

DAVID A. WILSON

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EDUCATION

1969 B.S. – Chemistry; Oklahoma State University
Stillwater, Oklahoma

EXPERIENCE

6/1969-7/2006 Dow Chemical Co., Freeport, Texas

R&D for Chelants, Quaternaries, Polyglycols, Surfactants, and Performance Fluids with an emphasis on product development.

1967-1968 Summer intern at Dow Agricultural Research Farms; Lake Jackson, Texas.

Gas Chromatographic determination of residues from organophosphorus pesticides.

AWARDS and HONORS

2006 American Chemical Society's 62nd Southwest Regional "Award for Industrial Innovation".

2002 American Chemical Society Brazosport Section "OUTSTANDING SCIENTIFIC ACHIEVEMENT AWARD"

2000 Invited guest for "The Seventh Presentation of the Herbert H. Dow Medal"

2000 Award for contributions to the Dow "Global Scientists Organization"

1999 Award from the Chelants BMT for the development and commercialization of new products

1997 Dow Award in recognition of the FDA approval of QUADRAMET™ for the treatment of bone cancer

1996 Houston Intellectual Property Law Association (HIPLA) "INVENTOR OF THE YEAR" Award for "Advanced Chelation Technology"

1996 Special Recognition by the *Houston Business Journal* for "Fighting Cancer"

- 1996 Member of group representing The Dow Chemical Co. at the “President’s National Medal of Technology Awards Banquet” in New York City
- 1992 Dow Chemical “PRESIDENT’S ENVIRONMENTAL CARE AWARD”
- 1991 Dow Gulf Coast Scientists “INVENTOR OF THE YEAR AWARD” for Ho-DOTMP used for the treatment of multiple myeloma
- 1990 “Gold Eagle Award” for contributions to the VERSENE* Chelating Agent Business
- 1986 Dow Award in honor of first human trial using Sm-EDTMP for the treatment of bone cancer
- 1969- Various Dow confidential awards
2006

EXTERNAL PUBLICATIONS and PRESENTATIONS (21)

St. George, G.M, Chiang, C.-C., Wilson, D.A.: Ind. Eng. Chem. Res. **2008**, 47, 1277.

Frenier, W.W., Wilson, D.A., Crump, D.K. and Jones, L.: SPE 63242: “Use of Highly Acid-Soluble Chelating Agents in Well Stimulation Services”; Society of Petroleum Engineers, Presented at the 2000 SPE Annual Technical Conference and Exhibition held in Dallas, Texas, October 1-4, 2004, pp. 799-810.

Howard, W.L. and Wilson, D.A.: Chelating Agents, Kirk-Othmer Encyclopedia of Chemical Technology; On line posting, July 18, 2003.

Frenier, W.W., Rainey, M., Wilson, D.A., Crump, D.K., Jones, L.: SPE 80597: “A Biodegradable Chelating Agent is Developed for Stimulation of Oil and Gas Formations”, Presented at the 2003 SPE Exploration & Production Environmental Conference, San Antonio, Texas, March 11, 2003.

Deavenport, J.L., Wilson, D.A., Lewis, G.E.: “Process for Controlling Color in Quaternary Ammonium Compounds”, Res. Discl., 1999, 417(Jan.), pp. 22, No. 41725.

EDMS – “A New Biodegradable Transition Metal Chelant for Laundry Products and Other Detergent Applications”, 4th World Conference & Exhibition on Detergents: Strategies for the 21st. Century – Montreux, Switzerland (Oct. 4-8), 1998.

Athey, P.S., and Wilson, D.A.: "The Formation of Methylol and Methylcyano Intermediates in the Development of Biodegradable Chelants", Res. Discl., Vol. 382, pp.142 (No. 38249), 1996.

Olson, R.A., Simon, J., Baker, K.R., Braun, R.T., Oliver, C.D., Williamson, D.L and Wilson, D.A.: "Successful Remediation of a Thorium Contaminated 40 Acre Site", Proceedings of the 15th DOE Low Level Radioactive Waste Management Conference, Phoenix, Arizona, Dec. 1-3, 1993.

