

May 2021

Rock River Valley Section  
[www.ieee.org/rrvs](http://www.ieee.org/rrvs)

Event

Sense

The Institute of Electrical and Electronic Engineers, Inc.

IEEE RRV Section, PELS Chapter Meeting

SERVING IEEE MEMBERS OF NORTH CENTRAL ILLINOIS AND SOUTH CENTRAL WISCONSIN

**WHEN** Thursday, May 27, 2021

**WHERE: WEBEX**

**AGENDA**

7:00 PM Dial in/Networking

7:15 PM Presentation

**DIAL IN INFO:**

Meeting number: 130 009 5963

Meeting password: PELS21May



<https://ieeemeetings.webex.com/ieeemeetings/j.php?MTID=m0911633c241956a8dca3a76d8b03262c>

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**POWER ELECTRONICS FOR PRECISION FARMING WITH SUBSTANTABLE AND CLEANER ENVIRONMENT**

**Dr. Brij N. Singh**

In this lecture a broad review of vehicles for farming operation will be given starting from tillage to crop harvesting. Vehicle that have significant use of power electronics will be covered such as Exact Emerge Planter for seeding operation. This presentation will cover how power electronics supports crop-care system to exactly apply prescription such as fertilizers, pesticides, fungicide, etc. Idea is to create awareness that power electronics professionals could enable increased productivity so that by 2050 over 9.5 billion could have food, shelter, and an efficient transportation system. This talk will also cover how vehicle electrification enables many functions, forms, and features in off- and on-highway vehicles that were not cost- and space-effective possible without SiC and GaN devices.

Biography on next page

Please register online at

<https://events.vtools.ieee.org/m/272702>

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## Biography:

**Dr. Brij N. Singh** is a Technical Fellow - Power Electronics Engineering in John Deere Inc., USA. He has earned BE degree in Electrical Engineering from Madan Mohan Malviya Technical University, Gorakhpur, ME degree from Indian Institute of Technology Roorkee, and Ph.D. degree from Indian Institute of Technology, New Delhi, India.

In 1996, Dr. Singh joined the École de Technologie Supérieure, Université du Québec, Montreal, QC, Canada, as a Post-Doctoral Fellow. In 1999, he joined Concordia University, Montreal, QC, Canada as a Research Fellow. In 2000, he joined the Department of Electrical Engineering and Computer Science, Tulane University, New Orleans, Louisiana, as an Assistant Professor.

In 2007, Dr. Singh has joined John Deere Inc., USA as a power electronics staff engineer, where he has led and supported power electronics technology development projects for 644 and 944 hybrid loaders' electrification. In 2011, he joined John Deere Advanced Technology Department and has executed R&D projects related to high-temperature power-dense high-efficiency power electronics systems including wide bandgap (WBG) power conversion technologies.

In September 2020, Dr. Singh was named as the John Deere Region 4 Public Funding Manager with job title as R4 Manager External Relationships. As the R4 Manager External Relationships, Dr. Singh is tasked to lead John Deere Emerging Technology projects including successful execution of government and non-government funded projects in collaboration with universities, government labs, non-Deere industries. Emerging Technology projects led by Dr. Singh are likely to be applicable to John Deere Tech Stack, Production Systems, Product Lifecycle Systems, Construction and Road Building. Various projects led by Dr. Singh are destined to reduce greenhouse gas emission and carbon footprint reduction, resulting in a sustainable environment for the society.

Dr. Singh has published over 90 research papers in various Journals including IEEE Transactions and IET Journals. He has 28 approved US patents, one trade secret, and over a dozen pending patents.

In Tulane, Dr. Singh received four IEEE/Eta Kapa Nu teaching awards for outstanding instructions in electrical engineering. In John Deere, he has received three innovation and one collaboration awards for product and technology development works. Dr. Singh is the winner of the 2020 IEEE Power Electronics Emerging Technology Award. In Feb 2020, Dr. Singh was awarded the "Title of John Deere Fellow" for exemplary contributions to the power electronics engineering. He is a senior member of the IEEE and lives with his family in West Fargo, North Dakota, USA.

## Personal Meeting Notes:

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## IEEE Rock River Valley Section

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### 2022 RRVS Executive Committee Election Candidates

Position	Candidate
Chair	Rakesh Vasudevan
Vice Chair	Alkesh Patel
Secretary	Patrick Conner
Treasurer & Co-Treasurer	Adrian Vandergrift Larry Wachowiak
PELS Chapter Chair	Don Zinger
EMC Chapter Chair & Co-Chair	Steve Davidson Jamal Shafii
IAS Chapter Chair	Joe Etminan
Computer/Controls Chapter Chair	Terry Johnson
Life Member Chair	Larry Wachowiak
Young Professionals Chair	Eduardo Vasquez
WIE Chair	Marjan Shirani

If you would like to run for an officer position, please contact Rakesh Vasudevan at [rakeshv@ieee.org](mailto:rakeshv@ieee.org) to start the nomination process.

**Missed a meeting? Check out our Google Drive for previous presentations.**

IEEE RRVS Google Drive: <https://drive.google.com/a/ieee.org/>

1. Login with IEEE account
2. On the left menu, click "Shared with me".
3. Click on "Members Folder"
4. Browse folders for past meeting presentations

## Section News:

June 2021 Picnic is postponed till later date. As a result, the Section election will be conducted via online voting. Section members may be receiving multiple emails (one for section election and another for chapter election) similar to the one below from [ou-evoting@ieee.org](mailto:ou-evoting@ieee.org). Please take time and vote online! The ballot will ***close on July 31, 2021***

***Please email [rakeshv@ieee.org](mailto:rakeshv@ieee.org) if you like to scan and send instead.***

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### Voting

**Welcome to the IEEE RRVS IAS Election!** I would like to take this opportunity to personally express my sincere appreciation for you being an IEEE member!

Our duty and responsibility is to ensure that your voting rights are protected and you are confident that your vote is accurately cast and tabulated. We will utilize the [vTools.Voting](#) system for our elections. Please sign in to vote in the election.

Voting will start from **today** and close at **July 31st 2021**.

**Please select one candidate for each position or specify a write-in candidate.**

Please don't hesitate to contact me at [ieerrvs@ieee.org](mailto:ieerrvs@ieee.org) if you have a question, comment, or complaint regarding your voting experience.

**Thank you for voting – your vote counts!**

**Rakesh Vasudevan**

To place your vote, go to <https://voting.vtools.ieee.org>. You will need your IEEE web account to vote. If you don't have an IEEE web account, go to <http://www.ieee.org/web/accounts>. A tutorial on how to vote is available at <https://site.ieee.org/vtools/?mdocs-file=4259>.

To unsubscribe from the mailings regarding 2021 ias ballot please [click here](#). Please note that this will not unsubscribe you from the e-mails regarding future elections.



"Providing tools to the volunteers and staff who support our members."