

**Dr. Raja CHINNAPPAN, Lecturer**

Biochemistry and Molecular Medicine, Alfaisal University,  
Riyadh, KSA. Email: rchinnappan@alfaisal.edu  
Phone: 011-215-8904; Mob: +966-556905386

**AREA OF SPECIALIZATION**

---

- Aptamer-based biosensor development for the sensitive detection of Clinical biomarkers, pathogenic microbial organisms and potential contaminants such as toxins, hormones, antibiotics and food allergens.

**RESEARCH EXPERIENCE AND PROJECTS**

---

Lecturer, Alfaisal University, Riyadh, Saudi Arabia

2015 - Till date

**Current Research**

- Developing Point-of-care testing for the diagnosis of liver diseases
- Quantitative detection of human serum albumin sensor using a specific fluorescence molecules
- Aptamer selection against anti-coagulant drug Dabigatran Etxilate
- Fluorometric graphene oxide-based detection of Salmonella enteritis using aptamer as recognition element.
- Development of immuno-biosensor for the detection of pathogenic bacteria from water and food
- Development of Colorimetric biosensor for the detection of mastitis diseases from dairy products
- Protease-based biosensor for the identification of human pathogenic bacteria from the clinical samples
- Detection of microRNA cancer biomarkers by FRET and RT-qPCR
- Aptamer-based biosensor development for the decontamination of antibiotics from environmental samples (wastewater)
- Aptasensor development for the sensitive detection of allergens from seafood.
- Development of biosensors for the sensitive detection of marine toxins contamination from water resources and seafood.

**Teaching (M.Sc and B.Sc)**

- Principles and Applications Optical Spectroscopy (M.Sc)
- Co-supervisor for Master and Ph.D. Thesis
- Separation and purification Techniques ( B.Sc)
- Spectroscopic techniques for characterization of organic compounds ( B.Sc)

- Physical Methods in Chemistry and Instrumental analysis in chemistry (B.Sc)
- Introduction to Chemistry CHM 102 ( For engineering)
- Chemistry in Everyday Life and Environment CHM 107 ( For business)

- **PATENTS**

---

- **R. Chinnappan** S. Eissa, M. Aljohani , M. Zourob Full-length and truncated Anti-Coagulant Dabigatran Etexilate specific DNA aptamers for electrochemical and fluorescence sensing applications, **US Patent (2020)**
- S. Eissa, A. Siddiqua, **R. Chinnappan**, and M. Zourob, Electrochemical screening method for the selection of DNA aptamers against 11- deoxycortisol using gold electrode for target immobilization, **US patent, 2019.**

- **BOOK CHAPTERS**

---

- Shimaa Eissa, **Raja Chinnappan**, Mohammed Zourob. **2017.** Advances in Biosensor Technologies for Food Allergen Monitoring and Diagnosis in Food Allergy in Methods of detection and clinical studies. Ed. Anas Abdel Rahman, *CRC Press/ Taylor & Francis Group* **2017.**

