

# Newsletter

## June 2017

### Editor's Note

Dear Readers,

Happy to share the news that Connect Special is taking one more step by accepting an exciting opportunity to demystify and create awareness about Alternative and augmentative communication (AAC).

The International Society for Augmentative and Alternative Communication (ISAAC) is a worldwide alliance working to create opportunities for people who communicate with little or no speech. ISAAC's vision is that AAC will be recognized, valued and used throughout the world.

Henceforth a column will be dedicated for ISAAC India chapter and Connect Special joins in taking the movement forward.

This edition features how a sustained effort ensured a small beginning for a big cause, path breaking work on indigenous devices, a unique yoga technique along with expert's advice.

Happy Reading,

Regards,

Bhavna Botta

<http://info.connectspecial.com/>

### From The Heart

Meet Miss Wheelchair Runner Up 2014, Model/Actress, Motivational Speaker, Writer, Disability Rights Advocate and Quora's Top Writer Virali Modi

**From a bubbly 14 year old school girl in Pennsylvania, USA just back from India after a tour, to be paralyzed neck down at one stage due an unknown diagnosis (meningitis, encephalitis, meningioencephalitis, spina bifida, and/or transverse myelitis), Virali, you are what the doctors call a miracle at Hershey Medical Center, what made it possible for you to bounce back**



My parents are my pillars of support, they are the reason I am alive today and fighting. They make me strong and they motivate me, every single day. Without them, I am nothing.



**Your petition started the Indian Railways to think of accessibility-are you happy about the work**

Somewhat, We have procured portable ramps and aisle sized wheelchairs in Trivandrum, Ernakulum and Kochi, as of now. I have also spoken to two railway officials and two politicians in Mumbai and they are incredibly slow to implement the same system that Kerala has, so it is disheartening.

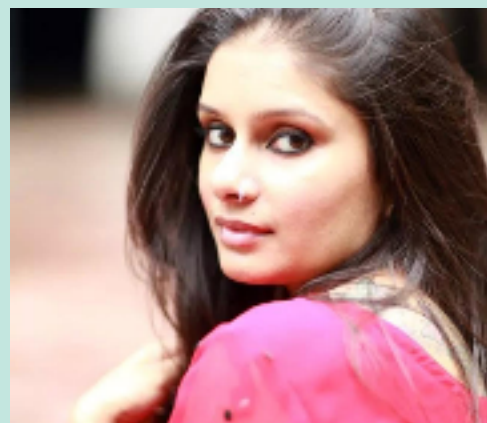
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## What exactly do you think the railways should do

I think they should consider the fact that 25 million people in India are disabled in some way. I think they should realize that making 500 stations accessible is not the way to go. They need to make more stations accessible and they need to make the trains accessible too. I do not think there needs to be a specific handicapped compartment, because that is segregation. I think the trains need to be made inclusive for all.

## As a writer and motivational speaker, what according to you are the areas which need more focus (with regard to disability)

Society needs more focus. Society treats those with disabilities sympathetically or as if we're taboo. We don't need sympathy, rather empathy is needed. And we aren't taboo. Their mindset is taboo, according to me. Society needs to learn sensitivity. Example: when you see someone that's disabled, let them enter the lift first; if you see them struggling, ask them if they'd like your help, etc. We're people too, treat us as such.



## What was the experience in acting and modeling career, what is the level of acceptance in our society

No way! There's no room for someone on a wheelchair in the film fraternity, to be honest. I've always been told, "Madam, you have the looks, I mean jabardast looks hai aapke, you have talent too! But you know... You're on a wheelchair, na ... So we can't take you as X role." That's the problem I've faced. **As for society, I don't care what they think. I'm living my life, my way. I don't live for society.**

## How inclusive is Indian Society? What is the need of the hour?

Indian society isn't inclusive whatsoever. We need courtesy lessons given from preschool, and to every single politician. People need to learn how to be empathetic and sensitive towards others.

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### Technology on the shelf

***An informative chat with Prof. Prabhat Ranjan ,Executive Director, TIFAC, an autonomous body under Dept of Science and Technology, Govt of India.***

#### **Please tell us about your work on assistive technology**

we have developed a group of related technologies to help persons with disability(PwD) communicate, access computer and control environment (e.g. TV, Light, Fan, AC ) around them and in many cases start earning livelihood.

