

David W. Unander

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Synopsis Biologist with diverse teaching, laboratory and field experience in the United States and Latin America; fluent in Spanish; numerous university-level courses taught; service through several NGO boards. Available for off-campus teaching and consulting during summers.

Employment History

Eastern University
(formerly Eastern College)
St. Davids, PA
1992 - present

Professor of Biology. Teach majors courses in ecology, genetics and general biology; electives in plant taxonomy environmental studies, medical botany, tropical biology, and tropical agriculture. Developed new courses and programs at Eastern or at off-campus affiliates. Teach graduate and undergraduate courses in international development and sustainable agriculture. Initiated and facilitated international travel courses and service projects. Advise undergraduate and graduate students and serve on faculty committees and task forces. As Chair (2004-2008), documented the need for new faculty positions; oversaw those searches; managed revision of Biology major; participated in multi-department grant for major capital improvements.

BioPharm Clinical Svcs.
Blue Bell, PA
1992

Clinical Writer. Responsible for writing sections of New Drug Applications, including Integrated Summaries of Safety and Efficacy, and reviews of safety and efficacy of several medications. Wrote all or part of several articles for medical journals.

Fox Chase Cancer Center
Philadelphia, PA
1987 - 1991

Research Associate. Evaluated genetic and environmental effects on the activity of Phyllanthus species against hepatitis B virus. Developed tissue culture and cultivation procedures. Collected, identified and tested wild plants. Gained experience with isolation and analysis of DNA of various origins in the course of research on antiviral effects. Taxonomically organized ethnobotanical data for genus of 500+ species to identify the best candidates for antiviral activity.

Philadelphia area
various Biology programs
1986 - 1991

Adjunct Instructor. Taught genetics, biology, clinical microbiology, anatomy and physiology at the following schools: Temple University, Drexel University, LaSalle University, St. Joseph's University, Eastern College, the Community College of Philadelphia and Pennsylvania State University- Delaware County Campus.

Univ. de Puerto Rico
Depto. de Horticultura
1984 - 1986

Assistant Professor. Managed projects to improve yield, quality and disease resistance in squash and peppers. Early, disease-tolerant lines were successfully selected. Developed system for evaluation and selection of fruit quality in tropical pumpkins. Responsible for project budgets. Supervised other researchers and field workers. Cooperated in USAID bean research in the Dominican Republic and Honduras. Managed winter nursery for private firm. Served on thesis committees. Gained fluency in Spanish.

Univ. of Minnesota
Dept. of Agronomy
and Plant Genetics
1980 - 1983

Research Assistant. Worked in all aspects of soybean breeding project. Investigated components of soybean response to early season cold temperatures. Served as teaching assistant for agricultural ecology course.

Southern Illinois Univ.
Dept. of Plant
and Soil Science
1977 - 1979

Research and Teaching Assistant. Worked with all aspects of soybean breeding project. Evaluated response to cyst nematode in soybean populations. Helped inbreed and evaluate stalk quality of Brazilian corn lines. Served as teaching assistant for genetics and plant breeding courses.

Education

Ph.D. 1983

Dept. of Agronomy and Plant Genetics
University of Minnesota, St. Paul, MN

M.S. 1979

B.S. 1977

(Cum Laude)

Dept. of Plant and Soil Science
Southern Illinois University,
Carbondale, IL

Associate in General
Studies 1975

College of DuPage
Glen Ellyn, IL

References within Eastern University

Dr. David Wilcox
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Teaching Reference outside Eastern University

Dr. Norbert Belzer
Dept. of Biology
La Salle University
20th St. and Olney Ave.
Philadelphia, PA 19141
(215) 951-1250
FAX: (215) 951-1772
belzer@lasalle.edu

Service References (NGO Boards)

Mr. Scott Sabin, Director
Floresta
4903 Morena Blvd., Suite 1215
San Diego, CA 92117
(800) 633-5319
floresta@xc.org or ScottSabin@xc.org

Dr. Martin Price, Director Emeritus
ECHO (Educational Concerns for Hunger Organization)
17430 Durrance Road
North Ft. Myers, FL 33917-2239
(239) 543-3246
FAX: (239) 543-5317
price@ausable.org

Current Professional Associations

Society for Economic Botany, American Scientific Affiliation.

