

**: FACULTY DETAILED RESEARCH DATA :**

**Name of the Faculty:** Arunima Mahapatra

**Designation:** Assistant Professor

**Department:** Electrical Engineering

**School:** School of Engineering

**Research Area:** Renewable Energy, Power System

**Details of research portfolio of faculty:**

**A. Researcher's ID details:**

Google Scholar ID: <https://scholar.google.com/citations?user=gbXpSlgAAAAJ&hl=en>

Orchid ID: [0009-0006-5796-6801](#)

Scopus ID:

Vidwan ID: 526173

**B. Publication details:**

**1. Conference proceedings/ Conference paper:**

Sl. No.	Name of the Conference	Title of the paper	Month & Year of Publication	Author(s) Name	National/ International	doi number (if any)	ISSN/ISBN no.

**2. Publications in SCI/Scopus indexed Journals:**

Sl. No	Name of the Journal (mention SCI/scopus)	Title of the paper	Month & Year of Publication	Author(s) Name (Highlight the corresponding and 1 <sup>st</sup> author in every article)	doi number	Issue No. & Volume No.	Page no.	ISSN of the journal
1.	Journal of Mines, Metals and Fuels	Comprehensive Study on Sizing of	24.05.2024	Arunima Mahapatra, Nitai Pal	<a href="https://doi.org/10.18311/jmmf/2023/">https://doi.org/10.18311/jmmf/2023/</a>	Volume 71, Issue 12A, 2023	47	0022-2755

		Hybrid Renewable Energy System using Commercial Software			43192			
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### 3. Book chapter:

Sl. No.	Title of the book	Publishers	Author(s) Name (Highlight the corresponding and 1 <sup>st</sup> author in every article)	Year	ISBN No.	doi no. (if applicable)
1.	<b><i>Name of the Book:</i></b> <u>Electrical Engineering Developments in Recent Years</u> <b><i>Name of the Chapter:</i></b> Prospects and Futuristic Trends of Renewable Energy and its Technologies that Facilitate Sustainable Development	Swami Vivekananda University (Institutional Publisher)	<b>Arunima Mahapatra</b>	2024	978-93-340-1849-3	
2.	<b><i>Name of the Book:</i></b> Future Energy Resources <b><i>Name of the Chapter:</i></b> Ocean Energy – one of the promising energies of future	Swami Vivekananda University (Institutional Publisher)	<b>Arunima Mahapatra</b>	2024	978-93-340-6874-0	
3.	<b><i>Name of the Book:</i></b> <u>Recent Advancements in Computational Intelligence and Design Engineering</u> <b><i>Name of the Chapter:</i></b> A thorough investigation on hybrid renewable energy system management techniques	CRC Press	<b>Arunima Mahapatra, Nitai Pal</b>	2025	9781032980362	<a href="https://doi.org/10.1201/9781003596745">https://doi.org/10.1201/9781003596745</a>
4.	<b><i>Name of the Book:</i></b> <u>Recent Advancements in Computational Intelligence and Design Engineering</u> <b><i>Name of the Chapter:</i></b> Renewable energy sources: A solution to the future global energy crisis	CRC Press	<b>Arunima Mahapatra, Nitai Pal</b>	2025	9781032980362	<a href="https://doi.org/10.1201/9781003596745">https://doi.org/10.1201/9781003596745</a>

5.	<b><i>Name of the Book:</i></b> <u>Dynamic Approaches to Multidimensional Challenges</u> <b><i>Name of the Chapter:</i></b> Integration of Renewable Energy and IoT: Challenges and Opportunities	MGM Publishing House	Arunima Mahapatra, Nitai Pal & Ratan Mandal	2025	978-81-981913-8-0	10.62823/MGM/2025/9788198191380
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**4. Text/Reference book published from reputed national/international publishers:**

Sl. No.	Title of the Text/Reference book	Publishers	Author(s) Name (Highlight the corresponding and 1 <sup>st</sup> author in every article)	Year	ISBN No.	doi no. (if applicable)
1.	<b><i>Name of the Book:</i></b> Frontiers of Engineering Innovation: Interdisciplinary Approaches and Applications	Bluerose Publishers Pvt. Ltd.	Ranjan Kumar, Abhishek Dhar, Ashes Bannerjee, Arunima Mahapatra	2024	<b>978-93-6452-860-3</b>	
2.	<b><i>Name of the Book:</i></b> Advances in Computational Solutions: Integrative Approaches and Applications	Integrated Publications	Ranjan Kumar, Abhishek Dhar, Ashes Bannerjee, Arunima Mahapatra	2024	<b>978-93-5834-625-1</b>	<a href="https://doi.org/10.62778/int.book.450">https://doi.org/10.62778/int.book.450</a>
3.	<b><i>Name of the Book:</i></b> Synergy in Science and Engineering: An Integrative Approach	AkiNik Publications	Ranjan Kumar, Abhishek Dhar, Ashes Bannerjee, Arunima Mahapatra	2024	<b>978-93-6135-058-0</b>	<a href="https://doi.org/10.22271/ed.book.2863">https://doi.org/10.22271/ed.book.2863</a>