Input to the system is based on the ability of the user and slowly we are expanding this to cover various possibilities. However at this time, we have made systems to use hand/leg gesture, touch, head movement, facial expression and certain conscious thoughts. In addition, we are working on voice input, muscle vibration and air sip/puff. In some of these, we have been using brain-computer interface(BCI) technology. We are also trying to use BCI in other ways to help persons with disability.

We have provided some of these systems to users and it has resulted in major improvement in their quality of life. We are working with various organizations dealing with disability to make these systems available on larger scale

#### **WHAT IS "CePal"**

Our initial work started with a student

project, where we tried to develop a system, which could allow persons with restricted finger movement(incapable of pressing remote control button) operate TV by using hand gestures to change volume and channel.

After developing a prototype, we added capability to not only operate TV but also other devices such as light, fan, air-conditioner, computer etc as per the need of user.

This device, which we named as "CePal" won us HP Innovate first award in 2009 and National Trust funded it for further development. With further improvements and user trials, we finally developed two versions of this to meet different needs called "Mini-CePal" and "RF-CePal", which was given to various users as per the requirement of National Trust.

**CePal : Hand gesture based Environment Control Unit (ECU)** This low cost device has been given to users as per the requirements of National Trust in two different versions to suit individual needs For all users it gave them much improved self reliance as compared to their dependence on others.





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### What are the challenges and improvising done

While handing these systems out, we found many other users, who could not use this device since they did not have hand movements. To cater to such need, we decided to go ahead with the development of similar systems based on any input that user was able to provide such as voice, eye movements, eye blink, facial expressions, conscious thought or muscle movement etc. While some of this work is continuing, we have already been helping users with our systems and they have benefited a lot. We have been identifying needs of various users around the country by making visits and giving talks to user community as well as organizations involved in disability sector.

### Are these technologies different from what everybody uses ,is it expensive ?

**IR based Remote Control :** We take advantage of IR based remote controls available today. Many of the electrical/electronics equipment come along with IR based control. In addition, it is possible to easily add IR control to some of the equipment by commercially available cheap devices. While TV, Air-Conditioners, Music systems come with IR remote, it is possible to add such remote control facility to Light, Fan, Computer and any other electrically operable system. By sending the same IR control commands by any other means, we can get the equipment to respond as it would by its normal remote control.

**Sensors :** Another technological advance has been in the area of "sensors". Due to availability of MEMS(Micro Electro

Mechanical Systems) technology – cost, size and power consumption of sensors has gone down. Its integration into portable embedded device has become much easier. Body part movements can be captured using accelerometers and gyrosensors. Similarly pressure sensors available can be used to make cheap sip-n-puff devices based on air pressure created in a pipe by mouth.

### Brain-computer Interface :

Another interesting development in this has been the cheap and user friendly "neuro-headset" for playing computer games. These can in-turn be used as EEG sensor using which one can capture brainwaves(EEG waves). With real time analysis of such data possible now, one can use this information in a variety of ways.

### Touch Sensor based Phone/Tablet :

Availability of cheap touch sensor based Phone/Tablet has brought a number of technological possibilities within reach of Indian users. Touch screen acts as both input and output device. Slight swipe or tap of finger can be used as input. Built in wireless communication, powerful processors, easy software development along with a variety of peripherals create myriad of possibilities for persons with disability.



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**sir ,such an innovative technology would change the quality of life for a PwD,why is it not commercially available ??**

We have given few devices to users but not made it available commercially. We set up a start company called "Sun Teknovation" to make it available commercially. However company has not been able to find funds to launch these at commercial scale.

**what are the challenges to make it commercially available?**

One challenge is the unique requirements of each PwD. For this customization is very important and trial facilities are needed in many cities, where users can come and try. However that requires funds. At the same time awareness about availability of such devices has to be created.

**.I understand you are working on new technologies too please explain**

I am working on identifying learning disability using Brain Computer Interface so that children with learning disability can be provided proper help from early stage. We are also working to define standard interface for a Universal Integrated Wheelchair, which can be used by any user based on their ability. It would also be multifunctional and allow users to perform many functions in addition to mobility.

