



THE IEEE NORTH JERSEY SECTION NEWSLETTER

Vol. 58, No. 5

SEPTEMBER 2011

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Calendar of Upcoming Events and Section Activities:

- Sept 01, 2011: 11:30 AM – 1:00 PM
North Jersey COMSOC/NJIT Seminar: Enabling Communication in Wireless Nanosensor Networks (WNSNs)
Location: ECE 202, NJIT, 161 Warren Street, Newark, NJ 07102
Contact: Nirwan Ansari (973)596-3670
Check: <http://web.njit.edu/~ieeenj/comm.html> for latest updates.
- Sept 07, 2011: 6:00 PM – 8:45 PM
North Jersey Section EXCOM Meeting
Location: Clifton Public Library - Allwood Branch, Activity Room, 44 Lyall Road, Clifton, NJ 07012
- Sept 14, 2011: 6:00 PM – 9:00 PM
ENGINEERS MEET Engineer Your Own Success Elements to Creating an Extraordinary Engineering Career
Location: Clifton Memorial Library, 292 Piaget Ave, Clifton, NJ 07011
Contact: Paul Ward, 973 790-1625. PWard1130@aol.com, Richard F. Tax, 201- 664-6954. rtax@verizon.net
- Sept 20, 2011: 4:30 PM – 5:30 PM
Control System Society Seminar "On Improving Fuel Efficiency of Hybrid Electric Vehicles"
- Dr. Felicia Sun of the Ford Motor Company
Location: ECE 202, NJIT, 161 Warren Street, Newark, NJ 07102
Contact: feliciaxsun@gmail.com
- Sept 28, 2011: 6:30 PM – 8:00 PM
BMS Testing Using PXI - Bob Stasonis of Pickering Interfaces
Location: ECE 202, NJIT, 161 Warren Street, Newark, NJ 07102
Contact: Russell C. Pepe IMS Chair rcpepe@ieee.org, or 201-960-6796
- Sept 29, 2011: 6:30 PM – 8:00 PM
CNNNJ Seminar- Financial Planning - Christine Cox and Shaun Horan of the International Planning Alliance, LLC.
Location: Morris county Library, 30 East Hanover Avenue, Whippany, NJ
Contact: Robert Walker, 973-728-0344
- Oct 05, 2011: 6:00 PM – 8:45 PM
North Jersey Section EXCOM Meeting
Location: Alcatel-Lucent Bell Laboratories Activity Meeting-Room 6A106, 600, Mountain Ave., Murray Hill, NJ 07974
- Nov 16, 2011: 4:30 PM – 6:15 PM
The Perspective of Nanotechnology and its Convergence with Future Information Technology
- Jong Min Kim of Samsung Advanced Institute of Technology, South Korea
Location: ECE 202, NJIT, 161 Warren Street, Newark, NJ 07102
Contact: Dr. Durga Misra (973) 596-5739 (dmisra@njit.edu) or Dr. Edip Niver (973) 596-3542
- Oct 06, 2011: 9:00 AM TO 5:00 PM
26th ANNUAL SYMPOSIUM AND MINI-SHOW
Location: Hanover Manor, 16 Eagle Rock Ave., E. Hanover, NJ 07936. Ph#973-992-7425
Contact: Kirit Dixit - kdixit@ieee.org or Har Dayal - dayalhar@gmail.com
- October 27, 2011:
The North Jersey Section Life Grade Lunch will be held at Hamilton Park. Reservations are required.
- North Jersey Section Seeks Nominations for Committee Chairs, Volunteers, and Section Officers
- IEEE AESS North Jersey Chapter seeks nominations for Chapter Chair and Vice Chair for 2012
- IEEE AP-S/MTT-S North Jersey Chapter seeks nominations for Chapter Chair and Vice Chair for 2012

For updates and registration of events please visit:

http://webinabox.vtools.ieee.org/wibp_calendar/index/R10327

Meeting Announcements:

September 01, 2011

IEEE North Jersey Section COMSOC/NJIT presents:
[Enabling Communication in Wireless Nanosensor Networks \(WNSNs\)](#)

