Metabolism	1988-1996
Journal of Neuroscience Research	1985-
Molecular Neurobiology (Editor-in-Chief and Founder)	1987-
Journal of Molecular Neuroscience	1989-1990
Journal of Nutritional Biochemistry	1990-2001
Pathophysiology	1994-
Journal of Clinical Neuroscience	1993-1999
Journal of Lipid Mediators & Cell Activation	1994-1997
Receptors and Signal Transduction	1996-1998
Journal of Biological Chemistry	1997-2002
Proc Soc Exp Biol & Med	2000-2004
Neurotoxicity Research	2000-2002
NeuroMolecular Medicine	2002-
Cellular and Molecular Neurobiology	2003-
Current Neurovascular Research	2004-
Recent Patent Reviews on CNS Drug Discovery	2005-
Handbook of Neurochemistry and Molecular Neurobiology, 3 <sup>rd</sup> Edition	
At Large Editor – Nicolas G. Bazan	2005-2009
Cell Death & Differentiation (Nature journal)	2007-
Journal of Neurodegeneration and Regeneration	2008-
Lipids Insights	2008-
Metabolic Brain Disease	2010-
Cell Death & Disease (Nature journal)	2010-

**Selected Publications: (from about 585 publications in referred journals):**

- Rice DS, Calandria JM, Gordon WC, Jun B, Zhou Y, Gelfman CM, Li S, Jin M, Knott EJ, Chang B, Abuin A, Issa T, Potter D, Platt KA, **Bazan NG**. Adiponectin receptor 1 conserves docosahexaenoic acid and promotes photoreceptor cell survival. *Nat Commun*. 2015;6:6228.

- Calandria JM, Sharp MW, **Bazan NG**. The Docosanoid Neuroprotectin D1 Induces TH-Positive Neuronal Survival in a Cellular Model of Parkinson's Disease. *Cell Mol Neurobiol*. 2015; [Epub ahead of print]

- Calandria JM, Asatryan A, Balaszczuk V, Knott EJ, Jun BK, Mukherjee PK, Belayev L, **Bazan NG**. NPD1-mediated stereoselective regulation of BIRC3 expression through cREL is decisive for neural cell survival. *Cell Death Differ*. 2015;22(8):1363-77.

- Musto AE, Walker CP, Petasis NA, **Bazan NG**. Hippocampal neuro-networks and dendritic spine perturbations in epileptogenesis are attenuated by neuroprotectin d1. *PLoS One*. 2015;10(1):e0116543.

- Kanan Y, Gordon WC, Mukherjee PK, **Bazan NG**, Al-Ubaidi MR. Neuroprotectin D1 is synthesized in the cone photoreceptor cell line 661W and elicits protection against light-induced stress. *Cell Mol Neurobiol*. 2015;35(2):197-204.
- Zemski Berry KA, Gordon WC, Murphy RC, **Bazan NG**. Spatial organization of lipids in the human retina and optic nerve by MALDI imaging mass spectrometry. *J Lipid Res*. 2014;55(3):504-15.
- Eady TN, Khoutorova L, Obenaus A, Mohd-Yusof A, **Bazan NG**, Belayev L. Docosahexaenoic acid complexed to albumin provides neuroprotection after experimental stroke in aged rats. *Neurobiol Dis*. 2014;62:1-7.
- Hong SH, Belayev L, Khoutorova L, Obenaus A, **Bazan NG**. Docosahexaenoic acid confers enduring neuroprotection in experimental stroke. *J Neurol Sci*. 2013. pii: S0022-510X(13)03104-3.
- Eady TN, Khoutorova L, Anzola DV, Hong SH, Obenaus A, Mohd-Yusof A, **Bazan NG**, Belayev L. Acute treatment with docosahexaenoic acid complexed to albumin reduces injury after a permanent focal cerebral ischemia in rats. *PLoS One*. 2013;8(10):e77237.
- Sato K, Li S, Gordon WC, He J, Liou GI, Hill JM, Travis GH, **Bazan NG**, Jin M. Receptor interacting protein kinase-mediated necrosis contributes to cone and rod photoreceptor degeneration in the retina lacking interphotoreceptor retinoid-binding protein. *J Neurosci*. 2013;33(44):17458-68.
- Rossi JL, Todd T, **Bazan NG**, Belayev L. Inhibition of Myosin light-chain kinase attenuates cerebral edema after traumatic brain injury in postnatal mice. *J Neurotrauma*. 2013;30(19):1672-9.
- Sheets KG, Jun B, Zhou Y, Zhu M, Petasis NA, Gordon WC, **Bazan NG**. Microglial ramification and redistribution concomitant with the attenuation of choroidal neovascularization by neuroprotectin D1. *Mol Vis*. 2013;19:1747-59.
- Zhao K, Wen R, Wang X, Pei L, Yang Y, Shang Y, **Bazan N**, Zhu LQ, Tian Q, Lu Y. EPAC inhibition of SUR1 receptor increases glutamate release and seizure vulnerability. *J Neurosci*. 2013;33(20):8861-5.
- Li S, Yang Z, Hu J, Gordon WC, **Bazan NG**, Haas AL, Bok D, Jin M. Secretory defect and cytotoxicity: the potential disease mechanisms for the retinitis pigmentosa (RP)-associated interphotoreceptor retinoid-binding protein (IRBP). *J Biol Chem*. 2013;288(16):11395-406.
- Li S, Lee J, Zhou Y, Gordon WC, Hill JM, **Bazan NG**, Miner JH, Jin M. Fatty acid transport protein 4 (FATP4) prevents light-induced degeneration of cone and rod photoreceptors by inhibiting RPE65 isomerase. *J Neurosci*. 2013;33(7):3178-89.
- Lentz JJ, Jodelka FM, Hinrich AJ, McCaffrey KE, Farris HE, Spalitta MJ, **Bazan NG**, Duelli DM, Rigo F, Hastings ML. Rescue of hearing and vestibular function by antisense oligonucleotides in a mouse model of human deafness. *Nat Med*. 2013;19(3):345-50.
- Williams JJ, Mayurasakorn K, Vannucci SJ, Mastropietro C, **Bazan NG**, Ten VS, Deckelbaum RJ. n-3 Fatty Acid Rich Triglyceride Emulsions Are Neuroprotective After Cerebral Hypoxic-Ischemic Injury in Neonatal Mice. *PLoS One* 2013; 8(2):e56233.
- Eady TN, Belayev L, Khoutorova L, Atkins KD, Zhang C, **Bazan NG**. Docosahexaenoic Acid Signaling

Modulates Cell Survival in Experimental Ischemic Stroke Penumbra and Initiates Long-Term Repair in Young and Aged Rats. *PLoS One*. 2012;7(10):e46151.

- Brenna T, **Bazan N**, Calder P, Cunnane S. Docosahexaenoic acid in translational medicine: The Tenth Fatty Acids and Cell Signaling meeting (FACS-10). *Prostaglandins Leukot Essent Fatty Acids*. (2012) in press.

