

## David W. Unander

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Synopsis *Biologist with diverse teaching, laboratory, field and service experience in the United States and Latin America; strong proficiency in Spanish (31 years of use), strong novice proficiency in Italian; numerous university-level courses taught; responsible for numerous off-campus courses and mission trips; service through several NGO boards.*

### Employment History

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

Professor of Biology. *Teach majors courses such as Ecology, General Biology and Genetics; electives such as Plant Taxonomy, Medical Botany, Tropical Biology, and Tropical Agriculture. Developed nine new courses at Eastern or at off-campus affiliates and developed new programs. Teach graduate and undergraduate students in international development and sustainable agriculture. Initiated and manage numerous international travel courses and service projects. Advise students and serve on faculty committees. As Chair, successfully documented the need for new tenured positions; managed new position searches and major revision of Biology curriculum; participated in multi-department grant for major capital improvements for all the sciences. Actively involved in seeking or developing study-abroad options.*

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, General 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 high novice to intermediate proficiency in Spanish, have continued since to improve Spanish proficiency.*

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

Research and Teaching Assistant.

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

Research and Teaching Assistant.

### 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  
Dept. of Biology  
Eastern University  
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Teaching Reference outside Eastern University

Dr. Dave Mahan  
Director, Great Lakes Campus  
Au Sable Institute of Environmental Studies  
7526 Sunset Trail NE  
Mancelona, MI 49659  
(231) 587-8686  
(800) 315-2836  
[mahan@ausable.org](mailto:mahan@ausable.org)

Service References (NGO Boards)

Mr. Scott Sabin, Director  
Plant with Purpose  
4903 Morena Blvd., Suite 1215  
San Diego, CA 92117  
(800) 633-5319  
[scott@plantwithpurpose.org](mailto:scott@plantwithpurpose.org)

Dr. Martin Price, Founder and Director Emeritus  
ECHO (Educational Concerns for Hunger Organization)  
c/o 17240 Castlevue Dr  
North Ft. Myers, FL 33917  
H: (239) 543-1925  
C: (239) 785-0253  
[mandbprice@gmail.com](mailto:mandbprice@gmail.com)

Current Professional Associations

Society for Economic Botany, American Scientific Affiliation.

Eastern University Shared Governance:

Member, Curriculum Committee, 2011 - present

Member, Faculty Personnel Committee, 1999-2004 and 2009-2011.

Chair, Department of Biology, 2004-2008.

Member, Institutional Review Board, 2004-2006.

Chair, Division of Natural Sciences, 1995-2004.

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

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

Member of various task forces: Globalization (ca. 2000-2003); Core Review (2000-2002); Economic Development Distance Learning (ca. 1998-2000); Esperanza College Curriculum (ca. 1998-2000); Science, Technology and Values (ca. 1993-1999).

Member of numerous faculty search committees, 1992-present.

## Other Experience

Board Member (1987-1995 & 2005-2011), Educational Concerns for Hunger Organization ([www.echonet.org](http://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. Participated in the growth of ECHO from a budget of less than \$100,000, two permanent employees and one intern on a 10 acre demonstration farm, to a staff of dozens, training locations in multiple countries, and a budget of several millions.*

*Globally, ECHO has now been recognized by Wall Street Journal, the BBC, PBS and others, offers dozens of scientifically sound extension articles on-line in multiple languages, has multiple professional staff fielding questions around the world, and manages international agriculture conferences with a Christian emphasis on multiple continents. Developed and taught university-level science courses at ECHO through the Au Sable Institute 2003-2009, (which were moved to Costa Rica from 2011-present). I have also served as a Spanish-English translator (both ways) at multiple international conferences for ECHO. It has been one of the greatest privileges of my life to be a part of ECHO's successful growth.*

Board Member, (1996-2006), Plant with Purpose, (formerly Floresta) ([www.plantwithpurpose.org](http://www.plantwithpurpose.org)).

