CHRISTOPHER R. ARUMAINAYAGAM
Department of Chemistry
Wellesley College
Wellesley, MA 02181
(781) 283-3326 (Office)

EDUCATION

STANFORD UNIVERSITY, Stanford, CA (1985–1990).
Ph.D. in CHEMICAL PHYSICS *(September 1990).*
HARVARD UNIVERSITY, Cambridge, MA (1981–1985).
A.B. in CHEMISTRY and PHYSICS (*June 1985*).
Graduated *Magna Cum Laude*.

HONORS & AWARDS

- Henry Dreyfus Teacher-Scholar award (1996) (The Camille and Henry Dreyfus Foundation).
- Brachman Hoffman Fellowship, Wellesley College (1993).
- Finalist for the Morton M. Traum award in Surface Science, American Vacuum Society (1990).
- First prize for presentation at regional American Vacuum Society Conference (1988).
- Onsager Fellowship (1985) (declined) (Yale University)
- Harvard Scholarship (1984).
- John Harvard Scholarship (1983).
- Detur Prize, Harvard University (1982).
- Selected to represent Sri Lanka at Fifth Stockholm International Youth Science Seminar (1980).
- Arthur C. Clarke Award (national award, Sri Lanka) (1979).
- Placed first out of 100,000+ students at national high school examination (Sri Lanka) (1979).

PROFESSIONAL EXPERIENCE

Chair Chemistry Department: Wellesley College (2007–2010).
Professor of Chemistry: Wellesley College (2004–present).
Associate Professor of Chemistry: Wellesley College (1997–2003).
Assistant Professor of Chemistry: Wellesley College (1990–1996).
Visiting Scholar: Harvard University, with Professor C. M. Friend (May 1991–May 1992).
Research Assistant: Stanford University, with Professor R. J. Madix (Sept. 1985 –Aug. 1990).
Head Teaching Assistant: Department of Chemistry, Stanford University (1987–1988).
Teaching Assistant: Department of Chemistry, Stanford University (1985–1989).
Teaching Assistant: Department of Chemistry, Harvard University (1984 –1985).
High School Teacher: St. Thomas College, Sri Lanka (1980).

PROFESSIONAL ACTIVITIES

Member, Advisory Board of Petroleum Research Fund: American Chemical Society (2000–2004)
Co-organizer, Radiation Chemistry Symposium: American Chemical Society (2001)
Grant reviewer: National Science Foundation, American Chemical Society, Research Corporation.
Manuscript reviewer: *J. of Physical Chemistry, J. of Molecular Catalysis, Surface Science.*

EXTERNAL GRANTS

1991	Research Corporation	$ 30,000
1992	American Chemical Society-PRF Type G Grant	$ 18,000
1993	Pew/NECUSE grant	$ 800
1994	Pew/NECUSE grant	$ 800
1996	Research Corporation	$ 29,500
1996	Henry Dreyfus Teacher Scholar Award	$ 60,000
1996	American Chemical Society-PRF Type B Grant	$ 25,000
1997	National Science Foundation REU grant (co-PI)	$171,000
2000	National Science Foundation REU grant (PI)	$186,000
2003	National Science Foundation REU grant (PI)	$204,000
2005	National Science Foundation RUI grant (PI)	$380,000
2006	National Science Foundation REU grant (PI)	$236,475
2010	National Science Foundation REU grant (PI)	$300,200
2010	National Science Foundation RUI grant (PI)	$390,000

PUBLICATIONS

1. G.R. Schoofs, C.R. Arumainayagam, and R.J. Madix, "Summary Abstract: Dynamics of Ethane Adsorption on and Desorption from Pt(111) Determined from Direct Sticking Probability Experiments," J. *Vac. Sci. Technol. A* **6(3)** (1988) 882.

2. G.R. Schoofs, C.R. Arumainayagam, M.C. McMaster, and R.J. Madix, "Dissociative Chemisorption of Methane on Pt(111)," *Surface Sci.* **215** (1989) 1.

3. C.R. Arumainayagam, M.C. McMaster, G.R. Schoofs, and R.J. Madix, "Dynamics of Molecular CH_4 Adsorption on Pt(111)," *Surface Sci.*, **222** (1989) 213.

4. C.R. Arumainayagam, R.J. Madix, M.C. McMaster, V.M. Suzawa, and J.C. Tully, "Trapping Dynamics of Xenon on Pt(111)," *Surface Sci*., **226** (1990) 180.

5. C.R. Arumainayagam, M.C. McMaster, and R.J. Madix, "The Dynamics of Precursor Adsorption: Ethane on Pt(111)," *Surface Sci*., **237** (1990) L424.

6. C.R. Arumainayagam, G.R. Schoofs, M.C. McMaster, and R.J. Madix, "The Dynamics of Molecular Adsorption of Ethane on Pt(111): A Supersonic Molecular Beam Study," *J. Phys. Chem.*, **95** (1991) 1041.

7. C.R. Arumainayagam and R.J. Madix, "Molecular Beam Studies of Gas-Surface Collisional Dynamics," *Progress in Surface Science*, **38** (1991) 1.