- **Bazan NG**. The docosanoid neuroprotectin D1 induces homeostatic regulation of neuroinflammation and cell survival. *Prostaglandins Leukot Essent Fatty Acids* (2012) in press.

- Eady TN, Khoutorova L, Atkins KD, **Bazan NG**, Belayev L. Docosahexaenoic acid complexed to human albumin in experimental stroke: neuroprotective efficacy with a wide therapeutic window. *Exp Transl Stroke Med*. 2012;4(1):19.

- Belayev L, Eady TN, Khoutorova L, Atkins KD, Obenaus A, Cordoba M, Vaquero JJ, Alvarez-Builla J, **Bazan NG**. Superior Neuroprotective Efficacy of LAU-0901, a Novel Platelet-Activating Factor Antagonist, in Experimental Stroke. *Transl Stroke Res*. 2012;3(1):154-163.

- Petasis NA, Yang R, Winkler JW, Zhu M, Uddin J, **Bazan NG**, Serhan CN: Stereocontrolled total synthesis of neuroprotectin D1/protectin D1 and its aspirin-triggered stereoisomer. *Tetrahedron Letters* 53:1695-1696, 2012.

- **Bazan NG**, Eady TN, Khoutorova L, Atkins KD, Hong S, Lu Y, Zhang C, Jun B, Obenaus A, Fredman G, Zhu M, Winkler JW, Petasis NA, Serhan CN, Belayev L: Novel aspirin-triggered neuroprotectin D1 attenuates cerebral ischemic injury after experimental stroke. *Exp Neurol* 2012;236(1):122-30.

- Calandria J, Mukherjee PK, de Rivero Vaccari JC, Zhu M, Petasis NA, **Bazan NG**: Ataxin-1 poly-Q-induced proteotoxic stress and apoptosis are attenuated in neural cells by docosahexaenoic acid-derived neuroprotectin D1. *J Biol Chem* 2012;287(28):23726-39.

- **Bazan NG**, Molina MF, Gordon WC. Docosahexaenoic acid signalolipidomics in nutrition: significance in aging, neuroinflammation, macular degeneration, Alzheimer's, and other neurodegenerative diseases. *Annu Rev Nutr*. 2011;31:321-51.

- Musto AE, Gjørstrup P, **Bazan NG**: The omega-3 fatty acid-derived neuroprotectin D1 limits hippocampal hyperexcitability and seizure susceptibility in kindling epileptogenesis. *Epilepsia* 2011;52(9):1601-8.

- **Bazan NG**, Molina MF, Gordon WC: Docosahexaenoic acid signalolipidomics in nutrition: Significance in aging, neuroinflammation, macular degeneration, Alzheimer's and other neurodegenerative diseases. *Annu Rev of Nutrition* 31:321-51, 2011.

- Zhou Y, Sheets KG, Knott EJ, Regan CE Jr, Tuo J, Chan CC, Gordon WC, **Bazan NG**: Cellular and 3D optical coherence tomography assessment during the initiation and progression of retinal degeneration in the Ccl2/Cx3cr1-deficient mouse. *Exp. Eye Res*. 93(5):636-48, 2011.

- Serhan CN, Fredman G, Yang R, Karamnov S, Belayev LS, **Bazan NG**, Zhu M, Winkler JW, Petasis NA: Novel proresolving aspirin-triggered DHA pathway. *Chem Biol* 18(8):976-87, 2011.

- Stark DT, **Bazan NG**: Synaptic and extrasynaptic NMDA receptors differentially modulate neuronal COX-2 function, lipid peroxidation, and neuroprotection. *J Neurosci.* 31(39):13710-21, 2011.
- Halapin NA, **Bazan NG**: NPD1 induction of retinal pigment epithelial cell survival involves PI3K/Akt phosphorylation signaling. *Neurochem. Res.* (2010) 35:1944-1947.
- Zhao Y, Calon F, Julien C, Winkler JW, Petasis NA, Lukiw WJ, **Bazan NG**: Docosahexaenoic acid-derived neuroprotectin D1 induces neuronal survival via secretase- and PPAR $\gamma$ -mediated mechanisms in Alzheimer's disease models. *PLoS One* (2010) 6:e15816.
- Belayev L, Khoutorova L, Atkins KD, Eady TN, Hong S, Lu Y, Obenaus A, **Bazan NG**: Docosahexaenoic acid therapy of experimental ischemic stroke. *Transl. Stroke Res.* (2010) 2:33-41.
- Knott EJ, Sheets KG, Zhou Y, Gordon WC, **Bazan NG**: Spatial correlation of mouse photoreceptor-RPE thickness between SD-OCT and histology. *Exp. Eye Res.* (2011) 92:155-160.
- Cui JG, **Bazan NG**: Agrin down- or up-regulation mediates neuropathic pain. *J. Neurosci.* (2010) 30:15286-15297.
- He J, **Bazan NG**, Bazan HE: Mapping the entire human corneal nerve architecture. *Exp Eye Res.* (2010) 91:513-523.
- **Bazan NG**, Calandria JM, Serhan CN. Rescue and repair during photoreceptor cell renewal mediated by docosahexaenoic acid-derived neuroprotectin D1. *J Lipid Res.* 2010;51:2018-31.
- Antony R, Lukiw WJ, **Bazan NG**. Neuroprotectin D1 induces dephosphorylation of Bcl-xL in a PP2A-dependent manner during oxidative stress and promotes retinal pigment epithelial cell survival. *J Biol Chem.* 2010;285:18301-8.
- Faghiri Z, **Bazan NG**. PI3K/Akt and mTOR/p70S6K pathways mediate neuroprotectin D1-induced retinal pigment epithelial cell survival during oxidative stress-induced apoptosis. *Exp Eye Res.* 2010; 90:718-725.
- Sheets KG, Zhou Y, Ertel MK, Knott EJ, Regan CE Jr, Elison JR, Gordon WC, Gjorstrup P, **Bazan NG**: Neuroprotectin D1 attenuates laser-induced choroidal neovascularization in mouse. *Mol Vis* 16:320-9, 2010.
- Calandria JM, **Bazan NG**: Neuroprotectin D1 modulates the induction of pro-inflammatory signaling and promotes retinal pigment epithelial cell survival during oxidative stress. *Adv Exp Med Biol* 664:663-70, 2010.
- **Bazan NG**, Calandria JM, Serhan CN. Rescue and repair during photoreceptor cell renewal mediated by docosahexaenoic acid-derived neuroprotectin D1. *J Lipid Res.* 2010;51:2018-31.
- Marcheselli VL, Mukherjee PK, Arita M, Hong S, Antony R, Sheets K, Winkler JW, Petasis N, Serhan CN, **Bazan NG**: Neuroprotectin D1/protectin D1 stereoselective and specific binding with human retinal pigment epithelial cells and neutrophils. *Prostaglandins Leukot Essent Fatty Acids* 82:27-34, 2010.
- **Bazan NG**: Cellular and molecular events mediated by docosahexaenoic acid-derived neuroprotectin D1 signaling in photoreceptor cell survival and brain protection. *Prostaglandin Leukot Essent Fatty Acids* 81(2-3): 2005-11, 2009.