Other Experience

Board Member (1987-1995 & 2005-2011), Treasurer (1992-1994), and Vice President (1994-1995), Educational Concerns for Hunger Organization (www.echonet.org), North Ft. Myers, FL. ECHO is a Christian service mission, founded in 1981, that provides agricultural extension, training and seeds for international development and missions. I participated in the growth of ECHO from two permanent employees and one intern on a 10 acre demonstration farm, to a staff of dozens and several training locations. Globally, ECHO has been recognized by Wall Street Journal, the BBC, PBS and others. Developed and taught university-level science courses at ECHO through the Au Sable Institute 2003-2009.

Board Member, (1996-2006), Plant with Purpose (www.plantwithpurpose.org), formerly called Floresta, is a Christian service mission that promotes environmentally-sound practices, focusing on reforestation and supporting programs. Founded in 1984 in the Dominican Republic, in 1996, they were just beginning to work in a second country - Haiti. (Today they work in six countries, each governed by an independent board.) Besides meetings of the U.S. Board, with many decisions to make as the mission grew, I was sometimes a Spanish-speaking liaison to the Dominican or Mexican boards, and sometimes to representatives of all the boards together (in Spanish). I represented Plant with Purpose at churches in the U.S., sometimes also preaching on Christianity and Ecology, and preached at churches and presented lectures at universities on behalf of Plant with Purpose in the Dominican Republic or Mexico (in Spanish).

Board Member, (2002-present), Hope Seeds (www.hopeseeds.org). Hope Seeds is a Christian service mission that aids other Christian missions and national churches in need of seed, agricultural advice and education, particularly focusing on vegetable crops for the humid tropics. My training as a plant breeder is of professional value to Hope Seeds, and I have also represented them as a speaker in Spanish or English in churches or community festivals in Honduras and the U.S.

Other Experience, cont.

Eastern University mission trips to the Dominican Republic (D.R.) with Food for the Hungry (F/H) (1999-present). After Hurricane Georges (1998), four Spanish-speaking employees or board members from Plant with Purpose USA traveled in the D.R., assessing damage to our projects with Dominican staff. From contacts on that trip, I helped facilitate Eastern's first mission trip with F/H (1999), in which we helped build about 10 homes during Spring Break for storm refugee families. From 2000 on, we have worked with one community, Sabana Cruz, in the mountains on the Haitian border. Of Eastern's 14 mission teams, I have served as faculty advisor for nine, helping select teams and leaders, helping out where requested, particularly translation. This work now also involves a long-term potable water project, and a West Chester church that sent a few volunteers with us on a few trips, now sends a team annually and has made a significant church-to-church link in Sabana Cruz.

Calvary Fellowship Church Youth Ministry (Lionville, PA) and Cholula/Puebla, Mexico (2008-2010). Invited to help translate Bible class materials for high school and junior high school mission trip. (It's a small team of selected students who must demonstrate maturity in several ways.) In 2008 and 2009, worked with native Spanish speakers translating before and during the trip, helped with Bible lessons & games at a Christian home for street children, and various project at a Christian school with an arts theme. Translated written materials only in 2010.

Founding Member (1995-2006), Academic Board of Creation Care Studies Program (www.creationcsp.org), (formerly Global Stewardship Study Program), Belize and New Zealand. The board developed the curriculum, obtained academic approval through member schools of the Coalition of Christian Colleges and Universities, identified qualified instructors and evaluated the on-going quality of the program. Developed and taught the course in Sustainable Development on-site in Belize four times.

Coordinator of distance learning site in Peru for the graduate Economic Development program (1997-1998). Evaluated options in several countries, cultivated contacts in Peru for site visits and guest lectures, helped coordinate housing, vans, etc., taught a graduate course and served as site coordinator.

Member (1993-2008) and Chair (1993-1994), task force to develop and maintain Science, Technology and Values course. Drafted syllabus, involved in selection and hiring of full-time coordinators for the course.

Chair of Department of Biology, Eastern University, 2004-2008.