## **PEER REVIEWED PUBLICATIONS**

---

1. I. Uttam, S. Sudarsan, R. Ray, **R. Chinnappan**, A. Yaqinuddin, K. Kattan, N.K. Mani Concentrating microbes from Human Urine samples using Paper-based Adsorbents for Point-of-Care Molecular Assays, *Life* **2024**, 14, 38 (Impact Factor: **3.2**)
2. A. Narasimhan, H. Jain, K. Muniandy, **R. Chinnappan**, N.K. Mani, Bio-analysis of Saliva Using Paper Devices and Colorimetric Assays, *J. Anal. Test*, **2024**, 8,114 (Impact Factor: **4.7**)
3. S. Sudarsan, P. Shetty, **R. Chinnappan**, N, Mani: Tuning hydrophobicity of paper substrated for effective detection of Glucose and Nucleic Acid Assay on Paper Substrates, *Anal. Bio. Anal. Chem.* **2023**, 415, 6449. (Impact Factor: **4.48**)
4. **R. Chinnappan**, T.Mir, S.Alsalameh, T. Makhzoum, A. Alzhrani, K. Kattan, A. Yaqinuddin Low-cost point-of-care monitoring of ALT and AST is promising for faster decision-making and diagnosis of acute liver injury, *Diagnostics*, **2023**, 13, 2967. (Impact Factor: **3.7**)
5. **R. Chinnappan**, T.Mir, S. Alsalameh, T. Makhzoum, A. Alzhrani, K. Alnajjar, S.Adeeb, N. Eman, Z. Ahmed, I. Shakir, K. Kattan, A. Yaqinuddin, Emerging biosensing methods to monitor lung cancer biomarkers in biological samples: A comprehensive review, *Cancers* **2023**, 13, 3414. (Impact Factor: **5.2**)
6. **R. Chinnappan**, T. Mir, S. Alsalameh, T. Makhzoum, S. Adeeb, K. AlKattan and A. Yaqinuddin, Aptasensors Are Conjectured as Promising ALT and AST Diagnostic Tools for the Early Diagnosis of Acute Liver Injury, *Life* **2023**, 13, 1273. (Impact Factor: **3.2**)

7. **R. Chinnappan**, Q. Ramadan and M. Zourob, Isolation and detection of exosomal Mir210 using carbon nanomaterial-coated magnetic beads, *J. Funct. Biomat.*, **2023**, 14, 441. (Impact Factor: **5.9**)
8. **R. Chinnappan**, Qasem. R, M. Zourob, An integrated lab-on-a-chip platform for pre-concentration and detection of colorectal cancer exosomes using anti-CD63 aptamer as a recognition, *Biosen. Bioelectron.* **2023**, 220, 114856. (Impact Factor: **12.6**)
9. S Alsalameh, K Alnajjar, T Makhzoum, N Al Eman, I Shakir, TA Mir, K Alkattan, **R Chinnappan**, A. Yaquinuddin. *Advances in Biosensing Technologies for Diagnosis of COVID-19. Biosensors*, **2022**, 12, 898. (Impact Factor: **5.7**)
10. N Alomran, **R Chinnappan**, J Alsolaiss, NR Casewell, M Zourob. Exploring the Utility of ssDNA Aptamers Directed against Snake Venom Toxins as New Therapeutics for Snakebite Envenoming. **2022**, *Toxins* 14 (7), 469. (Impact Factor: **5.075**)
11. M. Alnajrani, M. Aljohani, **R. Chinnappan**, M. Zourob, O. Alsager. Highly sensitive and selective lateral flow aptasensor for anti-coagulant dabigatran etexilate determination in blood, **2022**, *Talanta*, 236, 122887. (Impact Factor: **6.55**)
12. N Alomran, **R Chinnappan**, J Alsolaiss, NR Casewell, M Zourob. Exploring the utility of ssDNA aptamers directed against snake venom toxins as new therapeutics for tropical snakebite envenoming. **2022**, *BioRxiv*. Doi: <https://doi.org/10.1101/2022.05.22.492967>
13. M. Aljohani, D. Cialla-May, J. Popp, **R. Chinnappan**, K. Al-Kattan, M. Zourob Aptamers: Potential Diagnostic and Therapeutic Agents for Blood Diseases. *Molecules*, **2022**, 27, 2, 383. (Impact Factor: **4.6**)
14. FA. Azri, J. Selamat, R. Sukor, NA Yusof, NHA Raston, S. Eissa, M. Zourob, **R. Chinnappan**. Determination of minimal sequence for zearalenone aptamer by computational docking and application on an indirect competitive electrochemical aptasensor, *Analytical and bioanalytical chemistry*, **2021**, 413, 15, 3861-3872. (Impact Factor: **4.48**)
15. M. Raji, **R. Chinnappan**, A Shibl, G Suaifan, K Weber, D Cialla-May, J Popp, EE Shorbagy, K Al-Kattan, M. Zourob. Low-cost colorimetric diagnostic screening assay for methicillin resistant *Staphylococcus aureus*. *Talanta*, **2021**, 225, 121946(Impact Factor: **6.55**)
16. HA. Alhadrami#, AM. Hassan, **R. Chinnappan**#, HA. Alhadrami W.H Abdulaal, E.I, Azhar and M.Zourob. Peptide substrate screening for the diagnosis of SARS-CoV-2 using fluorescence resonance energy transfer (FRET) assay, *Microchemica Acta*, **2021**, 88, 4 (Impact Factor: **5.7**).
17. **R. Chinnappan**, N.Zaghloul, R. AlZabn, A. Malkawi, A.A.Rahman, K.M Abu-Salah, M. Zourob. Aptamer selection and aptasensor construction for bone density biomarkers. *Talanta*. **2021**, 224, 121818. (Impact Factor: **6.55**).
18. S.Alhogail, **R. Chinnappan**, M. Alrifai, GARY. Suaifan, FJ. Bikker, W E. Kaman, K. Weber, D. Cialla-May, J. Popp, M B. Alfageeh, K Al-Kattan, M. Zourob. Simple and rapid peptide nanoprobe biosensor for the detection of Legionellaceae. *Analysit*, **2021**, 146, 11, 3568-3577. (Impact Factor: **4.2**)
19. **Chinnappan. R**, Alzabn . R, Fataftah . A, Alhoshani. A, Zourob. M. Probing high-affinity aptamer binding region and establishment of aptasensor platform for cylindropermopsin detection. *Analytical and bioanalytical Chemistry*, **2020** 412:4691–4701 (Impact Factor: **4.48**)