- Belayev L, Khoutorova L, Atkins KD, **Bazan NG**: Robust docosahexaenoic acid-mediated neuroprotection in a rat model of transient focal cerebral ischemia. *Stroke* 40(9):3121-6, 2009.
- Calandria JM, Marcheselli VL, Mukherjee PK, Uddin J, Winkler JW, Petasis NA, **Bazan NG**: Selective survival rescue in 15-lipoxygenase-1 deficient retinal pigment epithelial cells by the novel docosahexaenoic acid-derived mediator, neuroprotectin D1. *J Biol Chem* 284:17877-17882, 2009.
- Niemoller TD, Stark DT, **Bazan NG**: Omega-3 fatty acid docosahexaenoic acid is the precursor of neuroprotectin D1 in the nervous system. In: *Omega-3 Fatty Acids, the Brain and Retina*, AP Simopoulos and NG Bazan (eds.), World Rev Nutr Diet, Basel, Karger, Vol. 99, pps. 46-54, 2009.
- Lukiw WJ, **Bazan NG**: Docosahexaenoic acid and the aging brain. *J Nutr* 138:2510-4, 2008.
- **Bazan NG**: Neuroprotectin D1-mediated anti-inflammatory and survival signaling in stroke, retinal degenerations and Alzheimer's disease. *J Lipid Res* 2008.
- Belayev L, Khoutorova L, Atkins K, Gordon WC, Alvarez-Builla J, **Bazan NG**: LAU-0901, a novel platelet-activating factor antagonist, is highly neuroprotective in cerebral ischemia. *Exp Neurol* 214:253-8, 2008.
- Kuroda H, Kutner RH, **Bazan NG**, Reiser J: A comparative analysis of constitutive and cell-specific promoters in the adult mouse hippocampus using lentivirus vector-mediated gene transfer. *J Gene Med* 10:1163-7, 2008.
- **Bazan NG**: Neurotrophins induce-neuroprotective signaling in the retinal pigment epithelial cell by activating the synthesis of the anti-inflammatory and anti-apoptotic neuroprotectin D1. *Adv Exp Med Biol* 613:39-44, 2008.
- **Bazan NG**: Homeostatic regulation of photoreceptor cell integrity: Significance of the potent mediator neuroprotectin D1 biosynthesized from docosahexaenoic acid. *The Proctor Lecture Invest Ophthalmol Vis Sci*, 48:4866-81, 2007.
- Mukherjee PK, Marcheselli VL, de Rivero Vaccari JC, Gordon WC, Jackson F, **Bazan NG**: Photoreceptor outer segment phagocytosis selectively attenuates oxidative stress-induced apoptosis with concomitant neuroprotectin D1 synthesis. *Proc Natl Acad Sci* 104:13158-13163, 2007.
- Mukherjee PK, Marcheselli VL, Barreiro S, Hu J, Bok D, **Bazan NG**: Neurotrophic enhance retinal pigment epithelial cell survival through neuroprotectin D1 signaling. *Proc Natl Acad Sci* 104: 13152-13157, 2007.
- Esquenazi S, He J, Li N, **Bazan NG**, Esquenazi I, Bazan HE: Comparative in vivo high-resolution confocal microscopy of corneal epithelium, sub-basal nerves and stromal cells in mice with and without dry eye after photorefractive keratectomy. *Clin Experiment Ophthalmol*. 35:545-549, 2007.
- Vaccarino AL, Paul D, Mukherjee PK, Rodriguez de Turco EB, Marcheselli VL, Xu L, Trudell ML, Minguez JM, Matia MP, Sunkel C, Alvarez-Builla J, **Bazan NG**: Synthesis and in vivo evaluation of non-hepatotoxic acetaminophen analogs. *Bioorg Med Chem* 15:2206-2215, 2007.



- Kolko M, Prause JU, **Bazan NG**, Heegaard S: Human secretory phospholipase A(2), group IB in normal eyes and in eye disease. *Acta Ophthalmol Scand.* 85:317-323, 2007.
- Kolko M, Wang J, Zhan C, Pulsen KA, Prause JU, Nissen MH, Heegaard S, **Bazan NG**: Identification of intracellular phospholipase A2 in human eye: Involvement in phagocytosis of photoreceptor outer segments. *Invest Ophthalmol Vis Sci* 48:1401-1409, 2007.
- **Bazan NG**: Omega-3 fatty acids, pro-inflammatory signaling and neuroprotection. *Curr Opin Clin Nutr Metab Care* 10:136-141, 2007.
- **Bazan NG**: Survival signaling in retinal pigment epithelial cells in response to oxidative stress: Significance in retinal degenerations. *Adv Exp Med Biol* 572:531-540, 2006.
- Lukiw WJ, **Bazan NG**: Survival signalling in Alzheimer's disease. *Biochem Soc Trans* 34:1277-1282, 2006.
- Cole-Edwards KK, Musto AE, **Bazan NG**: c-Jun N-terminal kinase activation responses induced by hippocampal kindling are mediated by reactive astrocytes. *J Neurosci* 26:8295-8304, 2006.
- **Bazan NG**: The onset of brain injury and neurodegeneration triggers the synthesis of docosanoid neuroprotective signaling. *Cell Mol Neurobiol* 26:901-913, 2006.
- Malcher-Lopez R, Di S, Marcheselli VL, Weng FJ, Stuart CT, **Bazan NG**, Tasker JG: Opposing crosstalk between, leptin and glucocorticoids rapidly modulates synaptic excitation via endocannabinoid release. *J Neurosci* 26:6643-6650, 2006.
- Esquenazi S, He J, Kim DB, **Bazan NG**, Bui V, Bazan HE: Wound-healing response and refractive regression after conductive keratoplasty. *J Cataract Refract Surg* 32:480-486, 2006.
- **Bazan NG**: Cell survival matters: docosahexaenoic acid signaling, neuroprotection and photoreceptors. *Trends Neurosci* 29:241-294, 2006.
- Lukiw WJ, Mukherjee PK, Cui JG, **Bazan NG**: A2E selectively induces COX-2 in ARPE-19 and human neural cells. *Curr Eye Res* 31:259-263, 2006.
- Kolko M, Christoffersen NR, Barreiro SG, Miller ML, Pizza AJ, **Bazan NG**: Characterization and location of secretory phospholipase A2 groups IIE, V, and X in the rat brain. *J Neurosci Res* 83:874-882, 2006.
- Musto A, **Bazan NG**: Diacylglycerol kinase epsilon modulates rapid kindling epileptogenesis. *Epilepsia* 47:267-276, 2006.
- He J, **Bazan NG**, Bazan HE: Alkali-induced corneal stromal melting prevention by a novel platelet-activating factor receptor antagonist. *Arch Ophthalmol* 124:70-78, 2006.
- Faghiri Z, **Bazan NG**: Selective relocalization and proteasomal downregulation of PKCalpha induced by platelet-activating factor in retinal pigment epithelium. *Invest Ophthalmol Vis Sci* 47:397-404, 2006.
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Commun 340:435-440, 2006.