**5. Project granted:**

Sl. No	Sponsoring Agency	Name of the project	Duration		Amount in Lakhs	PI/ CO-PI
			Starting Month & Year	Ending month & Year		

**6. Consultancy Project Grant:**

SI No.	Project title	Funding Agency	Duration	Completed (yes/no)	Sanctioned amount (in Rs.)	PI and CO-PI (if any)

#### 7. Patent/IPR granted:

Sl. No.	Name of the patent	Name of the applicant	Name of the inventor	Date of File	Date of Publication	Whether Granted (yes/no); If yes, Date of Grant	Application No.

#### Other Publication Details (if any)

- i) **Umang Sharma, Arunima Mahapatra, Pankaj Kumar, Ravi Chaurasia, Nitai Pal, Himanshu Sharma, “Techno-economic Performance Analysis of an Off-Grid Hybrid Power Generation System for Isolated Remote Area of India”** – (Accepted at 6<sup>th</sup> International Conference on Energy Systems, Drives and Automations (ESDA 2023) during 30th and 31st December, 2023 at Techno Main, Salt Lake, Kolkata. Co-Organizer: Techno Main, Salt Lake Campus, Kolkata and Applied Computer Technology, Kolkata. **The Extended Version of this Conference Paper titled “Techno-Economic Assessment of Off-Grid Hybrid Power Generation for Remote North Indian Region” is going to be published in Special Issue of ESDA 2023 of the Journal of Microsystem Technologies/Springer, SCI indexed.**
- ii) **Arunima Mahapatra, Nitai Pal, Ratan Mandal, “A comprehensive study on the methods of optimization used in hybrid renewable energy systems”** - (Submitted, Accepted and Presented at 11<sup>th</sup> International Conference on ‘Microelectronics, Circuits & Systems: Micro2024, held on 16<sup>th</sup> & 17<sup>th</sup> of May, 2024. Organiser & Venues: Vinod Dham Centre of Excellence for Semiconductors and Microelectronics, Delhi Technological University, Delhi-110042, India. Co-Organizer: Applied Computer Technology, Kolkata, West Bengal, India. **The Extended Version of this Conference Paper titled “An extensive analysis of the optimisation techniques applied to hybrid renewable energy systems” is going to be published soon in Journal.**
- iii) **Arunima Mahapatra, Nitai Pal, Ratan Mandal, “Comprehensive study on sizing, optimization and energy management of hybrid renewable energy system”** – (Submitted to Sustainable Energy Technologies and Assessments, ELSEVIER, having following manuscript number: SETA-D-24-01060.

#### Publications in process (yet to be published):

- i) **Arunima Mahapatra, Nitai Pal, Ratan Mandal, “A Comprehensive Review on Hydrogen Energy: Advances, Challenges, and Future Prospects”**– (Submitted, Accepted and Presented at 2<sup>nd</sup> International

Conference on Engineering Design and Computing (ICEDC)-2024 organised by Swami Vivekananda University, Barrackpore from 22<sup>nd</sup> – 24<sup>th</sup> February, 2024.

