

National Institute of Technology, Tiruchirappalli:  
Performa for CV of Faculty/ Staff Members

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**Curriculum Vitae**



Please attach your  
recent  
Photograph  
  
in the form of  
softcopy/hardcopy  
(Optional)

Brief Profile: 1-2 paragraphs (not exceeding 500 words)

Dr. Michael Arock is an Associate Professor presently working in the Department of Computer Applications, National Institute of Technology, Tiruchirappalli. He graduated as a BSc(Mathematics) from GTN Arts College, Dindigul, Madurai Kamaraj University and as an MCA from St. Joseph's College, Bharathidasan University and earned his PhD from NITT under Bharathidasan University. His Doctoral thesis is on Design and Analysis of Parallel Algorithms on CREW PRAM and LARPBS models. His specialization is Parallel Algorithmics. His areas of Interest include Data Structures and Algorithms, High Performance Computing and Bioinformatics. Currently, he has produced four doctorates in the field of DNA computing, Natural Language Processing and Bioinformatics. He has reviewed two books for Pearson Education and an article for an international journal. He concerns student counseling, motivating for better placements and designing value-based life-style. His hobbies are writing both classical and modern poems in Tamil, writing articles in Tamil and English and reading books, especially on Philosophy.

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|-----------------------------------|---|
| 1. Name:                          | <b>Dr. Michael Arock</b>                                  |
| 2. Designation:                   | Associate Professor                                       |
| 3. Office Address:                | Department of Computer Applications<br>NIT, Trichy 620015 |
| 4. Telephone (Direct) (Optional): | 0431-250-3736   |
| Telephone :                       | Extn (Optional):  |
| Mobile (Optional):                | 9842378952  |
| 5. Email (Primary):               | michael@nitt.edu  |
|                                   | Email (Secondary)<br>:michael.arock@gmail.com             |
| 6. Field(s) of Specialization:    | Parallel Algorithmics                                     |

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### 7. Employment Profile

Job Title	Employer	From	To
Lecturer	Principal, RECT	06.10.1997	22.04.2010
Associate Professor	Director, NITT	23.04.2010	Till date

### 8. Academic Qualifications (From Highest Degree to High School):

Examination	Board / University	Year	Division/ Grade	Subjects
Ph.D.	Bharathidasan	2006	-	-
MCA	Bharathidasan	1996	First Class	-
BSc	Madurai Kamaraj	1993	First Class with Distinction	Mathematics
Higher Secondary	State Board	1990	First class	Science Group

### 9. Academic/Administrative Responsibilities within the University

Position	Faculty/Department/Centre/Institution	From	To
	NIL		

### 10. Academic/Administrative Responsibilities outside the University

Position	Institution	From	To
	NIL		

### 11. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization
	NIL	

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### 12. Fellowships

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)	To (Month/Year)
	NIL			

### 13. Details of Academic Work

#### (i) Curriculum Development

In 1998, developed revised curriculum for MCA programme

#### (ii) Courses taught at Postgraduate and Undergraduate levels

PG Level:

Design and Analysis of Algorithms

Parallel Computing

High Performance Computing

Data Structures and Applications

UG Level:

DBMS

Data Structures

#### (iii) Projects guided at Postgraduate level

On an average, 8 projects per year for 18 years

### 14. Details of Major R&D Projects

Title of Project	Funding Agency	Duration		Status
		From	To	Ongoing/ Completed
		NIL		

### 15. Number of PhDs guided

Name of the PhD Scholar	Title of PhD Thesis	Role(Supervisor/ Co-Supervisor)	Year of Award
B. Smitha E. Zoraida	Realization of Boolean operations and logistics using DNA strands	Supervisor	Aug 2010
T.Geetha	Enhanced Data Clustering Techniques	Supervisor	Aug 2011
U.Srinivasulu Reddy	Meta-heuristic Techniques for Motif finding problems	Supervisor	Jul 2013
S.Sangeetha	Detection and Extraction of Events from Natural Language Text Documents	Supervisor	Nov 2013

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16. Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/ Schools etc. (mentioning the role)

Date (s)	Title of Activity	Level of Event (International/ National/ Local)	Role (Participant/ Speaker/ Chairperson, Paper presenter, Any other)	Event Organized by	Venue
22.03.2004 to 02.04.2004	Recent trends in Data Warehousing and Data Mining	National	Participant	NIT, Warangal	NIT, Warangal
24.05.2004 To 06.06.2004	Parallel Algorithms and Architecture for High Performance Computers	-do-	-do-	GCT, Coimbatore	GCT, Coimbatore
12.09.07 To 18.09.07	Training program on Bioinformatics for senior scientists and technologists	-do-	-do-	CCMB, Hyderabad	CCMB, Hyderabad
Dec 2006	International Conference on Advanced Computing and Communications	International	Paper presenter	NITK, Surathkal	NITK, Surathkal

17. Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/ Organizing Secretary/ Convenor / Co-Convenor)