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- Di S, Boudaba C, Popescu IR, Weng FJ, Harris C, Marcheselli VL, **Bazan NG**, Tasker, JG: Activity-dependent release and actions of endocannabinoids in the rat hypothalamic supraoptic nucleus. *J Physiol* 569:751-760, 2005.
- Esquenazi S, He J, Bazan HE, **Bazan NG**: Use of autologous serum in corneal epithelial defects post-lamellar surgery. *Cornea* 24:992-997, 2005.
- Cole-Edwards KK, **Bazan NG**: Lipid signaling in experimental epilepsy. *Neurochem Res* 30:847-853, 2005. (Review).
- Tian X, **Bazan NG**: Neuroprotection by platelet-activating factor antagonism. *Ann N Y Acad Sci* 1053:455-456, 2005. (Review).
- Kolko M, Christoffersen NR, Varoqui H, **Bazan NG**: Expression and induction of secretory phospholipase A2 group IB in brain. *Cell Mol Neurobiol* 25:1107-1122, 2005.
- **Bazan NG**, Marcheselli VL, Cole-Edwards K: Brain response to injury and neurodegeneration: endogenous neuroprotective signaling. *Ann N Y Acad Sci* 1053:137-147, 2005. (Review).
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- Esquenazi S, Bazan HE, Bui V, He J, Kim DB, **Bazan NG**: Topical combination of NGF and DHA increases rabbit corneal nerve regeneration after photorefractive keratectomy. *Invest Ophthalmol Vis Sci* 46:3121-3127, 2005.
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13. **Bazan NG**, Toffano G, Murphy M: Neurobiology of Essential Fatty Acids. Plenum Press, New York, 1991.
14. **Bazan NG** and U'Prichard D, Editors: Molecular Neurobiology. Humana Press, New Jersey, 1992.
15. **Bazan NG**, Braquet P, Ginsberg M, Editors: Neurochemical Correlates of Cerebral Ischemia. Advances in Neurochemistry, Plenum Press, New York, 1992.
16. **Bazan NG**, Botting J, Vane JR, Editors: New Targets in Inflammation: Inhibitors of COX-2 or Adhesion Molecules, William Harvey Press and Kluwer Academic Publishers, United Kingdom, 1996.
17. **Bazan NG**, Ito U, Marcheselli VL, Kuroiwa T, and Klatzo I, Editors: Maturation Phenomenon in Cerebral Ischemia IV. Springer-Verlag Publishers, Heidelberg, Germany, 2001.
18. **Bazan NG**, Marcheselli VL, Lu Y, Hong S, Jackson F: Lipidomic approaches to neuroprotection signaling in the retinal pigment epithelium. 2007 (in press).
19. Simopoulos A and **Bazan NG**, Editors: Omega-3 Fatty Acids, the Brain and Retina, World Review of Nutrition and Dietetics, Vol. 99, Karger, 2009.
20. **Bazan NG**, Halabi A, Ertel M, Petasis NA: Neuroinflammation. *In Basic Neurochemistry: Molecular, Cellular and Medical Aspects*, 8th edition, G.Siegel, R.W. Albers, S.T. Brady, D.L. Price (eds.), Chapter 34, pps. 610-620, 2012.
21. **Bazan NG**, Stark DT, Petasis NA: Lipid mediators: Eicosanoids, docosanoids and platelet-activating factor. *In Basic Neurochemistry: Molecular, Cellular and Medical Aspects*, 8th edition, G.Siegel, R.W. Albers, S.T. Brady, D.L. Price (eds.), Chapter 36, pps. 643-662, 2012.
22. Belayev L, Lu Y, **Bazan NG**: Brain ischemia and reperfusion: Cellular and molecular mechanisms in stroke injury. *In Basic Neurochemistry: Molecular, Cellular and Medical Aspects*, 8th edition, G.Siegel, R.W. Albers, S.T. Brady, D.L. Price (eds.), Chapter 35, pps. 621-642, 2012.
23. Mattson MP, **Bazan NG**: Apoptosis and necrosis. *In Basic Neurochemistry: Molecular, Cellular and Medical Aspects*, 8th edition, G.Siegel, R.W. Albers, S.T. Brady, D.L. Price (eds.), Chapter 37, pps. 663-676, 2012.

#### **Graduate Students and Postdoctoral Fellows:**

- Marcos Crupkin, M.S., Professor of Biological Chemistry, University of Mar del Plata, Argentina, 1974
- Marta I. Aveldano, Ph.D., Professor and Head of Biological Chemistry, University of South, Bahia Blanca, Argentina, 1975
- Carlos A. Barassi. Ph.D., Professor and Head of Biological Chemistry, University of Mar del Plata, Argentina, 1975
- Ana M. Pechen, Ph.D., Professor and President, University of Comahue, Neuquen, Argentina, 1975
- Norma M. Giusto, Ph.D., Professor of Biochemical Pathology, University of South, Bahia Blanca, Argentina, 1976
- Haydee E. Pascual, Ph.D., Professor of Ophthalmology, LSU Eye Center, New Orleans, LA
- Elena B. Rodriguez de Turco, Ph.D., Associate Professor of Ophthalmology, LSU Eye Center, New Orleans, LA, 1981
- Telma S. Alonso, Ph.D., Associate Professor of Biological Chemistry, University of South, Bahia Blanca, Argentina, 1982
- Robert Vadnal, Ph.D., Chief of Psychiatry, Louisville VA Medical Center, Louisville, KY, 1982-1988
- John Doucet, Ph.D., Associate Professor, Nicholls State University, LA
- Ying Tao, Ph.D., Neurology Resident, Saint Louis University Hospital, St. Louis,

- Mark Stellingworth, M.D., Resident, LSU Medical Center, New Orleans, LA
- Lisa Teather, Ph.D., Assistant Professor, MIT, Boston, MA
- Michael Serou, M.D., Ph.D., Resident LSU Medical School
- Mark Parker, Ph.D Postdoctoral Fellow, Harvard Medical School
- Daoling Zhang, MD Resident Ophthalmology, Duke University, NC
- Bin Tu, Postdoctoral Fellow, Duke University, NC
- Mark Parker, Ph.D., Postdoctoral Research Fellow, Harvard Medical School, Boston, MA, 2001
- Peimin Zhu, Postdoctoral Fellow, U Penn, PA
- Miriam Kolko, M.D, Resident Ophthalmology, University of Copenhagen, Denmark
- Hiroshi Hito, University of Tokyo, Japan
- Antony Rajee, Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School
- Jorgelina Calandria, Ph.D., Post-Doctoral Fellow, LSU Health Sciences Center, New Orleans, LA
- Zahra Faghiri, Dept. of Pharmacology, Harvard Medical School
- Aram Asatryan, Ph.D., Post-Doctoral Fellow, LSU Health Sciences Center, Neuroscience Center of Excellence, New Orleans, LA
- Eric Knott, Ph.D., M.S. Public Health; Research Associate, LSU Health Sciences Center, Neuroscience Center of Excellence, New Orleans, LA
- Surjyadipta Bhattacharjee, Ph.D.; Post-Doctoral Researcher, LSU Health Sciences Center, Neuroscience Center of Excellence, New Orleans, LA