20. M.M. Aljohani, **R. Chinnappan**, O. A Alsager, R AlZabn, A Alhoshani, K. Weber, D Cialla-May, J Popp, M. Zourob Mapping the Binding Region of Aptamer Targeting small molecule: Dabigatran Etexilate, an Anti-Coagulant. *Talanta*, **2020**, 218. 121132. (Impact Factor: **6.55**)
21. Alhadrami. H, Al-Amer. S, Aloraij. Y, Alhamlan. F, **Chinnappan. R**, Abu-Salah. K, Almatrouk. S, Zourob. M.. Development of Simple, fast and cost-effective nano-based immunoassay method for detecting norovirus in food samples. *ACS Omega*, **2020** 21, 12162. (Impact Factor: **4.1**)
22. Azri, F.A., Eissa, S., Zourob, M. **R, Chinnappan**, R. Sukor, N.A Yousf, NHA Raston, A,Alhoshani, S. Jinap . Electrochemical determination of zearalenone using a label-free competitive aptasensor. *Microchim Acta* , **2020** 187, 266. (Impact Factor : **5.7**)
23. S. Eissa, S. Alkhalidi, **R. Chinnappan**, A. Siddiqua M. Abduljabbar A. M. Abdel Rahman, M. Dasouki M. Zourob Selection, Characterization, and electrochemical biosensing application of DNA aptamers for sepiapterin. *Talanta*. **2020**, 216, 120951. (Impact Factor: **6.55**)
24. **R.Chinnappan**. A. Rahamn, R. AlZabn S. Kamath, A. L. Lopata, K M. Abu-Salah, M Zourob, Aptameric biosensor for the sensitive detection of major shrimp allergen, tropomyosin, *Food Chemistry*. **2020**, 314, 126133. (Impact Factor: **8.8**)
25. **R. Chinnappan**, S. Eissa, A. Alotaibi, A. Siddiqua, O. Alsager, M. Zourob. In vitro selection of DNA aptamers and their integration in a competitive voltammetric biosensor for azlocillin determination in wastewater, *Analytica Chimica Acta*. **2020**, 1101, 149-156 (Impact Factor: **6.2**)
26. **R Chinnappan**, A Al Faraj, AM Abdel Rahman, KM Abu-Salah, F Mouffouk, M. Zourob. Anti-VCAM-1 and AntiIL4R $\alpha$  Aptamer-Conjugated Super Paramagnetic Iron Oxide nanoparticles for Enhanced Breast cancer Diagnosis and Therapy. *Molecules*. **2020** 25 (15), 3437 (Impact Factor: **4.6**)
27. S. Eissa, A. Siddiqua, **R. Chinnappan**, and M. Zourob, Electrochemical SELEX protocol for selecting DNA aptamer against dedicator of cytokinesis 8 and its biosensing application, **2019** *Micro.Chem. Acta*, **186 (12)**, **828** (Impact Factor : **5.7**)
28. Khalil A Roointan, T.A. Mir, S.I. Wani, K. Hussain, B. Ahmed, S. Abraham, A. Savardashtaki, G. Gandomani, M.Gandomani, **R. Chinnappan**, M. H Akhtar, Early detection of lung cancer biomarkers through biosensor technology: A review. *J.Pharm. Biomed. Anal*, **2019**, 164, 93. (Impact Factor: **3.4**)
29. **R Chinnappan**, R. Mohammed, A Yaqinuddin, K. Abu-Salah, M Zourob, Highly sensitive multiplex detection of microRNA by competitive DNA strand displacement fluorescence assay. *Talanta*, **2019**, 200, 487-493. (Impact Factor: **6.55**)
30. **R Chinnappan**, R AlZabn, KM Abu-Salah, M Zourob. An aptamer based fluorometric microcystin-LR assay using DNA strand-based competitive displacement, *Microchimica Acta*, **2019**, 186 (7), 435. (Impact Factor: **5.7**)
31. **R Chinnappan**, R AlZabn, TA Mir, M Bader, M Zourob. Fluorometric determination of okadaic acid using a truncated aptamer, *Microchimica Acta*, **2019**, 186 (7), 406. (Impact Factor: **5.7**)
32. S Eissa, A Siddiqua, **R Chinnappan**, M Zourob. Electrochemical SELEX technique for the selection of DNA aptamers against the small molecule 11-deoxycortisol. *ACS Applied Bio Materials* **2019**, 2,6, 2624-2632. Impact Factor: **4.7**)

