Dr.K.Kavitha, M.E., Ph.D.,
Professor and ECE
Velammal College of Engineering and Technology, Madurai
E-Mail Id: kavi@vcet.ac.in

Educational Qualification:

	Degree	Year	Subject	University/Institution	% of Marks
1.	Ph.D	2016	Hyperspectral Image Classification	Anna University	-
2.	M.E	2000	Microwave and Optical Engineering	Madurai Kamaraj University	75
3.	B.E	1998	Electronics and Communication Engineering	Madurai Kamaraj University	72.75

Experience in Years: 22 Years 3 Months

Employment History:

S.No.	Positions held	Name of the Institute	From	To
1.	Professor	Velammal College of Engineering and Technology, Madurai	17.01.2019	Till date
2.	Associate Professor	Mepco Schlenk Engineering College, Sivakasi	01.08.2014	12.01.2019
3.	Assistant Professor (Senior Grade)	Mepco Schlenk Engineering College, Sivakasi	01.07.2013	31.07.2014
4.	Assistant Professor	Mepco Schlenk Engineering College, Sivakasi	01.07.2009	30.06.2013
5.	Senior Lecturer	Mepco Schlenk Engineering College, Sivakasi	01.08.2006	30.06.2009
6.	Lecturer	Mepco Schlenk Engineering College, Sivakasi	10.01.2001	31.07.2006
7.	Lecturer	A.K.College of Engg., Krishnankoil	01.06.2000	09.01.2001

Interested Research Areas: **Antenna Design and Optimization**
    Image Processing
    Optical System Design

Scholarships and Awards received and other Accomplishments:

National Level Accomplishments:
- Received the **Best Faculty Advisor Award** for the academic year 2017-2018 from **Institute of Engineers (India)**, New Delhi on 23.03.2018
- Selected for **Dr. A.P.J. Abul Kalam, Teachers' Excellence Award** for the Year 2020 by Shikshak Kalyan Foundation, Gaziabad
- Selected as one of the **Translators** for **NPTEL SWAYAM** Courses to translate ECE subjects into Tamil. Translator ID: Tran2330
- Received the Grant of Rs. 42,064/- from **DST, New Delhi under International Travel**

Support Scheme to present a paper entitled**, "**Combined Feature based Hyperspectral Image Classification Technique using SVM" in the International Conference on Signal and Image Processing organized by **World Academy of Science Engineering and Technology** (WASET), Singapore during August 25-27, 2010

University Level Accomplishments:
- Received the **Best Article Cash Award** from Centre for Development of Tamil in Engineering & Technology, **Anna University**, Chennai on 12.10.2018

State Level Accomplishments:
- Delivered a Talk on Online Games and Deep Blue in **All India Radio**, Tamilnadu and Puducherry Stations on 17.07.2021
- Gave an Interview to **All India Radio**, Tamilnadu and Puducherry Stations on Deep Learning on 25.09.2021
- Received **Puthumai Bharathi** Award from **Agni Siragukal Arakkattalai**, Krishnagiri for state level best article writing in 2019

Institution Level Accomplishments:
- Received appreciation for more than **15 long years of service** at **Mepco Schlenk Engineering College** with Cash Award and 20gms of Silver Coin

Funded Research Projects:

Sl.No.	Duration	Title of the Sponsored Research	Agency	Role	Approved Amount in Rs
1.	20.07.2020-19.12.2021	Modernization of Image Processing and Remote Sensing Data Analysis Centre	AICTE, AQIS	CI	16,57,940/-
2.	08.07.2016 to 07.07.2018	Design of a Multiband and Polarization Sensitive Smart Antenna using Support Vector Machine (SVM) based Direction of Arrival (DOA) estimation techniques and Genetic Algorithm based optimization for Indoor Positioning	ISRO-RESPOND	CI	9,68,000/-
3.	03.09.2010 to 02.09.2011	Design of a Four Arm Sinuous Slot Antenna	MSME	PI	5,83,600/-

Other related R & D Activities:

Received a Grant of Rs. 30,000/- from **CSIR**, New Delhi for organizing a **National Level Technical Seminar** on Recent Issues in Antenna Design and Testing during 24.09.2013 to 25.09.2013