By: Mr. Josep Miquel Jornet of Georgia Institute of Technology

Abstract: Nanotechnology is enabling the development of miniaturized sensors which are able to detect nanoscale events with unprecedented accuracy, such as the presence of chemical compounds in concentrations as low as one part per billion, or the existence of different biological agents such as virus, bacteria or cancerous cells. Wireless NanoSensor Networks (WNSNs) will expand the capabilities of single nanosensors by allowing them to cooperate and share information. Classical communication paradigms need to undergo a profound revision before being used in the nanoscale. In this talk, first, the state of the art in NanoSensor technology is surveyed from the device perspective, giving details on the internal architecture and components of an individual nanosensor device as well as the main challenges in their integration in a single unit. After reviewing the different options for communication among nanosensors, the use of electromagnetic waves in the Terahertz frequency range is justified from the device perspective and in light of the quantum properties affecting nano-antennas. Then, the characteristics of the Terahertz channel in the nanoscale are reviewed, emphasizing the need of new solutions for communication in WNSNs. Finally, the open research challenges in terms of network architectures, algorithms and protocols for nanosensor networks are highlighted, defining a roadmap for the development of this new networking paradigm.

Biography: Josep Miquel Jornet received the Engineering Degree in Telecommunication Engineering and the Master of Science in Information and Communication Technologies from the School of Electrical Engineering, Universitat Politècnica de Catalunya (UPC), Barcelona, Spain, in 2008. From September 2007 to December 2008, he was a visiting researcher at the MIT Sea Grant, Massachusetts Institute of Technology, Cambridge. Currently, he is pursuing his Ph.D. degree in the Broadband Wireless Networking Lab, School of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, under the supervision of Dr. Ian F. Akyildiz. He is a student member of the IEEE and the ACM. His current research interests are in nano-networks, nanosensor networks and graphene-enabled wireless communication.

Location: ECE 202, NJIT, 161 Warren Street, Newark, NJ 07102

For Directions: [Getting to NJIT](#),
[For Street Map please click here](#)

Contact: Nirwan Ansari (973)596-3670.

Time: 11:30 AM – 1:00 PM

For more details, updates and registration please visit:
[Enabling Communication in Wireless Nanosensor Networks \(WNSNs\)](#)

OR Check <http://web.njit.edu/~ieeenj/comm.html>

September 07, 2011

[North Jersey Section EXCOM Meeting](#)

Abstract: Normal meeting agenda, times and buffet all still the same.

Section Business, Discussion/Planning for all chapters, groups, and committee chairs for the benefit of members

Location: Clifton Public Library - Allwood Branch, Activity Room, 44 Lyall Road, Clifton, NJ 07012

Time: 6:00 PM – 8:45 PM

For updates and registration please visit:
[North Jersey Section EXCOM Meeting](#)

September 14, 2011

[North Jersey Section Professional Activities Committee \(PACE\) presents:](#)

[ENGINEERS MEET: Engineer Your Own Success Elements to Creating an Extraordinary Engineering Career](#)

By: Anthony Fasano, P.E.

Abstract: On Wednesday, September 14, 2011, the North Jersey Section Professional Activities Committee will meet for a social and discussion. The subject will be "Engineer Your Own Success: 7 Key Elements to Creating an Extraordinary Engineering Career."

This seminar is designed to help engineers advance their career as far and as fast as they desire. This 60 minute presentation will provide attendees with the steps needed to advance their career in the engineering profession. This seminar is specifically for engineers and will include valuable points and examples that engineers can start using immediately to advance. The topics covered include: **Career Goals** – learn how to set clear career goals. **Credentials** – understand the importance of obtaining the best credentials for your advancement. **Mentoring** – learn where to find the right mentor and how to get the most out of the relationship. **Communication** – learn how to communicate with both co-workers and clients. **Networking** – understand the importance of building relationships in your industry and how to begin. **Organization** – receive tips on how to stay organized and more efficient in the workplace. **Leadership** – learn how to start using your natural leadership abilities. The meeting will have time for a question and answer session.

Bring your associates, friends and spouses. A must for recent graduates. Come and join other Section professionals. No admission charge.

Biography: Anthony Fasano, P.E., LEED AP, ACC, is a Professional Engineer, Author, Coach, Inspirational Speaker and Professional Development Expert.

Anthony received a B.S. and a M.S. in Civil Engineering from Lafayette College and Columbia University respectively and his coaching certificate from the Institute of Professional Excellence in Coaching.

In 2005 Anthony received, the Young Engineer of the Year Award from the New York State Society of Professional Engineers, Rockland County Chapter.

In 2010 he received, a Presidential Citation from the New York State Society of Professional Engineers for his dedication to both the Society as well as the engineering community.

Anthony is a licensed Professional Engineer and a LEED Accredited Professional and is a past Chairperson and Founder of the American Society of Civil Engineers Lower Hudson Valley Younger Member Group. He is currently the acting President of the National Society of Professional Engineers, Rockland Chapter (NY). He is an industry-recognized speaker on the topics of career advancement, business growth, and leadership.

