

CURRICULUM VITAE

TRUNG H. NGUYEN

(January 2018)

CONTACT INFORMATION

PhD candidate in Soil and Crop Sciences, Colorado State University, U.S.A

Advised by Prof. Keith Paustian (Keith.Paustian@colostate.edu)

Mobile: +1 970 458 5696

Email: trung.nguyen@colostate.edu / nguyentrung1710@gmail.com

EDUCATION

2011 – Present PhD program in soil and Crop Sciences at Colorado State University, USA (CSU)

2004 – 2008 Bachelor of Agronomy at Hue University of Agriculture and Forestry, Vietnam (HUAF)

WORK EXPERIENCE

2017 – Present Ambassador for CSU Ventures.

2011 – Present Graduate research assistant at Natural Resource Ecology Lab, CSU (NREL).

2015 – 2017 Graduate teaching assistant for “Introduction to Soil science” course at CSU.

2014 – Jan 2015 Intern at Shell Technology Center Houston (STCH), Shell Oil Company.

2008 – 2011 Lecturer of Plant Biochemistry, HUAF.

2005 – 2010 Research assistant at Center for Agricultural Forestry Research and Development (CARD), HUAF.

RESEARCH EXPERTISE

- Ecosystem modeling
- Ecosystem services assessment
- Life cycle assessment of biofuel supply chains
- Gradient-based and heuristic optimization
- Machine learning and Neural Network

RESEARCH PROJECTS AND RESPONSIBILITY

2016 -
Present

Dissertation at NREL

- Developing Agricultural Ecosystem Service Optimization (Ag-EcoSopt) modeling platform (more [details](#)), which links DayCent model, GIS, GREET model, machine learning, and optimization to facilitate life-cycle-based assessments of large agricultural landscapes. The inputs for the modeling platform include several spatial databases (SSURGO soil, NARR weather, crop data layer, historic management information) that are automatically acquired for the targeted simulated area through an add-on GIS toolbox.
- Conducted high-resolution trade-off analysis and optimization of ecosystem services and disservices in South Platte River basin (manuscript in review)
- Conducted high-resolution multi-objective optimization of dual-feedstock landscape design for Front Range Energy (manuscript in prep).
- Metamodeling [DayCent](#) model using neural network and link the trained networks with genetic optimization to optimize corn stover removal rate for entire Colorado state (manuscript in prep).

CURRICULUM VITAE

- 2017 - Present **Bioenergy Alliance Network of the Rockies ([BANR](#)) project**
- Conducting life cycle assessments of beetle-killed woody biomass feedstock for drop-in biofuels
 - Linking different project components (feedstock mapping, logistics, techno-economics, environment, and education) to create a web-based decision support platform.
- 2015 **[DayCent](#) treegrowth submodel project at NREL**
- Mapped the submodel source code.
 - Calibrated the submodel using literature, experimental, and FIA data.
- 2014 **Ecosystem services of first-generation biofuels at Biodomain, STCH**
- Developed a framework and a modeling tool called Ecosystem Service and Land Use Change Optimization (ESLUCO) (more [details](#)) that links biophysical models, GIS, Spotfire, and network optimization to quantify and optimize agricultural ecosystem services in a spatial-explicit manner.
- 2014 **Sustainability of woody feedstock for second-generation biofuels at Biodomain, STCH**
- Modeled the effects of plantation management changes (rotation, thinning schedule, organic additions) on feedstock yields, soil carbon, and greenhouse gas emissions.
 - Mapped site conditions with site indices to predict tree growth potential.
- 2013 **Sustainability of Cassava ethanol in Asia**
- Conducted life cycle assessment of Vietnam's cassava-based ethanol.
 - Parameterized and calibrated Century model to simulate carbon stock changes for several annual and perennial crops, grasses, and forests in Vietnam.
- 2012 **[Bluestem project](#) at NREL**
- Set up field experiments and used isotope to quantify the fate of litter in different soil organisms to better understand the C and N dynamics between litter, soil and the atmosphere as affected by soil fauna and litter quality.