Chair of Division of Natural Sciences, Eastern University, 1995-2004.

Member, (1999-2004 and 2009-present), Faculty Personnel Committee.

Member (2004-2006), Institutional Review Board.

Graduate Admissions and Scholastic Standing Committee, Chair: 1992-1997; Member: 1997-1998. Eastern College/University, 1992 - 1997.

Member, Faculty Senate, Eastern College, 1993 - 1995.

Successfully wrote grant in 1999 for creating a computer/internet center for Biology students.

Other Experience, cont.

Successfully wrote grant in 1995 for the Pew Trust Global Stewardship Initiative. Represented Eastern College at two of the conferences for the Coalition for Christian Colleges and Universities which were organized by the Pew Trust, and coordinated research on velvetbean with the Universite Chretienne du Nord d'Haiti and Judson College.

Completed additional courses in Tropical Forests: Structure and Function, University of Puerto Rico-Río Piedras, (1995); Summer Field Ecology, (1991), Temple University-Ambler, Ambler, PA; and Plant Cell and Tissue Culture, (1989), Catholic University of America, Washington, D.C.

Completed courses at Eastern Baptist Theological Seminary in: Christian Mission and Social Transformation (CTM 633) (1996); Una pedagogía para las iglesias hispanas (ECM 621) (1994).

Invited by the Organization of American States to participate in Caribbean seminar in 1991 in Antigua to coordinate research on the quality, effectiveness and availability of medicinal plants in the Caribbean region. Presented lecture on the Phyllanthus research and helped write the final working document in English and Spanish.

Worked for a month in 1990 as a visiting scientist on a plant genome project at E.I. duPont de Nemours and Co. Gained experience in the use of RFLP's and the PCR.

Invited to present a review paper in Spanish at the II Seminario Mesoamericano de Etnofarmacología, Universidad de Costa Rica, 1989. I participated under the auspices of the PanAmerican Health Organization.

Served on board of elders 1991-1995, New Life Mennonite Church, Downingtown, Pennsylvania. Duties included serving as chair during pastoral absence, and coordination of the pastoral search, as well as regularly preaching and assisting to meet various types of needs.

Elected chair of church business board in Minnesota, 1982-83, (Roseville Christian Fellowship, Roseville, Minnesota). Initiated and coordinated monthly meal program through inner-city church.

Publications In Refereed Journals and/or Books

2000. Unander, D. W. Shattering the myth of race: genetic realities and Biblical truths. Judson Press, Valley Forge, PA. 127 pp.
2000. Sabin, S. and D. W. Unander. Superstars of the created world: forest engineering. Pp. 103-120 in: Creation-care in ministry: down-to-earth Christianity. W. D. Roberts and P.E. Pretiz, eds. Assoc. of Evangelical Relief and Development Organizations, Wynnewood, PA. 212 pp.
1998. Unander, D. W. Phyllanthus as a chemopreventative: a case study of why it's hard to translate ethnobotany to the clinic. *Cancer Prevention International* 3: 143-152.
1996. Unander, D. W. Phyllanthus species: In vitro culture and the production of secondary metabolites. Chapter 18 in: Y.P.S. Bajaj, ed., *Biotechnology in Agriculture and Forestry*, Vol. 37: 304-318. *Medicinal and Aromatic Plants IX*, Springer-Verlag Publ., Berlin.
1995. Unander, D. W., H. H. Bryan, R. T. McMillan, Jr. and C. J. Lance. Evaluation of variables affecting seed germination and plant stand of Phyllanthus amarus. *Economic Botany* 49: 49-55.
1995. Unander, D. W., G. L. Webster and B. S. Blumberg. Uses and bioassays in Phyllanthus (Euphorbiaceae). IV. Clustering of uses and other effects. *The Journal of Ethnopharmacology* 45: 1-18.
1993. Unander, D. W., H. H. Bryan, C. J. Lance and R. T. McMillan, Jr. Cultivation of Phyllanthus amarus and evaluation of variables potentially affecting yield and activity against viral DNA polymerase. *Economic Botany* 47: 79-88.
1992. Unander, D. W., G. L. Webster and B. S. Blumberg. Usage and bioassays in Phyllanthus (Euphorbiaceae): a compilation. III. The subgenera Conami, Gomphidium, Phyllanthodendron, Eriococcus, Xylophylla and Botryanthus and a complete list of the species cited in the three-part series. *The Journal of Ethnopharmacology* 36: 103-112.
1992. National Research Council; N. D. Vietmeyer, Ed. *Neem: a tree for solving global problems*. Contributed major portions of chapter on medicinal effects in book on neem (Azadirachta indica); served on review panel for final text. National Academy of Sciences, National Research Council, Office of International Affairs, Washington, D.C. 139 pp.
1991. Unander, D. W., P. S. Venkateswaran, I. Millman and B. S. Blumberg. La inhibición de la ADN polimerasa viral dependiente de virus hepatitis por especies de Phyllanthus, y los efectos genéticos y ambientales sobre esta actividad. *Brenesia* 35:27-40.
1991. Unander, D. W. Callus induction in Phyllanthus spp. and inhibition of viral enzymes by callus extracts. *Plant Cell Reports* 10:461-466.

