

## Minutes of the CSS-MOOCs PIC Meeting

Date: 4 August 2018

Venue: Hotel Indismart, Kolkata

Time: 9.30am – 1 pm

### Members present:

Prof. Bhaskar Ramamurthi – Chairman, NPTEL PIC and Director, IIT Madras

Prof. Anupam Basu – Coordinator, NPTEL, IIT Kharagpur

Prof. Kushal Sen – Coordinator, NPTEL, IIT Delhi

Prof. Sunil Khijwania – Coordinator, NPTEL, IIT Guwahati

Prof. L. Umanand – Coordinator, NPTEL, IISc Bangalore

Prof. B.K.Gandhi – Coordinator, IIT Roorkee

Prof. Andrew Thangaraj – Coordinator, NPTEL, IIT Madras

Prof. Prathap Haridoss – Coordinator, NPTEL, IIT Madras

Prof. Niket Kaisare – Coordinator, NPTEL, IIT Madras

Prof. Sridhar Iyer – Head, CDEEP, IIT Bombay

Prof. Satyaki Roy – Coordinator, NPTEL, IIT Kanpur

Staff from the different NPTEL offices.

Prof. Bhaskar Ramamurthi, Chairman, CSS-MOOCs PIC, welcomed the gathering and thanked the members for attending the meeting.

An update was given by Prof. Andrew Thangaraj on the events in the last 10 months about NPTEL on various fronts.

### 1. Proposal from IISER Pune – For lab certification course

IISER Pune and NPTEL-IITM are planning for a pilot lab certification course in Organic Chemistry. The course will comprise in person participation of select batch of candidates (faculty/students) who will complete the experiments related to the course (about 12 experiments) over a period of 1 week, Monday to Friday. The daily schedule for the 5 day course will be 2 hours of theory/instructions followed by doing the experiments.

On Saturday the exam will be conducted for the same and a certificate will be provided for those who complete successfully.

The tentative budget for the workshop is attached here which includes the expenses towards boarding/lodging for participants, towards the materials used, and honorarium for teaching assistants. This may be changed later as per requirement.

If this works well, it is proposed that this course can be offered to maybe 2 or 3 batches of 50 candidates over every summer and winter and also expand the lab courses for which this can be done, to other Chemistry areas and even Physics and Biology.

***The PIC committee approved the proposal. Further, the PIC committee also made a suggestion that it would be useful to look into methods of scaling up such lab; for example by using robots to do the experiments, which can be controlled remotely.***

### 2. Proposal from College of Engineering Pune (COEP) – Virtual Labs collaboration

COEP has created a simulation interface for doing experiments on Industrial Automation and Control and also have a remotely controlled set of physical experiments at their facility. So a user first tries out everything using the Simulator and then books a slot to perform the experiments on the actual setup remotely.

Setup comprises video cameras which show the devices and their readings etc, and a software interface using which parameters can be changed and experiments performed.

A pilot was done on July 16-17 at COEP, funded by NPTEL-IITM, for a group of 35 faculty members from in and around Pune to give them an introduction to the experiments, so that they can take it back to their students.

In January 2019, if the course by Prof. Siddhartha Mukhopadhyay of IIT Kgp is offered on Industrial Automation and Control, it is planned to have this setup used by candidates of the course in parallel. Can be extended when other relevant courses are offered too.

***The PIC committee approved the proposal. Further, the PIC committee suggested that more such avenues that utilize the Internet and other enabling technologies may be explored for other labs as well.***

### 3. Funds distribution to other institutes who record courses using their facilities

Our current distribution is as follows (in lakhs of Rs):

For New Courses	Human resource support#	Web studio hardware/software and infrastructure support	Honoraria to faculty	Teaching assistant	English text Transcription	Total	To be transferred
12-week	4	3	4.5	1.5	1.5	14.5	13
8-week	3	2	3	1	1	10	9
4-week	2	1	1.5	0.5	0.5	5.5	5

Institutes which have their own studios (for eg: IISER Pune, IIIT Hyderabad) that wish to record courses offered by their faculty/faculty of other institutes as part of NPTEL-SWAYAM need to be supported financially for the effort from the course creation budget given by SWAYAM.