*Plant With Purpose is a Christian service mission that promotes environmentally-sound practices, focusing on reforestation coupled with small loans and Bible study, evangelism and church growth. Founded in 1984 in the Dominican Republic, in 1996, our board took a step of faith to begin to work with a network of Haitian churches. We added Mexico and Tanzania while I was on the board. More countries have been added since, each governed by an independent board, as per the guidelines we developed in the 1990s.)*

*Served as a Spanish-speaking liaison to the Dominican or Mexican boards multiple times, and at meetings of all the national boards together (held in Spanish). Traveled with national Christians and other members of the board who spoke Spanish, to visit rural villages and speak directly with farmers involved in our projects. Spoke for Plant with Purpose at churches in the U.S. and helped solicit grants from major donors. Preached in Spanish and gave university lectures for Plant with Purpose in the Dom. Republic or Mexico.*

Board Member, (2002-2015), Hope Seeds ([www.hopeseeds.org](http://www.hopeseeds.org)).

*Hope Seeds is a young 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, both during and between board meetings. Represented Hope Seeds as a speaker in Spanish or English in churches and at agricultural festivals in Honduras and Florida.*

## Other Experience, cont.

Eastern University mission trips to the Dominican Republic (D.R.) with Food for the Hungry (F/H) (1999-2012).

*After Hurricane Georges (1998), four Spanish-speaking employees and board members from Plant with Purpose USA traveled in the D.R., assessing damage to projects with Dominican staff. (Armando Osorio, one of the staff, was an alumnus of Eastern's graduate program in Economic Development, and my former student in 'Tropical Biology'.) That trip opened the opportunity for Eastern students to aid in hurricane relief efforts with Food for the Hungry.*

*Facilitated Eastern's first mission trip with F/H (Spring Break 1999), helping Dominicans build about 10 homes for families homeless after Hurricane Georges. From 2000-2013 we worked in the community of Sabana Cruz on the Haitian border. Served as faculty advisor for 10 of 15 of Eastern's mission teams to the Dominican Republic from 1999 to 2013. Helped select teams and leaders; helped out wherever needed, particularly with translation. Preached in Spanish at local churches. This project mobilized private donations in the US, plus attracting the support of the Dominican government, that resulted in drinkable water for the entire village by 2011. A number of local people made professions of personal faith in Christ, and an evangelical church in the town is growing. A West Chester church sent volunteers with us 2008-2010; they now send teams on their own and have a significant church-to-church link in Sabana Cruz. Eastern's project in Sabana Cruz is completed, and we are evaluating new possibilities.*

Study Abroad at St. John's International University (SJIU), Torino, Italy ([www.sjiu.it](http://www.sjiu.it)) (2010-2012) and other Italy options (2010-present).

*Invited to participate in planning a study abroad option in Italy. Traveled and worked in Italy for seven weeks during 2010 and 2011. Helped write the proposal to Eastern faculty, which was approved by vote. During summer 2011, worked with the Academic Dean of St. John's and with Stephanie MacTavish, Vice President for International Relations, and other Eastern staff in developing course offerings for students from Eastern who studied there in Spring 2012. Due to financial issues we were unaware of, most of the faculty and administrators in Italy quit. Our collaboration with SJIU is over.*

*Before, during and after my Italy trips, gathered information about alternative programs, and also contacts for possible Biology study-abroad courses. Continue to work on leads, for possible semester or summer programs in Italy for Eastern.*

*Completed up through Level II of the Pimsleur Italian curriculum. While in Italy in 2011, took a university-level Italian course to build greater proficiency, while living in a town with few English speakers and studying Italian in the evenings. Progress made in Italian, perhaps to high novice or even intermediate proficiency. (That has not been formally evaluated.) Able to function well, and have lengthy conversations without preparation. Served as an English-Italian translator among scientists in the field. Visited multiple sites and scientists that might become part of a future Eastern course, 'Italy: Ecology and History'.*

## Other Experience, cont.

Founding Member (1995-2006), Academic Board of Creation Care Studies Program ([www.creationcsp.org](http://www.creationcsp.org)), (formerly Global Stewardship Study Program), Belize and New Zealand.

