

# RESUME



Name : **KALIAPPAN MUTHUKUMAR**

Nationality : Indian

Age and Date of Birth : 21, 30-10-1981

Sex : Male

Marital Status : Single

Address for correspondence :

Present Address

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### EDUCATIONAL QUALIFICATION :

Course	Institution/Board	Year Of Passing	Percentage Of Marks	Remarks
M.Sc., (Chemistry)	Department of Chemistry, Bharathidasan University, Tiruchirappalli, Tamilnadu.	2001-2003	68.12	First Class
B.Sc., (Chemistry)	Sri.S.Ramasamy Naidu Memorial College, Sattur	1998-2001	84.17	First Class
Diploma Computer Application	Unipro Informatics, Ramanar Street, Sattur –626 203	1999-2000	B-Grade	First Class
HSC	Dr.Radhakrishnan Vidhyalaya Matriculation Higher Secondary School, Sattur, Tamilnadu	1997-1998	81.00	First Class
SSLC	Dr.Radhakrishnan Vidhyalaya Matriculation Higher Secondary School, Sattur, Tamilnadu	1995-1996	73.45	First Class

### AWARDS AND DISTINCTIONS

- ❖ Awarded **SUMMER TERM FELLOWSHIP** from Indian Institute of Technology, Madras, Tamilnadu, India, for the academic year 2001-2002.
- ❖ **Fourth place** in the postgraduate course M.Sc.,
- ❖ **First Place** in college in Under Graduate Course (B.Sc.,) in the academic year 1998-2001.
- ❖ Awarded Second prize for **proficiency in English** during the academic year 2000-2001
- ❖ Awarded for getting **100% in Physical Chemistry** for the academic year 2000-2001 in B.Sc.,
- ❖ Awarded for getting **100% in Applied Chemistry** for the academic year 2000-2001 in B.Sc.,
- ❖ Got various prizes and certificates in various Intercollegiate competitions.

## **RESEARCH EXPERIENCE:**

### **1. SUMMER RESEARCH PROJECT (2002) :**

“**Fuel Cells and its Development**” Under the guidance of **Prof. B. Viswanathan**, Indian Institute of Technology, Madras, Tamilnadu as a Summer research fellow.

### **2. M.Sc., RESEARCH PROJECT (2002-2003) :**

“**Semi Empirical Investigation of Cleavage of Epoxides Using Potassium Selenocyanate**” Under the guidance of **Prof. P. Venuvanalingam**, Department of Chemistry, Bharathidasan University, Tiruchirappalli, India.

### **3. SUMMER RESEARCH PROJECT (MAY 2003 – JUNE 2003):**

“**Theoretical Investigation of Mechanism of Storage of Hydrogen by Nanomaterials**” under the guidance of **prof. B. Viswanathan**, Head, Department of chemistry, Indian Institute of Technology, Madras, Tamilnadu.

### **4. AS A PROJECT ASSISTANT (JULY 2003 – 2004):**

“**Theoretical Investigation of Mechanism of Storage of Hydrogen by Nanomaterials - Fullerenes**” under the guidance of **prof. B. Viswanathan**, Head, Department of chemistry, Indian Institute of Technology, Madras, Tamilnadu.

### **5. AS A “TRAINEE SCIENTIST” (JUNE 2004 – Till date)**

Working as a “**Trainee Scientist**” in **Jubilant Biosys Ltd, Bangalore, India** in the field of **Chemo and Bio informatics**.

## **PUBLICATIONS:**

### **1) “Hydrogenation of Heteroatom Substituted Fullerenes – A DFT Study”**

*K.Muthukumar*, M.Sankaran, B.Viswanathan,

Eurasian Chemico-Technological Journal, Vol.1, pp.201-205, (2004).

### **2) “Boron Substituted Fullerenes –Can they be One of the Options for Hydrogen storage” M.Sankaran, K.Muthukumar, B.Viswanathan.**

“Fullerenes, Nanotubes and Carbon Nanostructures” Vol. 13(1), pp. 47-56, 2005,

### **3) “Mechanism of Cleavage of Epoxides by Selenocyanate-a PM3 Modeling Study”**

*K. Muthukumar*, A. Kalaiselvan, P. Venuvanalingam. *(To be communicated)*

## **POSTER PRESENTATIONS AND CONFERENCE ATTENDED:**

### **1) “Mechanism of Cleavage of Epoxides by Selenocyanate - A PM3 Modeling study”**

**K. Muthukumar**, A. Kalaiselvan, P. Venuvanalingam.

(Presented in the “Sixth National symposium” held in IIT-Kanpur by Chemical Research Society of India during Feb 6-8, 2004)

2) Attended the conference “Advances in Catalysis” held at Loyollo College Chennai during Jan 5-6, 2004

## **COMPUTATIONAL EXPERIENCE:**

### **1) QUANTUM MECHANICAL PACKAGES:**

G-98, G-03, MOPAC, WIN-MOPAC, GAMESS, CHEM 3-D.

### **2) MOLECULAR MECHANICAL PACKAGES:**

Cerius2\_4.6, HYPERCHEM.

### **3) MOLECULAR STRUCTURE VIEWING PACKAGES:**

MOLDEN, GAUSSVIEW, MOLEKEL, HAMOG.

- ❖ **Reaction modeling by Transition State Characterization,**
- ❖ **Familiar with *ab-initio*, DFT, CI and CCSD(T) Calculations,**
- ❖ **Handled Metals at AM1, PM3 and DFT levels,**
- ❖ **NICS Calculation,**
- ❖ **Handled Force Fields for C<sub>60</sub>, C<sub>59</sub>X ( X=N, P, S), C<sub>58</sub>X<sub>2</sub> (X=B,B),**
- ❖ **Handled Sun workstation,**
- ❖ **Introduced to LINUX,**
- ❖ **Experienced in Interpreting Results from AM1, PM3, *ab-initio* and DFT methods.**
- ❖ **Confident to Solve any Problem Using Computational Techniques.**

## REFEREES:

- 1) **Prof. P.Venuvanalingam,**  
Department of Chemistry,  
Bharathidasan University, Tiruchirappalli –620 024,  
Tamilnadu, India,  
E-Mail: [venuvanalingam@yahoo.com](mailto:venuvanalingam@yahoo.com)
  
- 2). **Prof. R. RENGANATHAN,**  
Department of Chemistry,  
Bharathidasan University, Tiruchirappalli –620 024,  
Tamilnadu, India,  
E-Mail: [rrengas@yahoo.com](mailto:rrengas@yahoo.com)
  
- 3). **Prof. B. VISWANATHAN,**  
Head, Kinetics and Catalysis Division,  
Department of Chemistry,  
Indian Institute of Technology – Madras 620 036,  
Tamilnadu, India.  
E-Mail: [bviswanathan@hotmail.com](mailto:bviswanathan@hotmail.com)