Refreshments: will be served

Directions: tel. 973 772-5500

CARE is the Congressional Advocacy Recruitment Effort CARE is a voluntary network of IEEE members who are interested in public policy. For information go to www.ieeeusa.org/policy/care

Location: Clifton Memorial Library, 292 Piaget Ave Clifton, NJ 07011

Contact: Paul Ward, 973 790-1625. PWard1130@aol.com

, Richard F. Tax, 201- 664-6954. rtax@verizon.net.

Time: 6:30 PM – 9:00 PM

For more details, updates and registration please visit:

[ENGINEERS MEET: Engineer Your Own Success Elements to Creating an Extraordinary](#)

September 20, 2011

Control Systems Society presents:

[Seminar: "On Improving Fuel Efficiency of Hybrid Electric Vehicles"](#)

By: Dr. Felicia Sun of the Ford Motor Company

Abstract: With increased concern for energy sustainability, foreign oil dependency and climate changes, new technologies are required to improve the efficiency and reduce the emission of the conventional fossil-fuel based vehicles which are propelled by internal combustion engines. This talk will discuss hybrid electric vehicles from the aspect of improving fuel efficiency. The talk will first discuss the efficiency loss of the conventional vehicles;

describe the principle of hybrid electric vehicles to recovery and storage wasted energy, and EPA fuel economy testing. Finally some of the battery control strategies are described to make the drive safe and fun.

Biography: Felicia Sun has been a Production Engineer at Ford Motor Company since January 2010. Prior experiences included the position of senior software engineering in Continental Automotive System Inc. from 2005 to 2010 and in Motorola Company from 2000 to 2005. Felicia received her Ph.D. in Electrical Engineering from NJIT in 2001. She started working in Automotive Industry in Detroit, Michigan in 2000. During her first five years at Motorola, Felicia's primary responsibilities were to design, implement and test the control strategies for battery charging and discharging in electrical vehicles, as well as the control strategies for fuel injection and spark control for internal combustion engines.

Upon joining Continental Automotive System Inc., she devoted the next five years to vehicle fault code diagnostics and gateway communication. Felicia started a new venture with Ford Motor Company in 2010; she has been working on multidiscipline areas to support vehicle launch, such as defining test specifications, analyzing vehicle test data, diagnosing vehicle issues, and verifying control strategy using hardware in the loop.

Felicia's current research interests include hybrid vehicle architecture and system interface, software control strategy, hardware electronics, and mechanical and thermodynamics.

Location: ECE 202, NJIT, 161 Warren Street, Newark, NJ 07102

For Directions: [Getting to NJIT](#),

[For Street Map please click here](#)

Contact: feliciaxsun@gmail.com

Time: 4:30 PM – 5:30 PM

For more details, updates and registration please visit:

[Control System Society Seminar "On Improving Fuel Efficiency of Hybrid Electric Vehicles"](#)

September 28, 2011

Instrumentation Measurement Society presents:
[BMS Testing Using PXI](#)

By: Bob Stasonis of Pickering Interfaces

Abstract: As the developed world attempts to move to a more "green" lifestyle, electric vehicles are clearly becoming a growing part of the automotive scene. They promise low or no emissions, conceivably low cost of fuel from the Power grid, yet they will deliver us safely to and from work and shopping. But their design is a paradigm shift for the Auto Industry – new drive systems, technologies... and test plans. These vehicles are bringing new test and validation challenges to the industry as the electronics content of the vehicles grows.

The auto industry has embraced the use of Lithium Ion Batteries for most future Hybrids and Plug-in Hybrids. This

battery design requires a carefully designed charging system to provide long life and safety; which means that one of the major challenges to be tackled in electric vehicles concerns the effective testing of the Battery Management Systems (BMS) – the electronics that manage the state of the battery that stores the high levels of energy required to propel the vehicle.

To aid in the testing of the BMS, DMC Engineering & Software Services and Pickering Interfaces have collaborated to help provide a solution to BMS testing for a major manufacturer, based on PXI modules that emulate the battery systems. In this presentation, we will discuss some of the tests that must be performed and why. We'll also show how PXI was utilized and why it was a perfect solution to a complex problem.