Garlich, J.R., McMillan, K., Masterson, T.T., Simon, J. and Wilson, D.A.: "Chemistry of Novel Macrocyclic Aminophosphonic Acid Chelates of Rare Earth Radionuclides and Their In-Vivo Biodistribution", 40th Annual Meeting of the Soc. of Nuclear Medicine, Toronto, Ontario, Canada, June 8-11, 1993. J. Nucl. Med., 34:5, 244, 1993.

Howard, W.L. and Wilson, D.A.: "Chelating Agents", Kirk-Othmer Encyclopedia of Chemical Technology, 4th. Edition, Vol. 5, 764-795, 1993.

Simon, J., Wilson, D.A. Baughman, S.A., McMillan, K., Leggett, D., Goeckler, W.F., Stringham, L.M., and Volkert, W.A.: "The Relationship of Log K of 153-Sm Aminophosphonate and Aminocarboxylate Complexes with Skeletal Uptake in Rats", J. Labl. Compd. Radiopharm., 25, 1988.

Simon, J., Wilson, D.A., Baughman, S.A., McMillan, K., Leggett, D., Goeckler, W.F., Stringham, L.M. and Volkert, W.A.: "The Relationship of Log K of Sm-153-Aminophosphonate and Aminocarboxylate Complexes with Skeletal Uptake in Rats", Proc. Seventh Int'l Symp. On Radiopharm. Chem., Groningen, Netherlands, July 4-8, 1988.

Goeckler, W.F., Edwards, B., Volkert, W.A., Troutner, D.E., Holmes, R.A., Simon, J. and Wilson, D.A.: "Skeletal Localization Properties of Sm-153 Chelates; Potential Radiotherapeutic Agents", J. Nucl. Med., 28(4):495-504, 1987.

Volkert, W.A., Edwards, B., Simon, J., Wilson, D.A., McKenzie, E., Oberle, P., Holmes, R.A.: "In Vivo Skeletal Localization Properties of Tc-99m Complexes of Large Phosphonate Ligands", J. Labl. Compd. Radiopharma., 23:1341-1343, 1986.

Goeckler, W.F., Edwards, B., Volkert, W.A., Troutner, D.E., Holmes, R.A., Simon, J. and Wilson, D.A.: "Biocalization Properties of Sm-153 Chelates as Radiotherapeutic Bone Agents", J. Nucl. Med., 27:915, 1986.

Volkert, W.A., Edwards, B., Simon, J., Wilson, D.A., McKenzie, E., Oberle, P. and Holmes, R.A.: "In Vivo Skeletal Localization Properties of

Tc-99m Complexes of Large Phosphonate Ligands”, Int. J. Nucl. & Biol., 13:1:31-37, 1986.

Goeckler, W.F., Troutner, D.E., Volkert, W.A., Edwards, B., Simon, J., and Wilson, D.A.: “Sm-153 Radiotherapeutic Bone Agents”, Int. J. Rad. Appl. Instrumentation. Part B: Nucl. Med. & Bio., 13(4):479-82, 1985.

Tvedt, T.J. and Wilson, D.A.: “Effect of Chlorination of Phosphonates Used for Scale Inhibition in Cooling Water”, Corrosion, 1985.

Volkert, W.A., Edwards, B., Simon, J., Wilson, D.A., McKenzie, E.H., Oberle, P. and Holmes, R.A.: “Skeletal Uptake Properties of Tc-99m Labeled Multidentate Phosphonate Ligands”, J. Labeled Cpd. 21:1063-65, 1984.

Volkert, W.A., Simon, J., Wilson, D.A., Edwards, B., McKenzie, E.H., Oberle, P. and Holmes, R.A.: “Characteristics of Tc-99m Complexes of Large Tetrakisphosphonates”, Soc. Nucl. Med. Ann. Mtg., Los Angeles, California, June 1984, J. Nucl. Med., 25:129, 1984.