#### **Current Ph.D. Candidates**

- Khanh V. Do
- Swornim Man Shrestha

#### **M.D/Ph.D.**

- Tiffany N. Eady
- Tabitha Quebedeaux
- David Stark
- Miguel Molina

#### **Grants:** Principal Investigator in:

- National Institutes of Health
- Pilot Project EY04274 Biosynthesis of Phosphatidic Acid in the Retina, 1981-82
- EY04428 Role of Lipids in Retinal Degenerative Disease, 1982-1986
- EY05121 Prostaglandins and Lipoxygenase Metabolites in Retina, 1984-1987
- NS23002 Role of Phospholipids and Arachidonic Acid in Epilepsy, Jacob Javits Investigatorship Award, 1986-1996
- EY04428 Docosahexaenoic Acid Metabolism in Retina, 1987-1992
- EY05121 Leukotrienes and Prostaglandins in Photoreceptor Renewal, 1987-1992
- EY05121 Leukotrienes and Messengers in Photoreceptor Renewal, 1992-1996
- NS23002 Role of Phospholipids and Arachidonic Acid in Epilepsy, 1996-2001
- EY05121 RPE Messengers, Transcription and Photoreceptor Renewal, 1996-2001
- EY05121 RPE Messengers, Transcription and Photoreceptor Renewal, 2001-2005
- EY05121 RPE Messengers, Transcription and Photoreceptor Renewal, 2005-2011
- EY05121 RPE Messengers, Transcription and Photoreceptor Renewal, 2011-2014
- EY05121 RPE Messengers, Transcription and Photoreceptor Renewal, Supplement (S1) 2009-2011
- NS23002 Role of Phospholipids and Arachidonic Acid in Epilepsy, 2002-2006
- R01 NS046741 "Neuroprotection: Lipid Signaling in Ischemia-Reperfusion, 2004-2010
- R01 NS046741 "Neuroprotection: Lipid Signaling in Ischemia-Reperfusion, 2010-2015

- DAMD17-93-V-3013 Program Project (Medical Research and Development Command Cooperative Agreement): 1994-1998
  - Neural Responses to Injury: Prevention, Protection and Repair
  - Role of Growth Factors and Cell Signaling in the Response of Brain and Retina to Injury
  - Neurochemical Protection of the Brain: Neural Plasticity and Repair
- P20RR16816 COBRE, NCRR, NIH Mentoring Neuroscience in Louisiana: A Biomedical Program to Enhance Neuroscience, 2002- 2007
- P20RR16816 COBRE, NCRR, NIH, Mentoring Neuroscience in Louisiana: A Biomedical Program to Enhance Neuroscience, 2007-2012
- CoBRE Supplement (S1), NIH, “Mentoring Neuroscience in Louisiana”, 2009-2010
- 1RC2AT005909-01 NIH, NCCAM (Bazan NG, Serhan C, Petasis N), “Mechanism of Action of Omega-3 fatty Acids in Brain Injury”
- P30RR032142 COBRE, NCRR, NIH, Mentoring Neuroscience in Louisiana: A Biomedical Program to Enhance Neuroscience, 2012-2015

**Grants from Other Sources:**

- Klingenstein Foundation, 1982-1983, 1985-1986
- Research to Prevent Blindness, 1982-1983; 1988-1989
- The March of Dimes, 1982-1983
- Fight for Sight, 1982-1983
- American Epilepsy Foundation, 1983-1984
- National Retinitis Pigmentosa Foundation, Inc., 1984-1986; 1991-1992
- American Diabetes Association, 1984-1986
- Edward G. Schlieder Educational Foundation, 1986-1989
- IPSEN Beaufour, 1986-1991
- GLAXO, 1989-1994
- Institute de Recherches Internationales Servier, France, 1996-1999
  - “Pathophysiology of Diabetic Retinopathy: Identification of New Targets of Potential Treatment”
- Eye, Ear, Nose and Throat Foundation, 1998-
- Department of Transportation for the Automotive Highway Safety Initiative, 1999-2003
- Space and Naval Warfare Systems Command 2000-2001
  - “Is Hippocampal Long-Term Potentiation Modified after Sleep Deprivation in Rats?”
- Novartis, 2001-2003
  - “Cell Signaling and Pharmacology in the Eye”
- NSF/EPSCoR/Board of Regents, 2001-2004
  - “Micro/Nano Technologies: Neural Signaling Research”
- Defense Advanced Research Projects Agency (DARPA), 2002 – 2007
  - Phase I, 2.3M begins April 1, 2002
    - “Identification of Synaptic Signaling Events and Behavioral Correlates in Sleep Deprivation: Development of Novel Pharmacologic Agents”
- Neurobiotechnology Program in Louisiana, 2003
- Bio-Magnetics Interfacing Concepts: A Microfluidic System using Magnetic Nanoparticles for Quantitative Detection of Biological Species 2003-2008
- American Health Assistance Foundation, Macular Degeneration Research, 2004
  - “Signaling in RPE Cell Survival”
- Foundation Fighting Blindness (Bronya Keats, PhD: Former PI), 2009-2010
- Beckman Initiative for Macular Research
  - “Neuroprotective bioactivity of neuroprotectin D1 with nanoparticle-enhanced delivery in experimental retinal degeneration”, 2011-2012

- TA-NP-0808-0463-LSUNO, Foundation Fighting Blindness, “Neuroprotectin D1 slows photoreceptor degeneration”2009-2012
- American Health Assistance Foundation (AHAF), Macular Degeneration Research, 2010-2012 “NPD1 promotes survival signaling in the Ccl2-/-/Cx3cr1-/- mouse AMD model”