Biography: Bob Stasonis is the Americas/Asia Sales & Marketing Director for Pickering Interfaces. He has written numerous papers and articles on the subject of Electronics Test. Over the last 30 years, Bob has held Technical, Sales & Marketing positions with Pickering Interfaces, Teradyne, GenRad, and Schlumberger. Bob is on the Board of Directors and past President of the PXI Systems Alliance, Board Member for the LXI Consortium and the VP of Marketing for the American Society of Test Engineers.

Location: ECE 202, NJIT, 161 Warren Street, Newark, NJ 07102

For Directions: [Getting to NJIT](#),

[For Street Map please click here](#)

No admission charge. Free buffet will be provided at 6:00 PM.

Contact: Russell C. Pepe IMS Chair rcpepe@ieee.org
201-960-6796

Time: 6:00 PM – 8:30 PM

For more details, updates and registration please visit:

[BMS Testing Using PXI](#)

September 29, 2011

IEEE Consultants' Network of Northern New Jersey presents:

[Financial Planning](#)

By: Christine Cox and Shaun Horan of the International Planning Alliance, LLC.

Abstract: Shaun and Christine will conduct an educational seminar which will explain how they can benefit you and your business. In addition, they will demonstrate their firm's proprietary software that allows clients to manage their personal and business finances symbiotically.

International Planning Alliance, LLC educates individuals on how to plan for the future. They accomplish this by mapping out sound strategies to help people achieve their financial goals, while keeping specific needs in mind. They provide ideas on business planning, minimizing taxes, minimizing debt, cash flow solutions, purchasing a home, planning for a child's education, and even retiring early. If you have considered planning for any of these goals or any

other personal or financial goals, their services may be of help to you, your business, and your family. They achieve these goals without any out-of-pocket cost to you by helping your money work more efficiently.

Biography: Christine Cox attended The College of New Jersey where she was very involved as a leader of Delta Sigma Pi, the international business fraternity. Christine graduated with a Bachelor of Science degree in Management and a minor in Managerial Accounting. Christine is a member of the IRS Volunteer Income Tax Assistance Program (VITA). Both of her parents are EEs. Christine can be reached at 848-456-3087 or Christine.Cox@planningalliance.com

Shaun P. Horan has been a Financial Specialist with International Planning Alliance since 1997. He specializes in the field of personal, business and estate planning using a holistic approach. Shaun is also the company's Training Manager using The Living Balance Sheet®* platform for all new and seasoned financial representatives. He graduated in 1988 from Binghamton University with a Bachelor of Science Degree in Engineering. He worked in the Engineering field from 1988 to 1997 for several companies including IBM as a Research Design Engineer. Shaun is Life, Health Series 6 and 63 licensed in New Jersey, New York, Pennsylvania, Georgia, Florida, North and South Carolina, Connecticut, Massachusetts and California. Shaun can be reached at 973-396-1956 or shoran@planningalliance.com

ABOUT THE NETWORK: Founded in 1992, the IEEE Consultants Network of Northern NJ encourages and promotes the use of independent technical consultants by business and industry.

Location: Morris County Library, 30 East Hanover Avenue, Whippany, NJ

Contact: Robert Walker, 973-728-0344

Directions to Library: www.mclib.info

Time: 6:30PM – 8:30PM

For more details and updates please visit:

www.TechnologyOnTap.org.

October 05, 2011

IEEE North Jersey Section presents:

[North Jersey Section EXCOM Meeting](#)

Note: For the first time this meeting will take place in the Meeting-Room of Alcatel-Lucent Bell Laboratories.

Normal meeting agenda, times and buffet all still the same.

Location: Alcatel-Lucent Bell Laboratories Activity Meeting-Room 6A-106, 600, (go to the Main Entrance), Mountain Ave., Murray Hill, NJ 07974

Time: 6:00 PM – 8:45 PM

Contacts: Naresh Chand (chandnaresh@gmail.com),
Adriaan J. van Wijngaarden (avw@ieee.org) (973)-738 3393

For more details, updates and registration please visit:

[North Jersey Section EXCOM Meeting](#)

November 16, 2011

Electron Devices Society presents:

The Perspective of Nanotechnology and its Convergence with Future Information Technology

By: Jong Min Kim of Samsung Advanced Institute of Technology, South Korea

Abstract: This talk will present the current and future of nanotechnology, especially focusing on the convergence of nanotechnology with electronics, photonics, energy, and biology. Nanoelectronics aspect will address the nano-carbon such as graphene and carbon nanotubes in flexible and transparent electrodes, transistors, and in switching devices. This will further address displays, lighting, THz radiation, network transistors and many other applications. As a part of nanophotonics, quantum dot and its related application for LED and displays will be addressed. The talk will also discuss nano-energy generator for energy harvesting. Concept of e-nose and e-tongue with nano wires will be presented. Printable and flexible electronics is discussed with nano materials. The convergence of nanotechnology is covered in details.