Volkert, W.A., Simon, J., Wilson, D.A., Edwards, B., McKenzie, E.H., Oberle, P. and Holmes, R.A.: “Skeletal Uptake Properties of Tc-99m Labeled Multidentate Phosphonates”, Fifth Int'l Symp. on Radiopharm. Chem., Tokyo, Japan, July 9-13, 1984.

U.S. PATENTS (106)

PATENT	TITLE	ISSUED
3726912	SUBSTITUTED ALKANOLAMINE CHELATING AGENTS	4/10/73
3825592	PHENOLIC AMINOPOLYCARBOXYLIC CHELANTS	7/23/74
4149985	PROCESS FOR THE PREPARATION OF A GEL RESISTANT GLYCOL COMPOSITION CONTAINING AN ALKALI METAL BORATE AND SILICATE	4/17/79
4205065	NON-YELLOWING COMPOSITIONS CONTAINING HEXAMETHYLENETETRAMINE, 3-DICHLOROPROPENE SALT	5/27/80
4212994	PROCESS FOR THE PREPARATION OF CARBOXYLIC ACID	7/15/80
4312815	PREPARATION OF A ZINC CHELATE HAVING IMPROVED STABILITY	1/26/82
4322361	METHOD OF PREPARING A MANGANESE CHELATE HAVING	3/30/82

IMPROVED PROPERTIES

4348506	PROCESS FOR CURING VINYL ESTER RESINS AND COMPOSITION USEFUL THEREIN	9/07/82
4364871	PROCESS FOR MAKING AMINOPOLYCARBOXYLIC ACID CHELATES OF IRON	12/21/82
4399070	STABLE SALT-FREE PARTIALLY CHELATED METAL COMPOSITIONS AND METHOD OF PREPARATION	8/16/83
4430128	AQUEOUS ACID COMPOSITION AND METHOD OF USE	2/07/84
4438040	PROCESS FOR MAKING AMINOPOLYCARBOXYLIC ACID CHELATES OF IRON	3/20/84
4459241	COMPOUNDS CONTAINING QUATERNARY AMMONIUM AND METHYLENEPHOSPHONIC ACID GROUPS	7/10/84
4466835	CEMENT COMPOSITIONS CONTAINING SET RETARDERS	8/21/84
4466836	SET RETARDING COMPOUNDS FOR USE IN CEMENT SLURRIES	8/21/84
4468252	SET RETARDING ADDITIVES FOR CEMENT FROM AMINOMETHYLENEPHOSPHONIC ACID DERIVATIVES	8/28/84
4469663	SCALE CONTROL IN FLUE GAS DESULFURIZATION	9/04/84
4472200	NEW ADDITIVES FOR RETARDING SETTING OF CEMENT FROM METHYLENEPHOSPHONATED AMINOHYDROCARBYLPIPERAZINE-UREA ADDUCTS	9/18/84
4489203	POLYMERIC ALKYLENE PHOSPHONIC ACID PIPERAZINE DERIVATIVES AS SCALE INHIBITORS	12/18/84
4493771	SCALE INHIBITING WITH COMPOUNDS CONTAINING QUATERNARY AMMONIUM AND METHYLENEPHOSPHONIC ACID GROUPS	1/15/85
4500470	METAL ION CONTROL AGENTS BASED ON DICYCLOPENTADIENE DERIVATIVES	2/19/85
4500469	METAL ION CONTROL COMPOUNDS BASED ON NORBORNANE	2/19/85
4500356	METHYLENEPHOSPHONIC ACID DERIVATIVES OF BIS (AMINOALKYL) PIPERAZINES AS CEMENT SET RETARDING AGENTS	2/19/85
4508704	RADIOACTIVE METALS COMPLEXED WITH PHOSPHONATE	4/02/85

DERIVATIVES OF BICYCLOHEPTANE BIS (ALKYLAMINES)