Here is the process being proposed for the same:

1. The trial videos are first checked by the approving/coordinating NPTEL institute to see if it meets the quality standards as required by NPTEL-SWAYAM courses. The coordinating institute can also facilitate a few days training for the personnel to introduce them to what is done at NPTEL studios.
2. After this, the institute has to submit course proposals from faculty for which they wish to record. Alternately NPTEL will also submit the list of courses that faculty from other institutes wish to record at this facility.
3. The budget amount under Human Resource support and Web studio infrastructure heads, as shown in the table above, will be the total amount given to them corresponding to the duration of the courses proposed.
4. Of this, once the proposals are received with a definite semester in which the courses would be offered, an advance of 50% of this total will be transferred.
5. On receipt of the remaining content, the remaining 50% will be transferred.
6. If there is any problem with the delivery, the NPTEL coordinator can decide the quantum of initial money for subsequent courses.
7. The final edited source files, the ppts/journal notes as well as the files in 4 formats of mp4, flv, 3gp and mp3 should be shared with the coordinating institute on NPTEL side.

***The PIC committee approved the above norms for transfer of funds as part of recording videos for courses.***

### 4. Constituting an NPTEL Academic Senate

The PIC committee recognized the need to constitute an NPTEL Academic Senate for making decisions on academic quality of courses, reruns and partners.

Courses where the Institute coordinator wishes to seek additional evaluation before approval may be put up to this senate for approval. Typical scenarios where this may be required are as follows:

- 1) Courses from institutes outside of the core NPTEL Institutes (IITM, IITB, IITD, IITR, IITK, IITKgp, IITG, IISC), - the Senate who will look into the course syllabus and instructor credentials and give their feedback. The committee would decide on if the course can be offered singly by the Instructor from the other institute or as a co-offering with a core NPTEL institute faculty member.

This committee will also assign the NPTEL institute who would coordinate the course to ensure the delivery is as per NPTEL norms.

This committee will also decide on the logos of the institutes to be put on the course certificate.

2) If any proposals are received by NPTEL, whose course title/syllabus is not already approved by the Senate of any of the NPTEL institutions, this committee would look into the same and give its feedback on whether to offer the course or not.

3) This Senate committee will also, in addition to the above, look into the rerun of courses that have not done well in the previous offering and will possibly get it reviewed by experts in the domain and provide some suggestions on changes to be done, so that it is better received.

Additional possible situations where the Senate's help may be required is outlined under the Industry Associate section.

For any of the above situations, the Coordinator may write to a sub-committee of three suitable members in this group and get their decision in the matter. The honorarium for the above committee members would be Rs 20000.00 per person per year, to be paid from the Common funds.

The Committee may meet in person once a semester to do this or the process would happen electronically.

Also, members may be added to or retired from this Committee as required, with the approval of the Coordinators and Chairman-PIC.

## 5. Live sessions in Online courses

The PIC committee recognized the need for a more personal interaction between the Course instructor and the learners as currently, the contents, assignment and discussion forum are all asynchronous. **Hence it was decided that a live session would be facilitated at least once a month for the duration of the course, as per the Instructor's convenience.**

## 6. NPTEL-AICTE Faculty Development Programme

Prof. Andrew outlined the FDP initiative between NPTEL and AICTE whereby some advanced and elective courses would be approved as FDP by AICTE every semester based on courses finalized for that semester. The process for the faculty member would be the same as to get the NPTEL certificate by doing the course and passing the exam.

After this, if the faculty member is interested, he/she may apply separately for the NPTEL-AICTE certificate. More details are available on the website [npTEL.ac.in](http://npTEL.ac.in) about this initiative.

**The committee approved a fee of Rs 200/- in case a hard copy of the certificate is required, else, the fee would be Rs 100/- for the e-certificate.**

## 7. Persistent Systems Ltd – managing [onlinecourses.nptel.ac.in](http://onlinecourses.nptel.ac.in)

The portal [onlinecourses.nptel.ac.in](http://onlinecourses.nptel.ac.in) has been deployed, managed and supported completely by engineers in Google since October 2013. More than 500,000USD have been given as cloud credits for running the MOOCs.

Now that the portal has stabilized, it was felt at Google that it may not be possible to keep the financial support going.

A tender was floated by NPTEL-IITM in April 2018 to identify an Applications Service Provider (ASP) who will maintain the portal and to select the cloud on which this would be deployed. The expenses

towards the ASP team and the cloud charges for the portal would have to be borne by NPTEL henceforth.

Persistent Systems Ltd was selected as the ASP and the cloud was Google cloud. The annual budget for Persistent Systems Ltd is Rs 3 crores and the cloud charges will be actuals on monthly billing, which we expect to be around Rs 1 crore for July-Nov semester.