Biography: Dr. Jong Min Kim is a Samsung Group Fellow and a Senior Vice President of Samsung's Frontier Research Labs, Samsung Advanced Institute of Technology (SAIT) at Seoul, South Korea. He has authored and co-authored more than 225 refereed journal publications and 144 Conference presentations and several articles are in the journals "Nature" and "Science" in quantum dot photonics area. He received numerous awards in display technology and in nanostructure science including Special Achievement Award by Nano Korea'09 by Korean Government and Best paper Award from Samsung for his paper in 'Science.' He received his BSEE in 1980 from Hong-ik University, M.S.E.E. and Ph.D. in Electrical Engineering from New Jersey Institute of Technology in 1986 and 1992 respectively. He has worked at the US Army Research Laboratory and during 1992-94 for FED Corporation. He is listed as an Inventor on 72 domestic patents and 107 international patents.

Location: ECE 202, NJIT, 161 Warren Street, Newark, NJ 07102

For Directions: [Getting to NJIT](#),

[For Street Map please click here](#)

Contact: Dr. Durga Misra (973) 596-5739 (dmisra@njit.edu) or Dr. Edip Niver (973) 596-3542

Time: 4:30 PM – 6:15 PM

For more details, updates and registration please visit:

The Perspective of Nanotechnology and its Convergence with Future Information Technology

October 27, 2011

The PES/IAS Chapters in conjunction with the North Jersey Section Sponsors: Luncheon for Life Grade Members

A luncheon for North Jersey Section Life Grades (Members, Senior Members and Fellows) will be held on Thursday, October 27 at the Hamilton Park Conference Center 175 Park Avenue in Florham Park, New Jersey 07932.

The luncheon will begin at 11:30 AM in the Arrive 1 & 2 meeting rooms. Cost is \$ 5.00 per person.

Advanced registration is required prior to October 18. We can accommodate only 30 people. Registration will be processed in the order of receipt. Reservations cannot be accepted at the door

Please complete the following registration form and include a check in the amount of \$ 5.00 payable to the North Jersey Section IEEE.

Life Grade Luncheon Registration - Oct 27 2011

Name _____

Address _____

Phone _____

IEEE # _____ Life Grade _____ YES

Return to: Kenneth Oexle

11 Deerfield Road, Whippany, NJ 07981

North Jersey Section Seeks Committee Chairs, Chapter Chairs, Volunteers, and 2012 Section Officer Nominations

The North Section is seeking new volunteers to help conduct business for the benefit of its membership. There are a variety of volunteer positions open and available. They range from technical to non-technical, leadership or just participatory.

North Jersey Section Nomination Committee invites nominations for the election of the officers of the section for 2012 for the following positions.

The nominations committee has nominated the following volunteers for 2012 and invites write-in nominations.

Current Nominee Chair: Naresh Chand

Current Nominee Vice Chair 1: Russ Pepe

Current Nominee Vice Chair 2: Har Dayal

Current Nominee Secretary: MengChu Zhou

Current Nominee Treasurer: Paul Ward

Current Nominee Members-At-Large: Chris Peckham

Current Nominee Members-At-Large: Adriaan Van Wijngaarden

Current Nominee Members-At-Large: _____

Write-In-Nominee Chair: _____

Write-In-Nominee Vice Chair 1: -----
 Write-In-Nominee Vice Chair 2: -----
 Write-In-Nominee Secretary: -----
 Write-In-Nominee Treasurer: -----
 Write-In-Nominee Members-At-Large: -----
 Write-In-Nominee Members-At-Large: -----
 Write-In-Nominee Members-At-Large: -----

In addition, Various Societies will hold election of their respective officers (Chair, Vice Chair etc.). The society members are encouraged to nominate for these positions if interested. One requirement for Society position is that the member should be a member of the society for which the nominations are sent.

The Society Chairs will conduct these elections. A list of North Jersey Societies is published at the end of the newsletter.

Please contact Kirit Dixit (kdixit@ieee.org), Dr. Chandra Gupta (c.gupta@ieee.org) or Amit Patel (a.j.patel@ieee.org) and send in your nomination with your Name, Address, Membership #, E-mail and position for which the nomination is desired by the deadline date of October 10 for the 2012 election. A final election ballot will be published in the November newsletter for a voting deadline of November 21.