**If anybody needs to get any of these technologies ,what is the process**

They can get in touch with our company "Sun Teknovation" at [sunteknovation@gmail.com](mailto:sunteknovation@gmail.com)

Prof. Prabhat Ranjan received his Ph D from University of California, Berkeley where he carried our research on "Nuclear Fusion" at Lawrence Berkeley Laboratory during 1983-86. He immediately returned to India after this and carried out research in Nuclear Fusion area at Saha Institute of Nuclear Physics, Calcutta and Institute for Plasma Research(IPR), Gandhinagar. He played a major role in India's Nuclear Fusion program and was Project Leader of the largest operational Indian Fusion Reactor, ADITYA, at Institute for Plasma Research from 1996-2002. Then he worked as a Professor at Dhirubhai Ambani Institute for Information and Communication Technology, Gandhinagar (DA-IICT) from 2002 to 2013. .



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### Augmentative and Alternative communication

Communication is vital to living in fact as essential as breathing. Speech disorders lead to communication difficulties. Communication difficulty can affect areas of everyday life. People with communication difficulties are easily misunderstood or misinterpreted by others.

Communication difficulty can affect a person's ability to hear, talk, understand, read, write, sign and/or gesture. People with severe speech or language difficulties depend on Augmentative and alternative communication (AAC) which includes all forms of communication (other than oral speech) that are used to express thoughts, needs, wants, and ideas. AAC systems are diverse: unaided communication uses signing and body language, while aided approaches use external tools.

“Communication” as defined by The Convention on the Rights of Persons with Disabilities includes languages, display of text, Braille, tactile communication, large print, accessible multimedia as well as written, audio, plain-language, human-reader and augmentative and alternative modes, means and formats of communication, including accessible information and communication technology. There are a number of AAC users and the most Well-known of them is physicist Stephen Hawking.

**“If all my possessions were taken from me with one exception, I would choose to keep the power of communication, for by it I would soon regain all the rest”**

— Daniel Webster

### Inclusive Yoga

***Chair Yoga, a gentle form of yoga that is practiced sitting on a chair or standing using a chair for support, is particularly good for those unable to participate in a traditional yoga class due to the effects of aging or disabilities or for office goers to relax or release tension at the workplace. Mekhala, a Singapore based yoga teacher, guides us through.***

Whenever I tell someone that I teach Chair Yoga, besides the regular Mat Yoga, the common reaction is: "Is there such a thing as chair yoga? Haha...."

I have to admit that this was also my reaction during my early days of learning yoga, way before I become a yoga teacher. However, after I began teaching chair yoga, its benefits became more and more apparent to me.

#### **When should you consider Chair Yoga?**

Generally chair yoga is suitable for two different categories of students:

1. The elderly or people with limited mobility because of injuries
2. Office workers

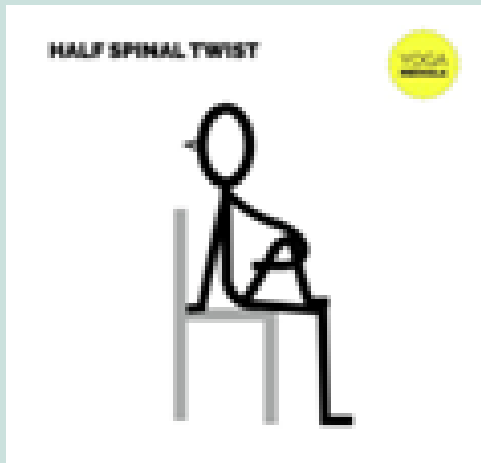
Chair yoga is conducted very differently for these two categories of students. Those with limited mobility may have a much lower fitness level than office workers. Chair yoga will have to be modified to suit their range of stretch. More resting time is given to the senior students. For office workers, chair yoga

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is very much practiced like normal yoga except the poses are modified to be performed on a chair.

For example, see the figure below: the same pose - half spinal twist can be done on either a chair or a mat.



**A common question is: Why don't we just practice mat yoga as the stretch will be fuller in mat yoga? Why bother with chair yoga?**

Yes, you are right. The range of stretch is indeed a lot more in mat yoga. If you have more time to spare, please practice mat

yoga. Chair yoga serves the function of making stretches more readily available for busy officer workers. All the stretches or poses taught in a chair yoga class can be used during office hours whenever you need a 5-10 minutes break or stretch from sitting for long hours. **The stretches are very useful to relax stiff muscles and joints.**

I have also posted some of the office chair yoga classes guide online for my students to refer so that they can practice in the office or at home in their own free time.



### Dancer Pose (with chair)

The main function of this pose is to train for balance and for opening of hip joints. At the same time, your upper back and lower back will get a good stretch.

