Thanh Lam Nguyen
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Curriculum Vitae

Name: **NGUYEN, Thanh Lam**

Date and place of birth: July 11, 1972-HoChiMinh City, Vietnam.

Nationality: Vietnamese-American

Present office address: Department of Chemistry, University of Florida, Leigh Hall, Gainesville, FL 32603.

EDUCATION

2002-2006: PhD in Computational (Quantum & Physical) Chemistry, University of Leuven (KULeuven), Belgium.

VISITING SCHOLAR

1997-1998: Visiting student at Department of Chemistry, University of Leuven, Belgium. Supervisor: **Professor Minh Tho Nguyen** (KULeuven, Belgium).
1999-2002: Research assistant at Institute of Atomic and Molecular Sciences (IAMS), Taipei, Taiwan. Supervisor: **Professors S. H. Lin and Alexander M. Mebel** (currently at Florida International University).

EXPERIENCE

01/2007-12/2008 (2 years): Postdoctoral Mandate, University of Leuven (KULeuven), Belgium. Supervisor: **Professor Jozef Peeters**.

01/2009-12/2011 (3 years): Postdoctoral Research Associate**,** University of Michigan at Ann Arbor, Ann Arbor, USA. Supervisor: **Professor John R. Barker**.

01/2012-06/2017: Research staff, University of Texas at Austin, Austin, USA.

Advisor: **Professor John F. Stanton**.
06/2017—06/2023: Assistant Scientist, University of Florida in Gainesville, Florida, USA.
06/2023—now: Associate Scientist, University of Florida in Gainesville, Florida, USA.
Advisor: **Professor John F. Stanton**.

Chemical Kinetic Software: a contributor of the **Multiwell** (*chemical kinetics*) program suite, which has been managed by Prof. John R, Barker, University of Michigan in Ann Arbor.

https://multiwell.engin.umich.edu/

Lam Nguyen's contributions to the Multiwell software include semi-classical transition state theory (SCTST and BDENS codes), 1D-hindered internal rotation (LAMM code), parallel steady-state master-equation approach (pTS code), parallel time-dependent master-equation approach (pTDME code).

Reviewer/Referee of *J. Phys. Chem., J. Chem. Phys., Phys. Chem. Chem. Phys., Chem. Phys. Letters, Mol. Phys.*, *Atmosphere*, etc...
Editorial board of *Atmosphere* (open-access), *Frontiers in Chemistry and Frontiers in Physics* (open-access for *Chemical Physics and Physical Chemistry*).

I am interested in studying thermochemistry of key chemical intermediates, mechanism and kinetics of importantly elementary reactions occurring in various gas-phase environments such as atmosphere, combustion, and interstellar medium. I have been working with Prof. John Stanton (a World-leading expert in quantum chemical calculations/methods), Prof. J. Peeters and Prof. A. R. Ravishankara (who are World-leading experts in the Earth's atmosphere), and Prof. J. R. Barker (a World-leading expert in chemical kinetics).

Lam Nguyen has made about 100 papers. A list of selected articles is given below:

1)Semiclassical transition state theory (SCTST) rate coefficients for the unimolecular decomposition of the ethoxy (CH_3CH_2O) radical
Thanh Lam Nguyen,…, J. F. Stanton
J. Phys. Chem. A 2024, 128 (46) 9998-10008
2) The reaction of methylidyne with methane: role of the quartet electronic state
Thanh Lam Nguyen and J. F. Stanton
Mol. Phys. 2024 122 (15-16).
3) Nonstatistical unimolecular decay of the CH_2OO Criegee intermediate in the tunneling regime
YJ Qian, **Thanh Lam Nguyen**, et al.
J. Phys. Chem. Letters 2024 15 (23) 6222-6229.

4) Methanediol from cloud-processed formaldehyde is only a minor source of atmospheric formic acid
Thanh Lam Nguyen, J. Peeters,…, J. F. Stanton
Proc. Natl. Acad. Sci. U.S.A. 2023, *120* (48), e2304650120
5) Ab initio rate coefficients for the reaction of OH and H_2O_2 under upper troposphere and lower stratosphere conditions.
Thanh Lam Nguyen and J. F. Stanton

Environ. Sci.: Atmos. 2023, *3*, 1678– 1684.