If you would like to become involved with volunteering in some of these efforts or positions or just become more informed about what is happening at the North Jersey Section, please contact Nominations Committee chair, Kirit Dixit at kdixit@ieee.org. You are welcome to attend the Section business meeting held the first Wednesday of every month to find out more and other volunteer activities that require some help.

Some committees needing volunteers include the following. Please contact the person indicated for additional information or any Nominations Committee chairperson listed below.

GOLD (Graduates of the Last Decade) Affinity Group Volunteers and Committee members needed –

Contact: chandnaresh@gmail.com

WIE (Women in Engineering) Affinity Group Volunteers and Committee members needed

Contact: Kirit, kdixit@ieee.org

EMBS (Engineering in Medicine and Biology Society) is seeking active committee volunteers

Contact: Kirit, kdixit@ieee.org

IEEE Membership Development – Chair and vice-chair

Contact: Naresh Chand, chandnaresh@gmail.com

Computer Society Chapter - Committee Volunteers

Contact: Hanna Zhao, zhao@fdu.edu

Technical Management Council Committee Volunteers –

Contact: Kirit Dixit, kdixit@ieee.org

North Jersey Section Awards Committee Volunteers -

Contact: Ken, k.oexle@ieee.org

Membership Development Committee Chair and Volunteers –

Contact: Kirit, kdixit@ieee.org

Additionally, if interested volunteers would like to get more general information about the Section, including a complete listing of all chapters and committees, visit the North Jersey section website:

http://webinabox.vtools.ieee.org/wibp_home/index/R10327 or contact anyone on the Nominations Committee listed above.

IEEE Aerospace and Electronic Systems Society North Jersey Chapter seeks nominations for Chapter chair and vice-chair for 2012:

Please email your response by 9/30/2011 at c.gupta@ieee.org with

Name of the candidate:

Position sought:

Person nominating:

Candidate and the nominating member must be current member of AESS and IEEE.

If there are any questions please contact c.gupta@ieee.org and 973 881 8800 x 225.

IEEE AP-S/MTT-S North Jersey Chapter seeks nominations for Chapter chair and vice-chair for 2012:

Only members of the AP-S and MTT-S are eligible for the nominations. Please contact Kirit Dixit (kdixit@ieee.org) or Har Dayal (dayalhar@gmail.com) if you are interested.

The following nomination has been received so far: Dr. Ajay Poddar for Chair and Dr. Edip Niver for Vice-Chair.

If there are any other nominations then an election will be held in November of 2011."

Book Review: The Other Side of Innovation: Solving the Execution Challenge

By: Naresh Chand, Fellow IEEE, Futurewei (Huawei) Technologies, Inc

Professor Vijay Govindarajan in his book, "The Other Side of Innovation: Solving the Execution Challenge" remind executives that innovation isn't just about great ideas. It's about execution and having the tools and processes in place to successfully make these ideas a reality. Professor Govindarajan and his colleague Professor Chris Trimble polled hundreds of managers, asking them to define innovation. They found that most managers equate innovation with creativity. But innovation is not creativity. Creativity is about coming up with the big idea. Innovation is about executing the idea — converting the idea into a successful business. An organization's capacity for innovation is creativity multiplied by execution. "Multiplication" rather than "sum" is used because, if either creativity or execution has a score of zero, then the capacity

for innovation is zero. They devoted ten years studying: What are the best practices for executing an innovation initiative? This book is the result of that effort.



They surveyed thousands of executives in Fortune 500 companies to rate their companies' innovation skills based on execution. The survey participants overwhelmingly believed that their companies are better at generating ideas (average score of six out of ten) than they are at commercializing them (average score of one). They found that companies tend to focus far more

attention on improving the front end of the innovation process, the creativity. But the real leverage is in the back end.

What is more effective — moving the (already good) creativity score from six to eight or lifting the (very poor) execution score from one to three? Here's the math using their shorthand, creativity times execution:

Capacity to innovate = $6 \times 1 = 6$

Capacity to innovate, increasing creativity score = $8 \times 1 = 8$

Capacity to innovate, increasing execution score = $6 \times 3 = 18$

Ideas will only get us so far. Consider companies that struggled even after a competitor entered the market and made the great idea transparent to all. Did Xerox stumble because nobody there noticed that Canon had introduced personal copiers? Did Kodak fall behind because they were blind to the rise of digital photography? Did Sears suffer a decline because they had no awareness of Wal-Mart's new every-day-low-price discount retailing format? In every case, the ideas were there. It was the follow-through that was lacking. They found that innovation initiatives face their stiffest resistance after they show hints of success, begin to consume significant resources, and clash with the existing organization at multiple levels — that is, long after the idea generation stage.