GRANTS AND FELLOWSHIPS

- 2011 - 2015 Fulbright PhD Scholarship
- 2011- 2013 National Science Foundation Fellowship for Multidisciplinary Approaches to Sustainable Bioenergy program
- 2007 Odon Vallet Scholarship
- 2007 Kyoto University scholarship
- 2005 - 2008 Japan Business Association in Vietnam (JBAV) and Japan Business Federation Scholarship

CURRICULUM VITAE

PUBLICATION

- 2017** **Trung H. Nguyen**, Stephen Williams, Keith Paustian, “*Impact of ecosystem carbon stock change on greenhouse gas emissions and carbon payback periods of cassava-based ethanol in Vietnam*”. Biomass Bioenergy. (2017). <http://dx.doi.org/10.1016/j.biombioe.2017.02.009>
- 2013** M. Francesca Cotrufo, Jennifer Soong, Martijn L. Vandegehuchte, **Trung Nguyen**, Karolien Denef, E. Ashley Shaw, Zachary A. Sylvain, Cecilia Milano de Tomasel, Uffe N. Nielsen, Diana H. Wall, “*Naphthalene addition to soil surfaces: A feasible method to reduce soil microarthropods with negligible direct effects on soil C dynamics*”. Appl. Soil Ecol. (2013), <http://dx.doi.org/10.1016/j.apsoil.2013.09.008>
- 2010** Nguyen Ho Lam, Dinh Xuan Duc, Bui Xuan Tin, **Nguyen Huu Trung**, “*Development of Vietnam’s Coffee industry in the recent years*”, Vol. 4 (81) 2010, Journal of Research and Development, Thua Thien Hue Provincial Department of Science and Technology.
- 2009** Nguyen Dinh Thi, **Nguyen Huu Trung**, Hoang Minh Tan, Do Quy Hai, “*Effects of Molybdenum (Mo) on growth and yield of peanut (Arachis hypogaea L.) on sandy soil in Thua Thien Hue province*”, Hue University - Journal of Science (ISSN 1859 - 1388), Vol. 56, 2009. www.hueuni.edu.vn/hueuni/issue_file/56_8.pdf

PRODUCTS

Open-access online journal:

[On-going development of Journal of Ecology and Climate Change Mitigation](#)
[See presentation](#)

Window PC application:

[Ecosystem Services and Land Use Change Optimization Tool \(Lite-version\)](#)
[Download](#)



Mobile applications:

[Shell Intern Houston](#)
[WeServeCO](#)



Youtube channel:

[Skill Express](#)
[Skill Express Karaoke](#)



* Note: scan the QR codes to access the links when viewing this CV as a hard copy

PERSONAL SKILLS

- Project management and teamwork
- Programming: Python, Matlab, beginner at others: R, VBA, Perl, Fortran, C#, JavaScript
- Multimedia: movie making and sound recording
- Other software/programs competency: GIS (ArcGIS, Open Jump, QGIS), GREET, biogeochemical models (Century and DayCent), statistical software packages (Minitab, SPSS, Spotfire, and SigmaPlot), video editing software packages (Sony Vegas, Camtasia, Adobe presenter, and NCH suites), audio editing software packages (Cubase and Adobe Audition), photo editing software (Photoshop and InkScape), big data management (SQLite, Microsoft Access), Open Journal System, online/offline website builders (e.g., Wix, WordPress, and WYSIWYG), and mobile app builders (Infinite Monkey and MIT App Inventor)

CURRICULUM VITAE

EXTRACURRICULAR

Jan 2017 - Present Founding an open-access, peer-review, [online journal on climate change mitigation](#).
April 2016 Winner of 2016 [CSU's Got Talent show](#)

REFERENCES

Keith Paustian, Prof.

Dept. Soil and Crop Sciences, and
Natural Resource Ecology Laboratory
Colorado State University, Fort Collins, CO 80523
Tel: +1-970-491-1547
Fax: +1-970-491-1965
Email: keithp@nrel.colostate.edu

Julien Granger, Ph.D.

Consultant, Hydrocarbon Supply Chain Management
Shell Global Solutions (U.S.), Inc.
3333 Highway 6 South, Houston TX 77063, USA
Tel: +1-832-540-8619 –
Email: Julien.granger@shell.com
[Letter of Recommendation](#)

Deval Pandya, Ph.D.

Computational Scientist
Shell Global Solutions (U.S.), Inc.
200 N Dairy Ashford Road, Houston TX 77079, USA
Tel: +1-832-337-4868;
Email: deval.pandya@shell.com
[Letter of Recommendation](#)

Maxwell Cook

Cartographer and Database Manager
The Nature Conservancy, Colorado
2424 Spruce St., Boulder CO, 80302 USA
Tel: +1 (719) 237-4453
Email: maxwell.cook@tnc.org
[Letter of Recommendation](#)