



## **Avinashilingam Institute for Home Science and Higher Education for Women**

(Deemed to be University Estd. u/s 3 of UGC Act 1956, Category A by MHRD)

Re-accredited with A++ Grade by NAAC. CGPA 3.65/4, Category I by UGC

Coimbatore - 641 043, Tamil Nadu, India

### **REPORT**

on

### **‘POSTER’ Competition**

## Report on POSTER Competition

In collaboration with Avinashilingam Central Library, Research & Development Cell organized 'POSTER competition, in January 2024. Research scholars and students from various departments of all schools were the participants. The students have been notified about the competition a month prior and registration link has been sent. They were instructed to follow certain rules to prepare themselves for the competition.

The list of instructions:

- Participants must walk into the library to refer PRINT only journals and should note down the volume number, ISSN and page number of the selected article. Participants have given liberation to choose topics from various domains as per their interest (referring E-ISSN journals will be disqualified)
- Footfalls of the library will be verified through the participants e-Gate entry and registration record
- The Research & Development and Library have initiated two competitions: Post-It & Poster for final PG and research scholars. The event took place in the \_\_\_\_\_ Library \_\_\_\_\_ on \_\_\_\_\_ 30-01-2024 from 10:30 am to 12:30 pm. A total of 21 students participated in the competition, and the esteemed panel of judges included Dr.G.Padmavathi, Dean, \_\_\_\_\_ School \_\_\_\_\_ of \_\_\_\_\_ Physical \_\_\_\_\_ Sciences \_\_\_\_\_ & Computational Sciences , Dr. S Sumathi, Associate Professor, Biochemistry Dr A.Vijayarani, Associate Professor& HOD and Dr. M.Anjum khan, Assistant Professor(SS) who diligently reviewed and assessed the entries and performances. The participants showcased innovative and creative ideas, elevating the standard of this event significantly.

The Post-It and Poster competitions successfully raised awareness about the Library Print Journals. In comparison to January last year, the usage of the journal \_\_\_\_\_ section \_\_\_\_\_ has \_\_\_\_\_ seen \_\_\_\_\_ a commendable increase from 21 to 391 this year. Nearly 60 users visited the Library regularly this month to refer to the print journals for the competition.

### Statistics for Post-It and Poster Competition 2024 (January 2024)

<b>S.No</b>	<b>School</b>	<b>No. of Users UG</b>	<b>No. of Users PG</b>	<b>No. of Users Ph.D</b>	<b>Total</b>
1	School of Home Sciences	-	81	22	<b>103</b>
2	School of Physical and Computational Sciences	7	153	22	<b>182</b>
3	School of Biosciences	30	10	2	<b>42</b>
4	School of Arts and Social Sciences	-	24	-	<b>24</b>
5	School of Commerce and Management	-	12	20	<b>32</b>
6	School of Education	-	4	4	<b>8</b>
<b>Total</b>		<b>37</b>	<b>284</b>	<b>70</b>	<b>391</b>

**In the previous year January 2023 for the Journal section the total usage is 21 students**

- 

The winners were selected and awarded with Gold medals. This program is planned to be conducted every quarter in the Library, with the next competition scheduled for April-June 2024.



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### Final round Winners of Poster Competition January 2024

#### Organized R&D Cell and Library

Poster Number	Judge 1 Mark 40	Judge 2 Mark 100	Judge 3 Mark 25	Judge 4	total	Name	Library Usage (Minutes)	Remarks
43	19	86	12.5	32	192.5	Shalini G 22pch017 M.Sc. Chemistry	460	I
45	21	75	20	28	189	R.Ramya 20phbcf001 Ph.D. Biochemistry	90	III
39	18	76	18	34	185	Nongthombamshimran Devi 21phhdf003 Ph.D. HD	120	
38	21	74	17.5	32	182.5	Sowmiya G, 22phfnf004, Ph.D. FSN	450	II
3	25	92	18.5	36	174.5	D.Tinu 22phfd004	120	
33	19	78	15.5	29	174.5	N.Anusri 22pch001 PG Chemistry	165	
47	24	64	11	25	171	Dhanalakshmi K 22pbt002 PG Biotechnology	120	

### Winners of Poster Competition January 2024

#### Organized R&D Cell and Library

Poster Number	Judge 1 Mark 40	Judge 2 Mark 100	Judge 3 Mark 25	Judge 4	total	Library Usage (Minutes)	Remarks	Name of the Winner/Class
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43	19	86	12.5	32	192. 5	460	I	SHALINI G 22PCH017 M.SC. CHEMISTRY
38	21	74	17.5	32	182. 5	450	II	SOWMIYA G, 22PHFNF004, PH.D. FSN
45	21	75	20	28	189	90	III	R.RAMYA 20PHBCF001 PH.D. BIOCHEMISTR Y