Patents Filed:
- A full specification patent titled, Genetic Algorithm inspired Four Arm Sinuous Slot Antenna for X-band Applications with Application number 202141020253
- A provisional patent titled, Complementary DNA Fibonacci Antenna for Frequency

Reconfigurability Applications with Application number 202141020324
- A provisional patent titled, Multianalyte method and system for meat quality checking using hyperspectral imaging with Application number 202241032119

Copyrights Claimed:
- Instruction System Design for Radiating System (21CM204) with diary number 11772/2022-CO/L
- Instruction System Design for Satellite Communication with diary number 11243/2022-CO/L

Other Technical Accomplishments:

Formed a Start-up Company named *"Omnifficient Solutions"* housed at VCET, Madurai (MSME Udyam Number of the Company: UDYAM-TN-32-0019888)

Academic Research:

Ph.D. Scholar Details:

Sl.No.	Name of the Scholar	Area of Research	Status
1.	Karthika K	Antenna Design and Optimization	Pursuing
2.	Balaji Vignesh L K	Antenna Design	Pursuing
3.	Rajprabu R	Image Processing	Pursuing
4.	Kala T	Image Processing	Pursuing
5.	Gowri Manohari R	Antenna Design	Pursuing
6.	Sharmila Banu D	Image Processing	Pursuing
7.	Vijay Gokul S	Antenna Design	Pursuing
8.	Naveena S	Image Processing	Pursuing
9.	Padma Priya K	Image Processing	Pursuing

Publications Details:

International Journal Publication and Book Chaper Details:

Sl.No.	Month -Year	Title of the Paper	Journal Details
1.	June - 2022	Plant Disease Identification using DenseNet Architecture	GIS Science Journal (ISSN NO : 1869-9391), Volume 9, Issue 6, pp: 146- 155, 2022
2.	Feb- 2022	Fuzzy Inspired Three Dimensional DWT and GLCM Framework for Pixel Characterisation of Hyperspectral Images	Book titled, "Artificial Intelligence, Internet of Things (IoT) and Smart Materials for Energy Applications", Taylor and Francis
3.	May-2021	Reconfigurable Antennas for Advanced Wireless Communications: A Review	Wireless Personal Communication, Page No.:1-61, 2021, doi: 10.1007/s11277-021-08555-4.

4.	Sep- 2020	Design of eight element MIMO Antenna array for Wireless Access Points.	Journal of Xidian University, Volume 14, Issue 9, Page No.: 847 – 854.
5.	Aug- 2020	Design of Microstrip Fractal Antenna for Vehicle to Vehicle Communication	Journal of Xidian University, Volume 14, Issue 8, Page No.:1127 - 1137
6.	June-2020	Metamaterial inspired Wearable Antenna for Medical Applications.	International Journal of Innovative Research in Computer and Communication Engineering, Vol.8, No.6, 2020, Page No.: 1111-1115
7.	Jan-2019	Metamaterial Superstrate Antenna Design with Gain Enhancement	International Journal of Applied and Engineering Research, Vol.No:1, Issue No:1; Page No.: 2272-2277
8.	Sep-2018	Self Complementary Frequency Independent Triple Band Sinuous Antenna Array For Wireless Applications	Progress In Electromagnetics Research Letters, Vol.No: 78, Issue No: 1; Page No.: 89-9
9.	Aug-2018	A Survey on Fractal Antenna Design	International Journal of Pure and Applied Mathematics, Vol. No: 120, Issue No: 8; Page No.: 10942-10958
10.	Jul-2018	Design of a Fork Shaped Frequency Reconfigurable Antenna for WLAN Applications	International Journal of Pure and Applied Mathematics, Vol.No: 119, Issue No: 15; Page No.: 2503-2511
11.	May-2018	Design of H-Shaped Microstrip Hybrid Patch Antenna for C-Band Applications	International Science and Technology Journal, Vol.No: 7, Issue No: 3; Page No.: 214-219
12.	May-2018	Contourlet based Hyperspectral Image Classification	Journal of Remote Sensing GIS & Technology, Vol.No: 4, Issue No: 1; Page No.: 1-5
13.	Apr-2018	Performance of various Wavelet Based Features on AVIRIS Data Classification	Journal of Remote Sensing GIS & Technology, Vol.No: 4, Issue No: 1; Page No.: 5-9
14.	Apr-2018	Design of Koch Fractal Bowtie Antenna for Multiband Applications	Journal of Communication Engineering and Its Innovations, Vol.No: 4, Issue No: 1; Page No.: 1-6
15.	Dec-2017	Design of a Sierpinski Gasket Fractal Bowtie Antenna for Multiband Applications	International Journal of Applied Engineering Research, Vol.No: 13, Issue No: 9; Page No.: 6865-6869
16.	Jan-2017	PSO inspired Hyperspectral Image Classification	International Journal of Engineering Research in Electronics and Communication Engineering (IJERECE), Vol.No: 4, Issue No: 12; Page No.: 103-108
17.	Jan-2017	Single Band MIMO Antenna For WLAN/Wi-MAX Application	International Research Journal of Engineering and Technology