33. **R Chinnappan**, MM Aljohani, S Eissa, OA Alsager, K Weber, D Cialla-May, M.Zourob, In Vitro Selection of Specific DNA Aptamers Against the Anti-Coagulant, Dabigatran Etxilate, *Scientific Reports* **2018**, 8 (1), 13290. (Impact Factor: **4.99**)
34. S Alamer, S Eissa, **R Chinnappan**, P Herron, M Zourob; Rapid colorimetric lactoferrin-based sandwich immunoassay on cotton swabs for the detection of foodborne pathogenic bacteria, *Talanta*, **2018**,185, 275-280 (Impact Factor: **6.55**)
35. M. AlJohani, **R. Chinnappan**, S. Eissa, T. Owaidah, D. Cialla-Mayc, J. Poppc, M.Zourob. Development of Novel Nanobiosensor for Direct Measurement of the Oral Anticoagulant Agent: Dabigatran Etxilate. *Blood*, **2018**, 132 (Suppl 1), 1247-1247
36. S Alamer, S Eissa, **R Chinnappan**, M Zourob, A rapid colorimetric immunoassay for the detection of pathogenic bacteria on poultry processing plants using cotton swabs and nanobeads., *Microchimica Acta*, **2018**, 185 (3), 164 (Impact Factor: **5.7**)
37. **R Chinnappan**, S AlAmer, S Eissa, AA Rahamn, KMA Salah, M Zourob, Fluorometric graphene oxide-based detection of Salmonella enteritis using a truncated DNA aptamer. *Microchimica Acta*. **2018**,185 (1), 61. (Impact Factor: **5.7**)
38. S Eissa, **R Chinnappan**, M Zourob, Advances in Biosensor Technologies for Food Allergen Monitoring and Diagnosis, *Food Allergy: Methods of Detection and Clinical Studies*. **2017**.
39. S Eissa, **R Chinnappan**, M Zourob,Ultrasensitive Label-free Electrochemical Immunosensors for Multiple Cell Surface Biomarkers on Liver Cancer Stem Cells, **2017**, *Electroanalysis* 29 (8), 1994-2000. (Impact Factor: **3.077**)
40. **R Chinnappan** HA Alhadrami, S Eissa, AA Rahamn, M Zourob. High affinity truncated DNA aptamers for the development of fluorescence based progesterone biosensors, *Anal. Biochem.* **2017**, 525, 78-84. (Impact Factor: **3.19**)
41. **R Chinnappan**, S Al Attas, WE Kaman, FJ Bikker, M Zourob,Development of magnetic nanoparticle based calorimetric assay for the detection of bovine mastitis in cow milk. *Anal.Biochem.* **2017**, 523, 58-64 (Impact Factor: **3.19**)
42. S Eissa, **R Chinnappan**, M Zourob. Label-free impedimetric immunosensors for liver cancer stem cells. *Procedia Tech.* **2017**, 27, 287-289
43. S.Alamer, **R. Chinnappan**, M. Zourob; Development of rapid immuno-based nanosensors for the detection of pathogenic bacteria in poultry processing plants, *Procedia Tech.* **2017** 27, 23-26
44. **R.Chinnappan**, A.Dubé, J-F.Lemay, D.Lafontaine. Fluorescence monitoring of riboswitch transcription regulation using a dual molecular beacon assay, *Nucl. Acid. Res.* **2013**, 41, e106 (Impact Factor: **19.16**)
45. **R. Chinnappan**, A, Ng, S.Eissa, H.Liu, C. Tlili, M. Zourob, Highly sensitive aptamer based biosensor for microcystin detection, *Envi. Sci. Tech.* **2012**, 46, 10697 (Impact Factor: **11.4**)
46. A. Mazhorova, A. Markov, A. Ng, **R. Chinnappan**, M. Zourob, and M. Skorobogatiy Label-free bacteria detection using evanescent mode of a suspended core terahertz fiber, *Opt. Exp.* **2012**, 20, 5344. (Impact Factor: **3.8**)