**Total number of participants: 49**

### Poster Evaluation Criteria

#### Design of Poster

- Use of Color: Pleasing color combinations, color use enhancing readability and attractiveness
- Layout/Design: Space was used effectively. Graphics and writing were not crowded and the layout was easy to follow.
- Creativity: Interesting use of materials, color and/or design that added to the impact of the poster
- Neatness: Poster was neat and organized

#### Content:

- Title: Easy to read, captured the idea/topic of the poster
- Written Material: Wording was limited, clear, easy to follow, easy to read and accurate
- Spelling, Usage, Grammar: Free of spelling mistakes, grammatical and punctuation errors

#### Graphics/Pictures/Illustrations:

Impact or message conveyed was enhanced by use of graphics/pictures/illustration and helped viewer understand content

#### References/Journals/Papers

The participant must have referred a minimum of five journals or five reference papers in the relevant domain and provided the citations in the poster

Overall Impression of Poster: Poster attracted attention, maintained interest and conveyed a message



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Coimbatore 641 045, Tamil Nadu, India

## POSTER COMPETITION



**Elevating Excellence and Celebrating Innovation**

### Important Dates:

\*Last date for Registration - 05.01.2024

\*Last date for Submission - 20.01.2024

### Who can Participate?

**III MCA, II PG and Research Scholars**

Scan to Register



Made with PosterMyWall.com

Registration link

<http://tinyurl.com/PosterRND>

Submit Posters to  
[rnd@avinuty.ac.in](mailto:rnd@avinuty.ac.in)

Medals  
for the  
Prize  
Winners



## POINTS TO BE NOTED

### Do's

1. Participants must refer - Print only journals kept in library.
2. Choose any topic of Interest.
3. Register using the link
3. Minimum 5 Journals should be in reference.
4. PPT of A4 size is needed (210 x 297 mm)
4. Name and references should be mentioned only in email.
5. Slide should be an attachment.
6. Only one person per poster is allowed.
7. Footfalls of library will be verified.
8. The poster should be in short graphical abstract of a review paper.

### Don'ts

1. Name and class should not be mentioned in the slide.
2. Referring eISSN journals without visiting library may be disqualified.

Organized by  
R and D cell & Library

Convener: Dr. P. Lalitha, Director R&D

Dr. Thilagavathi, Asst. Librarian

Organizing Secretaries: Dr. Shubashini K Sripathi and Ms. J. Geetha  
Organizing Team: Research Scholars

In case of any queries contact  
Dr. Shubashini K Sripathi, Deputy Dean, PSCS  
or R&D Cell

### Contact Details:

1. R. Dhanya Sruthi (PhD Chemistry) 20phchf002@avinuty.ac.in
2. R. Aparnapreethi (PhD Biochemistry) 21phbcf002@avinuty.ac.in

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## “POSTER COMPETITION”

### Certificate of Excellence

This is to certify that **Shalini G**, II M.Sc, Department of Chemistry has won  
**I Prize** in the Poster Competition organized by the **Research & Development Cell**  
**and Library**, Avinashilingam Institute for Home Science and Higher Education for  
Women, Coimbatore on **22.01.2024**.

Dr. T.Thilagavathi  
Assistant Librarian  
Convenor

Dr.P.Lalitha  
Director (I/c)  
Research & Development  
Cell Convenor

Dr.S.Kowsalya  
Registrar





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**GUIDELINES/PROFORMA FOR ORGANISING CONFERENCES, SEMINARS, WORKSHOPS, FDPs & Others**

Name of the Applicant : Dr.P.Lalitha Department : R&D Cell & Library School: R&D Cell & Library

1. Activity : Competition
2. Geographical Coverage : Institutional Level
3. Name of the Event : "Poster and Post-it Technique for Printed Journals" Competition
4. Date(s) : 2024- Every Quarterly
5. Venue : Library
6. Name & Designation of Convenor/Organizing Secretary and Team  
Dr.P.Lalitha Director R&D  
Dr.Thilakavathy, Asst.Librarian  
Organizing secretaries - Dr.Shubashini K Sripathi and Ms.J.Geetha
7. Financial Assistance Required: Yes(Budget Enclosed)
8. Details of assistance sought from other sources: (Govt/Private) Nil
9. Details of collaborating institution, if any: Nil
10. Detailed Proposal of the Activity

- A. Aims/Objectives : To increase the usage statistics of print journals and to enthuse research scholars
- B. Target audience/participants with expected number: 100
- C. Details of Sessions: 2024 Every Quarterly
- D. Please mention themes/topics to be covered under each Technical Session and names of National and International Resource Persons: Poster competition - online and post-it will be conducted every quarterly.