***The PIC committee approved the selection of Persistent Systems as the ASP and the issue of the PO to them, as already done by NPTEL-IITM and agreed that any payment to be done to Persistent Systems or to the Google cloud will be from the common money kept aside from course budget.***

## 8. Translation of the English transcripts into local Indian languages

There was a requirement to translate the video transcripts currently available in English for SWAYAM courses into regional Indian languages to facilitate learners from regional language schools comprehend the courses better. NPTEL had submitted a proposal to translate 1600 hours of video transcripts into 8 Indian languages at a budget of Rs 10.79 crores which was approved in the fourth SWAYAM board meeting held in May 2018.

The process document is attached for the same which describes the courses that will be translated from NPTEL side and also the way in which translation would be facilitated for courses prepared by other NCs. (Annexure 1)

Vendors have already been identified through a tender process as well as other machine learning translation options are being explored for the same, which will be the first step in translating.

These translated versions would then be sent to SMEs who also are proficient in the local languages for verification. The pool of faculty from Local Chapters across the country are being used for this.

***It will be a 2 step review process and the honorarium for verification of 1 hour of translated transcript in one language is proposed as Rs 1000/- (Rupees one thousand only). The PIC committee approved the process as well as the honorarium amount to be paid as given here.***

## 9. NPTEL Internship

NPTEL started the Internship programme for toppers from May 2018. The process is outlined in Annexure 2. Website is <https://nptel.ac.in/noc/internship/>

***The PIC committee approved that the funds for this be taken from common funds kept aside from course budget or if donations are received towards this activity from other sources. Also the committee recommended that each faculty member can get upto a maximum of 2 interns per semester.***

## 10. NPTEL alumni survey

A feedback form was run with people who had taken NPTEL courses in the past. Many people have responded positively to give back to NPTEL, which can be used towards internships or fee waivers or other NPTEL initiatives such as upcoming GATE portal, data analytics project, etc.

***PIC committee approved creating a donation bucket for NPTEL so that people may contribute to it.***

## 11. Timelines for Jan 2019

The PIC committee approved this to be put out for circulation amongst the Local Chapters and finalize the same by Aug 25 2018.

## 12. Hiring key staff on contracts with any NPTEL office



The project is now in a mode where the scaling up is happening in terms of number of courses, learners, institutes partnered with to source instructors, number of Local Chapters, Industry Associates, etc. Also, the number of new initiatives is also increasing. Every NPTEL office that offers/coordinates a set of courses has a team supported by the course budget component transferred to the respective institute.

There is also an extended team that works on NPTEL activities common to all institutes such as website maintenance, database upkeep, transcription/translation team, course portal/SWAYAM support team, question paper creation team, etc.

For the project to work efficiently, the PIC committee decided that the key resource persons in each of these verticals can be retained on contract from any of the NPTEL offices and work out physically from any of the locations and whose salary will be supported from the common budget set aside from course funds.

## 13. REPORTING ITEMS

### 13.1 Course on Non conventional Energy Resources offered to AKTU

Abdul Kalam Technical University (AKTU), Uttar Pradesh had signed an MOU with IIT Kanpur requesting for an online course to be offered for all their final year BE students. Prof. Prathap Haridoss of IITM offered the course "Non conventional Energy Resources" in a whitelisted mode (not open to all, but to exclusively AKTU students) that was taken up by all final year students of 250+ colleges under AKTU. The course was of 12 weeks duration and more than 40000 students were actively submitting assignments every week. The final exam was conducted by AKTU for which question paper and answer key alone was given by Prof. Prathap Haridoss.

### 13.2 Update on SWAYAM

NPTEL-IIT Madras is coordinating the maintenance of current SWAYAM portal and also working out the plan to transition SWAYAM into a more feature-rich and stable portal. Previously AICTE was in charge of the same.

NPTEL-IIT Madras had floated a tender in April 2018 for identifying an ASP for SWAYAM and Persistent Systems Ltd. Was identified as the vendor for this in this process.

NPTEL-IIT Madras is now coordinating the transition of maintenance from Microsoft systems to Persistent Systems and will also come up with the plan for SWAYM 2.0.

### 13.3 Additional coordinators to NPTEL

Dr. Niket Kaisare, Professor, Dept. of Chemical Engg, IITM has been invited as a coordinator of NPTEL, IIT Madras, in addition to Prof. Andrew Thangaraj and Prof. Prathap Haridoss due to the volume of work involved wef 1 June 2018. He will be mainly handling all coding related tasks, NPTEL server upkeep, interfacing with Persistent for the course portal, etc. The Coordinator honorarium for him will be drawn from the Common funds.