47. W.J.Bock, P. Mikulic, **R.Chinnappan**, A. Ng, M.Tolba and M.Zourob, Long period grating based biosensor for the detection of *Escherichia coli* bacteria, S. M.Tripathi, *Biosen. Bioele.* **2012**, 35, 308. (Impact Factor: **12.6**)
48. S. Mateusz, W.J.Bock, P. Mikulic, **R. Chinnappan**, A. Ng, M. Tolba and M. Zourob, Detection of bacteria using bacteriophages as recognition elements immobilized on long-period fiber gratings, *Opt. Exp.* **2011**, 19, 7971. (Impact Factor: **3.8**)
49. S.Blouin, **R. Chinnappan**, and D. A. Lafontaine. Folding of the lysine riboswitch: importance of peripheral elements for transcriptional regulation. *Nucl. Acid. Res.* **2011**, 39, 3373. (Impact Factor: **19.16**)
50. **R. Chinnappan** , C.Lin, K. Acharya, J.L. Pellequer, R. Jankowiak. On stabilization of a neutral aromatic ligand by  $\pi$ -cation interactions in monoclonal antibodies. *Biophys. Chem.* **2011**, 154, 35. (Impact Factor: **3.8**)
51. B. Ilien, N. Glasser, J.P.Clamme, P. Didier, E. Piemont, **R. Chinnappan**, S.B Daval, J.L Galzi, Y. Mely. Pirenzepine promotes the dimerization of muscarinic M1 receptors through a three-step binding process, *J. Biol Chem.***2009**, 284, 19533. (Impact Factor: **5.48**)
52. J. Dietz, J. Koch, A. Kaur, **R. Chinnappan**, S. Stein, M.l Grez, A. Pustowka, S. Mensch, J. Ferner, R. Tampé, G. Divita, Y. Mély, H. Schwalbe & U. Dietrich. Inhibition of HIV-1 by a peptide ligand of the genomic RNA packaging signal Psi, *ChemMedChem.* **2008**, 3,749. . (Impact Factor: **3.54**)
53. **R. Chinnapan**<sup>#</sup>, B. Miksa<sup>#</sup>, N. Dang, M. Reppert, N. Tretyakova, N. M.Grubor and R Jankowiak. Spectral Differentiation and Immunoaffinity Capillary Electrophoresis Separation of Enantiomeric Benzo(a)pyrene Diol Epoxide-Derived DNA Adducts. *Chem. Res. Toxicol.* **2007**, 20, 1192. (Impact Factor: **4.41**)
54. **R.Chinnappan**, J Ferner, U. Dietrich, S. Avilov,D. Ficheux, J.L Darlix, H. de Rocquigny, H. Schwalbe, and Y. Me'ly, A Tryptophan-Rich Hexapeptide Inhibits Nucleic Acid Destabilization Chaperoned by the HIV-1 Nucleocapsid Protein. *Biochemistry.* **2006**, 45, 9254. (Impact Factor: **3.3**)
55. G.Julien, De R. Hugues, **R. Chinnappan**, G. Nicole, F. Damien, D.Jean-Luc, Y. Mely. During the early phase of HIV-1 DNA synthesis, nucleocapsid protein directs hybridization of the TAR complementary sequences via the ends of their double-stranded stem. *J. Mol. Bio.* **2006**, 356, 1180. (Impact Factor: **5.6**)
56. **R. Chinnappan**, K. Ananthanarayanan and P. Natarajan. Studies on the photophysical characteristics of poly(carboxylic acid)s bound protoporphyrin IX and metal complexes of protoporphyrin IX. *Eur. Polym, J.* **2006**, 42, 495. (Impact Factor: **3.74**)
57. P. Natarajan and **R. Chinnappan**, Studies on the dynamics of poly(carboxylic acids) with covalently bound thionine and phenosafranine in dilute aqueous solutions, *Eur. Polym, J.* **2005**, 41, 2496. (Impact Factor: **6**)