4515767	RADIOACTIVE METALS COMPLEXED WITH PHOSPHONATE DERIVATIVES OF DICYCLOPENTADIENE BIS (METHYLAMINE)	5/07/85
4518777	METHYLENE PHOSPHONIC ACID SCALE INHIBITOR COMPOSITIONS DERIVED FROM AMINOHYDROCARBYLPIPERAZINE-UREA ADDUCTS	5/21/85
4540508	ALKYLENE PHOSPHONIC ACID SCALE INHIBITOR COMPOSITIONS	9/10/85
4560548	BONE SEEKING TC-99M COMPLEXES OF PHOSPHONATE DERIVATIVES OF BIS (AMINOALKYL) PIPERAZINE	12/24/85
4568468	USE OF NORBORNANE DERIVED COMPOUNDS AS THRESHOLD AGENTS	2/04/86
4568469	USE OF METHYLENE PHOSPHONIC ACID COMPOSITIONS DERIVED FROM AMINOHYDROCARBYLPIPERAZINE-UREA ADDUCTS TO INHIBIT SCALE	2/04/86
4575454	NEW METAL ION CONTROL AGENTS BASED ON DICYCLOPENTADIENE DERIVATIVES	3/11/86
4582698	PROCESS FOR IMAGING CARDIAC INFARCTS	4/15/86
4606907	BONE SEEKING TC-99M COMPLEXES OF PHOSPHONATE DERIVATIVES OF POLYAMIDOAMINES	8/19/86
4636327	AQUEOUS ACID COMPOSITION AND METHOD OF USE	1/13/87
4643839	SILICONE REACTION PRODUCTS AND GLYCOL COMPOSITIONS CONTAINING THE PRODUCTS	2/17/87
4680396	BIS (AMINOALKYL) PIPERAZINE DERIVATIVES AND THEIR USE AS METAL ION CONTROL AGENTS	7/14/87
4732650	BLEACHING OF CELLULOSIC PULPS USING HYDROGEN PEROXIDE	3/22/88
4758635	POLYAMIDOAMINE BASED METAL ION CONTROL COMPOUNDS	7/19/88
4770791	CONTROL OF METAL IONS USING BIS (AMINOALKYL) PIPERAZINE DERIVATIVES	9/13/88
4777091	METAL SUBSTRATES TREATED WITH AMINO PHOSPHONIC ACID COMPOUNDS AND PRODUCTS RESULTING FROM COATING SUCH SUBSTRATES	10/11/88

4781984	AROMATIC POLYETHER RESINS HAVING IMPROVED ADHESION	11/01/88
4786440	DETERGENT COMPOSITIONS USING AN AMINOCARBOXYLIC ACID AS BUILDER	11/22/88
4872996	USE OF AMINOPHOSPHONIC ACIDS TO INHIBIT SCALE FORMATION AND CORROSION CAUSED BY MANGANESE IN WATER SYSTEMS	10/10/89
4882142	BONE MARROW SUPPRESSING AGENT	11/21/89
4897254	RADIOACTIVE COMPOSITIONS FOR THE TREATMENT OF CALCIFIC TUMORS	1/30/90
4898724	ORGANIC AMINE PHOSPHONIC ACID COMPLEXES FOR THE TREATMENT OF CALCIFIC TUMORS	2/06/90
4976950	BONE MARROW SUPPRESSING AGENTS	12/11/90
4980471	PREPARATION OF PIPERAZINONES FOR USE AS SULFUR DIOXIDE ABSORBENTS	12/25/90
5059412	MACROCYCLIC AMINOPHOSPHONIC ACID COMPLEXES FOR THE TREATMENT OF CALCIFIC TUMORS	10/22/91
5061476	RADIOLABELED COLLOID COMPOSITIONS AND METHOD FOR PREPARING SAME	10/29/91
5064633	MACROCYCLIC AMINOPHOSPHONIC ACID COMPLEXES, THEIR FORMULATIONS AND USE	11/12/91
5066478	RADIO LABELED ORGANIC AMINE PHOSPHONIC ACID COMPLEXES FOR THE TREATMENT OF CALCIFIC TUMORS	11/19/91
5108723	PROCESS FOR ABSORPTION OF SULFUR COMPOUNDS FROM FLUIDS	4/28/92
5137709	LAYERED MIXED METAL HYDROXIDES FOR THE STABILIZATION OF RADIOACTIVE COLLOIDS	8/11/92
5208363	PREPARATION OF AMINONITRILES	5/04/93
5208369	DEGRADABLE CHELANTS HAVING SULFONATE GROUPS, USES AND COMPOSITIONS THEREOF	5/04/93
5223181	PROCESS FOR SELECTIVELY CONCENTRATING THE RADIOACTIVITY OF THORIUM CONTAINING MAGNESIUM SLAG	6/29/93
5258141	DEGRADABLE CHELANTS HAVING SULFONATE GROUPS, USES AND COMPOSITIONS THEREOF	11/02/93