			(IRJET), Vol.No: 3, Issue No: 1; Page No.: 1686-1689
18.	Jan-2017	CPW fed compact UWB fractal antenna design	EPRA International Journal of Research and Development (IJRD), Volume No: 2, Issue No: 1; Page No.: 100-104
19.	Feb-2017	Design of Rounded Bowtie Antenna for Indoor Applications	International Journal of Science and Research, Vol.No.: 5, Issue No.: 11, Page No.:1151-1154
20.	Dec-2015	Hyperspectral Image Classification Using Support Vector Machine in Ridgelet Domain	National Academy Science Letters, December 2015, Vol.No.: 38, Issue No.: 6, Page No.:475-478
21.	May-2015	Combined Feature based Spatial Composite Kernel Formation for Hyperspectral Image Classification	Journal of Innovative Research in Science, Engineering & Technology, May 2015, Vol.No.: 4, Issue No.: 5, Page No.:2902-2910
22.	Oct-2014	Fuzzy Inspired Image Classification Algorithm for Hyperspectral Data using Three Dimensional Log – Gabor Features	International Journal for Light and Electron Optics, October 2014, Vol.No.: 125, Issue No.: 20, Page No.:6236-6241
23.	May-2014	Classification of Pavia University Hyperspectral Image using Gabor Transform and SVM	International Journal of New Trends in Electronics & Communication (IJNTEC), May 2014, Vol.No.: 2, Issue No.: 3, Page No.:9-14
24.	Apr-2014	An Ensemble Classification Algorithm for Hyperspectral Images	International Journal of Signal & Image Processing (SIPIJ), April 2014, Vol.No.: 5, Issue No.: 2, Page No.:109-118
25.	May-2013	Role of Zernice Moments in Hyperspectral Image Classification	International Journal of Scientific Engineering & Technology, May 2013, Vol.No.: 2, Issue No.: 5, Page No.:383-387
26.	Apr-2012	Performance Comparison of DWT and DTCWT in Hyperspectral Image Classification	International Journal of Image Video and Signal Processing (IJRIVSP), April 2012, Vol.No.: 1, Issue No.: 1, Page No.:--
27.	Apr-2012	Performance Comparison of DWT and DTCWT in Hyperspectral Image Classification	International Journal of Image Video and Signal Processing (IJRIVSP), April 2012, Vol.No.: 1, Issue No.: 1, Page No.:55-60
28.	Mar-2012	Hyperspectral Image Classification using M-Band Wavelet Transform	International Journal of Advances in Engineering & Technology, (IJAET) March 2012, Vol.No.: 3, Issue No.: 1, Page No.:525-533
29.	Jan-2011	SVM Based Classification using MRF Features for Hyperspectral Images	International Journal of Applied Computing, Vol.No.: 2, Issue No.: 1, Page No.:13-18

30.	Feb-2010	A Novel Feature Derivation Technique for SVM based Hyper Spectral Image Classification	International Journal of Computer Applications, February 2010, Vol.No.: 1, Issue No.: 15, Page No.:27-39

International Conference Presentation Details:

Sl.No.	Year /Month	Name of the Paper	Name of the Conference / Others
1.	25/03/22 – 26/03/22	Design of Compact Frequency Reconfigurable Antenna for Sub–6 GHz 5G Application	IEEE conference on Advanced Computing and Communication Systems - ICACCS 2022 at Sri Eshwar College of Engineering, Coimbatore.
2.	25/03/22 – 26/03/22	Frequency Reconfigurable Antenna and its Switching Techniques for Wireless Communication Systems: A Study	IEEE conference on Advanced Computing and Communication Systems - ICACCS 2022 at Sri Eshwar College of Engineering, Coimbatore.
3.	06/04/2017	Mixed Fiber Optical Parametric Amplifiers for Broadband Optical Communication Systems with Reduced Nonlinear Effects	6th IEEE International Conference on Communication & Signal Processing, organized by Athiprasakthi Engineering College, Melmaruvathur during April 6-8, 2017, Page No.: In CD
4.	05/10/2016	Electrically Small Dipole Antenna Design for RFID tag application using single layer substrate	International Conference on "Computation, Communication and Innovation, Page No.:73-78
5.	23/03/2016	Electrically Small Monopole Antenna Design for RFID Tag Applications	IEEE International Conference on Wireless Communication Signal processing & Networking (WiSPNET'16), SSN College of Engineering, Chennai, Page No.: In CD
6.	17/03/2016	Reconfigurable Microstrip Stacked Array Antenna	International Conference on Innovations in Information Embedded and Communication Systems (ICIIECS'16), Karpagam College of Engineering, Coimbatore, Page No.: In CD
7.	09/01/2015	Design of a Metamaterial Rectanna for GPS Applications	IEEE International Conference on Intelligent Systems and Control (ISCO 15), Karpagam College of Engineering, Coimbatore, Vol.No:1, Page No.:906-910

8.	18/12/2014	Wavelet Transform based Land Cover Classification of Hyperspectral Images	International Conference on Communication and Network Technologies (2014 ICCNT), Dept. of Electronics and Communication Engineering, Mepco Schlenk Engineering College, Sivakasi, Page No.: In CD
9.	21/04/2013	Design & Simulation of a Triangular Fractal Antenna with Slit for IRNSS & GAGAN Applications	IEEE International Conference on Information Communication & Embedded Systems (ICICES '13), S.A. Engineering College, Chennai, Page No.:In CD
10.	21/02/2013	Design of a Triangular Fractal Patch Antenna with Slit for IRNSS and GAGAN Applications	International Conference on Information Communication & Embedded Systems (ICICES '13), S.A. Engineering College, Chennai, Page No.:In CD
11.	23/02/2011	Design and Simulation of a Carbon Nano Tube Conformal Antennas	International Conference on Information, Communication & Embedded Systems (ICICES 2011), S.A.Engineering College, Chennai , Page No.:Abs.93
12.	25/08/2010	Combined Feature based Hyperspectral Image Classification Technique using SVM	International Conference on Signal & Image Processing (ICSIP 2010), World Academy Science Engineering and Technology (WASET), Singapore, Page No.:373-379
13.	29/07/2010	Wavelet based Spatial Spectral Feature based Hyperspectral Image Classification using SVM	International Conference on Computing, Communication and Networking Technologies (ICCCNT '10), Chettinad College of Engineering and Technology, Karur, Page No.:In CD
14.	10/06/2010	SVM Based Image Classification using Run Length Features	International Conference on Intelligent Information Systems and Management (IISM '10), RVS College of Engineering & Technology, Coimbatore, Page No.:In CD.
15.	11/08/2008	Mutual Information based Image Registration Method	International Conference on Digital Factory (ICDF - 2008), Organized by Coimbatore Institute of Technology, Coimbatore, Page No.:Abs. pp. 103
16.	07/02/2005	Communication network planning using Remote Sensing and Geo-Information Systems	MAP INDIA-2005 and GEOMATICS-2005, New-Delhi, Page No.:186

National Conference Presentation Details:

Sl.No.	Date	Name of the Paper	Name of the Conference / Others
1	29/07/2011	Multi Resolution Transform based Ensemble Classifier for Hyperspectral Images	Annual Convention on Geo Spatial Technologies & Applications, Sathyabama University, Chennai, Page No.:Abs. in 30
2	09/04/2008	Intensity based Image Registration	4th National Conference on High Performance Computing (Vision '08), Organized by Government College of