58. P. Natarajan and **R. Chinnappan**, Studies on interpolymer self-organisation behaviour of protoporphyrin IX bound poly(carboxylic acid)s with complimentary polymers by means of fluorescence techniques. *Eur. Polym. J.* **2004**, 40, 2291. (Impact Factor: **6**)
59. P.Natarajan and **R.Chinnappan**, Novel features of the interpolymer self-organisation behaviour investigated using covalently linked protoporphyrin IX as fluorescent probe in the macromolecules. *Eur. Polym. J.* **2001**, 37, 2207. (Impact Factor: **6**)

### Research Funding

1. **SIDACTION** Postdoctoral Research Grand, Paris, France- 2004
2. IRG Research Grand ( PI) 2016, Alfaisal University, Kingdom of Saudi Arabia
3. IRG Research Grand ( PI) 2018, Alfaisal University, Kingdom of Saudi Arabia
4. Al Queel Liver Disease Fund ( Co-PI) 2023, KSA

### Recent Seminars and Conferences

1. Invited Talk: Nanomaterial in Sensing Technology workshop- presented the research work in University Sains Malaysia, Penang, **Malaysia** July 2018
2. Invited Talk: Aptamer Selection workshop University Sains Malaysia, Kota Bharu, **Malaysia**, October 2018

### Previous Employment

**Research and Development Chemist**, Carmel Industries Inc, **Canada** 2012 - 2014

- Formulation and production of solvent and aqueous-based paints
- Formulation of inks for permanent and temporary markers
- Developed new formula solid paint crayons for industrial applications
- Preparation of livestock markers and paint markers
- Prepared MSDS for the new products

**Research Scientist**, GDG Environment Ltd and INRS, Varennes, **Canada** 2010 - 2012

- Set up a new research and development laboratory for GDG Environment Ltd.
- Microcystin target molecules are bioconjugated on the sepharose beads and the activity of immobilized microcystins was estimated using phosphatase enzymatic assay.
- The high-affinity aptamers were selected by the SELEX. The bound aptamers were separated and PCR amplified.
- PCR products of the DNA aptamers from final rounds were cloned into pCR2.1-TOPO vector using TOPO TA cloning kit. The ssDNA inserts were amplified and sequenced.