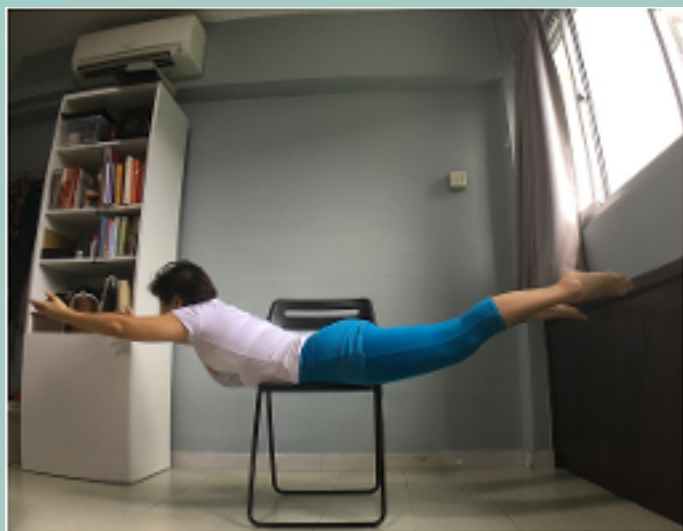
It is important to pay special attention to good grounding of the foot and control



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the abdomen muscles. These two points will help you tremendously in staying balance.



## Locust Pose (with chair)

The main function of this pose is to massage the abdomen (and thus your internal organ, the stomach) and stretch out the entire back. Breathe deeply and slowly while holding in the pose.

Chair Yoga for office can engage in much deeper stretch. You can refer to this youtube video for standing forward bend using chair as a support. The details of what to note for can be found at the description of the video.

## CHAIR YOGA FOR PEOPLE WITH LIMITED MOBILITY

There are some who find going down and getting up from the floor a huge obstacle. Well, chair yoga is a perfect solution for such cases. I have a couple of classes with seniors who have problems walking. Chair yoga gives them a chance to practice yoga within their ability. In the case where students have problem due to their knees or spine, we

practice chair yoga with sitting poses only. Unlike the office chair yoga, we practise some standing pose with the help of the chair too. (See above picture for standing chair yoga pose).

Chair yoga with seniors will focus more on how to gently open up the stiff joints, strengthen the muscles or learn ways to engage the abdominal muscles so that they have a good control of their body while standing up (from a chair). A good control of body motor will ensure less chances of fall during their daily activities.

## Is choosing a right chair important

When choosing the chair for yoga practice, please take note that you must use a **stable and grounded chair**. The chair must stand firm on the floor and should be able to take the weight of the yoga practitioner. **Avoid roller chairs** as much as possible. When seated on the chair, the practitioner must be able to place both feet grounding to the floor.

## What is SIVANANDA YOGA

I'm a Sivananda Yoga teacher, therefore all my chair yoga classes are conducted with the same Sivananda Yoga system. We will always practice Pranayama (breathing exercise) at the beginning of the class, followed by Surya Namaskar or Sun Salutation (yes, the series of movements can be modified for chair too) and then we practice various poses or stretches starting from head and neck, slowly moving down towards the spine and torso, finally hips and legs. We end the class with final relaxation.



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The good news is both pranayama and final relaxation practice have not much of difference whether you practice on a chair or a mat.

On the other hand, breathing and relaxing are skills that most city dwellers lack in. The physical body is visible and thus most people only place importance on ensuring they are well on the outside.

However, our mind is actually the most important faculty of a human body. Both breathing and relaxing training are the best tools to teach us how to be more aware. When we have good awareness, we will naturally know how to take good care of our body.

*Mekhala is a Singapore based Sivananda Yoga Teacher and a student of Buddhism. She has been practising Sivananda Yoga since 2007 and Vipassana Meditation since 2009. Find out more on her website or follow her on Facebook and Instagram*

Originally published at

<http://www.patientsengage.com/healthy-living/should-you-consider-chair-yoga>

## Expert's Advice

**I am a government servant and have a child with disability .Will my child get family pension.**

Yes your child is eligible to get a family pension.

Please follow the under mentioned steps

- 1.Ensure that your child's name has been included in the family composition of the government servant.
- 2.The name of the permanently disabled child has to be added to the pension payment order issued at the time of retirement .
- 3.An attested copy of disability certificate issued by the government has to be submitted to the pension sanctioning authority.

Mr.B.Narasimha Rao is a former IRAS officer and retired as Financial Advisor ,Ministry of Railways.



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