1991. Unander, D. W., G. L. Webster and B. S. Blumberg. Uses and bioassays in Phyllanthus (Euphorbiaceae): a compilation. II. The subgenus Phyllanthus. The Journal of Ethnopharmacology 34:97-133.
1991. Unander, D. W. and B. S. Blumberg. In vitro activity of Phyllanthus (Euphorbiaceae) species against the DNA polymerase of hepatitis viruses: Effects of growing environment and inter- and intra-specific differences. Economic Botany 45:225-242.
1990. Unander, D. W., G. L. Webster and B. S. Blumberg. Records of usage or assays in Phyllanthus (Euphorbiaceae). I. The subgenera Isocladius, Kirganelia, Cicca and Emblica. Journal of Ethnopharmacology 30:233-264.
1990. Unander, D. W., P. S. Venkateswaran, I. Millman, H. H. Bryan and B. S. Blumberg. Phyllanthus species: sources of new antiviral compounds. Pages 518-521 in: Advances in New Crops, J. Janick and J. E. Simon, eds., Timber Press, Portland, OR.
1991. Unander, D. W., L. N. Avíles-Rodríguez and F. Varela-Ramírez and A. Acosta. Plant population and pruning of pepper cultivars. The Journal of Agriculture of the University of Puerto Rico 75:199-204.
1989. Unander, D. W., R. Díaz-Donaire, J. S. Beaver, J. Cerna and D. Espinal. Yield stability of dry bean genotypes in Honduras. The Journal of Agriculture of the University of Puerto Rico 73:339-348.
1988. Unander, D. W. and F. Varela-Ramírez. Pepper cultivars on the northwestern coast of Puerto Rico. The Journal of Agriculture of the University of Puerto Rico 72:395-404.
1988. Unander, D. W. and F. Varela-Ramírez. Selection of pulp color and thickness in calabaza. HortScience 23:755-757.
1986. Unander, D. W., J. H. Orf and J. W. Lambert. Early season cold tolerance in soybeans. Crop Science 26:676-680.
1983. Unander, D. W. Genetic and environmental components of soybean (Glycine max (L.) Merr.) germination under cool temperature conditions. Ph.D. Thesis, Univ. of Minnesota, St. Paul, MN. 199 pages.
1983. Unander, D. W., J. W. Lambert and J. H. Orf. Effect of seed production environment on genetic differences in cold tolerance during germination. Soybean Genetics Newsletter 10:59-62.
1979. Unander, D. W. Selection of soybean cyst nematode resistant soybeans (Glycine max (L.) Merr.) from two sources of resistance using single seed descent. M.S. Thesis, Southern Illinois University, Carbondale, IL. 127 pages.

Abstracts and Formal Talks and Interviews

Dec. 2009. Introduction to tropical ecosystems. Seminar presented at ECHO Agricultural Conference, Ft. Myers FL.

Feb. 2009: Food as Medicine. Science talk given to general public at farm festival, Hunsader Farms, Bradenton, FL, as part of public relations for Hope Seeds.