			Engineering, Tirunelveli, Page No.:176-179
3	19/03/2008	Gray Level Grouping - an Automatic Method for Optimized Contrast Enhancement	National Conference on Advanced Communication Techniques (NCACT '08), Department of ECE, A.C.C.E.T, Karaikudi , Issue No.: In CD, Page No.:Abs.52
4	13/03/2008	Hue Preserving Color Image Enhancement without Gamut Problem	National Conference (CONTECE '08), Organized by Department of ECE, Dr.MGRUniversity, Maduraveyol, Chennai, Page No.:171-177
5	05/04/2007	Demosaicing of Colour Images	National Conference on EMET'07, Organized by Oxford Engineering College, Trichy, Page No.:97-101
6	29/03/2007	Communication Network Planning	National Conference on Advanced Communication Techniques (NCACT '07), Organized by A.C. College of Engineering, Karaikudi, Page No.:4.23-4.27
7	02/09/2006	Moving object segmentation using wavelet transform	National Conference on Broadband Communication Systems [NCBCS-2006], organized by Vishwakarma Institute of Information Technology, Pune, Page No.:In CD
8	30/03/2005	Site suitability for providing optimum towers and shortest path for providing Wide Area Network access by using Geo-Information Systems	National Conference on Advanced Communication Systems, Karaikudi, Page No.:12
9	11/03/2005	Communication network management by using Remote Sensing and Geo-Information Systems	National Conference on Communication information and telematics, Coimbatore, Page No.:13

Guest Lectures Delivered:

Sl.No.	Date	Type of the Programme	Details of the Guest Lecture	Organized by
1.	03.08.21	FDP	Optimization Issues in Microwave Antenna Design	GCT, Coimbatore and AC Government College of Engineering and Technology, Karaikudi
2.	09.08.21	Value Added Course	Introduction to RF Filter Design	Kumaraguru College of Technology, Coimbatore
3.	23.03.21	AICTE Sponsored STTP	Road ahead Computational Intelligence on Modern Microwave Antenna Design and Optimization	Sreenivasa Institute of Technology And Management Studies

Sl.No.	Date	Type of the Programme	Details of the Guest Lecture	Organized by
				(Autonomous), Chithoor, AP
4.	18.12.20	Guest Lecture arranged by R & D Cell	Introduction to Incubation Programmes- STARTUP India	Velammal Medical College Hospital and Research Institute
5.	14.12.20	AICTE Sponsored STTP	AI and Deep Learning Approaches for Hyperspectral Image Classifications	Department of ECE, Velammal Engineering College, Chennai
6.	4.12.20	AICTE Sponsored STTP	Machine Learning for Hyperspectral Image Analysis	Department of ECE, Velammal Institute of Technology, Chennai
7.	27.10.20	AICTE Sponsored STTP	Role of Computational Intelligence on Modern Microwave Antenna Design and Optimization	Department of ECE, Sri Venkateswara College of Engineering and Technology, Chennai
8.	12.09.20	AICTE Sponsored STTP	Deep Learning Approaches for Hyperspectral Image Classification	Department of ECE, Srinivasa Institute of Technology, Chithoor, AP
9.	23.05.20	Webinar	Road ahead 5G Antenna Design Research and its impact on COVID'19 management	Department of ECE, VCET
10.	17.12.18	FDP	Delivered a Guest Lecture in the topic, "Recent trends and research issues in Antenna design" in a Keysight and Ansys HFSS Sponsored Faculty Development Programme on Antenna Design and Training	Department of ECE, Mepco Schlenk Engineering College, Sivakasi
11.	28.09.18	Seminar	Delivered a Lecture on the Topic, "Recent Trends and Research Issues in Antenna Design" in Fourth National Seminar on Computer Communication Networks	Department of MCA, Mepco Schlenk Engineering College, Sivakasi
12.	10.09.18	Seminar	Acted as a chief Guest and Delivered a lecture on "Microwave Components and their Applications" in One Day Seminar on the topic "Microwave Engineering and its Applications"	Department of ECE, Sri Vidhya College of Engineering and Technology
13.	31.07.18	Seminar	Delivered an Expert Lecture on the topic, "Research Issues in Hyperspectral Image Classification" conducted by Computer Society of India, Sivakasi Chapter	Computer Society of India, Sivakasi Chapter