5268129	LAYERED MIXED METAL HYDROXIDES FOR THE STABILIZATION OF RADIOACTIVE COLLOIDS	12/07/93
5300279	ORGANIC AMINE PHOSPHONIC ACID COMPLEXES FOR THE TREATMENT OF CALCIFIC TUMORS	4/05/94
5308606	METHOD OF TREATING AND/OR DIAGNOSING SOFT TISSUE TUMORS	5/03/94
5318772	ORAL COMPOSITIONS FOR INHIBITING CALCULUS FORMATION	6/07/94
5320829	ORAL COMPOSITIONS FOR INHIBITING PLAQUE FORMATION	6/14/94
5342925	COMPOSITIONS AND METHOD FOR SOFT TISSUE TUMORS	8/30/94
5342604	COMPLEXES POSSESSING ORTHO LIGATING FUNCTIONALITY	8/30/94
5342593	PROCESS FOR ABSORPTION OF SULFUR COMPOUNDS FROM FLUIDS	8/30/94
5435990	MACROCYCLIC CONJUGATES AND THEIR USE AS DIAGNOSTIC AND THERAPEUTIC AGENTS	7/25/95
5447603	PROCESS FOR REMOVING METAL IONS FROM LIQUIDS	9/05/95
5491259	PROCESS TO PRODUCE AMINOCARBOXYLIC ACIDS CONTAINING LOW RESIDUAL SALT	2/13/96
5389594	DEGRADABLE CHELANTS HAVING SULFONATE GROUPS, USES AND COMPOSITIONS THEREOF	2/14/95
5435990	MACROCYCLIC CONJUGATES THEIR USE AS DIAGNOSTIC AND THERAPEUTIC AGENTS	7/25/95
5447575	DEGRADABLE CHELANTS HAVING SULFONATE GROUPS, USES AND COMPOSITIONS THEREOF	9/05/95
5472633	A PROCESS FOR THE PREPARATION OF A STABLE SALT-FREE IRON CHELATE FOR USE IN HYDROGEN SULFIDE ABATEMENT	12/05/95
5481018	AMINO NITRILE INTERMEDIATE FOR THE PREPARATION OF ALANINE DIACETIC ACID	1/02/96
5488130	AN AMINO NITRILE INTERMEDIATE FOR THE PREPARATION OF 2-HYDROXYPROPYL IMINODIACETIC ACID	1/30/96