Dec. 2008: Christian worldview and our development work / La cosmovisión cristiana y nuestro trabajo del desarrollo. Devotional presented to prayer breakfast portion of ECHO Agricultural conference, Ft. Myers, FL

Dec. 2008: The challenge of integrating medicinal plants into scientific medicine. ECHO Agricultural Conference, Ft. Myers, FL

Nov. 2007. Forgiveness and Christian development / El perdón y el desarrollo cristiano. Devotional presented to prayer breakfast portion of ECHO Agricultural conference, Ft. Myers, FL

Aug. 2007. Science and appropriate technology for the developing world: science aiding agriculture – what approach works? Seminar given at American Scientific Affiliation and Christians In Science international meeting, Edinburgh, Scotland, UK.

2006. Reforestation and Christian faith. Adult Sunday school seminar (about an hour) given at Seaview Baptist, Ocean City NJ, Feb. 2006

2006. Serving Christ in your profession. Talk given to about 1,000 young adults at Calvary Fellowship Church – the Bridge, Lionville, PA Apr. 2006.

2006. My Father's world – keeping the garden and Christian faith. Men's prayer breakfast talk given at Berwyn United Methodist, Berwyn, PA. Apr. 2006.

2005. Destruyendo el mito de las razas: realidades genéticas y verdad bíblica. Invited workshop of about two hours given at the Universidad Evangélica de la República Dominicana, Santo Domingo, Aug. 2005.

2005. El cristianismo y la ecología. Invited workshop of about two hours given to about 150 agricultural extension workers, pastors and others through Floresta, Piedra Blanca, and at the Universidad Evangélica de la República Dominicana, Santo Domingo, Aug. 2005

2005. (1) Introducción a los ecosistemas y biomas, y la utilidad de estos datos. (2) Introduction to tropical ecosystems. Invited workshop of about an hour that I presented in a bilingual format, (with a simultaneous translation also into Creole) at the ECHO Agricultural Missions Conference, Ft. Myers, FL. Nov. 2005.

2005. What's hot and what's not in the world of herbs – a few ideas to season your perspective. Science talk given to general public for Hope Seeds Open House at Hunsader Farms Farm Day, Bradenton, FL Jan. 2005.

2003 and 2005. Race and gender as seen from the Bible and from genetics. Invited workshop of about an hour, annual meetings, Christians for Biblical Equality, Orlando FL, Aug. 2003 and Phila. PA July 2005

2003-2005. Shattering the myth of race: a look at genetic realities and Biblical truth. Invited seminar at the Universiad Nacional Evangélica, Santo Domingo, Dominican Republic, Aug. 2005 (given in Spanish as El mito de las razas); North Park College, Chicago, IL, Feb. 2004; Westmont College, Santa Barbara CA, Apr. 2003; Eastern Mennonite University, Blacksburg, VA, Mar. 2003, and several other venues in the Philadelphia, New York or Wilmington (DE) area over several years.

2004. Apocalypse and Development. Invited lecture for Rural Sustainable Farming Panel, Microfinance Institute, Eastern Univ. School of Leadership and Development, Valley Forge, PA July 2004. Posted at: http://eastern.edu/academic/international/sld/mfi/MFI_Materials.shtml

2003-2004. The challenge of integrating medicinal plants into scientific medicine. Invited workshop at the 10th Agricultural Missions Conference, Educational Concerns for Hunger Organization, Ft. Myers, Florida, Nov. 2003, and for Florida Gulfcoast University class, June 2004.

2002. Unander, D. W. ¿Existe una raza humana o tres? Y, ¿por qué es una preguntada importante? Invited seminar to the Club Español at Eastern University, Nov. 2002.

2002. Unander, D. W. "Medical ethnobotany of the Solanaceae". Seminar for the Mid-Atlantic Assoc. of College Biologists, Oct. 2002.

2001. Unander, D. W. "Dr. Unander discounts race". Transcript from English-language interview on "Creator's Hand" on KNLS, Christian shortwave radio station in Alaska. Russian and Mandarin versions of this interview were also made and broadcast. www.knls.org

2001. Unander, D. W. "The nature of humanity from the Bible's perspective – and how this affects our role in the world. " Invited workshops at 8th Agricultural Missions Conference, Educational Concerns for Hunger Organization, Ft. Myers, Florida, and at the OIKOS Conference, Target Earth, Philadelphia area.