Managers seem to be enamored with the Big Idea Hunt for three reasons. First, coming up with an idea does not create tension with the core business. Second, ideation is sexy, while execution is long, drawn out, and boring. Third, companies think they are good at execution. But generally they're good at execution in their *core businesses*; the capabilities making that possible are poisonous for innovation.

Thomas Edison, the greatest innovator of all time, put it well: "Innovation is 1% inspiration and 99% perspiration." Reflect on how much time your organization spends on inspiration versus perspiration. What are the barriers to execution? How are you attempting to overcome them?

Best practices for executing an innovation initiative:

Execution is the poor step child of the innovation challenge. People love to engage in the hunt for the big ideas, but without execution capability, an idea on paper is....just an idea on paper.

Having conducted research in more than 25 of the Fortune 500 companies, including Deere, Hasbro, Thomson Reuters, GE, IBM, and Corning, these authors found that when they want to bring an innovation alive, companies typically commit one of two cardinal sins. Either they ask the core business to do the innovation, or they create skunk works. Both approaches are fatally flawed. Asking the core business to do innovation won't work because the core is built for efficiency — to make every task repeatable and predictable. Innovation requires actions that are incompatible with what core business can do; actions that are non-routine and unpredictable. On the other hand, isolating innovation in skunk works far away from the core business is not a good solution either, since innovation must leverage some assets from the core. Otherwise the skunk works has no advantage over a Silicon Valley start up.

Businesses need a distinct-but-linked organizational model: a dedicated team for the innovation initiative that *partners* rather than *fights* with the core business.

Once it has that partnership in place, a company must keep it on track. They observed five danger signs that signaled that the partnership had gone awry:

The members of the dedicated team frequently use words like "rebellion" and "conspiracy."

The dedicated team members act as though they are the company's saviors.

Those assigned to the dedicated team feel like winners and those that aren't feel like losers, or vice versa.

Core-business employees are obsessed with the dedicated team's special treatment, such as performance standards or compensation formulas that depart from the company's norms.

Core business leaders go out of their way to argue that the innovation initiative is failing by highlighting its shortfalls against the company's typical performance expectations.

Conventional wisdom suggests we should isolate innovation from the core — separate the new from the old. But this approach misses the important advantage that big corporations can bring to innovation. Global companies own mammoth assets and capabilities that innovation initiatives must leverage. GE Healthcare in India innovated a \$400 portable ECG machine by leveraging GE's vast reservoir of knowledge about ECG technologies that reside in their R&D center in Milwaukee.

Based on their research they found that for successful execution of innovation, companies must adopt a *distinct-but-linked organizational model*. Under this model, a company builds a *dedicated team* for an innovation initiative, and then creates processes and incentives so that

the dedicated team partners with, rather than fights with the company's *performance engine*, which is the core business.

Here are their ten tips to nurture a strong partnership between innovators and the core business:

Articulate a motivating vision of victory in which both the dedicated team and the performance engine win.

Highlight the reality that the dedicated team and the performance engine are mutually dependent.

Create a common enemy: the competition.

Reinforce the values that the dedicated team and the performance engine share, even if they are simple and universal values, like a commitment to integrity.

Make the division of responsibilities between the dedicated team and the performance engine as clear as possible.

Anticipate resource constraints created when the shared staff must simultaneously handle the demands of innovation and ongoing operations.

Gather data to understand whether fears about cannibalization are valid or unfounded.

Alter incentives. Specifically evaluate "ability to collaborate across organizational boundaries" on performance reviews.

Use influential and collaborative insiders at points of interaction between the dedicated team and the shared staff.

When the innovation initiative succeeds, share credit liberally, with both the dedicated team and the shared staff.

Top 5 IEEE Sections Congress 2011 Recommendations

Naresh Chand, Fellow IEEE, Section Chair

The IEEE Section Congress 2011 meeting was held in San Francisco, on August 19-21, 2011. Approximately 1130 people from all 10 IEEE regions attended the conference. The IEEE Sections Congress is a triennial gathering of Section leadership, sponsored by the [IEEE Member and Geographic Activities \(MGA\)](#) Board. It was a unique opportunity for IEEE representatives from all over the world to participate in an event that provided them the tools which will assist their unit in focusing their activities solely on the member and increase members' participation in IEEE activities. Sections Congress was focused on meeting the expectations of Section leaders by providing them with an opportunity to network, receive training, and provide input into IEEE programs and projects.