Sl.No.	Date	Type of the Programme	Details of the Guest Lecture	Organized by
14.	26.04.18	Training	Delivered a lecture on "Metamaterial Antennas" at the training session conducted by ISRO, SHAR for their scientists	ISRO, SHAR
15.	01.12.17	FDP	Delivered a Lecture on the topic, "Design of Fractal Antennas" in a Keysight Technologies sponsored FDP on Research Issues in Antenna Design for Wireless Applications	Department of ECE, Mepco Schlenk Engineering College, Sivakasi
16.	27.11.17	FDP	Delivered a Lecture on the topic, "Challenges in Antenna Design" in a Keysight Technologies sponsored FDP on Research Issues in Antenna Design for Wireless Applications	Department of ECE, Mepco Schlenk Engineering College, Sivakasi
17.	18.03.17	Seminar	Delivered a Guest Lecture on "Research Issues in Hyper Spectral Image Classification" in a National Seminar on Recent Trends in Digital Image Processing	Department of MCA, Mepco Schlenk Engineering College, Sivakasi
18.	20.12.16	FDP	Delivered a Lecture on the Topic "Fractal antenna Design" in an IEEE (MTTS) and IEEE (AP-S), Madras Chapter, Keysight (Agilent) Technologies, and Ansys HFSS sponsored One week FDP on "RF Circuits and Antenna Design	Department of ECE, Mepco Schlenk Engineering College, Sivakasi
19.	21.05.15	STTP	Delivered a Guest Lecture on "Semi Supervised Learning", in an AICTE-ISTE- STTP on Advanced Computational Intelligence and Optimization Techniques for Healthcare Diagnosis System (ACIOTHDS '15)	Department of ECE, Mepco Schlenk Engineering College, Sivakasi

Courses Organised:

Sl.No.	Date	Level	Type of Programme	Name of the Programme	Sponsor
1	08/06/2020 – 11/06/2020	National	Webinar	Velammal Webinar Series on Revolutionary Challenges in Computational Intelligence and Impact on COVID'19 Pandemic	Velammal Educational Trust
2	03/06/2020 – 06/06/2020	National	Webinar	Velammal Webinar Series on Revolutionary Challenges in Antenna Research and Impact on COVID'19 Pandemic	Velammal Educational Trust

3	27/05/2020 – 30/05/2020	National	Webinar	Velammal Webinar Series on Revolutionary Challenges in 5G Technologies and Impact on COVID'19 Pandemic	Velammal Educational Trust
4	3/08/2019	National	Technical Seminar	Recent Trends in Communication Techniques (RETRIC '19)	Velammal Educational Trust
5	13/05/2019-17/05/2019	State	Internship	Velammal ECE Summer Internship	Velammal Educational Trust

ONLINE COURSES:

COURSERA:
1. AI for Everyone, conducted by the Industry, "DeepLearning.AI" - 88.75%

NPTEL:
1. Patent Drafting for Beginners – Elite Grade with 72% - March 2022
2. Introduction to Machine Learning – Elite Grade and Silver medal with 80% - March 2022
3. Remote Sensing Essentials- Grade Elite with 78%- April 2020
4. Modern Indian Political Thoughts- Grade Elite with 64%- October 2018
5. Digital Image Processing of Remote Sensing Data- Grade Elite 78% - August 2017
6. Satellite Communication-Certified- September 2016

SWAYAM:
2. Sociology of Development – waiting for result

UDEMY:
1. Introduction to Phased Array Antenna in 5G network –conducted by the Industry Rahsoft Antenna Engineering - Certified

Patent Pending: Drafting a Provisional Patent Application - Certified

Membership Details : ISTE, IETE

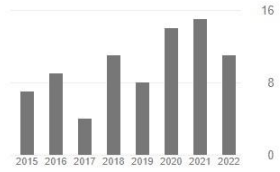**Number of Consultancy Works** : 29 works in Antenna Testing and Validation

Kavitha K

Professor
Verified email at vcet.ac.in

Hyperspectral Image Proce...   Antenna Design   Optical System Design

TITLE	CITED BY	YEAR
A novel feature derivation technique for SVM based hyper spectral image classification K Kavitha, S Arivazhagan International Journal of Computer Applications 1 (15), 25-31	14	2010
Wavelet based spatial—Spectral hyperspectral image classification technique using support vector machines K Kavitha, S Arivazhagan, N Kayalvizhi 2010 Second International conference on Computing, Communication and …	9	2010
Design of a triangular fractal patch antenna with slit for IRNSS and GAGAN applications S Arivazhagan, K Kavitha, HU Prasanth 2013 International Conference on Information Communication and Embedded …	8	2013

Cited by   VIEW ALL

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Citations	93	63
h-index	5	4
i10-index	1	0

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