2000 and 2004. Unander, D. W. Phyllanthus and hepatitis B: a case study of why it's hard to translate ethnobotany into natural products research. Invited seminars for the Philadelphia Botanical Club, Philadelphia Academy of Natural Sciences Feb. 2000 and North Park College, Chicago, IL, Feb. 2004

2000 and 2002. Unander, D. W. "Is there one human race or three - and does it make a difference in how we do missions?" Invited workshops at 7th and 9th Agricultural Missions Conference, Educational Concerns for Hunger Organization, Ft. Myers, Florida, and at Baptist Temple, Blue Bell, PA.

1998. Unander, D.W. Perspectives on the use of medicinal plants: why it's hard to translate ethnobotany to the clinic. Hour-long workshop presented at 5th Agricultural Missions Conference, Educational Concerns for Hunger Organization, Ft. Myers, Florida.

1998. Unander, D. W. La genética, el racismo y el cristianismo. Invited seminar of several hours length presented in Lima, Peru through the Peruvian organization MISUIR (Misión Integral Urbano Rural) and the

Instituto Cristiano de Estudios Sociales "Juan A. MacKay".

1996. Unander, D. W. El cristianismo y la ecología. Invited seminar of several hours length presented in Lima, Peru through the Peruvian organization MISUIR (Misión Integral Urbano Rural) and the Instituto Cristiano de Estudios Sociales "Juan A. MacKay".

1995. Unander, D. W. Phyllanthus and hepatitis B: a case study of why it's hard to translate ethnobotany into natural products research. Annual Meeting, American Scientific Affiliation, Montreat, NC, July 1995. (Abstr.)

1991. Unander, D. W. Some aspects of the validity of the traditional medicinal uses of Phyllanthus spp. Scientific Research and Popular Uses of Medicinal Plants in the Caribbean (Organization of American States conference to plan research priorities). Seminar Report, p. 6 (Abstr.)

1989. Unander, D. W., P. S. Venkateswaran, I. Millman and B. S. Blumberg. La inhibición de la polimerasa viral DNA dependiente de virus hepatitis por especies de Phyllanthus, y los efectos genéticos y ambientales sobre ésta actividad. II Seminario Mesoamericano de Etnofarmacología, Univ. de Costa Rica, San José. (Abstr.)

1988. Unander, D. W., P. S. Venkateswaran, I. Millman and B. S. Blumberg. Phyllanthus amarus: a possible source of new antiviral compounds. First National Symposium on New Crops: Research, Development, Economics. Program, p.41 (Abstr.)

1985. Diaz-Donaire, R., D. W. Unander and J. S. Beaver. Yield stability of dry bean cultivars in Honduras. Agronomy Abstracts 1985:52 (Abstr.)

1984. Unander, D. W. and J. H. Orf. Heritability of cold germination response in two soybean populations. Abstracts of World Soybean Research Conference III: 82. (Abstr.)

1983. Unander, D. W., J. W. Lambert and J. H. Orf. Cool temperature soybean germination: genetic and environmental components. Agronomy Abstracts 1983:83. (Abstr.)

1980. Unander, D. W. and O. Myers, Jr. Soybean genes for race 3 cyst nematode resistance from two sources. Agronomy Abstracts 1980:71. (Abstr.)

1979. Smith, D. R., D. W. Unander, O. Myers, Jr. and J. H. Yopp. Seed treatment with growth regulators to control height of greenhouse grown soybeans. Abstracts of World Soybean Research Conference II: 60. (Abstr.)

Publications in Annual Reports (internally reviewed)

1991. Unander, D. W., L. S. Blum, H. H. Bryan and G. L. Webster. The effect of extracts of P. amarus on plant viruses in vivo. Fox Chase Cancer Center Scientific Report 1990-1991. pp. 300-301.

1990. Unander, D. W., H. H. Bryan and G. L. Webster. Inhibition of WHV DNA polymerase MoMLV RT by field-grown plants and tissue culture of Phyllanthus species. Fox Chase Cancer Center Scientific Report 1989-1990. pp. 266-267.