- ii) **Arunima Mahapatra, Nitai Pal, Ratan Mandal, “A Comprehensive Review of Geothermal Energy: Potential, Challenges, and Future Directions”**– (Submitted, Accepted and Presented at 2<sup>nd</sup> International Conference on Engineering Design and Computing (ICEDC)-2024 organised by Swami Vivekananda University, Barrackpore from 22<sup>nd</sup> – 24<sup>th</sup> February, 2024.
- iii) **Arunima Mahapatra, Nitai Pal, Ratan Mandal, “A Comprehensive Review of Tidal Energy: Current Status, Challenges, and Future Prospects”**– (Submitted, Accepted and Presented at 2<sup>nd</sup> International Conference on Engineering Design and Computing (ICEDC)-2024 organised by Swami Vivekananda University, Barrackpore from 22<sup>nd</sup> – 24<sup>th</sup> February, 2024.
- iv) **Arunima Mahapatra, Nitai Pal, Ratan Mandal, “A Comprehensive Review of Wave Energy: Technologies, Challenges, and Future Directions”**– (Submitted, Accepted and Presented at 2<sup>nd</sup> International Conference on Engineering Design and Computing (ICEDC)-2024 organised by Swami Vivekananda University, Barrackpore from 22<sup>nd</sup> – 24<sup>th</sup> February, 2024.
- v) **Arunima Mahapatra, Nitai Pal, Ratan Mandal, “A Comprehensive Review of Ocean Thermal Energy Conversion (OTEC): Technologies, Challenges, and Future Prospects”**– (Submitted, Accepted and Presented at 2<sup>nd</sup> International Conference on Engineering Design and Computing (ICEDC)-2024 organised by Swami Vivekananda University, Barrackpore from 22<sup>nd</sup> – 24<sup>th</sup> February, 2024.
- vi) **Arunima Mahapatra, Nitai Pal, Ratan Mandal, “A Comprehensive Review of Biomass Energy: Technologies, Challenges, and Future Perspectives”** - (Submitted, Accepted and Presented at 2<sup>nd</sup> International Conference on Integrative Science and Engineering (ICISE)-2024 organised by Swami Vivekananda University, Barrackpore from 20<sup>th</sup> & 21<sup>st</sup> June, 2024.
- vii) **Arunima Mahapatra, Nitai Pal, Ratan Mandal, “A Comprehensive Study of Hydrogen Energy: Mechanisms, Technologies, Benefits, Challenges, Applications and Future Prospects”** - (Submitted, Accepted and Presented at 2<sup>nd</sup> International Conference on Integrative Science and Engineering (ICISE)-2024 organised by Swami Vivekananda University, Barrackpore from 20<sup>th</sup> & 21<sup>st</sup> June, 2024.
- viii) **Arunima Mahapatra, Nitai Pal, Ratan Mandal, “A Comprehensive Review on Wind Energy: Technologies, Challenges, and Future Prospects”** - (Submitted, Accepted and Presented at 2<sup>nd</sup> International Conference on Integrative Science and Engineering (ICISE)-2024 organised by Swami Vivekananda University, Barrackpore from 20<sup>th</sup> & 21<sup>st</sup> June, 2024.
- ix) **Arunima Mahapatra, Nitai Pal, Ratan Mandal, “A Comprehensive Review of Magnetohydrodynamic (MHD) Generation: Technologies, Challenges, and Future Directions”** - (Submitted, Accepted and Presented at 2<sup>nd</sup> International Conference on Integrative Science and Engineering (ICISE)-2024 organised by Swami Vivekananda University, Barrackpore from 20<sup>th</sup> & 21<sup>st</sup> June, 2024.
- x) **Arunima Mahapatra, Nitai Pal, Ratan Mandal, “Advancements in Research and Development of Renewable Energy in India: Trends, Technologies, and Future Prospects”** - (Submitted, Accepted and Presented at 2<sup>nd</sup> International Conference on Integrative Science and Engineering (ICISE)-2024 organised by Swami Vivekananda University, Barrackpore from 20<sup>th</sup> & 21<sup>st</sup> June, 2024.

- xi) **Suvraujjal Dutta, Promit Kumar Saha, Arunima Mahapatra, Susmita Dhar Mukherjee, “Machine Learning Applications to Power Systems”** - (Submitted, Accepted and Presented at 2<sup>nd</sup> International Conference on Integrative Science and Engineering (ICISE)-2024 organised by Swami Vivekananda University, Barrackpore from 20<sup>th</sup> & 21<sup>st</sup> June, 2024.
- xii) **Sujoy Bhowmik, Susmita Dhar Mukherjee, Arunima Mahapatra, Rituparna Mitra, Suvraujjal Dutta, “Review on Microgrid Technology”** - (Submitted, Accepted and Presented at 2<sup>nd</sup> International Conference on Integrative Science and Engineering (ICISE)-2024 organised by Swami Vivekananda University, Barrackpore from 20<sup>th</sup> & 21<sup>st</sup> June, 2024.
- xiii) **Sujoy Bhowmik, Avik Datta, Rituparna Mitra, Suryendu Dasgupta, Arunima Mahapatra, “A Review – Solar power in India Present Scenario, Challenges and Opportunities”** - (Submitted, Accepted and Presented at 2<sup>nd</sup> International Conference on Integrative Science and Engineering (ICISE)-2024 organised by Swami Vivekananda University, Barrackpore from 20<sup>th</sup> & 21<sup>st</sup> June, 2024.