- The dissociation constant of the aptamers for their corresponding targets was determined by the titration method.
- Cultured E.Coli bacteria and T4 bacteriophage for the development of label free E.coli detection by optical methods.

**Senior Research Associate, Sherbrooke University, Sherbrooke, Canada 2007-2010**

- Developed a fluorescence-based follow-up for the riboswitch transcription-controlled gene expression in real-time
- The DNA template of the RNA riboswitch was ligated into the DNA plasmid and study the riboswitch functions in-vivo.
- Used single-round transcription assay for the study of riboswitch activities using p<sup>32</sup> radio-labeled nucleotides.
- Carried out Selective 2'Hydroxyl Acylation analyzed by the Primer Extension (SHAPE) for determination of RNA secondary and tertiary structures.
- HPLC was used for the purification of homemade fluorescently labeled oligonucleotides

**Research Associate, Kansas State University, USA**

2006 - 2007

- Purified different types of monoclonal antibodies using the protein-A/G gel-packed affinity column chromatography.
- Used advanced KrF excimer and tunable dye laser instruments and carried out the experiments at cryogenic conditions ( liquid helium, 4K, -269°C)
- The difference in the affinity constants of isomers of benzo(a)pyrene diol epoxide DNA adducts and antibody immunocomplexes were differentiated using the high-resolution fluorescence line narrowing spectroscopy (FLNS) at cryogenic condition (4K)
- Immunoaffinity capillary electrophoretic separation of isomers of benzo(a)pyrene diol epoxide DNA adducts was achieved
- Experimentally proved the stabilization of the immunocomplexes of aromatic ligands and the antibodies stabilized by the Pi-Cation interactions using FLNS spectroscopy.

**Postdoctoral Research Fellow, Chemnitz University of Technology, Germany 2005**

- Variation of optical properties of the quantum dot nanoparticles with size distribution.
- photoluminescent blinking of QDs was studied using confocal and wide-field fluorescence microscopes.
- Influence of organic molecular interaction of the photoluminescence properties of quantum dot nanoparticles.

**Postdoctoral Research Fellow, Louis-Pasteur University, Strasburg, France 2003 - 2004**

- Inhibition of HIV-1 nucleocapsid (NCp) protein chaperone activity by small peptides
- Characterization (UV-Vis, fluorescence, pH study) of short peptides which inhibit NCp
- TAR and cTAR annealing kinetic pathways have been studied using real-time FRET
- DNA/RNA and protein binding studies



- Molecular mechanisms of Bodipy-pirenzepine binding to an enhanced green fluorescent protein (EGFP): fluorescence Single-photon counting study
- Peptide-siRNA binding interaction by in-situ tryptophan fluorescence

## **EDUCATION**

---

**Ph. D. Chemistry**, University of Madras, India 2004  
*Thesis Title:* Studies on the dynamics of fluorophore-bound macromolecules and their self-organization behaviors in aqueous solutions.

**M. Sc. Chemistry**, University of Madras, India 1997  
*Thesis Title:* Effect of solvent on the fluorescence properties of dimeric acridinedione dyes.

**B. Sc. Chemistry**, University of Madras, India 1995

## **AWARDS, MERITS AND MEMBERSHIPS**

---

- **Graduate Aptitude Test in Engineering (GATE)**, India 1997
- Junior Research Fellowship award, India 1997 -1999
- Senior Research Fellowship award, India 1999- 2003
- **SIDACTION** Postdoctoral fellowship award, France 2004
- Associate Member-American Association for Cancer Research Since 2006
- Internal Research Grand Award –Alfaisal University 2016
- Internal Research Grand Award –Alfaisal University 2018
- Research Excellence Award –Alfaisal University 2019
- Patent award -Alfaisal University 2020
- Patent award -Alfaisal University 2022
- Research Excellence Award –Alfaisal University 2023
- Al Queel Liver Disease Fund Award 2023