Title of Activity	Level of Event (International/ National/ Local)	Date (s)	Role	Venue
workshop on “Trends in Bioinformatics”	Local	1 <sup>st</sup> and 2 <sup>nd</sup> February, 2008	Co-Convenor	NITT

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### 18. Invited Talks delivered

Topic	Date	Inviting Organization
DNA Computing	29.09.2006	Academic Staff College, Bharthidasan University
Data Structures and Algorithms for a total of 16 hours duration	May and June 2007	NIT, Trichy
'Programming Process' for a total of 15 hours duration	August, 2007	ACM Student Chapter, NITT
Parallelization in Bioinformatics	13.02.2008	Academic Staff College, Kerala University, Trivandrum
Parallel Computing and DNA Computing	08.03.2008	Academic Staff College, Pondicherry University, Pondicherry

### 19. Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member )	Organization	Membership No. with date
Life Member	Computer Society of India	since 2011
-do-	Indian Society for Technical Education	since 2004

### 20. Academic Foreign Visits

Country	Duration of Visit	Programme
Kathmandu, Nepal, December 2005	Two days	IEEE co-sponsored International conference on Innovative applications of IT for developing world

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21. Publications

(A) Refereed Research Journals:

Author(s)	Title of Paper	Journal	Volume (No.)	Page numbers	Year	Impact Factor of the Journal (Optional)
J.Jayapriya, Michael Arock	Cellular Automata-Based PSO Algorithm for Aligning Multiple Molecular Sequences	<i>International Journal of Applied Evolutionary Computation (IGI-Global)</i>	Vol.7 (1)	1-15	2016	
-do-	Aligning Two Molecular Sequences using Genetic Operators in Grey Wolf Optimizer Technique	<i>International Journal of Data mining and Bioinformatics (Inderscience)</i>	Vol.6 (4)	328-349	2016	
-do-	A Novel Distance Metric for Aligning Multiple Sequences using DNA Hybridization Process	<i>International Journal of Intelligent Systems and Applications (MECS)</i>	Vol.8(6)	40-47	2015	
-do-	Enhanced Bio-Inspired Algorithm For Constructing Phylogenetic Tree	<i>Journal of Soft Computing (ICTACT)</i>	Vol.6 (1)	1061-1069	2012	
R. Eswari, S. Nickolas and Michael Arock	A Path Priority based Task Scheduling for Heterogeneous Distributed	Intl. Journal of Communication Networks and Distributed Systems	12(2)	183-201	2014	

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	Systems					
S.Sangeetha, R.S.Thakur, and Michael Arock	Event detection using trigger chain	Int. J. Knowledge Engineering and Data Mining	2(1)	76-88	2012	
-do-	Domain Independent Event Extraction System using Text Meaning Representation Adopted for Semantic Web	Int. J. Computer Information System and Industrial Management Applications	2	252-261	2010	
U.Srinivasulu Reddy, Michael Arock and A.V.Reddy	Planted (l, d) - Motif Finding using Particle Swarm Optimization	Int. J. Computer Applications	2	51-56	2010	
Michael Arock, U.Srinivasulu Reddy, and A.V.Reddy	A parallel combinatorial algorithm for subtle motifs	Int. J. Bioinformatics Research and Applications	6(3)	260-269	2010	
B.S.E.Zoraida, Michael Arock, B.S.M. Ronald and R.Ponalagusamy	A novel generalized design methodology and realization of Boolean operations using DNA	Biosystems( <i>Elsevier</i> )	97(3)	146-153	2009	

(B) Conferences/Workshops/Symposia Proceedings

Author(s)	Title of Abstract/ Paper	Title of the Proceedings	Page numbers	Conference Theme	Venue	Year
J.Jayapriya, Michael Arock	Hybrid Algorithm for Multiple Sequence Alignment	Third IFIP International Conference on Bioinformatics	110		MANIT,Bhopal	2013
J.Jayapriya, Michael Arock	A parallel GWO technique for aligning	Advances in Computing, Communications and Informatics	210-215		Kerala, INDIA	2015

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	multiple molecular sequences	(ICACCI 2015)				
J.Jayapriya, Michael Arock	Pairwise Local Alignment using Wavelet Transform	12th IEEE India International Conference (INDICON 2015)	1-5		New Delhi, INDIA	2015
U. Srinivasulu Reddy, Michael Arock, A.V. Reddy	A Particle Swarm Optimization Solution for Challenging Planted( $l, d$ )-Motif Problem	2013 IEEE Symposium Series on Computational Intelligence	222-229		Singapore	2013
U. Srinivasulu Reddy, Michael Arock, A.V. Reddy	Finding Gapped Motifs with variable length gaps in unaligned DNA sequences using Particle Swarm Optimization Technique	5th International Conference on Bioinformatics and Computational Biology (BICoB)	19-24		Honolulu, Hawaii, USA	2013

**(C) Books & Monographs**

Author(s)	Title of Book/Monograph	Name of Publishers	Year of Publication	ISSN/ISBN Number
Michael Arock	Fundamentals of Programming with C	Yes Dee Publishers	2014	ISBN:978-93-80381-41-1