*Our 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. I helped develop and have taught 1/3 of the course in Sustainable Development on-site in Belize six times between 1996 – 2012, ( helping me assess how the program is doing).*

Calvary Fellowship (Lionville, PA) with other Downingtown-West Chester churches, and local churches in Cholula/Puebla, Mexico (2008-2015).

*In June 2015 will take my fourth mission trip to Puebla State. In 2008 & 2009, worked with native speakers to translate large amounts of Bible class materials for mission trips to a home for street children, helping translate on-site for non-Spanish speakers, and playing and talking with the kids. Renovated physical plant of a small Christian school founded by Mexican Christians. I obtained a small but quality collection of science books in Spanish for both ministries, that included guides to Mexican birds, common trees, etc., and translations of classics like *The Narnia Chronicles*. In 2014, and this coming summer, the focus is working with citizens of isolated mountain villages to build spring boxes and quality cisterns, to reduce water borne diseases, as well as talk with people about Christ. Translate wherever needed.*

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.*

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

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).

Board of elders 1991-1995, New Life Mennonite Church, Downingtown, PA. Served as Chair during pastoral absence, coordinated pastoral search, preached regularly, assisted meeting needs.

Invited by Organization of American States to participate in Caribbean seminar in 1991, coordinating research on the quality, effectiveness and availability of medicinal plants in the Caribbean region. Presented lecture on *Phyllanthus*, 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.

Chair of business board in Minnesota (1982-83), (Roseville Christian Fellowship, Roseville MN). Initiated and managed monthly meals thru inner city church in Minneapolis for up to several hundred street people.

#### 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 Isocladus, 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.

Professional Lectures, Interviews, Published Abstracts of Lectures.

2014. Old and new sources for best practices in global agriculture. Colloquium for Dept/Biology, Messiah College, Grantham, PA, Oct. 2014

2014. Shattering the myth of race. Evening lecture for Central Penna. Forum for Religion and Science and Messiah College, Grantham, PA, Oct. 2014.

2014. Evolving toward the fall: a model of neural plasticity and original sin. David L. Wilcox, edited (with DW) and presented by Dave Unander, due to an illness in his family. Presentation at American Scientific Affiliation, Hamilton, Ontario, July 2014.

2013. Fuentes viejas y nuevas para las prácticas adecuadas en la agricultura global. Seminar presented at: ECHO Caribbean Regional Conference, Santo Domingo, Dominican Republic, Oct. 2013. (Plenary talk simultaneously translated into Haitian Kreyol and English.)

2013. Los ecosistemas tropicales y como se forman. Seminar presented at: ECHO Caribbean Regional Conference, Santo Domingo, Dominican Republic, Oct. 2013.

2013. What is sustainable agriculture, and how do we keep it sustainable? Seminar presented at: Faith in International Development, Calvin College, Grand Rapids, MI. Jan. 2013, and via Skype, to staff of Plant with Purpose in different locations, Dec. 2013.

2013. Old and new sources for best practices in global agriculture. Seminar presented at: Faith in International Development, Calvin College, Grand Rapids, MI. Jan. 2013.

2012. Plant families and dinnertime on Earth. Seminar presented to farmers, missionaries, board members and volunteers at: Industry and Initiative, Hope Seeds, Sikeston MO. July 2012.

2012. God's world: faith, ecology and simplicity. Mini-class about Christianity and ecology presented over three evenings at: Providence Church, West Chester, PA. Feb. 2012.

2011. God's purpose for humanity. School of Leadership Development (SLD) Commissioning Service, Eastern University. (June 2011).

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

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

2008. Christian worldview and our development work / La cosmovisión cristiana y nuestro trabajo del desarrollo. Devotional teaching given in English and Spanish at prayer breakfast, ECHO Agricultural conference, Ft. Myers, FL. Dec. 2008.