6) The reaction of HO_2 and CH_3O_2: CH_3OOH formed from the singlet electronic state
Thanh Lam Nguyen and J. F. Stanton
Atmosphere 2022 13(9).

7) Mechanism, thermochemistry, and kinetics of the reversible reactions:
$C_2H_3 + H_2 \leftrightarrow C_2H_4 + H \leftrightarrow C_2H_5$
Thanh Lam Nguyen, B. Ruscic, and J.F. Stanton
Faraday Discussions 2022, 238(0), 405-430.

8) Reaction of methylidyne with ethane: The C-C insertion is unimportant
Thanh Lam Nguyen
J. Phys. Chem. A 2022, 126 (12), 1966-1972.

9) The CH + H_2O reaction: two transition state kinetics
Thanh Lam Nguyen and J. Peeters
Phys. Chem. Chem. Phys. 2021, 23(30), 16142-16149.

10) Thermal decomposition of CH_3O: A curious case of pressure-dependent tunneling effects
Thanh Lam Nguyen, A.R. Ravishankara, J.F. Stanton
J. Phys. Chem. A 2021, 125(31) 6761-6771.

11) Pressure-dependent rate constant caused by tunneling effects: OH+HNO_3 as an example
Thanh Lam Nguyen and J.F. Stanton
Journal of Physical Chemistry Letters, 11 (9) 3712-3717.

12) Pragmatic solution for a fully E,J-resolved master equation
Thanh Lam Nguyen and J.F. Stanton
Journal of Physical Chemistry A, 124 (15), 2907-2918.

13) A master equation simulation for the OH + CH_3OH reaction
Thanh Lam Nguyen, B. Ruscic, J. F. Stanton
J. Chem. Phys. 2019, 150 (8), 084105.

14) Three-Dimensional Master Equation (3DME) Approach
Thanh Lam Nguyen and Stanton, J. F.
J. Phys. Chem. A 2018, 122 (38) 7757-7767.

15) Unimolecular Reaction of Methyl Isocyanide to Acetonitrile: A High-Level Theoretical Study
Thanh Lam Nguyen et al.
J. Phys. Chem. Lett. 2018, 9 (10) 2532-2538.

16) High-level theoretical study of the reaction between hydroxyl and ammonia: accurate rate constants from 200 to 2500 K
Thanh Lam Nguyen and Stanton, J. F.
J. Chem. Phys. 2017, 147 (5), 152704.

17) Thermal unimolecular decomposition of syn-CH_3CHOO: A kinetic study
Thanh Lam Nguyen, M. C. McCarthy, and J. F. Stanton
Journal of Chemical Physics 2016, 145 (13), 131102.

18) A Steady-State Approximation to the Two-Dimensional Master Equation for Chemical Kinetics Calculations
Thanh Lam Nguyen and J.F. Stanton
Journal of Physical Chemistry A 2015, 119 (28), 7627-7636.

19) Stabilization of the Simplest Criegee Intermediate from the Reaction between Ozone and Ethylene: A High-Level Quantum Chemical and Kinetic Analysis of Ozonolysis
Thanh Lam Nguyen, M.C. McCarthy, and J.F. Stanton
Journal of Physical Chemistry A 2015, 119 (22), 5524-5533.

20) Ab Initio Reaction Rate Constants Computed Using Semiclassical Transition-State Theory: $HO+H_2 \Rightarrow H_2O+H$ and Isotopologues

Thanh Lam Nguyen, J. F. Stanton, J. R. Barker

J. Phys. Chem. A 2011, 115, 5118-5126.

21) A Practical Implementation of Semi-Classical Transition State Theory for Polyatomics

Thanh Lam Nguyen, J. F. Stanton, J. R. Barker

Chem. Phys. Lett. 2010, 499, 9-15.

22) Sums and Densities of Fully Coupled Anharmonic Vibrational States: A Comparison of Three Practical Methods

Thanh Lam Nguyen and J. R. Barker

J. Phys. Chem. A 2010, 114, 3718.

23) HOx radical regeneration in the oxidation of isoprene

J. Peeters, **Thanh Lam Nguyen**, L. Vereecken

Phys. Chem. Chem. Phys. 2009, 11, 5935.