8. C.R. Arumainayagam, M.C. McMaster, and R.J. Madix, "Coverage Dependence of Molecular Adsorption Dynamics: Ethane on Pt(111)," *J. Phys. Chem*., **95** (1991) 2461.

9. C.R. Arumainayagam, M.C. McMaster, and R.J. Madix, "Molecular Beam Studies of Adsorption Dynamics," *J. Vac. Sci. Technol*. *A*, **9** (1991) 1581.

10. C.R. Arumainayagam, J.A. Stinnett, M.C. McMaster, and R.J. Madix, "Adsorbate Assisted Adsorption: Trapping Dynamics of Xe on Pt(111) at Non-Zero Coverages," *J. Chem. Phys*., **95** (1991) 5437.

11. M.C. McMaster, C.R. Arumainayagam, and R.J. Madix, "Molecular Propane Adsorption Dynamics on Pt(111)," *Chemical Physics*, **177** (1993) 461.

12. T.D. Harris,* D.H. Lee,* M.Q. Blumberg,* and C.R. Arumainayagam, "Electron-Induced Reactions in Methanol Ultrathin Films Studied by Temperature-Programmed Desorption: A Useful Method to Study Radiation Chemistry," *J. Phys. Chem*., **99** (1995) 9530.

13. C.R. Arumainayagam, E.C. Tripa, J. Xu, J.T. Yates, Jr., "IR Spectroscopy of Adsorbed Dinitrogen: A Probe of Defect Sites on Pt(111)," *Surface Sci*., **360** (1996) 121.

14. K.L. Queeney, C.R. Arumainayagam, M.K. Weldon, C.M. Friend, and M.Q. Blumberg,* "Differential Reactivity and Structure of Mono- and Di-alkoxides: the Reactions of Ethylene Glycol on Mo(110)," *J. Am. Chem. Soc*., **118** (1996) 3896.

15. C.E. Tripa, C.R. Arumainayagam, J.T. Yates, Jr., "Kinetics Measurements of CO Photoxidation on Pt(111)," *J. Chem. Phys*., **105** (1996) 1691.

16. K.T. Queeney, C.R. Arumainayagam, A. Balaji,* and C.M. Friend, "Carbon-Carbon Coupling from Formaldehyde Reaction on Mo(110)," *Surface Sci.*, **418** (1998) L31-L38.

17. W.F. Coleman and C.R. Arumainayagam, "Book and Media Reviews: HyperChem 5," *J. Chemical Education*, **75** (1998) 416

18. E. Ferrenz,* A. Amare,* and C. R. Arumainayagam; "An Improved Method to Spot-Weld Difficult Junctions." *Review of Scientific Instruments*, **72** (2001) 4474.

19. N. Nakayama,* E. E. Ferrenz,* D.R. Ostling,* A.S. Nichols,* J.F. Faulk,* and C.R. Arumainayagam, "Surface Chemistry and Radiation Chemistry of Trifluoroiodomethane (CF_3I) on Mo (110)." *Journal of Phys. Chem.,* **108** (2004) 4080-4085.

20. N. Nakayama,* S. C. Wilson,* L. E. Stadelmann,* H. D. Lee,* C. A. Cable,* and C. R. Arumainayagam, "Low Energy Electron-Induced Chemistry of CF_2Cl_2: Implications for the Ozone Hole?" *J. Phys. Chem. B* **108** (2004) 7950–4.

21. R. Gunawardane and C.R. Arumainayagam, "Auger Electron Spectroscopy" In *The Handbook of Applied Solid State Spectroscopy*; edited by D.R. Vij, Springer Science, New York, pp. 451–487 (2006).

22. L. Weeks,* L. Zhu,* M. Pellon,* D.R. Haines, and C.R. Arumainayagam, "Low-Energy Electron-Induced Oligomerization of Carbon Tetrachloride." *J. Phys. Chem.,* **111** (2007) 4815–4822.

23. Andrew D. Bass, Christopher R. Arumainayagam and Leon Sanche, "Revisiting the electron stimulated desorption of anions from thin films of CF_2Cl_2," *International Journal of Mass Spectrometry* **277** (2008) pp. 251–255.

24. M. Rajappan, L. Zhu,* A.D. Bass, L. Sanche, C.R. Arumainayagam, "Chemical Synthesis Induced by Dissociative Electron Attachment," J. Phys. Chem. **112** (2008) 17319–17323.

25. C.R. Arumainayagam, H.D. Lee,* R.B. Nelson,* D.R. Haines, R. Gunawardane, "Low-Energy Electron-Induced Reactions in Condensed Matter." *Surface Science Reports* 65 (2010) 1–144.

26. M. Rajappan, L. L. Zhu,* J. Wang,* G. Gardner,* K. Bu,* H. Mai,* M. Laupheimer,* Y. Shyur,* N. S. Abu Bakar,* S. K. Skinner-Hall,* C. Kim,* J. M. Haskins,* and C. R. Arumainayagam, "The Role of Low-Energy Electrons in the High-Energy Radiolysis of Condensed CF_3I." *J. Phys.: Condens. Matter* **22** (2010) 084006.

* Undergraduate/high school student

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

Member, American Chemical Society

Member, Sigma Xi Society

Member, Council on Undergraduate Research

Member, American Vacuum Society

Member, Radiation Research Society