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

2007. Forgiveness and Christian development / El perdón y el desarrollo cristiano. Devotional teaching given in English and Spanish given at prayer breakfast, ECHO Agricultural conference, Ft. Myers, FL. Nov. 2007.

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. Aug. 2007.

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](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 10<sup>th</sup> 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 pregunta 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](http://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 8<sup>th</sup> 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 7<sup>th</sup> and 9<sup>th</sup> 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.

#### Other Publications (not refereed scientific publications).

2012. Unander, D.W. Did Scientists Really Discover the 'Gene That Makes Us Human'? What's inside the significant discovery of miR-941. Christianity Today (online only) 6 Dec. 2012.  
<http://www.christianitytoday.com/ct/2012/december-web-only/did-scientists-really-discover-gene-that-makes-us-human.html>

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

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.

## 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.*

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

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

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

INST 250. Science, Technology and Values (core course for all students 1996-2009) *\*\* 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.*

BIOL 290. Tropical Biology (majors elective with travel segment in Puerto Rico). *\*\* Extensively revised a travel course Joseph Sheldon, and earlier, Dwayne Sales, had developed, changing it to a semester-course with travel during Spring Break, rather than strictly a travel course during Dec/Jan., and moving the travel portion to Puerto Rico for 10 days during Spring Break. This has become a signature course of Eastern's Dept. of Biology.*

BIOL 309. Ecology (majors course) (1992-2004; *currently team-taught by Ben Dube and I.*)

BIOL 312. Genetics (majors course) (1993-2013 – *David Wilcox and I took turns teaching this course, sometimes team-taught it. Margaret Laakso currently teaches it.*)

BIOL 315. Medical Botany (majors elective 1993-present) *\*\**

BIOL 320. Environmental Issues (majors core course). *\*\* (1995-2005; now taught by Rebecca Hays)*

BIOL 330. Special Topics: Economic Botany (majors elective, taught once in 1994). *\*\**

BIOL 350C. Plant Taxonomy *\*\* (Majors core course) (2009-present: essentially a new course; last taught in 1960s.)*

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 graduate program in Economic Development) *(Developed and facilitated a section in Peru in 1997 and 1998, later developed a revision with extensive site visits in the Philadelphia area, taught 1999-2002). \*\**

EDUC 521. Statistics (required course, graduate program in education; taught during several summers)

*Team-taught courses:*

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

BIOL 151, 152. General Biology (required majors courses)

BIOL 233. Anatomy and Physiology (lab section of required majors course)

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

BIOL 309. Ecology ( required majors course) (*Team-taught with Ben Dube 2005-present.*)

BIOL 312. Genetics (required majors course) (*Sometimes team-taught with David Wilcox.*)

BIOL 420/INST 420. Introduction to Environmental Regulation and Policy (Required majors course)  
\*\* (*Team-taught with John Munro several times; now taught by Rebecca Hays.*)

BA 515. Appropriate Technology (required graduate course for Masters in Econ. Dev.) (*team-taught this some terms with Van Weigel or 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, as well as taught by myself on occasion.*)

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

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

EDUC 530. Puerto Rican Experience. (Graduate Education majors elective). (*Covered tropical ecology in this travel + semester course team-taught with Helen Loeb and 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](http://www.ausable.org))

Tropical Agriculture and Missions \*\*, 2003-present. Survey of basic sustainable agriculture in the Tropics, important crops and some principles of Christian missions and development. Since 2011, offered in Costa Rica, collaborating with Asociación para el Desarrollo a través de la Educación, a Costa Rican NGO founded by Eastern graduate alumnus Tomás Dozier.

Gordon College, Wenham, MA.

Sustainable Tropical Agriculture, 2007. (Taught at ECHO in south FL, and in Honduras, while regular professor was on sabbatical.)

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, 2005 and Spring and Fall 2012) \*\*

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

Assistant Professor: 1984-1986

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