5569443	METHOD FOR REMOVING HYDROGEN SULFIDE FROM A GAS USING POLYAMINO DISUCCINIC ACID	10/29/96
5585226	POLYAMINO MONOSUCCINATES FOR USE IN PHOTOGRAPHIC PROCESSES	12/17/96
5652085	SUCCINIC ACID DERIVATIVE DEGRADABLE CHELANTS, USES AND COMPOSITIONS THEREOF	7/29/97
5652361	MACROCYCLIC LIGANDS AND COMPLEXES	7/29/97
5678241	PROCESS FOR CONCENTRATING THORIUM CONTAINING MAGNESIUM SLAG	10/14/97
5691120	SUCCINIC ACID DERIVATIVE DEGRADABLE CHELANTS, USES AND COMPOSITIONS THEREOF	11/25/97
5696239	CONJUGATES POSSESSING ORTHO LIGATING FUNCTIONALITY AND COMPLEXES THEREOF	12/09/97
5714631	CONJUGATES POSSESSING ORTHO LIGATING FUNCTIONALITY	2/03/98
5717123	PROCESS FOR THE PREPARATION OF FERRIC CHELATE SOLUTIONS OF ALKALI METAL POLYAMINO SUCCINIC ACIDS	2/10/98
5726341	AMINE NITRILE INTERMEDIATE FOR THE PREPARATION OF 2-HYDROXYETHYL IMINODIACETIC ACID	3/10/98
5731468	PREPARATION OF DISODIUM ETHYLENEDIAMINE-N,N'-DISUCCINATE	3/24/98
5733858	SUCCINIC ACID DERIVATIVE DEGRADABLE CHELANTS, USES AND COMPOSITIONS THEREOF	3/31/98
5741555	SUCCINIC ACID DERIVATIVE DEGRADABLE CHELANTS, USES AND COMPOSITIONS THEREOF	4/21/98
5756065	MACROCYCLIC TETRAAZACYCLODODECANE CONJUGATES AND THEIR USE AS DIAGNOSTIC AND THERAPEUTIC AGENTS	5/26/98
5763634	PROCESS FOR THE PREPARATION OF FERRIC CHELATE SOLUTIONS OF ALKALI METAL POLYAMINO SUCCINIC ACIDS	6/09/98
5817613	AMINO NITRILE INTERMEDIATE FOR THE PREPARATION OF 2-HYDROXYETHYL IMINODIACETIC ACID	10/06/98

5846925	SUCCINIC ACID DEGRADABLE CHELANTS, USES AND COMPOSITIONS THEREOF	12/08/98
5859273	SUCCINIC ACID DERIVATIVE DEGRADABLE CHELANTS, USES AND COMPOSITIONS THEREOF	1/12/99
5898078	PREPARATION OF FERRIC AMINOPOLYCARBOXYLATE SOLUTIONS HAVING IMPROVED STABILITY	4/27/99
5900499	PREPARATION OF AMINOPOLYCARBOXYLATE-FERRIC SOLUTIONS WITH IMPROVED LONG-TERM STABILITY	5/04/99
5972868	METHOD FOR CONTROLLING ALKALINE EARTH & TRANSITION METAL SCALING WITH 2-HYDROXY ETHYLIMINODIACETIC ACID	10/26/99
6288263	INTERMEDIATES FOR THE PREPARATION OF N-[2-(CARBOXYMETHOXY) ETHYL]-N-(CARBOXYMETHYL) GLYCINE	9/11/01
6392095	INTERMEDIATES FOR THE PREPARATION OF N-[2-(CARBOXYMETHOXY) ETHYL]-N-(CARBOXYMETHYL) GLYCINE	5/21/02
6451224	STABLE FREE FLOWING SOLID CHELANTS	9/17/02
6465690	PROCESS FOR THE PREP. OF POLYAMINO SUCCINIC ACIDS AND DERIVATIVES THEREOF	10/15/02
6627772	PREPARATION OF N-[2-(CARBOXYMETHOXY) ETHYL]-N-(CARBOXYMETHYL) GLYCINE	9/30/03
7495063	REDUCED OLIGOMER CONCENTRATION IN HIGH PURITY POLYALKYLENE GLYCOLS	2/24/09
7541496	PROCESS FOR PREPARING DIHYDROXYTRIALKYL-AMMONIUM HALIDES AND PRODUCTS THEREOF	6/2/09
8034756	FORMULATIONS WITH UNEXPECTED CLEANING PERFORMANCE INCORPORATING A BIODEGRADABLE CHELANT	10/11/11
8080508	FORMULATIONS WITH UNEXPECTED CLEANING PERFORMANCE INCORPORATING A BIODEGRADABLE CHELANT	12/10/11
8211949	FUNCTIONALIZED LONG-CHAIN OLEFIN MIXTURES AND USES THEREFOR	7/03/12

DOW CONFIDENTIAL RESEARCH REPORTS (228)