The Coordinators of IIT Kharagpur also have been changed, as intimated by Director of IIT Kgp, Prof. Partha Pratim Chakraborty. While Prof. Anupam Basu will be participating in the capacity of Advisor for NPTEL activities, Prof. A Goswami, Prof. Swagata Dasgupta, Prof. Rajib Mall will be the new NPTEL coordinators of IIT Kharagpur, wef 31 July 2018.



### 13.4 Credit Transfer in all IITs

Credit transfer for NPTEL online courses was effected in IIT Madras since August 2016 for UG/DD students, who could take upto 7 credits in the old system (20 credits in the new system) from NPTEL.

IIT Roorkee has effected credit transfer for NPTEL courses for their students recently. IIT Tirupati and IIT Palakkad have also included NPTEL MOOCs as an option for their students. It is requested that other IITs also can initiate this within their institutes so that IIT students can participate in the process.

### 13.5 NPTEL Industry Associate programme

As approved in the last PIC meeting, NPTEL started approaching industries to partner in a mutually beneficial manner. They can use NPTEL courses for upskilling and reskilling their employees while also maybe co-offering a course and contributing through CSR.

IBM, Infosys, Aricent Technologies, Hilti Constructions, IIIER, Institution of Engineers are some among the many current Industry Associates.

- To aid companies that wish to recruit from the pool of NPTEL learners, the PIC committee approved the collection of additional information from interested candidates which could then be shared as required with interested companies.
- Co-offering a course with an industry:
  - If a faculty member wishes to co-partner with an industry associate in a course, he/she must justify to the Senate on why this company has been chosen for the content delivery – what value the company brings to NPTEL and the course.
  - If the company's logo is requested on the certificate, the NPTEL Senate will decide on whether this will be a value addition for the student earning the course certificate and subsequently decide on the same.
  - With regard to publicity that the company makes, NPTEL will give the content that can be used in their promotion and anything outside of this that the company wishes to do will have to be after seeking approval of NPTEL.

### 13.6 Workshops conducted:

Local Chapters as of Jan 2018 – 1300

Local Chapters as of August 2018 – 1850+

197 workshops have been conducted in the last 3 years – more details found in the Annexure 3.

NPTEL-IITM has also met with Goa University VC, IIT Goa Director, Anna University VC, Madras University VC, Registrar of Solapur University, IISER Pune Director to see if the initiative can be adopted by them in a more comprehensive manner.

NPTEL-IITK office is working with AKTU and Chattisgarh University. NPTEL-IITKgp is working with Maulana Abul Kalam Azad University, Tripura University, etc.

(See <https://nptel.ac.in/workshops/> for more details)

### 13.7 Operations

The following tools have been developed to automate processes

1. Scoring tool – merge scores and enable signoff
2. Course data related dashboards for faculty members

3. Question paper authoring tool
4. TA task tracking tool
5. Automation of certificate generation, tracking of printing
6. Social media presence
7. Consolidated transcript Data analytics
8. GATE portal



Prof. Andrew Thangaraj

Coordinator, NPTEL, IIT Madras



Prof. Bhaskar Ramamurthi

Chairman, NPTEL PIC  
and Director, IIT Madras



## Translation Process Flow – Annexure 1

Process flow for NPTEL to coordinate translation of the 40 top courses on SWAYAM portal

According to Item 6 on Page 4 of the Minutes shared for SWAYAM Board Meeting 4, held on 7 May 2018 at Delhi, IIT Madras has been approved to complete the translation of top 40 SWAYAM courses of 40 hours duration (total of 1600 video hours) each into 8 Indian languages.

The process flow to be adopted will be as follows:

S. No.	NPTEL/NC	Task
1.	NPTEL	MHRD will be requested to transfer the funds for the same to IIT Madras.
2.	NPTEL and NCs	The 40 courses of 40 hours each (or equivalent number of courses that total to 1600 hours in total) will first be identified and finalized by NPTEL and other NCs.
3.	NC	Every NC will also have a contact person who will coordinate the translation effort with NPTEL for their respective courses. (NC-SPOC). The NC-SPOC should respond to all emails from NPTEL within 2 business days.
	NC	The NC of the respective courses will have to identify 2 resource persons who are an expert in the local language as well as the subject content for each course. The NC should get the consent from the resource person to undertake the verification of the translated scripts in the stipulated time frame. The NC should share the contact details of the resource persons, course wise for every language with NPTEL. Only after this step is completed and reviewers identified will the translation effort be started.
4.	NC	Since the MOOCs costing already includes a transcript verification financial component, the NCs will have to hand over the verified English transcripts of the videos for the courses identified under each NC to NPTEL.
5.	NPTEL	NPTEL will get the transcripts translated and pay for the same.
6.	NPTEL	NPTEL will send the translated version to the respective resource persons identified by the NCs, keeping the NC-SPOC in the loop.
7.	NC	NC will follow up on the completion of the review, giving regular updates to NPTEL.
8.	NPTEL	Once the verified translated scripts are received, NPTEL will process the honorarium for the same and hand over the translated files to the NC.
9.	NC	The NC will upload the translated versions on SWAYAM or any other portal.

Each NC is requested to give the verified transcripts for 2 courses so that we may start the translation project once the funds are received.

The honorarium for the reviewer will be Rs 1000/- (Rupees one thousand only) for completing the review of the translated transcript of one hour of video in one language.

## NPTEL Internship – Annexure 2

### Eligibility and Selection

- NPTEL office will contact the course instructor to check if they can take in interns from toppers of their respective courses.
- Depending on the availability and affirmation from the course instructor, the course toppers are contacted requesting them to apply for internship if interested.
- The documents are sent to the Course instructor who decides on whether the candidate is eligible for the internship.
- Course instructor decision is final in all matters with respect to selection of candidates.

### Duration of internship

- NPTEL will be offering 2, 4, 6 or 8 weeks internship. This is purely based on the candidate's and course instructor's availability and interest.
- Such internships are offered once in summer (May/June/July) and winter (Nov/Dec/Jan) each year.

### Application

The candidate should apply to NPTEL along with the following support documents to [npTEL-internship@npTEL.iitm.ac.in](mailto:npTEL-internship@npTEL.iitm.ac.in)

- Copy of your resume
- Last 2 semesters' grade sheet

The application is forwarded to the course instructor by NPTEL.

Once approval is obtained, the candidate will be contacted.

### Accommodation

NPTEL will try to arrange for your accommodation at one of the hostels within the institute premises. In case of non-availability, the candidate has to arrange for his/her own accommodation.

### Stipend

Duration	Stipend per month
2wk	Rs. 2500/-
4wk	Rs. 5000/-
6wk	Rs. 7500/-
8wk	Rs. 10,000/-

**During the internship:**

- Report at NPTEL office on the first day
- Fill up registration form
- Meet with the concerned course instructor
- Submit consolidated final report and feedback at the end of the internship

NPTEL office will obtain feedback from the course instructor regarding the work done.

**Post internship completion:**

Based on the course instructor’s feedback and your regularity as an intern, we shall provide the candidate with:

- Internship completion certificate
- Stipend
- And their details will be displayed on NPTEL internship portal

Sample certificate is shown here.





## Summary of Workshops Conducted – Annexure 3

(BETWEEN JAN 2015 – AUGUST 2018)

Year-wise count of all workshops.

Year	All IITs
2015	34
2016	71
2017	53
2018	39
<b>Total</b>	<b>197</b>

Total since 2015	
Awareness	157
Faculty	25
SPOC	15
<b>Total</b>	<b>197</b>

### IIT Madras

Year	Count
2015	33
2016	27
2017	17
2018	22
<b>Total</b>	<b>99</b>

Type	Count
Awareness	70
SPOC	6
Faculty	23
<b>Total</b>	<b>99</b>

### IIT Bombay

Year	Count
2016	3
2017	1
2018	2
<b>Total</b>	<b>6</b>

Type	Count
Awareness	2
SPOC	3
Faculty	1
<b>Total</b>	<b>6</b>

### IIT Kharagpur

Year	Count
2016	40
2017	18
2018	3
<b>Total</b>	<b>61</b>

Type	Count
Awareness	58
SPOC	3
<b>Total</b>	<b>61</b>

**IIT Kanpur**

Year	Count
2015	1
2016	1
2017	16
2018	10
<b>Total</b>	<b>28</b>

Type	Count
Awareness	24
SPOC	3
Faculty	1
<b>Total</b>	<b>28</b>

**IISc Bangalore**

Year	Count
2018	2

Type	Count
Awareness	2

**IIT Roorkee**

Year	Count
2017	1

Type	Count
Awareness	1