**Federal Advisory Committees, U.S. Public Health Service, National Institutes of Health:**

- Member, Task Force for Developmental Neurobiology, National Institute of Child Health and Human Development, 1983-1984.
- Member, Special Review Committee, National Institute of Neurological and Communicative Diseases and Stroke (NIH), January 1985.
- Ad hoc member, Basic Psychopharmacology Research Neurosciences, Review Committee, National Institute of Mental Health, June 1985.
- Reviewer, Research Scientist Development Review Committee, National Institute of Mental Health, 1985.
- Reviewer, Visual Sciences Study Section, Special Review Committee, National Institute of Neurological and Communicative Diseases and Stroke (NIH), 1986
- Reviewer, National Science Foundation, Veterans Administration Hospital, 1986.
- Special Review Committee, January 1986.
- Special Reviewer, VISA 1 Study Section, January 1986.
- Member, Special Review Committee, National Institute of Neurological and Communicative Diseases and Stroke (NIH), February 1986.
- Special Review Committee, October 1986.
- Ad hoc Member, NIH Neurology B Study Section, Division of Research Grants, February 1988.
- NIH Behavioral and Neurosciences Study Section, Division of Research Grants, 1988-1992.
- Review Committee Member, NIH Basic Research Science Grant (BRSG), LSU Medical Center School of Medicine, New Orleans, July 1989-1991.
- Special Review Committee, Neuronal Ceroid Lipofuscinoses (Batten Disease), 1991.
- Reviewer, NIH, NIAAA Board of Scientific Counselors and Ad Hoc Reviewers of the Laboratory of Membrane Biochemistry and Biophysics (LMBB), Washington, DC, 2001
- Review Committee, National Eye Institute, National Institutes of Health, Lutin/DHA Advisory Group, 2004
- Review Committee member, National Institutes on Drug Abuse (NIDA), Targeted Lipidomics: Signaling Lipids and Drugs of Abuse, 2004
- Reviewer, MU-AD-PPG, NIH Study section, St. Louis, MO, 2004
- Review Committee member, Brain Uptake and Utilization of Fatty Acids, Lipids and Lipoproteins, Bethesda, MD, 2004
- Chair, NIH Study Section, Review Committee, Bethesda, Maryland, 2006
- Reviewer, Biology and Diseases of the Posterior Eye Study, 2006 Section, (formerly Visual Sciences C Study Section) Center for Scientific Review, NIH, Bethesda, MD, 2006
- Reviewer, Biophysics of Neural Systems (BPNS), Center for Scientific Review, National Institutes of Health, Bethesda, MD, 2006
- Reviewer, National Institute of General Medical Sciences, NIH, Bethesda, MD, 2007
- Reviewer, Special Emphasis Panel/Scientific Review Group 2007/05 ZRG1, MDCN-B, Mitochondrial and Cerebral Ischemia, Center for Scientific Review, NIH, Bethesda, MD, 2007
- Reviewer, U.S. Army Medical Research and Material Command (USAMRMC), American Institute of Biological Sciences, Scientific Peer Advisory and Review Services, Reston, VA, 2007

- Reviewer, Alzheimer's Association Grant Reviews, Chicago, IL, 2007
- Reviewer, Molecular and Integrative Signal Transduction (MIST) Study Section, Bethesda, MD, 2008
- Member, Institutional Clinical Translational Science Award (CTSA) Center Special Emphasis Panel review panel, National Center for Research Resources, February 19-20, 2008
- Reviewer, NIH Study Section, Biophysical and Physiological Neuroscience ZRG1 F03B (20), Washington, DC, June 18-19, 2009
- Reviewer, Center for Scientific Review, Special Emphasis Panel, Challenge Grant review ZRG1-CB-N 58, July 20-21, 2009.
- Reviewer, S10 Shared Instrumentation and Microscopy Review, Center for Scientific Review, NIH, November 12-13, 2009, Chicago, IL
- Reviewer, Brain Disorders and Clinical Neuroscience Integrated Review Group, Clinical Neuroplasticity and Neurotransmitters Study Section (CNNT), San Francisco, CA, February 11-12, 2010. Washington, DC
- Reviewer, Biology and Disease of the Posterior Eye Study Section, Center for Scientific Review, NIH, July 1, 2010, Bethesda, MD
- Reviewer, NIH Workshop "Clarifying Directions and Approaches to Mechanistic and Translational Research on Omega-3 Fatty Acids and their Metabolites", February 14-15, 2011, Bethesda, MD.
- Reviewer, Biology and Disease of the Posterior Eye Study Section, Center for Scientific Review, NIH, February 22-23, 2011, Bethesda, MD
- Reviewer, Biology and Disease of the Posterior Eye Study Section, Center for Scientific Review, NIH, June 20-21, 2011, Chicago, IL
- Reviewer, NIH, Biology and Disease of the Posterior Eye Study Section, October 24-25, 2011, Bethesda, MD
- Reviewer, Special Emphasis Panel, NEI Translational Research on Therapy for Visual Disorders (R24), Washington, DC, 2011
- Reviewer, Biology of the Visual System Study Section, Center for Scientific Review, NIH, February 13-14, 2012, Bethesda, MD.
- Reviewer, American Heart Association, Brain 4 Peer Review Committee, Teleconference meeting, April 2, 2012.
- Reviewer, NIH, Biology and Disease of the Posterior Eye Study Section, June 4-5, 2012, San Francisco, CA
- Reviewer, NIH, Biology and Disease of the Posterior Eye Study Section, June 10-11, 2013, San Francisco, CA
- Reviewer, American Heart Association Peer Review, Teleconference meeting, October 23, 2013
- Reviewer and Member, Biology of the Visual System Study Section, NIH, Washington, DC, Teleconference call, December 5-6, 2013.
- Reviewer, Biology of the Visual System Study Section, NIH, Bethesda, MD, February 13-14, 2014.
- Reviewer, Biology of the Visual System Study Section, NIH, San Francisco, CA, June 19-20, 2014
- Reviewer, American Heart Association, IRG Vascular Science (Brain), BSc1 Conference Call, October 20, 2014
- Reviewer, Botanical Dietary Supplement Research Center (BDSRC) (p50), Washington, DC, December 17-18, 2014
- Reviewer, NINDS Study Section, NIH, Washington, DC, June 17, 2015
- Reviewer, NEI Translational Research Program on Therapy for Visual Disorder Study Section, Bethesda, MD, July 31, 2015