1989. Unander, D. W., H. H. Bryan and G. L. Webster. Inhibition of viral DNA polymerase by Phyllanthus plants of differing genetic and environmental origin. Fox Chase Cancer Center Scientific Report 1988-1989. p. 262.

1988. Unander, D. W., I. Millman, P. S. Venkateswaran, G. L. Webster and H. H. Bryan. Factors affecting production of Phyllanthus plants. Fox Chase Cancer Center Scientific Report 1987-1988. pp. 139-140.

1987. Unander, D. W., P. S. Venkateswaran, I. Millman, and B. S. Blumberg. Genetic and environmental factors affecting level of active principle (inhibition of WHV DNA polymerase) in Phyllanthus. Fox Chase Cancer Center Scientific Report 1986-1987. p. 149.

1986. Unander, D. W. and F. Varela-Ramírez. Reducing non-genetic variability of the internal color of tropical calabaza. Cucurbit Genetics Cooperative Report 9:100-101.

1986. Unander, D. W. and F. Varela-Ramírez. Cucurbita moschata planted at four latitudes. Cucurbit Genetics Cooperative Report 9:102-103.

Other Publications

2007. Unander, D.W. Bringing Agriculture and Missions Together". Au Sable Institute Newsletter Fall 2007, p. 5. www.ausable.org/pdf/Fall2007Newsletter.pdf

2006. Unander, D.W. Science and Christian faith at Eastern. Spirit, Fall 2006.

2002. Unander, D. W. Book review: Grass pea. *Lathyrus sativus* L. Promoting the conservation and use of underutilized and neglected crops, Vol. 18. In: Econ. Bot.56: 100-101.

2002. Unander, D. W. Book review: Buckwheat. *Fagopyrum esculentum*. Moench. Promoting the conservation and use of underutilized and neglected crops, Vol. 19. In: Econ. Bot.56: 103-104.

1998. Unander, D. W. AMEXTRA and Floresta - the excitement of partnership. The Sower, Mar. 1998 (public relations document of Floresta, Inc.)

1996. Unander, D. W. Book review: Beekeeping of the assassin bee/La abeja africanizada. Pages 237-239 in: Amaranth to Zai Holes. L.S. Meitzner and M.L. Price, eds., ECHO, North Ft. Myers, Florida.

Teaching Experience

Eastern University, (formerly Eastern College), St. Davids, PA

Adjunct Professor (Graduate Program in Economic Development, and Dept. of Biology): 1988-1992

Associate Professor: 1992-2004

Professor: 2004-present

** indicates course I developed, helped develop with others, or extensively revised.

BIO 103. Earthkeeping (non-majors ecology course). ** Extensively revised in 2006.

BIO 130. Cuidando la Tierra (Spanish version of Earthkeeping developed and taught twice at Eastern's Esperanza College campus in Philadelphia). **

BIO 205. Biology for Elementary Education (Education majors) (taught occasionally in the 1990s)

INST 250. Science, Technology and Values (core course for all students) ** (At the request of Dr. Roberta Hestenes, then President of Eastern, chaired the task force that designed this course, based on a mandate from the National Science Foundation, and participated in two successful searches for interdisciplinary hires to assist in teaching this course. Taught 1-2 sections almost every semester from 1996 until the course was phased out as a core requirement in 2009.)

BIO 290. Tropical Biology (majors elective with travel segment in Puerto Rico). ** (Extensively revised a travel course Dr. Joe Sheldon, and earlier Dr. Dwayne Sales, had developed, changing it to a semester-course with travel during Spring Break, rather than strictly a travel course during Dec/Jan.)

BIO 309. Ecology (majors course) (1992-2006; team-taught since)

BIO 312. Genetics (majors course) (Taught on rotating basis with Dr. David Wilcox)

BIO 315. Medical Botany (majors elective). **

BIO. 320. Environmental Issues (majors course). ** (1995-2005; now taught by David Hoferer)

BIO 330. Special Topics: Economic Botany (majors elective). **

BIO 350C. Plant Taxonomy ** (Reactivation of an upper-level course not taught since the 1960s; thoroughly revised – essentially a new course.)