11. Registration fee : No

*[Signature]*  
19/12/23  
Organizing Secretary

*[Signature]*  
19/12/23  
Conveners

*[Signature]*  
19/12/23  
Director R&D

*[Signature]*  
20/12/23  
Registrar

*[Signature]*  
19.12.23  
Based on VC's Advice  
Approved  
Vice Chancellor 22/12/23

*[Signature]*  
Finance Officer

*[Signature]*  
20/12/23  
vc/Read/Hab  
22/12/23



# FFT Based Algorithm in smart watches for Disabled person

Fast Fourier Transform based algorithm are the fastest algorithm. In recent times, smart watches are designed using NPU operating system for intelligence interference assistance. I propose that CPU + NPU with fft algorithm can be used by blind person for assistance due to its high performance nature.

## Introduction

Technology evolved a lot to make our lives simple. In the generation of AI fortunately we can create much more assistance for disabled persons. Recently in smartwatches NPU is used to execute machine learning algorithms. For disabled people data processing requirements will be even higher. In order to facilitate the speed of data computing and energy efficiency we use Fourier transform based algorithms such as radix-2fft, radix-4fft, radix-8fft, etc.

## Radix-2 Decimation In Time (DIT) FFT Algorithm

Butterfly diagram



## Previous study

- Design and Implementation of 1024 Point Pipelined Radix 4 FFT Processor on FPGA for Biomedical Signal Processing Applications
- Algorithm and Related Application for Smart Wearable Devices to Reduce the risk of Death and Brain Damage in Diabetic Coma

## Methodology

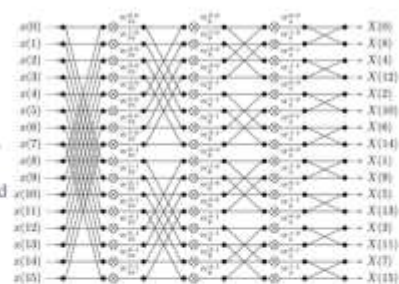


## Results

A smart watch based on NPU operating system using FFT algorithm will be more efficient for disabled person

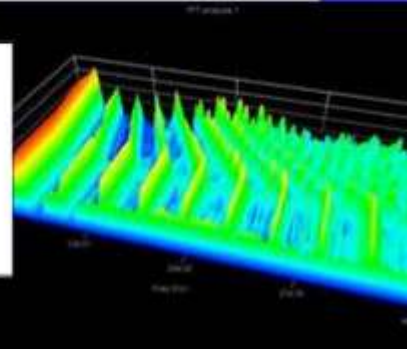
## Analysis

- Recently Intel has announced smart watches to be made based on NPU operating system.
- The Fourier Transform and its variants are widely used data preprocessing techniques. Numerous research studies have explored heterogeneous acceleration techniques. However, the predominant focus of these studies has been on GPUs and FPGAs, with comparatively less attention given to NPUs.
- An NPU is a specialized processor explicitly designed for executing machine learning algorithms. Unlike traditional CPUs and GPUs, NPUs are optimized for handling complex mathematical computations integral to artificial neural networks.
- Thoughts of brain EEG signal-to-text conversion using weighted feature fusion-based Multiscale Dilated Adaptive DenseNet with Attention Mechanism



## Conclusion

Using Advanced FFT algorithm we could make sure all the desirable features that could possibly assist disabled person is practically possible. With the aid of smart watches based on NPU using FFT algorithm.







## ESSENTIAL NUTRIENTS FOR THE MANAGEMENT OF COVID - 19

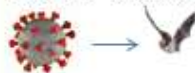


### Introduction



### COVID - 19

- It is defined as a disease caused because of a **novel Coronavirus**.
- First spotted – China (Dec-2019).

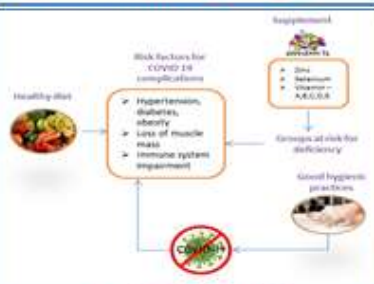


### Its effect on human

- In humans, COVID causes Respiratory Tract Infection that are usually mild and are responsible for almost **15% of the epidemic common colds in winters**.
- As of June 2023, more than **8.99 million cases** of COVID - 19 and more than **49,587 associated deaths** were reported world wide.
- Social isolation** is the best preventive measure to avoid the spread and is often unpleasant experience that may have negative effects on mental health.
- Emotional and Psychological symptoms** – Changes in mood and altered sleep or eating patterns, worsening of chronic health conditions, weight gain and increased use of alcohol, tobacco or illegal drugs.