### **Other Advisory Committees:**

- Member, Program Committee 17th Annual Meeting American Society of Neurochemistry, 1985-1986.
- Member, Program Committee 20th Annual Meeting American Society for Neurochemistry, 1987-1989.
- Fundamental Research Related to Multiple Sclerosis, National Multiple Sclerosis Society, New York, 1988-1990.
- Chairman, Task Force (LSU Medical Center School of Medicine, New Orleans), "Research as an Economic Force for the Future," 1988-1989.
- Boyd Professorship Review Committee, Louisiana State University, 1988-1991.
- Scientific Advisory Board of the Fondazione Giovanni Lorenzini, Houston, Texas, 1990-.
- Committee Member, Clinical Sciences Research Building Planning Committee, LSU Medical Center School of Medicine, New Orleans, 1990-.
- Member, Program Committee, American Society for Neurochemistry, 1990-1992 (Houston meeting).
- Member, Program Committee, International Society for Neurochemistry, 1991-1993 (Montpellier, France).
- Council Member, International Society for Pathophysiology, 1991-1993.
- Member, International Advisory Board International Conference on Prostaglandins and Related Compounds, Montreal, Quebec, Canada, July 27-31, 1992.
- Member, International Advisory Committee, International Symposium on Retinal Degeneration, Costa Smeralda, Sardinia, September 16-20, 1992.
- President, William Harvey Medical Research Foundation, London, UK, 1994-1998.
- Program Committee co-chair, invited speaker, 3rd Biennial Course of The Advanced School for Neurochemistry, "Frontier Approaches to Brain Function and Disease," Amherst College, MA, July 16-19, 1997.
- Board Member, William Harvey Medical Research Foundation, London, UK, 1999-.
- Member, International Advisory Board of the 11<sup>th</sup> International Conference on "Advance Prostaglandin and Leukotriene Research: Basic Science and New Clinical Applications", 1999-
- Board Member, UNO Research & Technology Foundation, New Orleans, LA, 2000-
- Scientific Advisory Board, 22<sup>nd</sup> Princeton Conference Cerebrovascular Disease, San Francisco, CA, March 10-12, 2000.
- Member, International Advisory Board International Conference on Prostaglandins and Related Compounds, Marburg, Germany, July 23-26, 2000.
- Member, Spinal Cord Injury Research Board, Sarasota Springs, New York, 2000
- Member, Board of Directors, Atrix Laboratories, Inc, Denver, Colorado, 2001-
- Member, Board of Directors, The Lighthouse for the Blind in New Orleans, Inc, New Orleans, LA, 2001-
- Member, Department of Economic Development Screening Committee, Baton Rouge, LA, 2001-
- Peer Review, American Heart Association Affiliate Brain/Stroke Study Group, Dallas, Texas, 2001-
- Committee Member, Dean's Search Committee, LSU Health Sciences Center, School of Medicine, New Orleans, LA, 2003-2008
- Member, Committee for the Advancement and Encouragement, 2004-2005
- Committee Member, Neurosurgery Chair Search Committee, LSU Health Sciences Center, New Orleans, LA, 2004
- Board Member of the Chamber, New Orleans, LA, 2006
- International Advisory Board, International Conference on Neuroprotection and Neurorepair, Cerebral Ischemia and Stroke, Marburg, Germany, 2006
- Committee Member, Pharmacology Chair Search Committee, LSU Health Sciences Center, New Orleans, LA, 2007
- Committee Member, Neurology Chair Search Committee, LSU Health Sciences Center, New Orleans, LA, 2008

- Committee Member, Ophthalmology Chair Search Committee, LSU Health Sciences Center, New Orleans, LA, 2009
- Committee Member, Board of Governors for Association for Research in Vision and Ophthalmology Foundation, 2010
- Committee Member, Senate for Deutsches Zentrum für Neurodegenerative Erkrankungen (German Centre for Neurodegenerative Diseases) of the Helmholtz Gemeinschaft, 2010
- Committee Member, NIH, Biology and Diseases of the Posterior Study Section, Center for Scientific Review, 2010-2014

## BUSINESS ENTREPRENEURIAL ACTIVITIES:

### Consulting

- FIDIA, Italy	1982-1985
- IPSEN-BEAUFOR, France	1986-1990
- TEIJIN, Japan	1985-1986
- EISAI, Japan	1986-1991
- MONSANTO, U.S.A.	1984-1985
- Cardiovascular Drug Discovery Board, GLAXO, North Carolina	1988-1990
ICOS, Seattle, Washington	1996-1999
- SERVIER, France	1996-2000
- Interdisciplinary Development Advisory Board on Celecoxib in Alzheimer's Disease, SEARLE, Skokie, Illinois	1998-1999
- CENTAUR, Sunnyvale, California	1997-2000
- Consultant, MERCK 2000 Management of Acute Pain and Arthritis, Dallas, Texas	2000

### Start-Up Companies

- Founder and Consultant, In Site Vision, Alameda, California	1987-1989
- Operating Committee, Member In Site Vision, Alameda, California	1987-1989
- Scientific Advisory Board, Centaur, Sunnyvale, California	1997-2000
- Founder, St. Charles Pharmaceuticals New Orleans, Louisiana	1997-2000

### Publicly Traded Company

- Board of Directors, Atrix Laboratories, Inc.	2001-2004
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### University-Industry Interactions

Chairman, Task Force Research as an Economic Force for the Future at LSU Medical Center, New Orleans, Louisiana	1988-1990
Member Chair of Bioscience Committee, New Orleans New Business Initiative City Hall, New Orleans, Louisiana	1989-1991

### Other Activities

- Healthcare & Scientific Advisory Board, BlueStone Capital Partners, LP, New York	1997-1998
- Genome Securities, Inc., Scientific Advisory Board, Scranton, Pennsylvania	1998-1999
- eMed Securities, Inc., Chair, Scientific Advisory Board, Scranton, Pennsylvania	2000-2002
- President, Louisiana Alliance for Biotechnology Baton Rouge, Louisiana	2000-2002

## **Selected Major Publications - Listed in groups preceded by a brief description of the findings**

### **Discovery of brain free arachidonic acid and docosahexaenoic acid release during seizures and ischemia through phospholipase A<sub>2</sub> (1970).**

1. **Bazan NG:** Effects of ischemia and electroconvulsive shock on free fatty acid pool in the brain. *Biochim Biophys Acta* 218:1-10, 1970. (Citation Classic, "Neural Stimulation or Onset of Cerebral Ischemia Activates Phospholipase A<sub>2</sub>", *Bazan NG Current Content/Life Sciences* 30:10, 1991).
2. **Bazan NG, Joel CD:** Gradient-thickness thin-layer chromatography for the isolation and analysis of trace amounts of free fatty acids in large lipid samples. *J Lipid Res* 11:42-47, 1970.
3. **Bazan NG, Rakowski H:** Increased levels of brain free fatty acids after electroconvulsive shock. *Life Sci* 9:501-507, 1970.
4. **Bazan NG:** Free fatty acid production in cerebral white and grey matter of the squirrel monkey. *Lipids* 6:211-212, 1971.
5. **Bazan NG:** Changes in free fatty acids of brain by drug-induced convulsions, electroshock and anesthesia. *J Neurochem* 18:1379-1385, 1971.

### **This finding has often been referred as the "Bazan effect".**

- Horrocks LA, Farooqui AA: NMDA receptor-stimulated release of arachidonic acid: Mechanisms for the Bazan effect. In *Cell Signal Transduction, Second Messengers, and Protein Phosphorylation in Health and Disease*, AM Municio, MT Miras-Portugal (eds.), Plenum Press, New York, pps. 113-128, 1994.
- Sun GY, Xu J, Jensen MD, Simonyi A: Phospholipase A<sub>2</sub> in central nervous system: Implications for neurodegenerative diseases. *J Lipid Res* 45:205-213, 2004.

### **Demonstration that the brains of newborn mammal and adult poikilotherms accumulate free arachidonic acid sluggishly, correlating with the known resistance of these animals to anoxia. In contrast, mature homeothermic animals, vulnerable to relatively short periods of anoxia, rapidly accumulate arachidonic acid as a result of phospholipase A<sub>2</sub> activation.**

6. Aveldano MI, **Bazan NG:** Differential lipid deacylation during brain ischemia in a homeotherm and a poikilotherm. Content and composition of free fatty acids and triacylglycerols. *Brain Res* 100:99-110, 1975.
7. Rodriguez de Turco EB, **Bazan NG:** Changes in free fatty acids and diglycerides in mouse brain at birth and during anoxia. *J Neurochem* 41:794-800, 1983.