BA 515. Appropriate Technology (graduate elective for M.S./M.B.A. program in Economic Development). (Taught or team-taught this several times before it was merged with EDEV 510.)

EDEV 510. Development Strategies (required course in Economic Development; I developed and facilitated the section taught in Peru, and developed a revision that included site visits in the Phila. area). **

EDUC 521. Statistics (required course, graduate program in education)

Team-taught courses:

INST. 150. Living and Learning in Community (core course for all first-year students)

BIO 151, 152. General Biology (majors courses)

BIO 233. Anatomy and Physiology (lab section)

BIO 290. Tropical Biology (Team-taught with professors from four CCCU schools in Ecuador in 1993. This was an earlier version as a strictly Dec/Jan travel course.)

BIO 309. Ecology (Team-taught with Dr. Ben Dube 2005-present.)

BIO 312. Genetics (Sometimes team-taught with Dr. David Wilcox.)

BIO 420/INST 420. Introduction to Environmental Regulation and Policy ** (Team-taught with Mr. John Munro several times; he now teaches the course completely.)

BA 515. Appropriate Technology (team-taught this some terms with Dr. Van Weigel or Dr. Bill Zuspan; also participated in teaching this to students from Eastern and other colleges at HEART (Hunger Education And Resources Training) at Warner Southern College in Jan. 1994, as BA 517)

ECON 661. Issues in Economic Development. (formerly required course for Masters in Econ. Development). (Team-taught this for about 10 years with Drs. Betsy Morgan, Van Weigel and/or John Stapleford.)

EDEV 510. Development Strategies (required course in Economic Development; (Team-taught for about five years with Dr. Kerk Burbank, and once in Peru with Dr. Lily Escobar-Artola and Rev. Bob Linthicum.)

EDUC. 530. Puerto Rican Experience. (Graduate Education majors elective. I covered tropical ecology in this travel + semester course team-taught with Dr. Helen Loeb and Dr. Lily Escobar-Artola, offered once experimentally in 1995.) **

Teaching Experience At Other Institutions ** indicates course I developed or helped develop

Au Sable Institute of Environmental Studies (www.ausable.org)

Tropical Agriculture and Missions **, 2003-2009 This course surveys basic sustainable agriculture in the Tropics, important crops and some principles of Christian missions and development. Of the 72 students from 26 schools who have taken it during the seven years it was taught at ECHO in Florida, at least 22 have gone on to directly use the material after graduating, in Christian ministry, development work or urban gardening. As of 2011, we hope to offer it in Costa Rica.

Gordon College, Wenham, MA.

Sustainable Tropical Agriculture, 2007. (Taught at ECHO in south FL, and in Honduras) This is a similar course to 'Tropical Agriculture and Missions'. I filled in

Creation Care Study Program (formerly Global Stewardship Study Program), Belize.

Member of Academic Committee and occasional Instructor, 1996-2006:

Introduction to Sustainable Development (Team taught in Belize in 1996, 1997, 2002 and 2005) **

Drexel University, Philadelphia, PA

Adjunct: 1991-1992

Biol. 104. Growth and Heredity (majors course covering genetics and human development)

Community College of Philadelphia

Adjunct: 1992

Biol. 101. General Biology.

Biol. 109. Anatomy and Physiology.

La Salle University, Philadelphia, PA

Adjunct: 1991

Biol. 156. Human Genetics. (non-majors)

Biol. 163. Clinical Microbiology. (non-majors course for hospital technicians)

Temple University, Philadelphia, PA

Adjunct: 1986-1989

Biol. 75. Heredity and man. (non-majors)

Biol. 83, 84. General biology. (majors and non-majors; taught lab sections)

St. Joseph's University, Philadelphia, PA

Adjunct: 1986

Biol. 1031. General Biology (lab section, majors course)

Pennsylvania State University, Media, PA

Adjunct: 1986-1987

Biol. 101, 102. General Biology (lab sections, majors course)

Universidad de Puerto Rico, Mayagüez, PR

Asst. Prof: 1984-1986

Agron. 4007. Introductory plant breeding class at junior/senior level. Taught in Spanish.