### Importance of nutrients

- Optimal nutrition** is one of the main determinants of health that can improve well being and mitigate the harmful health consequences associated with social distancing by helping to prevent or control most chronic diseases, aid in the regulation of sleep and mood and prevent fatigue.
- Nutritional modulation of the **immune system** is also important across the age spectrum.
- During early childhood, **breast feeding** can provide protection against infections and respiratory diseases as breast milk contains **antibodies, enzymes and hormones** that can offer health benefits.
- In older adults, the group at most risk for COVID - 19 changes in dietary habits lead to significant alteration in immunity and inflammation termed as **immunosenescence and inflammaging**.



No. of articles referred: 10  
No. of articles reviewed: 7

### Types of nutrition

#### Immune nutrition

Vitamin	Functions
A	Defence against infections
B	Influences natural killer cells and cytotoxic CD8-
C	Involvement in phagocytosis, antibody production
D	Receptors present on monocytes
E	Potential antioxidants, capacity to protect cells



#### Redox nutrition

Associated with clinical onset of hypoxia triggered by imbalance in the redox state, inflammation and ensuing cytokine storm.

#### Essential Nutrients



#### Nutrient – related disruption viral entry and replication



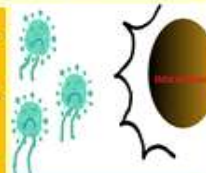
#### Bioactive compounds

- Resveratrol
- Quercetin
- Luteolin
- Naringenin
- Zingiberene
- Gallic acid

## Antimicrobial Activity of Transition metal complexes

### Introduction

- Antimicrobial activity is used to test the effectiveness of preventing their diseases caused by microorganisms like bacteria, fungi, viruses and parasites.
- Depending upon the nature of metal and ligands, transition metal complexes (TMCs) show different antimicrobial activity.
- TMCs complexes generally have good inhibiting potential against bacteria and fungi especially transition metals like Cu(II), Ni(II), Zn(II), Cd(II), Pb(II), and Fe(II) due to ligands bearing nitrogen, oxygen, and sulfur donor atoms.
- Several new complexes of transition metals such as cobalt(II), nickel(II) and zinc(II) have been synthesized and their antimicrobial activity has been tested.
- Several reviews have been reported on transition metal complexes and their antimicrobial activity.



### Antimicrobial assay methods

- Paper disc method, Kirby-Bauer disc diffusion, Radial growth method, Agar well diffusion, Cup-plate method.

### Methods and Complexes



### Bacterial Strains

- Escherichia coli*
- Klebsiella aerogenes*
- Pseudomonas sp.*
- Staphylococcus aureus*
- Bacillus subtilis*
- Corynebacterium*
- Proteus vulgaris*
- Salmonella enterica*
- P. aeruginosa*


### Fungi strains

- Fusarium oxysporum*
- Colletotrichum capsicae*
- Aspergillus niger*
- F. Chlamydosporum*
- Fusarium verticillioides*
- Aspergillus oryzae*
- Candida albicans*
- Flavus*
- R. Stolonifer*
- S. cerevisiae*

### Conclusion:

- Toxicity increased to complexes than ligands, few showed more fungi than bacterial agents.
- Chelation of metals with organic ligands improved synergy for all complexes, which led to effectiveness against microbes.
- The toxicity of metal chelates increases against microbes as concentration increases.
- One of the ligands has shown outstanding antifungal efficiency against the organisms due to the ligand chelating capacity to bind fungal organisms caused by hormones and C-N moiety in the ligand.
- The structures confirmed from FTIR, <sup>1</sup>H NMR, Powder XRD, Mass, UV-visible, and ESR for both ligands and complexes.
- Most of the complexes have exhibited octahedral geometry.
- Among the complexes, Cu(II), Zn(II) metal has shown increased antimicrobial activities.

In the future, if these complexes have proven efficiency *in vivo* analysis and clinical trials may be enhanced for commercial product.

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- Sustainable Tourism has become the buzz word of the tourism industry globally
  - The study applied SPAR-4-SLR, a scientific research protocol, to identify 56 articles from WoS-indexed journals, then used Sci2 & Gephi technique
  - Smart tourism & Technology helps promote sustainable tourism that results in satisfaction and sustainability
  - "Sustainability Spectrum" must be developed to assess the destination's level of Sustainability that involves Triple Bottom line principle
  - The study contributes to sustainability literature by examining the ideas and concepts in a service sector that has a significant negative influence on environment and society

## Sustainable tourism research in India: A Review study

Shekar

Poonam Singh

Sanket Shekar