The theme this year was "Serve the humanity/world". Relating to this track many presentations are posted at:

http://www.ieee.org/societies_communities/geo_activities/sections_congress/2011/serve.html

Some of the presentations were video recorded and are available at:

<http://ieee-elearning.org/CLE/>

Through a survey in their region, all IEEE 10 regions had consolidated 34 recommendations for considerations of IEEE to address the needs of and bring more values to IEEE members. The Primary Section Delegates voted on these recommendations during the Closing Ceremony on Monday, August 22. The following are the top-5 recommendations:

1. The IEEE is to develop a comprehensive long-term strategy to increase the number of next generation youth pursuing science and engineering careers.
2. As members maintain their IEEE membership over the years, IEEE must reward them for their loyalty. Rewards ought to be tangible and useful and can be done simply and inexpensively. Create Global Fidelity Programs including: (a) Continue membership Recognition 5-10-15-20 years of membership (b) Bonus for specific Benefits (e.g., reduced fee, IEEE merchandise, etc).
3. IEEE membership (including e-Membership) should include a Society membership as part of the basic membership fee.
4. Increased support to students in technical activities with grants to attend conferences and organization of technical competitions.
5. To encourage interest in pre-university students in engineering careers, IEEE to publish a subscription periodical (paper or electronic) targeted to high school students that highlights engineering activities of interest to those students. The periodical should also have articles promoting the benefits of an engineering career and what the students can do in college to get involved with IEEE.



THE INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS, INC.

IEEE NORTH JERSEY SECTION MTT-Society and AP-Society Joint Chapter

PRESENTS

26th ANNUAL SYMPOSIUM AND MINI-SHOW

FOCUS:

**SELECTED TOPICS IN RF AND MICROWAVE TECHNOLOGIES FOR COMMERCIAL AND
MILITARY APPLICATIONS**

DATE: THURSDAY OCTOBER 6, 2011

PLACE: Hanover Manor, 16 Eagle Rock Ave., E. Hanover, NJ 07936. Ph#973-992-7425

SCHEDULE OF EVENTS:

9:00 AM TO 4:30 PM

TECHNICAL SESSIONS

**10 –12 LECTURES FEATURING SPEAKERS FROM LEADING
COMPANIES, WITH EMPHASIS ON MILITARY ELECTRONICS,
WIRELESS TECHNOLOGIES AND MICROWAVE COMMUNICATIONS
MINI SHOW FEATURING LATEST PRODUCTS**

(APPX. 30-40 EXHIBITORS)

(COMPLIMENTARY LUNCH SERVED)

**Details of the schedule and speakers and the topics will be posted on the IEEE North Jersey Section Home page
<http://www.ieee.org/go/njsection> by September 2011.**

For further information contact:

CHAIR/EXHIBITION: KIRIT DIXIT (201-669-7599), kdixit@ieee.org

PUBLICITY: ARTHUR GREENBERG (gardner1@optonline.net)

EVENT/ LOCATION CO-ORDINATOR: KEN OEXLE (973-386-1156) k.oexle@verizon.net

CO-CHAIR– TECHNICAL PROGRAMS: HAR DAYAL, dayalhar@gmail.com

CO-CHAIR - TECHNICAL PROGRAM: GEORGE KANNELL (973-437-9990), gkk@lgsinnovations.com

THERE IS NO CHARGE TO ATTEND THE SYMPOSIUM OR SHOW

2011 IEEE North Jersey Section

Region 1 – Area Volunteers

Southern Area

Chair - Durga Misra
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Metsac Society

Chair - Kirit Dixit
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Vice Chairman - 2 - Har Dayal
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Secretary - Mengchu Zhou
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Junior Past Chair - Amit Patel
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Society/ Chapters/ Chair

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Antennas and Propagation Society/ Microwave Theory and Technique Society

Chair - Kirit Dixit
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Electron Devices Society

Chair - Durga Misra
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Engineering in Medicine and Biology Society

Chair - Raquel Perez-Castillejos
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Chair - Hanna (Hong) Zhao
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Engineering Management Society

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Industrial Applications Society

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Systems, Man, and Cybernetics Society

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Affinity Group Chair

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GOLD

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Education

Co-Chair - Donald Hsu
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Chair - Howard Leach
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Membership Development

Chair - Vacant
Vice-Chair- Vacant

MTT/AP Mini Show / Symposium

Chair - Kirit Dixit
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TPC Chair – George Kennall
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Nominations

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