### **Discovery that the diacylglycerol accumulated in brain in ischemia is derived from inositol lipids and postulated the hypothesis that selective vulnerability at synapses is due to degradation of inositol lipids.**

8. Aveldano MI, **Bazan NG:** Rapid production of diacylglycerols enriched in arachidonate and stearate during early brain ischemia. *J Neurochem* 25:919-920, 1975.

### **Demonstration that the activation of phospholipase A<sub>2</sub> that gives rise to brain free arachidonic acid and diacylglycerol upon stimulation is related to neurotransmission.**

9. Aveldano de Caldironi MI, **Bazan NG:** Alpha-Methyl-p-Tyrosine inhibits the production of free arachidonic acid and diacylglycerols in brain after a single electroconvulsive shock. *Neurochem Res* 4:213-221, 1979.

### **Identification of inositol lipid degradation, and of phospholipase A<sub>2</sub> activation, in neural cell damage in experimental epilepsy and stroke.**

10. Pediconi MF, Rodriguez de Turco EB, **Bazan NG**: Diffusion of intracerebrally injected [<sup>14</sup>C]arachidonic acid and [2-<sup>3</sup>H]glycerol in the mouse brain. Effects of ischemia and electroconvulsive shock. *Neurochem Res* 7:1453-1463, 1982.
11. **Bazan NG**, Morelli de Liberti SM, Rodriguez de Turco EB: Arachidonic acid and arachidonoyl-di-glycerides increase in rat cerebrum during bicuculline-induced status epilepticus. *Neurochem Res* 7:839-843, 1982.
12. Pediconi MF, Rodriguez de Turco EB, **Bazan NG**: Effects of post decapitation ischemia on the metabolism of [<sup>14</sup>C]arachidonic acid and [<sup>14</sup>C]palmitic acid in the mouse brain. *Neurochem Res* 8:835-845, 1983.
13. Rodriguez de Turco EB, Morelli de Liberti S, **Bazan NG**: Stimulation of free fatty acid and diacylglycerol accumulation in cerebrum and cerebellum during bicuculline-induced status epilepticus. Effect of pretreatment with alpha-methyl-p-tyrosine and p-chlorophenylamine. *J Neurochem* 40:252-259, 1983.
14. Van Rooijen LAA, Vadnal R, Dobard P, **Bazan NG**: Enhanced inositide turnover in brain during bicuculline-induced status epilepticus. *Biochim Biophys Res Comm* 136:827-834, 1986.
15. Vadnal RE, **Bazan NG**: Electroconvulsive shock stimulates polyphosphoinositide degradation and inositol trisphosphate accumulation in rat cerebrum: Lithium pretreatment does not potentiate these changes. *Neurosci Lett* 80:75-79, 1987.
16. Reddy TS, **Bazan NG**: Arachidonic acid, stearic acid and diacylglycerol accumulation correlates with the loss of phosphatidylinositol 4,5-bisphosphate in cerebrum 2 seconds after electroconvulsive shock. Complete reversion of changes 5 minutes after stimulation. *J Neurosci Res* 18:449-455, 1987.
17. Vadnal RE, **Bazan NG**: Carbamazepine inhibits the electroconvulsive shock-induced [H]-IP<sub>3</sub> accumulation in rat cerebral cortex and hippocampus. *Biochem Biophys Res Comm* 153:128-134, 1988.
18. Sheu F-S, Marais RM, Parker PJ, **Bazan NG**, Routtenberg A: Neuron-specific protein F1/GAP-43 shows substrate specificity for the beta subtype of protein kinase C. *Biochem Biophys Res Commun* 171:1236-1243, 1990.
19. Katsura K, Rodriguez de Turco EB, Folbergrová J, **Bazan NG**, Siesjö: The coupling among energy failure, loss of ion homeostasis, and lipolysis during ischemia. *J Neurochem* 61:1677-1684, 1993.
20. **Bazan NG**, Allan G, Rodriguez de Turco EB: Role of phospholipase A<sub>2</sub> and membrane-derived lipid second messengers in excitable membrane function and transcriptional activation of genes. Implications in cerebral ischemia. *Prog in Brain Res* 96:247-257, 1993.
21. Visioli F, Rihn LL, Rodriguez de Turco EB, Kreisman NR, **Bazan NG**: Free fatty acid and diacylglycerol accumulation in rat brain during recurrent seizures is related to cortical oxygenation. *J Neurochem* 37:54-61, 1994.

### **Discovery of unique features of docosaehaenoic acid metabolism in the retina.**

22. Aveldano MI, **Bazan NG**: Free fatty acids, diacyl- and triacylglycerols and total phospholipids in vertebrate retina: Comparison with brain, choroid and plasma. *J Neurochem* 23:1127-1135, 1974.
23. Aveldano MI, **Bazan NG**: Displacement into incubation medium by albumin of highly unsaturated retina free fatty acids arising from membrane lipids. *Febs Letters* 40:53-56, 1974.
24. Bazan HEP, **Bazan NG**: Phospholipid composition and (<sup>14</sup>C)glycerol incorporation into glycerolipids of toad retina and brain. *J Neurochem* 27:1051-1057, 1976.
25. Giusto NM, **Bazan NG**: Phospholipids and acylglycerols biosynthesis and <sup>14</sup>CO<sub>2</sub> production from (<sup>14</sup>C)glycerol in the bovine retina: The effect of incubation time, oxygen and glucose. *Exp Eye Res* 29:155-168, 1979.

**Discovery that phospholipids in photoreceptors contain two docosahexaenoyl chains per molecule, rather than a saturated chain at C<sub>1</sub> and an unsaturated chain at C<sub>2</sub>. Identification of unique metabolism of these novel molecular species of phospholipids.**

26. Aveldano de Caldironi MI, **Bazan NG**: Composition and biosynthesis of molecular species of retina phosphoglycerides. *Neurochem Internat* 1:381-392, 1980.
27. **Bazan NG**: Metabolism of phospholipids in the retina. *Vision Res* 22:1539-1548, 1982.
28. Aveldano MI, **Bazan NG**: Molecular species of phosphatidylcholine, -ethanolamine, -serine and -inositol in microsomal and photoreceptor membranes of bovine retina. *J Lipid Res* 24:620-627, 1983.
29. Aveldano MI, Pasquare de Garcia SJ, **Bazan NG**: Biosynthesis of molecular species of inositol, choline, serine, and ethanolamine glycerophospholipids in the bovine retina. *J Lipid Res* 24:628-638, 1983.

**Identification of the activating enzyme for docosahexaenoic acid with very low K<sub>m</sub> that allows photoreceptors and other excitable membranes retain this fatty acid.**

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